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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.

EDITOR'S CORNER

Welcome to yet another frosty issue of the *Canadian Military Journal*. While it is still autumn in the Great White North as these words are being penned, the horses are growing their winter coats, and they are never wrong. Time to break out the gloves and parkas...

We have quite an eclectic issue this time out. Taking the point, Defence Scientist James Moore continues his study of Armed Non-State Actors (ANSAs), and herein, he explores "… the strategic roles of ANSAs in the context of violent intergroup conflict, beginning with a statement of the central problem." Next, Colonel Daniel MacIssac, a graduate student at Deakin University and the Australian Defence College's Centre for Defence and Strategic Studies, and a former Deputy Chief of Staff Strategy for Canadian Joint Operations Command (CJOC), explores the energy security concerns of both Canada and the People's Republic of China. MacIssac argues that the sale of surplus Canadian oil to China will improve the energy security of both nations, and that this increased energy interdependency "…may also be useful in potentially mitigating any future Sino-Western security tensions."

Moving along, infantry officer Major Max Michaud-Shields looks at the fascinating realm of military human enhancement through the innovative use of enhancement technologies. However, as Michaud-Shields opines, "…the high likelihood that invasive PA (Personal Augmentation) in general, and cybernetics (the science of communications and automatic control systems in both machines and living things) in particular, will eventually become a viable capability development pathway raises several weighty ethical and operational questions." He is followed by Colonel Guy Chapdelaine, the Director of Strategic Support in the Chaplain General Office at National Defence Headquarters in Ottawa, who highlights the key moments in the history of the Canadian chaplaincy since the creation of separate Protestant and Catholic chaplaincies on the eve of war in 1939. He then discusses the Canadian multiculturalism model, "…and the means used to prepare our chaplains to work in a pluralistic context." The author then goes on to address the challenges associated with managing religious diversity, while still ensuring that chaplains are able to maintain their links to their own religious communities. Chapdelaine then concludes with a response to the question posed in the article's title, that is, as to whether diversity is a blessing or a curse for the Chaplain Branch.

In the last of the major articles, doctoral student William Wilson examines the serious conceptual challenges posed by the overall complexity of the intelligence profession through a number of intelligence models that have been established to help grapple with and to grasp this complexity. "Among the different models on offer, three prominent ones include the cyclical model, the target centric-model, and the multi-layered model." Each is based upon a slightly different understanding of the intelligence gathering process, and each will be seen to offer different strengths and weaknesses. Since military minds strive to learn from the lessons offered from past experiences, the author "…aims to test the usefulness of these three models by evaluating them against the Cuban Missile Crisis (of 1962)," since it "…demonstrates many of the conceptual challenges confronting intelligence practitioners and scholars, making it an ideal test case."

We round out the issue with two highly different opinion pieces, although both in their own way deal with the subject of higher military education. In the first, Lieutenant Colonel (ret'd) Daniel McCauley, a former USAF pilot and now an assistant professor at the American Joint Forces Staff College at the National Defense University in Norfolk, Virginia, opines that the current American Joint Professional Military Education (JPME) system "…is centered in an educational paradigm more attuned to the demands of the Cold War era than those of the 21st Century." The author further offers that "…the JPME community must eschew this 20th Century paradigm and develop a competence-based approach that provides students with the abilities needed to operate across the multiple levels of war, traversing multiple domains and disciplines, and is applicable anywhere in the world." Parallel applications for the Canadian military are certainly worthy of consideration. In the second submission, RMC Saint-Jean Professor of Philosophy Danic Parenteau takes a fresh look at what type of initial training is best suited to produce good officers at the Royal Military Colleges of Canada, based upon "…the shifting overall geopolitical context in which the CAF operates, and, in particular, the major transformations affecting warfare and military operations." Parenteau believes that in order to function effectively in new, unpredictable environments, young, developing officers must be both adaptable and versatile, and that "…the best intellectual tool an officer can have for developing his or her skills is critical thinking anchored in a broad general culture."

Our own resident Martin Shadwick then explores the ramifications of the recently-announced decision to retire two *Iroquois*-class destroyers and two *Protecteur*-class Auxiliary Oiler Replenishment (AOR) ships, while highlighting some of the mitigating options provided by the modernized *Halifax*-class frigates, and the embodied promise of a brighter replacement future for the AORs through their eventual replacement with the *Queenston*-class Joint Support Ships. Martin closes with a few words on the benefits the acquisition of a fifth C-17A *Globemaster III* would provide to enhance Canada's defence capabilities. Finally, as is our wont, we offer a number of book reviews for our readership's consideration.

Until the next time.

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

LETTERS TO THE EDITOR

Letter to the Editor

Daniel Gosselin ploughs familiar ground as he reviews the role of senior public servants within the Department of National Defence (CMJ, Vol. 14, No. 3, Summer 2014). There has long been a conspiracy theory within Canadian military circles, dating back to the functioning of the general staff following the First World War, that military command and control of the CAF has occasionally been hijacked by the civilian cadre. I served as a civilian director general in NDHQ in the mid-1990s and I always thought that we functioned quite harmoniously with our uniformed colleagues as members of one team, with perhaps some creative tension. Neither the then-CDS nor the DM shared with me any frustrations they had as to how the triumvirate of Minister, DM and CDS interacted, but it would have been symbiotic. Obviously, personalities play a role and there is some evidence in Canadian history since 1965, perhaps, that a 'stronger' DM occasionally exerted greater authority alongside a 'weaker' CDS, and *vice versa*.

In an article by Dr. Harriet Critchley which first appeared in *Armed Forces and Society 16*,(Fall 1989), she concluded that the reorganizations of NDHQ since integration had created a more progressive governance structure that, in fact, allowed the uniformed military *more* participation and influence over broad defence issues. But that, of course, relates to the military operating in a staff function.

As a sidebar though, I would also argue that by having civilians perform certain functions, senior military officers have been available to fill positions that are uniquely military, rather than have these expensive officers fill roles better filled by civilians.

As General Gosselin notes, the call to arms in Afghanistan rightly put NDHQ onto a war footing with the CDS organizing the Forces in a manner best suited to conduct extensive and enduring military operations. While the civilian executive cadre would have been involved in the policy and procurement discussions in support of Operation *Archer*, I am not aware of civilian 'interference' in the operational side of the war once policy was agreed. I think it is telling that General Hillier declined when asked by the Minister if he wanted the CAF hived off from NDHQ. He must have concluded that greater synergies were to be achieved together in a combined headquarters, rather than separately, or that he did not wish to risk unnecessary organizational 'churn' at a time of high operational tempo.

So to conclude, there has never really been a question of civil control of the military in the constitutional sense in Canada, and to suggest that the CAF has become civilianized falls short of the mark as well.

Yours sincerely,
David Collins

David Collins joined the Department of Industry, Trade and Commerce in 1976 and served in varied positions, including ambassadorships and duty as High Commissioner to Pakistan. Upon secondment, Mr. Collins served as Director General International and Industry Programs at DND, and as Director for Defence Partnership and Cooperation in the NATO International Secretariat in Brussels. Having served in several senior positions at NDHQ, Mr. Collins is currently High Commissioner to Malaysia.
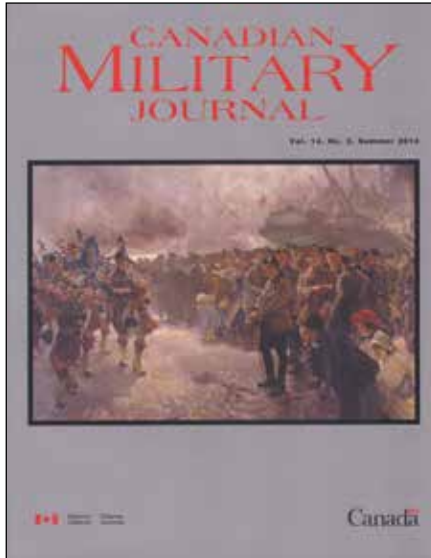
Letter to the Editor

As a retired Canadian Armed Forces Public Affairs Officer, I occasionally find an article that really piques my interest. One such was Harold Ristau's piece on the role of chaplains in Vol. 14, No. 2, the Spring 2014 issue.

Having had frequent contact with the military chaplaincy during my decades of service, I find it very gratifying to hear a padre admit something I have long held to be true, and that is the role of a military chaplain as a necessary part of the fighting force.

I believe he is right. The main role of the chaplain is to 'patch up' troops who have, or are beginning to, fail under stress, and then send them back to keep on fighting. All the lengthy discussion of 'resilience' in the article leads to this one conclusion.

Therefore, Padre Ristau has finally enunciated what I have been saying for decades, that military chaplains are there to support the mission, and as such, they are a force multiplier. Ergo, it could also be argued that they are a legitimate military target.

Sincerely,
Major (ret'd) A.B. Keene

Reuters RTXF01J by STR New

Fighters of the Islamic Taliban militia, 11 October 1995.

The Grand Strategic and Strategic Roles of Armed Non-state Actors (ANSAs)

by James W. Moore

James W. Moore, Ph.D., LL.M, *is a Defence Scientist in the Socio-Cognitive Systems Section at DRDC, Toronto Research Centre. Previously, he worked for 20 years as a Strategic Analyst responsible for research and reporting on the Middle East with the Directorate of Strategic Analysis/CORA at National Defence Headquarters in Ottawa. He earned his Ph.D. in Political Science from the Massachusetts Institute of Technology, and holds an LL.M. in Public International Law from Osgoode Hall Law School, York University.*[1]

Introduction

In an article previously published in the *Canadian Military Journal*,[2] I introduced the concept of the Armed Non-state Actor (ANSA), defined as *an autonomously operating planned group that has the capacity to use violence to achieve political ends*. In the article that follows, I will explore the strategic roles of ANSAs in the context of violent intergroup conflict, beginning with a statement of the central problem. Simply put, we, in the Canadian national security community, have an overly narrow view of the strategic roles of ANSAs. The picture we typically paint of these non-state adversaries—as found in Canadian Armed

Forces (CAF) doctrine on irregular warfare and counterinsurgency (COIN)[3]—looks something like what now follows.[4] The lodestone for an ANSA is political power. At a minimum, an ANSA is committed to seizing political power from the established authorities; in the extreme, it seeks to transform society's fundamental political, economic, and social institutions and relationships in line with its (often Utopian) vision of the world. The ANSA sees 'the people' as the centre of gravity in its drive for power, and sees itself as the leading element in their struggle for survival. It tries to win, over the course of a protracted politico-military campaign, the *acquiescence* if not the *allegiance of* the local populace. The path to power, as far as the ANSA is concerned, does not lie in peaceful engagement with its opponents. Rather, it stands in implacable, violent opposition to the peaceful resolution of social conflict; its reliance upon violence, subversion, and intimidation only confirms its true, destructive intentions. Granted, at some point in its drive for power, the ANSA may agree to participate in a formal peace process. However, this is, at best, a tactical manoeuvre. The ANSA publicly proclaims its fidelity to the peaceful settlement of armed conflict, all the while working behind the scenes—often using carefully calibrated and deniable violent activity—to undermine the peace process and weaken

its enemies. The picture of an ANSA that emerges from CAF doctrine, then, is that of a violent, irreconcilable foe against whom the CAF must seize every opportunity "to pre-empt, dislocate and disrupt."[5]

This is very much a one-sided image of ANSAs. That, however, does not make it wholly inaccurate. Many ANSAs or elements therein are indeed ruthless, brutal actors who cannot be reconciled on any reasonable terms. Nevertheless, there are other roles open to ANSAs in the context of violent intergroup conflict. That is the purpose of this article: to develop an expanded typology of the roles ANSAs may enact at the grand strategic and strategic levels. First, we distinguish three distinct roles at the grand strategic level, those of *transformer*, *captor*, and *stakeholder*. Next, we consider the roles ANSAs see themselves as playing at the strategic level. Regardless of their ideological bent, ANSAs generally regard themselves as the *vanguard*, defined as a group that appropriates or arrogates to itself a leadership role in creating or fomenting the conditions necessary for socio-political change. Embedded within this overarching role identity is a second tier of generic strategic roles: *spoiler* and *partner*. In simple terms, a *spoiler* is an ANSA that sees peace as a threat, and resorts to violence to undermine its prospects. A *partner*, on the other hand, is an ANSA that has made a strategic commitment to achieving peace in the long run (though this does not necessarily mean that an ANSA will not resort to violence at various points along the bumpy road to that end state). Combining the role identities at the grand strategic and strategic levels yields an expanded typology of 16 archetypical roles that an ANSA may assume in the context of intergroup conflict. While this typology enhances our understanding of this class of complex social actor, the multiplicity of grand strategic and strategic roles frustrates the precise prediction of ANSA behaviour.

> **"In simple terms, a *spoiler* is an ANSA that sees peace as a threat, and resorts to violence to undermine its prospects."**

Grand Strategic Roles: Transformers, Captors, and Stakeholders

Let us begin with the roles ANSAs may perform at the grand strategic level. We can identify at least three such roles. The first is the *transformer*, in which the ANSA seeks to create alternative structures to supplant existing state and social institutions. It sweeps aside the institutional structure of the *ancien régime* and substitutes its own idiosyncratic structures. In other words, it seeks to fundamentally remake society. This is most often associated with social and political revolution, as in the Chinese civil war (1927–1949) in which Mao Zedung's Communist Party eventually chased the ruling Kuomintang government from the mainland and imposed a radical communist system upon Chinese society. The second is the *captor*, in which the ANSA seeks to take control of existing state structures and institutions—in other words, preserve the structures but replace the incumbents. This is most often associated with a *coup d'état,* such as the 1954 Guatemalan coup in which the "Liberation Army" of Col. Carlos Castillo Armas—a rag-tag ANSA of some 400 fighters operating out of neighbouring Honduras and El Salvador, with indispensable covert and overt support from the US Central Intelligence Agency (CIA)—ousted the democratically-elected president, Jacobo Árbenz Guzmán. Finally, we have the *stakeholder*, in which the ANSA is willing to share in existing state structures and institutions, that is, to accept a parceling out of the power centres in the existing governance structures among the major players in a conflict. This is most often associated with power-sharing arrangements, such as the Good Friday Accord (1998) that divided the ministries of the interim administration in Northern Ireland between Sinn Fein and the Protestant parties.

A female guerrilla of the Fourth Front of the Revolutionary Armed Forces of Colombia (FARC) stands to attention with her comrades-in-arms during a military training session, 11 August 1998.

Reuters RTRJ1WK by Reuters photographer

Marxist FARC rebels posing with their weapons after a jungle patrol in Colombia, 7 August 1998.

Strategic Roles: Vanguards, Spoilers, and Partners

Vanguards

What roles do ANSAs see themselves playing at the strategic level? Arguably, the role that is most salient for an ANSA is that of *vanguard*, defined as a group that appropriates or arrogates to itself the leadership role in creating or fomenting the conditions necessary for socio-political change. The Western notion of the vanguard has its roots in Marxist-Leninist thought. Marx and Engels first introduced this construct in the *Communist Manifesto* (1848). Some fifty years later, Lenin set out the organizational and functional blueprint for a revolutionary vanguard organization in his 1902 pamphlet, *What is to be done?*[6] It is beyond the scope of this article to delve into the details of the Marxist-Leninist conception of the vanguard. Nevertheless, mention should be made of the key features attached to this role. The vanguard party sees itself as the advance guard or elite cadre—in other words, the 'cream of the crop'—of the primary group it claims to represent, by virtue of the character and conduct of its members, as well as through their superior consciousness and understanding of contemporary political realities and the broader tides of history. As such, the vanguard party sees it as falling to itself to mobilize, organize, guide, and direct the inchoate impulses of the primary group. It has the *right*, and, indeed, the *duty* to assume the leadership role of the revolutionary struggle. For an ANSA that sees itself in this vanguard role, the message to its opponents is simple: if you want to resolve this conflict, you've got to deal with *us*, one way or another.

Not surprisingly, given their ideological bent, revolutionary leftist ANSAs in the post-Cold War world naturally see themselves

Reuters RTXG71N by Wahdat Afghan

Fighters of the Afghan Shi'ite Moslem faction Hezb-i-Whadat, 9 March 1995.

in this vanguard role. However, this role is not the exclusive domain of avowedly Marxist-Leninist or Maoist parties. Indeed, the contemporary revolutionary vanguard parties of greatest concern to the West are not those on the Left, but rather, transnational jihadist ANSAs. As we shall see, the Leninist role conception of vanguard has infiltrated Salafist-jihadi thought, reinforcing the traditional Islamic notion of vanguard to become a cornerstone in the ideology of jihadist ANSAs, such as al Qaeda (AQ) and its affiliates.

The concept of vanguard is not foreign to Islam. In the commentary to his English-language translation of the Qur'an, Abdullah Yusuf Ali describes the vanguard thus:

> The vanguard of Islam—those in the first rank—are those who dare and suffer for the Cause and never flinch. The first historical examples are the *Muhājirs* [lit."emigrants"] and the *Ansār* [lit. "helpers"]. The *Muhājirs*—those who forsook their homes in Makkah [Mecca] and migrated to Madīnah [Medina], the Holy Prophet being among the last to leave the post of danger, are mentioned first. Then come the *Ansār*, the Helpers, the citizens of Madinah who invited them, welcomed them and gave them aid, and who formed the pivot of the new Community.[7]

The vanguard is not merely an artifact of early Islamic history. In contemporary terms, the *Muhājir* roughly corresponds to the activists of a jihadist ANSA, and the *Ansār* to the group's non-member supporters and sympathizers. In that sense, the vanguard of Islam can exist at any time or in any place.

Subsequent Islamist writers grafted Marxist-Leninist notions of the vanguard on to the traditional conception found in the Qur'an. One can trace the appearance of the vanguard role in 20th Century Islamist thought to the writings of Mawlana Sayyid Abu'l-A'la Mawdudi, a Pakistani Muslim activist who founded the *Jama'at-e-Islami* (Islamic Party—JI) in 1941. He became one of the most influential thinkers in the Islamic revival of the last century. Mawdudi's transformative vision of Islam drew heavily from modernist ideas, including Communist political philosophy, seizing upon, for example, the Leninist model of the vanguard party as the exemplar for JI. As international relations scholar Seyyed Vali Reza Nasr observes:

> …[the] similarity between the two movements is not just conjectural. Mawdudi was familiar with Communist literature, and true to his style, he learned from it, and from the Communist movement in India, especially in Hyderabad, in

"Mawdudi's influence upon subsequent generations of Islamic revivalist thinkers was profound."

A Pakistani Muslim makes a victory sign during a protest in Karachi, 23 September 2001. The banner with the Arabic phrase translates to: "I Must Win or I Will Die for Islam."

A Pakistani holds up a poster of Osama Bin Laden during a pro-Taliban rally of the biggest Islamic party, Jamt Ulma Islami (JUI), in Quetta, 2 October 2001.

the 1930s and in the 1940s…That the Jama'at's and Lenin's ideas about the "organizational weapon" [i.e., the vanguard party] were similar confirms that the relation of ideology to social action in Mawdudi's works closely followed the Leninist example. Mawdudi argued that in order for his interpretation of Islam to grow roots and support an Islamic movement, he had to form a tightly knit party. An organizational weapon was therefore the prerequisite to making Islam into an ideology and using religion as an agent for change.[8]

Mawdudi's influence upon subsequent generations of Islamic revivalist thinkers was profound.[9] Of particular interest here is his notion of the vanguard role, adapted from Leninism, and the chain of transmission of this idea from Mawdudi's writings to the pronouncements of Osama bin Laden, the deceased leader of AQ.

Sayyid Qutb, the leading thinker of the *Egyptian al-ʾIkḥwān al-Muslimūn* (The Society of the Muslim Brothers or the Muslim Brotherhood—MB) in the 1950s and 1960s, was a follower of Mawdudi's teachings. Historian Philip Jenkins notes that Qutb, "…loved the heroic image of the Islamist party as revolutionary vanguard."[10] In his manifesto for Islamic action, *Ma'alim fi al-Tariq* (Milestones), Qutb described the conflict between the vanguard of the Islamic movement and *jahiliyya*—"the state of ignorance of the guidance from God"[11]—in the following terms:

…history tells us that the *jahili* society chooses to fight and not to make peace, attacking the vanguard of Islam at its very inception, whether it be a few individuals or whether it be groups, and even after this vanguard has become a well-established community.[12]

As historians Ladan and Roya Boroumand remark, "…this was Leninism in Islamist dress."[13]

Qutb's ideas on the vanguard, in turn, served as inspiration for succeeding generations of Islamic militants. Of particular note was the Palestinian Islamic scholar Abdullah Azzam. Qutb was one of the key influences upon Azzam's thought.[14] While studying *shari'a* and Islamic jurisprudence at Cairo's Al-Azhar University in the early-1970s, Azzam met with Omar Abdel-Rahman (known as the 'Blind Sheikh,' sentenced to life in prison in the US for seditious conspiracy in the 1993 bombing of New York's World Trade Center), Ayman al-Zawahiri (Osama bin Laden's successor as leader of AQ), and other followers of Qutb. This exposure led him to embrace much of Qutb's ideology, including the concept of the Islamic movement and the vanguard. During the jihad against Soviet occupation forces in Afghanistan, Azzam spoke of the continuing need for an Islamist vanguard, a kind of Islamic "rapid reaction force,"[15] to come to the defence of oppressed Muslims everywhere, even after the Afghan jihad had ended:

Every principle needs a vanguard (*Tali`ah*) to carry it forward and, while forcing its way into society, puts up with heavy tasks and enormous sacrifices. There is no ideology, neither earthly nor heavenly, that does not require such a vanguard that gives everything it possesses in order to achieve victory for this ideology. It carries the flag all along the sheer endless and difficult path until it reaches its destination in the reality of life, since Allah has destined that it should make it and manifest itself. This vanguard constitutes the solid base (*Al-Qa`idah al-Sulbah*) for the expected society.[16]

Azzam saw the role of this vanguard organization as mobilizing Muslims through "a common people's jihad."[17] In this sense, *al-Qa'idah al-Sulbah* would act "…like any revolutionary vanguard, as Lenin or indeed the French revolutionaries had imagined."[18]

Azzam's Qutbist ideas, in turn, helped mold the mindset of Osama bin Laden and laid the groundwork for the subsequent rise of AQ.[19] Azzam befriended the young bin Laden in the early-1980s while lecturing at King Abdulaziz University,[20] a relationship that carried over to their time in the anti-Soviet jihad in Afghanistan in the 1980s. He became bin Laden's spiritual and intellectual mentor: "Bin Laden revered Azzam, who provided a model for the man he would become," a modern version of the warrior-priest, an archetype of long standing in the Islamic tradition.[21]

> "The notion of the vanguard…is the pre-eminent strategic role that ANSAs—whether militant leftist, religious, nationalist, or other—generally see themselves as playing."

Azzam's conception of the vanguard permeated bin Laden's and his lieutenants' vision of AQ. As a vanguard organization, bin Laden saw AQ as standing at the forefront of the Islamic community's struggle against the global forces of heresy and apostasy. For example, in pontificating upon the roots of the conflict between the Saudi regime and the Saudi people in an audio-cassette tape released in December 2004, he argued that "…this conflict is partly a local conflict, but in other respects it is a conflict between world heresy—and with it today's apostates—under the leadership of America on the one hand, and on the other, the Islamic nation with the brigades of mujahideen in its vanguard."[22] When asked in a December 2007 video interview what had been the most important transformation recently witnessed in the Islamic world, bin Laden's second-in-command and later successor, Ayman al-Zawahiri, replied:

The most important and critical of these transformations—and Allah knows best—is the emergence of the Mujahid vanguard of the Muslim Ummah as a power imposing itself on the world stage, as a result of the intensifying Jihadi awakening surging through the Islamic world, refusing humiliation, defending the honor of the Muslim Ummah and rejecting the methodologies of defeat and culture of backtracking. And the groups of this Mujahid vanguard are now uniformly deployed and – by the grace of Allah – are coming together and uniting.[23]

Surveying these and other statements over a ten-year period, Christopher Blanchard, a US Congressional Research Service analyst, concludes:

Bin Laden's statements from the mid-1990s through the present indicate that he continues to see himself and his followers as the vanguard of an international Islamic movement primarily committed to ending U.S. "interference" in the affairs of Islamic countries and supportive of efforts to overturn and recast Islamic societies according to narrow Salafist interpretations of Islam and Islamic law.[24]

Thus, we see from the foregoing how the historical Marxist-Leninist conception of the vanguard party, melded with the traditional Islamic notion of vanguard, has come to take root in the radical ideology of AQ in the present day.

Afghan Taliban and Pakistanis protest in Karachi, 31 August 1998.

Reuters RTRN9UP by Reuters photographer

A Sunni Muslim carries his child while protesting in Rawalpindi, 25 September 2001.

Spoilers and Partners

The notion of the vanguard, argued above, is the pre-eminent strategic role that ANSAs—whether militant leftist, religious, nationalist, or other—generally see themselves playing. However, embedded within this overarching role is a second tier of strategic roles, each associated with its own characteristic expectations, norms, and behaviors. What are these possible second-tier strategic roles?

The Spoiler Typology

One strategic role we can readily identify is that of *spoiler*. The seminal article introducing this role is Stephan Stedman's "Spoiler problems in peace processes," appearing in the journal *International Security* in 1997. In it, Stedman defines *spoilers* as "leaders and parties who believe that peace emerging from negotiations threatens their power, worldview, and interests, and use violence to undermine attempts to achieve it."[25] The precondition for a spoiler role, Stedman maintains, is the existence of a peace process, which is said to exist once "…at least two warring parties have committed themselves publicly to a pact or have signed a comprehensive peace agreement."[26] Within the context of a peace process, spoilers play the role of "destroyers of peace agreements."[27]

> "Desired ends include recognition and redress of grievance and basic security of its followers. Limited goals, however, do not necessarily imply low or weak commitment."

In his typology, Stedman differentiates spoilers along four dimensions: (a) their standing or position in relation to the peace process, (b) the number of spoilers, (c) the type of spoiler, and (d) the locus of spoiler behavior.[28] Only the first and third dimensions are relevant to the elaboration of his descriptive typology. In terms of the first dimension—a spoiler's standing in relation to the peace process—Stedman notes that a spoiler may be either *outside* or *inside* the process. An *outside spoiler* operates external to the process, whether by choice or deliberate exclusion by other parties, and stands in implacable, violent opposition to it. It strives for maximalist goals, that is, to dominate the political structures of the state. An *inside spoiler*, on the other hand, operates from within the peace process, formally committing to a peace accord and its implementation, while at the same time duplicitously reneging on its obligations under that accord. It pursues what Newman and Richmond refer to as "devious objectives" under cover of its participation in the peace process: "…achieving time to regroup and reorganize; internationalizing the conflict; profiting materially from ongoing conflict; legitimizing [its] negotiating positions and current status; and avoiding costly concessions by prolonging the process itself."[29] An inside spoiler tends to minimize violence so as not to completely destroy its credibility as a partner in peace and to lose the advantages surreptitiously derived from continued involvement

in the process. In other words, it pursues a *strategy of stealth* or deliberate *strategic deception*. Many commentators have argued that PLO Chairman Yasser Arafat was just such an inside spoiler, publicly professing his commitment to the Oslo Accords while refusing to fulfill his obligations under those agreements to fight terror and, indeed, encouraging violence against Israel behind the scenes, particularly during the second Intifada.

With respect to the third dimension—the type of spoiler—Stedman distinguishes spoiler type based upon the party's *goals* and its *commitment* to the pursuit of those goals. He argues that the goal at the strategic level is *political power*. All parties in a civil war seek power, he observes, but not all parties seek total power; they differ in their power aspirations, which span the spectrum from total to limited power. At the high end, the desire is for exclusive or at least dominant power. At the low end of the spectrum, aspirations are restricted to a significant share of power or to the exercise of power subject to democratic controls or constitutional constraints (see Figure 1).

The second distinguishing feature is the *commitment* of the parties to realizing their power ambitions. Stedman characterizes commitment in two ways: (a) the immutability of a party's preferences, and (b) a party's sensitivity to costs/risks. The more a party's goals are 'carved in stone' and the greater its willingness to tolerate risks and endure costs to achieve those goals, the higher its commitment is said to be. Conversely, the more open it is to compromise on its preferences and the greater its reluctance to accept risks and bear costs, the lower its commitment.

much in order to achieve them.[30] A *greedy spoiler*'s aspirations may range along the length of the power ambition spectrum. The difference between the greedy and the total or limited spoiler is that the greedy spoiler's goals expand or contract, depending upon its ongoing cost/risk assessment.[31] That is, its goals may be total (a *greedy spoiler* proper) or limited (a *greedy limited spoiler*), but its commitment to these goals is uniformly low.

These spoiler types can be located within a two-dimensional goals/commitment matrix (see Table 1):

Commitment level	Limited goals	Total goals
Low commitment	1 Greedy or limited spoilers	2 Greedy spoilers
High commitment	3 Limited spoilers	4 Total spoilers

Table 1: Stedman's Typology of Spoilers (as interpreted by Zahar)

The cardinal rule for classification schemes or typologies is that classes must be both *exhaustive* and *mutually exclusive*, that is, all possible cases or concepts should be captured and each assigned to one and only one class.[32] As set out in the table, Stedman's typology appears to violate the second requirement. Political scientist Marie-Jöelle Zahar—the originator of the table—points out that the two distinguishing dimensions do not sufficiently differentiate spoiler types. Two supposedly different spoilers—the greedy and limited spoilers in Cell 1—have the same goal/commitment profile. As well, two types each span two different cells—limited spoilers in Cells 1 and 3, and greedy spoilers in Cells 1 and 2.[33]

The apparent ambiguities in the typology lie in Zahar's misreading of Stedman's classification scheme, and in an unfortunate blurring of terminology on Stedman's part. Zahar counts five spoiler types in Table 1, whereas Stedman explicitly discusses only four.[34] She mistakenly distinguishes two limited spoiler types—one with low commitment, the other with high commitment—while Stedman describes the limited spoiler only in terms of high commitment. Therefore, we can eliminate the limited spoiler (limited goals/low commitment) in Cell 1 of the table above, and thereby resolve the 'spillover' problem.

There remains Stedman's confusion of terminology. He gives two distinct spoilers—the "greedy spoiler with total goals," and the "greedy limited spoiler,"—the same root name, *greedy spoiler*. Confusing, but easily corrected: we simply assign a different name to one of these *greedy spoilers*. We shall retain the label greedy spoiler for the spoiler with total goals and low commitment, and designate the spoiler with limited goals and low commitment an *opportunistic spoiler*. Resolving the interpretation and terminology problems in this manner leaves us with four unambiguously distinct spoiler types, thereby satisfying the criterion of exclusivity.

Total Power   **Limited Power**

Exclusive   Dominant   Shared   Constrained

Total Spoiler

Limited Spoiler

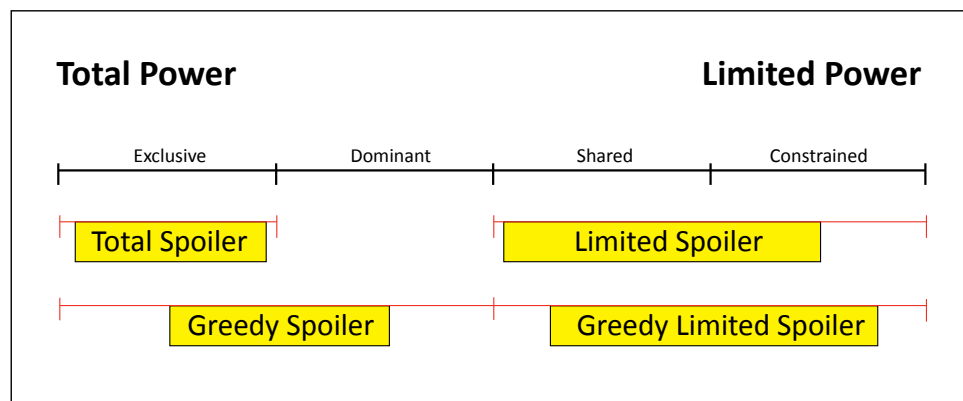Greedy Spoiler

Greedy Limited Spoiler

Figure 1: Spectrum of Power Ambitions

On the basis of goals (or power ambitions) and commitment, Stedman identifies four generic types of spoilers. A *total spoiler* seeks total power and exclusive recognition of authority, a goal to which it is highly or irrevocably committed. In counterinsurgency doctrine, total spoilers are generally labeled 'irreconcilables.' It is assumed that the only strategy for dealing with such actors is to marginalize or isolate them from society, and, ultimately, to physically remove them from the operating environment ('kill or capture'). A *limited spoiler* harbours more limited power ambitions, and is willing to share power with its competitors, or to accept the constitutionally-constrained exercise of power. Desired ends include recognition and redress of grievance and basic security of its followers. Limited goals, however, do not necessarily imply low or weak commitment. Stedman remarks that a limited spoiler may be highly or firmly committed to its goals and willing to sacrifice

Factoring in the position dimension—whether the spoiler is inside or outside the peace process—gives us a typology consisting of eight discrete types (see Table 2):

Commitment	Position	Goal type	
		Limited	Total
Low	Outside	*Opportunistic*	*Greedy*
	Inside	*Opportunistic*	*Greedy*
High	Outside	*Limited*	*Total*
	Inside	*Limited*	*Total*

Table 2: Corrected Typology of Spoilers

Refining the Typology

In the years since the publication of his *International Security* article, Stedman's typology has come under close scrutiny and critique, much of it constructive, some of it less so. New directions and refinements have been suggested that sharpen his original concept.[35] I would like to suggest an additional refinement to the spoiler typology, specifically, broadening it to include the strategic role of *partner*. Although a definite advance in our understanding of the strategic roles ANSAs can play in relation to a peace process, the typology falls short in its one-sidedness: it focuses only upon those strategic roles that stand in some degree of opposition to a peace process. What is needed is an expanded classification scheme, a general, dichotomous typology that explicitly includes the binary opposite to spoiler: *partner*. Critical to defining the role identity of *partner* is a third dimension that distinguishes an actor's standing in relation *to a peace process*, alluded to at several points in Stedman's 1997 article: a party's commitment to the peace process. As with a party's commitment to its power ambitions (Figure 1), there is a spectrum of commitment to a peace process, ranging from *none* for the outside spoiler to *tactical* for the inside spoiler and *strategic* for the partner (see Figure 2):

Explicitly including this third dimension, we may define a *partner* as a party that pursues limited political ambitions and is willing to share political power with other actors (linking back to the stakeholder at the grand strategic level). What distinguishes the partner from the spoiler is that a spoiler is not sincerely committed to a peaceful resolution of the conflict while a partner's commitment over the long term is genuine. That is, the partner has made a *strategic commitment to peace*, though not necessarily to a particular configuration of a peace settlement.

> **"I would like to suggest an additional refinement to the spoiler typology, specifically, broadening it to include the strategic role of *partner*."**

As with the spoiler, there are variants within this broad category of partner. Two spring immediately to mind, depending upon the nature of the actor's commitment to the peace process: the *principled partner* and the *pragmatic partner*. The first is a party whose commitment to the peace process is unconditional. Its devotion to the success of the process is unwavering despite the inevitable bumps encountered along the way to a settlement. Put differently, a principled partner reposes sufficient trust and confidence in the process and in the other participants to remain engaged regardless of temporary setbacks. It sees peace and the social stability and security that comes with it as an end in itself, the necessary environment within which it can work toward achieving its ambitions. Its limited political goals need not be completely satisfied in the immediate context of a peace settlement; it will compromise on these in order to secure an overall peace. Nevertheless, mechanisms must be in place (i.e., there must be some form of responsive, post-settlement political process) whereby the principled partner has at least a reasonable chance of realizing these ambitions over the long term.

Secondly, we have the *pragmatic partner*. Like the principled partner, the pragmatic partner is committed to the ultimate success of the process. However, this commitment is contingent upon securing the limited goals to which it is highly committed or upon the continued flow of material and/or political rewards for compliant behaviour.[36] In other words, for the pragmatic partner, peace is instrumental; it is a means to an end rather than an end in itself. Its commitment is also contingent on the prior or, at a minimum, simultaneous fulfillment of the other parties' obligations under the peace process. The pragmatic partner does not have the same degree of trust and confidence in the process and the other participants as does the principled partner. Confidence-building measures are essential in order to lessen suspicion and mistrust of the other parties' intentions.

Incorporating the category of *partner* allows us to expand the typology of ANSA roles at the strategic level. Stedman's typology identified eight strategic roles (Table 2): four spoiler types, each of which can be outside or inside the peace process. In our refined and expanded typology, we have a total of 16 archetypical roles that an ANSA may assume in the context of intergroup conflict:
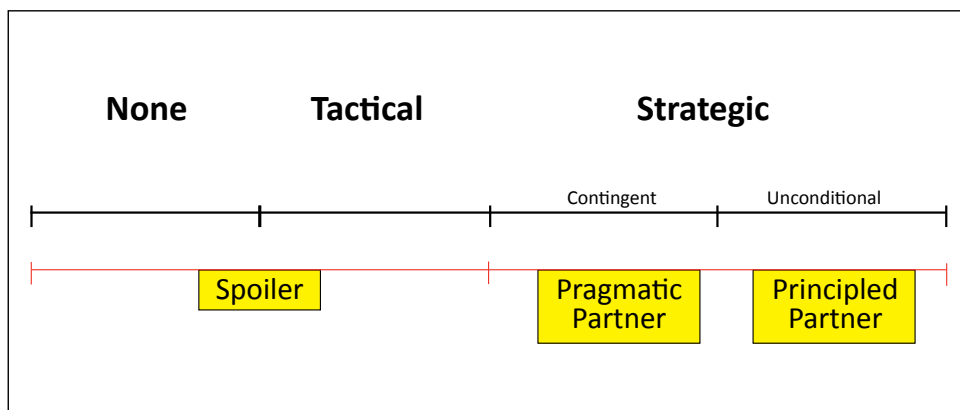

Figure 2: Spectrum of Commitment to the Peace Process

Grand Strategic Role	Strategic Role	Goals	Commitment to Goals	Commitment to Peace Process	
				Outside	Inside
Transformer	Total Spoiler	Total	High	None	Tactical
Captor	Total Spoiler	Total	High	None	Tactical
Captor	Limited Spoiler	Limited	High	None	Tactical
Transformer	Greedy Spoiler	Total	Low	None	Tactical
Captor	Greedy Spoiler	Total	Low	None	Tactical
Captor	Opportunistic Spoiler	Limited	Low	None	Tactical
Stakeholder	Pragmatic Partner	Limited	High	Tentative	Contingent
Stakeholder	Principled Partner	Limited	Low	Tentative	Unconditional

Table 3: Expanded Typology

A masked man speaking in what is believed to be a North American accent in a video that Islamic State militants released in September 2014 is pictured in this still frame from video.

national security community's stereotypical view of an ANSA. Specifically, CAF irregular warfare and COIN doctrine paints a single-hue picture of an ANSA as a violent, irreconcilable foe. Situating this view within our expanded typology (the rows highlighted in yellow in Table 3), an ANSA is a *transformer* or *captor* that considers itself, at the strategic level, to be the vanguard of 'the people,' engaged in a protracted popular war using violent action to attack and subvert the established authorities and their supporters (i.e., it is a *Total Outside Spoiler*). If it joins in a peace process, it does so only as a *Total Inside Spoiler*, employing a strategy of stealth to deceive its opponents and to mask its limited, tactical commitment to the process.

The advantage of this conventional picture of ANSAs lies in its simplicity—the ANSA as *Total Spoiler*. However, as our analysis demonstrates, there are many roles apart from *Total Spoiler* that these complex actors may assume, *not all of which are oppositional*. This is the critical point. ANSAs are not always and inevitably roadblocks to peace. Sometimes they may hold the key to the peaceful resolution of violent social conflict. Indeed, the challenge for the counterinsurgent in the future security environment is to recognize when the potential for partnership exists, and to determine the appropriate mix of strategies that, ideally, will encourage the ANSA to transition to the role of *Principled Partner*.

Stedman's eight spoiler types, further classified by grand strategic role (transformer, captor, and stakeholder) for a total of 12 spoiler types; and our four partner types (see Table 3):

Conclusion

The multiplicity of roles identified in our expanded typology is both a blessing and a curse. It is a blessing in that it helps us to better appreciate the essential complexity of this class of social actors. It is a curse in so far as it frustrates our attempts at *precise* prediction of ANSA behaviour. Recall, we began this analysis with a description of the Canadian

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Shi'ite fighters chant anti-ISIL and anti-FSA slogans at the Sayeda Zainab area in Damascus, 15 February 2014.

Reuters RTX18VH3 by STRINGER Iraq

NOTES

1. At DRDC, Toronto Research Centre, Dr. Moore is engaged in exploratory and applied research on human cognitive and social performance in adversarial contexts related to defence and security, specializing in the psycho-sociology of insurgency and terrorism. He was the Project Manager for a multi-year project developing a conceptual framework for understanding the motivations, intentions, and behaviors of Armed Non-state Actors (ANSAs). The views expressed here are the responsibility solely of the author.

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3. See Canada, Directorate of Army Doctrine (DAD)/Land Force Doctrine and Training System, *Counter-insurgency Operations* (B-GL-323-004/FP-003) (Kingston, ON: Army Publishing Office, 2008), and Canada, Directorate of Army Doctrine (DAD)/Land Force Doctrine and Training System, *Land Operations* (B-GL-300-001/FP-001) (Kingston, ON: Army Publishing Office, 2008).

4. For a more detailed description of this 'picture,' captured in the form of a Concept Map (Cmap) of an Irregular Adversary (Insurgent), see J. Moore, *A "first-cut" concept map: The Irregular Adversary (Insurgent)* (DRDC Toronto TM 2011-118), (Toronto: Defence R&D Canada, Toronto Research Centre, 2012).

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34. Stedman, "Spoiler problems…," pp. 10, 14.

35. For a discussion of these criticisms and refinements, see J. Moore, *Understanding Armed Non-state Actors (ANSAs): Identities, Roles, and Strategies,* (DRDC Toronto TM 2011-082), (Toronto: Defence R&D Canada, Toronto Research Centre, 2013).

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Storage tanks for the Canada Pipeline, holding crude and refined oil, in the Kinder Morgan tank farm, are pictured in Burnaby, British Columbia, 20 October 2014.

The Prospective Interdependency of China's and Canada's Energy Security[1]

by Daniel MacIsaac

Among the world's energy commentators, there is unanimity about just one aspect of energy security—that it is central to contemporary global economics and politics.[2]

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Introduction

Energy security is central to contemporary global economics and politics because countries use it to support their national power. Net energy-consuming countries demand "…an adequate, reliable and affordable supply of energy and feel vulnerable if this cannot be assured."[3] Furthermore, net energy-supplying countries seek reliable and profitable energy sales to maximise the benefits from their resources.

Therefore, countries enact polices to achieve energy security by protecting the energy supply chain. Specifically, they attempt to gain and protect investment capital, technical competencies, natural resources, and access to international markets and distribution networks, while mitigating downstream effects on the environment and health.[4] From differing perspectives and through a variety of means, both net-consuming and net-producing countries seek to enhance their energy security to sustain their development and to enhance their economic power.

Although their supply and demand perspectives differ, China and Canada share energy security concerns. "Energy security has become a big concern in China,"[5] particularly since it became a net energy importer in 2009, and the world's largest energy consumer in 2010.[6] However, China lacks adequate and affordable domestic oil supplies to fuel its economy, so it is vulnerable to external threats while importing oil across contested lines of communication. Concurrently, Canada is concerned about reliable and profitable sales of its abundant oil. So, although Canada has benefited from selling 99 per cent of its oil exports to the US, the Chinese oil market offers more growth potential than the shrinking US market.[7]

An aerial view of a coal-burning power plant near the Yangtze River in Tongling.

Reuters RTR27J51 by Jianan Yu

This brief article argues that selling Canadian oil to China will improve both nations' energy security. The arguments to support this position are that China will benefit from importing oil from secure sources across secure lines of communication, Canada will benefit from access to China's growing oil market, and Canadian oil sales will enhance both countries' domestic security. The article concludes by emphasizing that increased energy independency between Canada and China may also be useful in potentially mitigating any future Sino-Western security tensions.

China needs secure external oil supplies

China, hungry for more-secure oil reserves to power its gigantic economy, is only too happy to work with the Canadians.[8]

China's soaring energy needs have generated anxiety among its security strategists, who seek to improve energy security by augmenting China's domestic sources with adequate, reliable, and affordable imported oil.[9] In the absence of sufficient domestic supplies, China began importing oil in 1993, and became the world's top oil importer in late-2013.[10] Analysts forecast that from 2013 to 2040, Chinese oil consumption will

> **"In the absence of sufficient domestic supplies, China began importing oil in 1993, and it became the world's top oil importer in late-2013."**

double in order to fuel its domestic development and growing global economic power.[11] Its oil imports are expected to increase accordingly, from 6.2 to 14.4 million barrels daily, so that by 2040, it will need to import 72 per cent of the oil it consumes.[12]

Because this increasing dependence upon imported oil increases its vulnerability to global market insecurity, China is continuing "…to secure supplies through progressive energy diplomacy and through turning its nationally owned energy companies into internationally operating companies."[13] Although a realist vision of international relations infers that consuming countries will seek to support their national interests by controlling their oil supplies, the presence of other players will force a more constructivist approach to coordinating oil demands and supplies. Importantly, "…both China and the United States need stable energy supplies at reasonable oil prices to sustain their economic growth."[14] As China's dependence upon imported oil increases, it will increase its engagement in the global oil market in order to secure reliable supplies.

Although China currently imports adequate and affordable oil supplies, the unreliability of many of its suppliers and the perceived insecurity of transiting the Malacca Strait challenges its

energy security. In 2013, most of China's oil imports came from the Middle East. However, contract disputes and international sanction constraints on Iran, related to its nuclear program, made Iranian oil supply unreliable. Concurrently, Iraqi infrastructure limitations and political instability challenge its production output.[15] Similarly, the 23 per cent of China's imports from Africa have included intermittent supplies from security-challenged countries, such as Sudan, South Sudan, Angola and Libya.[16]

Additionally, reliance upon transiting the Malacca Strait challenges the security of oil imports from the Middle East, Africa, and, to a lesser extent, South America.[17] China is vulnerable to risks of external control because 90 per cent of its oil imports transit this strait, with "…Chinese military planners [noting] the possibility that during a conflict America could blockade the straits to stop energy."[18] Since the loss of their oil imports would effectively halt the Chinese economy, China has enacted a range of policies to address this vulnerability.[19] To increase energy security, China's national oil companies are diversifying their suppliers through overseas investments and pipeline development, while the government is steadily improving the relevant capabilities of the navy.[20]

Such initiatives are costly in terms of both monetary and diplomatic capital. For example, Chinese leaders see the Sino-Myanmar oil pipeline as being of considerable importance to its energy security.[21] However, the eight per cent of oil imports this project will initially divert from the Malacca Strait will proportionally decrease in significance after two years of real import increases. Consequently, China has yet to reduce the perceived insecurity of importing approximately 1.7 million barrels daily from security-challenged countries, and moving 90 per cent (5.6 million barrels daily) of its oil imports through the Malacca Strait.[22]

Clearly, China needs additional reliable and secure sources to achieve energy security. In view of its increasing demands for imported oil and the risks associated with many of its current suppliers and transportation routes, "…the diversity and reliability of China's [existing] foreign oil sources are questionable."[23] Faced with the realisation that "…energy security is critical to economic growth, military defence, social development, poverty reduction, national security and environmental security,"[24] one obvious option would be for China to import a greater proportion of its oil from Canada.

Canada needs access to China's growing market

If we've learned anything from the events in Ukraine, it's that energy security sends signals across borders.[25]

Selling Canadian oil to China would improve both countries' energy security. Canada's abundant natural resources make it one of the world's five largest energy producers, and a net exporter of most energy commodities. As of 2011, Canada was the world's sixth-largest oil producer and it controlled the third largest quantity of proven oil reserves.[26] The US Energy Information Administration (EIA) forecasts that if output continues to meet expectations, Canadian oil production will grow from 3.7 to 6.6 million barrels daily by 2035, while domestic consumption will remain stable at 2 million barrels daily.[27] According to the findings of an influential study group, "…the rising price of oil has made 'supplier' countries like Canada into possible 'economic powers.'"[28] Those opportunities will not be realised, however, if the energy supply chain's components do not enable reliable access to profitable markets.[29]

Reuters RTR2O7DE by Andy Clark

A seagoing freighter enters the inner harbour of Vancouver.

The Bund on the banks of the Huangpu River is pictured before Earth Hour in Shanghai, 31 March 2012.

At present, 99 per cent of Canadian oil exports are supplied to the US.[30] In 2012, Canada supplied 28 per cent (or 2.1 million barrels) of the 7.4 million barrels of oil the US imported daily. However, although Canada is "the principal source of US energy imports," that market is mature and may decline as the US attempts to become oil self-sufficient, particularly as a result of its recent success in 'fracking' shale oil, but also because of improvements in efficiency and shifts to other energy sources.[31] The EIA projects US oil imports to shrink to 6.8 million barrels daily by 2021, and the International Energy Agency (IEA) "…projects a continued decline in US oil imports to 2035, largely because of increasing domestic … production."[32] Although EIA and IEA forecasts differ somewhat, Canada has a real need to find reliable access to non-US markets for the additional oil it will likely be producing by 2035.

In contrast to the challenges facing Canadian oil exports to the US, Chinese GDP growth will present opportunities for oil markets worldwide. Although estimates vary, analysts agree that China's GDP will grow at a faster rate than those of mature economies for at least the next decade, including that of the US. For example, China's GDP is forecast to grow at 5.9 per cent annually from 2014 to 2019, and 3.5 per cent from 2020 to 2025, whereas US GDP is forecast to grow at 2.4 per cent from 2014 to 2019, and 1.7 per cent from 2020 to 2025.[33] As a result, and even if the forecasts of the US becoming more oil self-sufficient prove erroneous, slow US GDP growth will not be sufficient to absorb Canada's potential oil surplus.

> **"In contrast to the challenges facing Canadian oil exports to the US, Chinese GDP growth will present opportunities for oil markets worldwide."**

Since the key to Canada's energy security is reliable access to profitable markets, it must look to diversify its oil export markets to include China. Importantly, Canada has the proven oil reserves to supply up to 4.6 of the 14.4 million barrels of oil China will need daily by 2040.

Energy security benefits to China and Canada

If you're looking at Canada through the lens of the Chinese, the US has great oil and gas reserves, but so does Canada, and Canada, on a relative basis, is more open for business.[34]

A further argument for selling Canadian oil to China is that improved energy security will also enhance both nations' domestic security.

From China's perspective, importing secure oil from Canada could positively contribute to assuring the adequate, reliable, and affordable energy supply needed to sustain its growing economy and development. Canada's capital investment, technical competencies, abundant natural resources, domestic infrastructure and security apparatus can reliably deliver oil to China's ports. Canada's oil and gas producers have unparalleled extraction and pipeline technical expertise, with Alberta considered to be the "…epicentre of high-end technical oil and gas expertise."[35] China has previously illustrated its confidence in Canadian technical competencies by purchasing the Canadian company that constructed the Kazakhstan-China oil pipeline.

Sailboarder in front of a Chinese-flagged crude oil tanker.

The most dangerous threats to energy infrastructure are deliberate sabotage or terrorist attacks. However, Canadian authorities have to date identified no credible criminal or man-made threats to extracting, producing, and exporting oil from Canada.[36] Canada's current shortage of pipelines to export from its Pacific coast ports will be redressed when pipeline capacity increases by 1.4 million barrels daily by 2017.[37]

Sea transportation of Canadian oil also involves less risk to China than do most of its current oil suppliers. Canada's Pacific coast ports are closer to China than virtually all other ports currently exporting oil to China.[38] Canadian oil being transported across the Pacific Ocean, which China already uses to transport 25 per cent of its exports to North American markets, would travel through more secure waters than the Strait of Hormuz and the Strait of Malacca, and the sea lanes through the Indian Ocean and the East and South China Seas, which transport 90 per cent of China's current oil imports.

The energy security benefits China would derive from consuming Canadian oil may also enhance China's domestic security. The oil would likely cost China less diplomatically, militarily, and in energy infrastructure development than would commensurate

> **"Canada's traditional oil export market in the US is mature and will likely decline as the US attempts to become oil self-sufficient…"**

imports from less secure countries. It would also enable China's government to reinvest the difference in other areas of national priority, such as the domestic social and security services necessary to enhance China's development and the living standards of Chinese citizens, which are fundamental to the Chinese Communist Party's legitimacy.[39]

At the same time, selling oil to China would improve Canada's energy security and economy, thereby enhancing its domestic security. Canadian government analysts estimate the oil sector may contribute more than C$3.5 trillion to its economy over the next 25 years, provided the oil can get to profitable markets.[40] The revenue could be used to meet government priorities, such as reducing taxes, reducing the deficit, supporting infrastructure projects, and delivering a variety of programs and services to the public. Some could also be used to invest in the infrastructure and security services required to ensure the security of its oil infrastructure, control access to resources within Canada's territory and exclusive economic zone, and enhance safe navigation in those sea lanes needed to support Canada's international trade.

In summary, China's and Canada's domestic security would both stand to be enhanced by the energy security resulting from

the selling of Canadian oil to China. China needs a reliable oil supplier to reduce its dependence on security-challenged countries and lengthy shipping routes through constrained and contested waters. An assured and reliable supply of oil from Canada would enable China to better invest in the services required to further develop the nation, while Canada may choose to use its enhanced energy security to further develop the capabilities it needs to sustain its domestic security.

Conclusion

Selling Canadian oil to China has the potential to improve both countries' energy security. China's energy security would benefit by the addition of a secure supplier, able to satisfy its demand, while decreasing the proportion of oil supplies imported from weak countries across long, contestable lines of communication. Canada's energy security would be improved by profitable access to China's growing oil market. Canada's traditional oil export market in the US is mature and will likely decline as the US attempts to become oil self-sufficient, thus China's growing oil markets would provide Canada with better economic opportunities.

Canadian oil sales could be expected to enhance both nations' domestic security. Canadian oil could facilitate Chinese energy security with the least burden to China, complying with Wolfers' theory that, "…nations will be inclined to minimize these [security] efforts, keeping them at the lowest level which will provide them with what they consider adequate protection."[41] Holistically, oil from Canada may also be cheaper than other sources, allowing China's government to reinvest the difference in other areas of state priority, necessary to enhance development and domestic security.

For its part, Canada would clearly benefit by being able to use revenue from oil sales to China to meet broad government priorities, and set the conditions for Canada to secure its Pacific, Arctic, and Atlantic Ocean air, land, sea, and sub-surface territories and exclusive economic zones, thereby enhancing Canada's energy and domestic security. Not being a 'great power,' Canada should pragmatically temper its ideals of international influence with a Hamiltonian approach of doing what needs to be done, using its oil resources to enhance its energy security and to sustain and grow its economic power.[42]

Further studies could consider issues relating to the prospective energy interdependence between the two countries, and particularly, the extent to which China's part dependence upon a country so closely integrated with China's greatest competitor may also be useful in potentially mitigating any future Sino-Western security tensions.

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The downtown core of Vancouver, 'Gateway to the East,' and the Lion's Gate Bridge rise above a morning fog.

Reuters RTR29T39

Reuters RTX12F4C by Dan Riedlhuber

Wildlife crossing at Canadian Natural Resources Limited's (CNRL) Primrose Lake oil sands project is seen near Cold Lake, Alberta.

NOTES

1. This is an edited version of a paper, entitled "Oil's Contribution to Chinese and Canada's Energy Security," submitted by the author while attending the Defence and Strategic Studies Course at the Centre for Defence and Strategic Studies at the Australian Defence College in 2014.

2. Talmiz Ahmad, "Energy and the Global Political Scenario," in Virendra Gupta, Chong Guan Kwa, Bhupendra Kumar Singh, Alvin Chew and Yougho Chang (eds.), *Energy Security: Asia Pacific perspectives* (New Delhi: Manas Publications, 2010), p. 73.

3. Chong Guan Kwa, "Reflections of the CSCAP Study Group on Energy & Security," in Gupta *et al.*, *Energy Security*, p. 27.

4. Having considered the need to transition to a low-carbon energy economy to reduce the negative effects of inefficiency and pollution, academics have recently defined energy security 'as the availability of energy at all times in various forms, in sufficient quantities and at affordable prices, without unacceptable or irreversible impact on the economy and the environment.' The impact upon the environment is an important global issue with respect to energy security. States should also consider Aboriginal land ownership when authorizing energy resource extraction and land-based transportation routes from remote locations. See, for example, Vlado Vivoda, *Energy Security in Japan: challenges after Fukushima*, (Farnham UK: Ashgate, 2014), p. 5.

5. Chen Shaofeng, "Has China's Foreign Energy Quest Enhanced Its Energy Security?" in *The China Quarterly*, 2011, p. 600.

6. US Energy Information Administration (EIA), 'China', 4 February 2014, available at <http://www.eia.gov/countries/cab.cfm?fips=CH>, accessed 4 March 2014.

7. Analysis of the Chinese and US economies indicates that their dependence upon non-renewable resources for energy production will not significantly decrease. In 2011, China generated 93 per cent of its power from non-renewable sources. In 2012, the US generated 91 per cent of its power from non-renewable sources. Although technological advancements will slightly increase the proportion of power China generates from renewable resources, its real demand for non-renewable resources is expected to increase until at least 2040. EIA forecasts total US energy consumption to increase only at a rate of 0.4 per cent from 2012 to 2040. EIA forecasts that concurrent US oil production increases will shrink the US oil import market. US EIA, "US Total Energy Supply, Disposition and Price Summary," available at <http://www.eia.gov/oiaf/aeo/tablebrowser/#release=AEO2014&subject=0-AEO2014&table=1-AEO2014&region=0-0&cases=full2013full-d102312a,ref2014-d102413a>, accessed 1 May 2014; also, US EIA, 'China.'

8. Meg Handley, "In Canada, China Sees Greater Opportunities to Secure Oil Reserves," in *US News and World Report*, 27 July 2012, available at <http://www.usnews.com/news/articles/2012/07/27/in-canada-china-sees-greater-opportunities-to-secure-oil-reserves>, accessed 1 May 2014.

9. Andrew Kennedy, "Rethinking Energy Security in China," in *East Asia Forum* website, 6 June 2010, available at http://www.eastasiaforum.org/2010/06/06/rethinking-energy-security-in-china/, accessed 31 March 2014.

10. Xiaojiw Xu, "Chinese Responses to Good Energy Governance," in *Global Governance: a review of multilateralism and international organizations*, Vol. 17, No. 2, April-June 2011, p. 161.

11. From 2013 to 2040, China's oil consumption will increase from 10.7 to 20 million barrels daily. By 2040, its overall energy consumption will represent one-quarter of the world's annual energy consumption and be twice that of the next highest country. US EIA, "World Total Primary Energy Consumption by Region 2013," available at <http://www.eia.gov/oiaf/aeo/tablebrowser/#release=IEO2013&subject=0-IEO2013&table=1-IEO2013&region=0-0&cases=Reference-d041117>, accessed 30 March 2014. The following International Energy Agency (IEA) report drew on an Organisation for Economic Co-operation and Development (OECD) forecast showing China's GDP per capita experiencing a compound average annual growth rate of 5.5 per cent from 2011 to 2035. This is the highest of all the selected countries and almost four times the 1.6 per cent growth rate forecasted for OECD countries. The growth in GDP per capita will increase demand for goods that require energy to use and to produce. IEA, "Southeast Asia Energy Outlook: world energy outlook special report," Figure 1.6, p. 35,

September 2013, available at <http://www.iea.org/publications/freepublications/publication/SoutheastAsiaEnergyOutlook_WEO2013SpecialReport.pdf>, accessed 2 April 2014. The 18 per cent of its energy generated from oil will proportionally increase as transportation sector demands increase and China attempts to reduce the proportion of energy produced from coal. US EIA, 'China.'

12. This real demand increase also represents an increase from 58 to 72 per cent of oil demand being imported. US EIA, 'China.'

13. For example, in 2013, the China National Offshore Oil Corporation spent $15.1 billion to purchase the Canadian oil company, Nexen. Xu, "Chinese Responses to Good Energy Governance," p. 161.

14. Zhao Hongtu, 'Malacca Strait and China's Energy Security,' in Gupta *et al.*, *Energy Security*, p. 111.

15. The 52 per cent of China's oil imported from the Middle East included 19 per cent from Saudi Arabia, 9 per cent from Oman, 8 per cent from Iran, 8 per cent from Iraq, 4 per cent from UAE, and 3 per cent from Kuwait. US EIA, 'China.'

16. These included 14 per cent from Angola, 2 per cent from Congo, and intermittent imports from Sudan, South Sudan, and Libya. US EIA, 'China.'

17. In 2013, 10 per cent of China's oil imports were from the Americas, including 6 per cent from Venezuela and 2 per cent from Brazil. US EIA, 'China.' The longest trade route for very large crude carriers (VLCCs) is between Venezuela and China, followed by vessels sailing between the Middle East and the United States. VLCCs usually combine the two trips to reduce empty travel but decreasing US imports from the Middle East will increase the cost of shipping oil from Venezuela to China. Issac Arnsdorf and Rob Sheridan, "Tankers Worst Since 1997 in Africa Oil Slowdown to China," in *Bloomberg* website, 4 September 2013, available at <http://www.bloomberg.com/news/2013-09-02/tankers-worst-since-1997-as-africa-oil-to-china-slows-freight.html>, accessed 27 April 2014.

18. Daily, 4.5 million barrels of oil transit the Malacca Strait en route to China. US EIA, "World Oil Transit Chokepoints," 22 August 2012, available at <http://www.eia.gov/countries/regions-topics.cfm?fips=wotc#malacca>, accessed 27 April 2014; also, Elinor Sloan, "US-China Military and Security Developments," in *International Journal*, Vol. 66, No. 2, Spring 2011, p. 273.

19. Jasnea Sarma and Matthew Reinert, "The Malacca Dilemma," Indian Institute of Technology Madras China Studies Centre, 13 August 2013, available at <http://www.csc.iitm.ac.in/?q=node/375>, accessed 27 April 2014, and Kennedy, "Rethinking Energy Security in China."

20. Kennedy, "Rethinking Energy Security in China."

21. Once open in 2015, this pipeline's capacity will be 400,000 barrels daily. Considering that 4.5 million barrels of China-bound oil transited the Malacca Strait daily in 2013, at capacity, this pipeline will only divert a maximum of 8 per cent of Malacca-bound oil. Sarma and Reinert state, "China sees this project as one of huge importance to its energy security," but the resulting improvements to China's energy security will be minor and proportionally decrease as their oil imports increase. The pipeline will not improve security because ships bound for its terminal will still move through waters controlled by the US and Indian navies, and the pipeline will give Myanmar leverage and make the oil vulnerable to attack by state or non-state actors. Sarma and Reinert, "The Malacca Dilemma."

22. China imported approximately 504,000 and 224,000 barrels daily from Russia and Kazakhstan, respectively, in 2013, via relatively secure pipelines. US EIA, 'China.'

23. Shaofeng, "Has China's Foreign Energy Quest Enhanced Its Energy Security?", p. 604.

24. Kwa, "Reflections of the CSCAP Study Group on Energy & Security", p. 56.

25. US House of Representatives Speaker John Boehner quoted: "US Further Delays Final Decision on Keystone XL Pipeline," in *The Financial Post* website, 20 April 2014, available at <http://business.financialpost.com/2014/04/20/u-s-further-delays-final-decision-on-keystone-xl-pipeline/?__lsa=f031-daff>, accessed 2 May 2014.

26. Both the Canadian Government's National Energy Board and the US EIA report Canada holds 174 billion barrels of proven oil reserves. The Government

of Canada's National Energy Board, "Canada's Energy Future 2013 – Energy Supply and Demand Projections to 2035 – An Energy Market Assessment," November 2013, available at <http://www.neb-one.gc.ca/clf-nsi/rnrgynfmtn/nrgyrprt/nrgyftr/2013/nrgftr2013-eng.html#cn-tphp>, accessed 27 April 2014, and US EIA, 'Canada.'

27. US EIA, 'Canada.'

28. Kwa, "Reflections of the CSCAP Study Group on Energy & Security," p. 27.

29. The Government of Canada, "Natural Resources Canada," available at <http://www.nrcan.gc.ca/energy>, accessed 26 April 2014.

30. US EIA, 'Canada.'

31. US EIA, 'Canada.'

32. The Government of Canada's National Energy Board, "Canada's Energy Future 2013 – Energy Supply and Demand Projections to 2035 – An Energy Market Assessment."

33. The Conference Board, "Global Economic Outlook 2014," February 2014, available at <http://www.conference-board.org/data/globaloutlook.cfm>, accessed 27 April 2014.

34. Michael Black, quoted in Handley, "In Canada, China Sees Greater Opportunities to Secure Oil Reserves."

35. Handley, "In Canada, China Sees Greater Opportunities to Secure Oil Reserves."

36. Eng Hen keynote address to the Shangri-La Dialogue Sherpa Meeting quoted in Kwa, "Reflections of the CSCAP Study Group on Energy & Security," p. 55. The Government of Canada's Canadian Security Intelligence Service, "Canadian Energy Security: what does energy security mean for Canada?" July 2010, available at <https://csis-scrs.gc.ca/pblctns/cdmctrch/cnd_nrg_scrt_rprt-eng.asp#infrastructure>, accessed 28 March 2014.

37. Completion of the Trans Mountain Pipeline Expansion and Northern Gateway Pipeline by 2017 will add capacity to export up to 1.4 million barrels of oil daily from Delta and Kitimat, British Columbia, respectively. "Enbridge Taps Key Banker to Smooth Way for Northern Gateway Line," *Reuters*, 5 March 2014, available at <http://www.reuters.com/article/2014/03/05/northerngateway-aboriginals-prentice-idUSL1N0M21WZ20140305?feedType=RSS>, accessed 15 March 2014. "Northern Gateway Project Overview," Northern Gateway website, available at <http://www.gatewayfacts.ca/about-the-project/project-overview/>, accessed 2 May 2014. "Trans Mountain Pipeline Proposed Expansion," Trans Mountain website, available at <http://www.transmountain.com/proposed-expansion>, accessed 2 May 2014.

38. Distance and time scenarios show that Canadian Pacific ports are closer to China than almost all ports currently used to export oil to China. For example, China's southern South China Sea oil port of Guangzhom is 10,158 kilometres and 16 days away from Kitimat, Canada; 9,928 kilometres and 16 days away Doha, Kuwait; 9,638 kilometres and 15 days away from Dammam, Saudi Arabia; and is further from all other ports (Iraq, Angola, Sudan, South Sudan, Congo, Libya, Venezuela and Brazil) currently used to import oil to China. The Zhenhai Oil Port mid-way along China's coast is closer to Kitimat than all of the ports currently used to export oil to China. SeaRates.com, "Distances and Time," available at <http://www.searates.com/reference/portdistance/>, accessed 2 May 2014.

39. Yoa Yang, "The End of the Beijing Consensus: can China's model of authoritarian growth survive?" in *Foreign Affairs*, 2 February 2010, available at <http://www.foreignaffairs.com/articles/65947/the-end-of-the-beijing-consensus>, accessed 7 May 2014.

40. From 2006 to 2010, the oil sector paid an average of $22 billion per year to Canadian governments.The Government of Canada, Natural Resources Canada, "North America Tight Light Oil."

41. Arnold Wolfers, "National Security as an Ambiguous Symbol," in *Political Science Quarterly*, Vol. 67, No. 4, December 1952, p. 488.

42. Alexander Hamilton (1755-1804) was a "…founding father of the United States" and highly-reputed political theorist: see <http://en.wikipedia.org/wiki/Alexander_Hamilton>, accessed 24 June 2014.

Author

Personal Augmentation – The Ethics and Operational Considerations of Personal Augmentation in Military Operations

by Max Michaud-Shields

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Introduction

We stand at the dawn of an age when the confines of the imagination will be the only shackles barring the potential for increasing human performance. The resultant technologies will have the power to effect profound changes on military capabilities. They carry deep questions that should be addressed proactively. The question is no longer whether we can achieve military human enhancement. It is whether we should. This article highlights its attendant ethical and operational concerns. It seeks to serve as a guide to future capability development initiatives, and to initiate a discussion within the Canadian Armed Forces (CAF) with sufficient lead time to allow for conceptual and operational shaping to occur before we are left with no choice but to deal with these technologies. It therefore raises more questions than it answers, referring them to bodies that will be better placed to answer them. It also acts as a primer on the rapidly advancing technologies that could revolutionize the way the military operates.

Razor's edge: the future of soldier performance

Military forces have always sought an edge over opponents to ensure victory on the battlefield. Technological development has played a key role since the dawn of time, whether it was the use of bronze to forge stronger armour and better blades, or taking to the skies to gain a better vantage point from which to observe and attack the enemy. Western forces have embraced high technology, leading to the development of a plethora of capabilities designed to aid the warfighter. Unfortunately, they remain poorly integrated, leaving soldiers to bear increasing burdens as capability developers provide them with yet more means to detect and engage the enemy while being shielded by ever more layers of armour. Our soldiers carry far more into battle than is advisable for effective performance,[1] but have little choice if they wish to benefit from the capabilities

their advanced technology confers. Though much effort has been put into reducing the weight of carried loads through material sciences and clever engineering, it is unlikely that the advances will be made in the next two decades to reduce the loads by the 50–75 per cent needed to restore mobility to acceptable levels. Personal Augmentation (PA) may hold the key to allowing soldiers more easily transport loads, and even to provide them with capabilities hitherto unimagined.

The U.S. Army Natick Soldier Systems Center has defined PA as:

DND photo AR2010-0320-33 by Sergeant Daren Kraus

Technologies and concepts that provide improvements in strength, endurance and/or ergonomics while maintaining user safety and reducing muscular fatigue, physical injury, and soreness during various load carriage and various tasks, are of interest. Example load carriage tasks include heavy and repetitive lifting, load transport, and difficult load tasks in unique environments.

A related terminology is "human enhancement," which bioethicist Eric Juengst defines as: …*a medical or biological intervention introduced into the body designed to improve performance, appearance, or capability besides what is necessary to achieve, sustain, or restore health*."[2] This definition is in keeping with previous bioethics literature.[3] However, the US military appears to favour alternative terms in order to reduce the risk of resulting adverse reaction to the studies in the field. Herein, we will mainly refer to the concept as PA to facilitate future interoperability and to retain all possible options. PA can be further subdivided into four domains:[4]

1. *Physiomechanical*: Increase a user's strength, mobility, or protection. These generally focus on improving load carriage and endurance over long distances. Non-invasive methods can be simple, such as a knee brace, or extremely high technology, such as emerging exoskeletal and dermoskeletal systems.[5] Invasive measures could include strengthening bones.[6]

2. *Cognitive*: Allows the user to better store, understand, and manage information in a timely and operationally pertinent manner, affecting awareness, attention, memory, planning, learning, language, and communication. Non-invasive solutions include meditation, and decision support systems. Certain pharmaceuticals, such as Modafinil, have demonstrated some positive effects upon the mind's function.[7] Recent work suggests that implanted chips may allow individuals to alter their recollection of events, or even to improve it.[8]

3. *Sensorial*: Allows the user to perceive with greater accuracy, sensitivity, or in ways that would not otherwise be possible. Research is already under way to provide improved smell, hearing, touch, and taste. Current examples include night vision goggles and thermal weapon sights. Development efforts are continually and aggressively

Personal Augmentation Domains

Physiomechanical

Cognitive

Sensorial

Metabolic
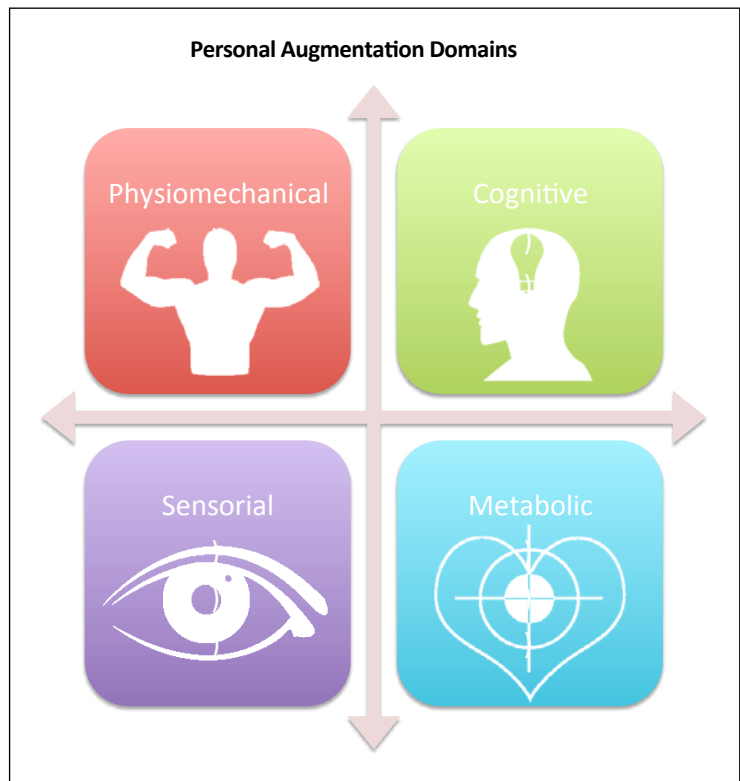
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pursuing non-invasive sensors, but as improvements in nanotechnologies become available, the systems to ensure detailed and continuous biomonitoring,[9,10] discrete communications,[11] provide lighter displays,[12] and offering less cumbersome means to control the many systems at our soldiers' disposal, [13] these systems will come closer to the skin or eventually merge with the operator.

4. *Metabolic*: Enhances a subject's physiological processes. They improve the subject's endurance, requirement for food and sleep, and their health. Some better-known examples include caffeine and anabolic steroids. They act over short, well-defined durations. Emerging methods can allow the body to continue functioning normally for moderate durations without breathing.[14] Other technologies require single or limited numbers of applications to effect permanent or prolonged changes to a subject's physiology. Examples include the Human Growth Hormone surreptitiously used by some athletes, and gene therapy, which is beginning to treat a wide variety of ailments, but can conceivably be used to enhance capabilities beyond the natural baseline, or even generate new ones altogether.[15] Synthetic biology provides the ability to synthesize completely novel genes, or indeed entire living organisms, and in the coming decades, it could lead to currently unimaginable paradigm shifts.[16] The Defence Advanced Research Projects Agency (DARPA) stood up the Metabolic Dominance project in 2004 to explore metabolic enhancement.[17]

Current capability development efforts pursue incremental improvements of diminishing margins, given the proximity in which we find ourselves with humanity's maximal potential performance curve. There is nowhere left to go without the aid of genetic variation or a 'helpful nudge' from pharmaceuticals. Soldiers will find themselves confronted with the same issue as athletes as they attempt to overcome an increasingly lethal and precise engagement space.[18]

Human enhancement can be achieved through biological means, those that affect the warfighter at the cellular level, or technical means, which are the result of the mechanical or electronic interface of man and machine. The Oxford English Dictionary defines cybernetics as: "…the science of communications and automatic control systems in both machines and living things." The Merriam-Webster dictionary offers the following medical definition: "…the science of communication and control theory that is concerned especially with the comparative study of automatic control systems (as the nervous system and brain and mechanical-electrical communication systems)." These definitions remain broad and trans-disciplinary. In such terms it can apply to everything from engineering and biology all the way to management, art and education.[19] In some ways, it can even apply to the pen and paper.[20] It is not very helpful in framing the ethical considerations for military applications. We shall therefore define it as follows: *Cybernetic*

Revision Military of the B-Temia Exoskeleton

technologies are non-biological systems that require some degree of invasive interface with a human being in order to achieve their intended performance. They must provide enhanced or altogether novel performance that would be unachievable by a person in her natural state. Military cybernetics is the set of technical solutions that lie in the invasive portion of the spectrum of PA.

Enhancement technologies manifest themselves with varying levels of invasiveness. In order to properly frame the discussion, "invasive" will mean: …*tending to have an impact upon a subject through the procedural effect on her or his body or through social impact, affecting the ability to pursue life, liberty, the pursuit of happiness, and to live in the greater society without affect or stigma.*

These definitions focus us upon those technologies that will require the closest ethical examination before pursuing their development and fielding them, and help to discern from simple prosthetics that do not provide increased performance to the user, and therefore are not likely to be deemed desirable

> **"Personal Augmentation (PA) may hold the key to allowing soldiers to more easily transport loads, and even to provide them with capabilities hitherto unimagined."**

Overview of Personal Augmentation

Note: this chart only displays approximate relationships between select technologies for illustrative purposes
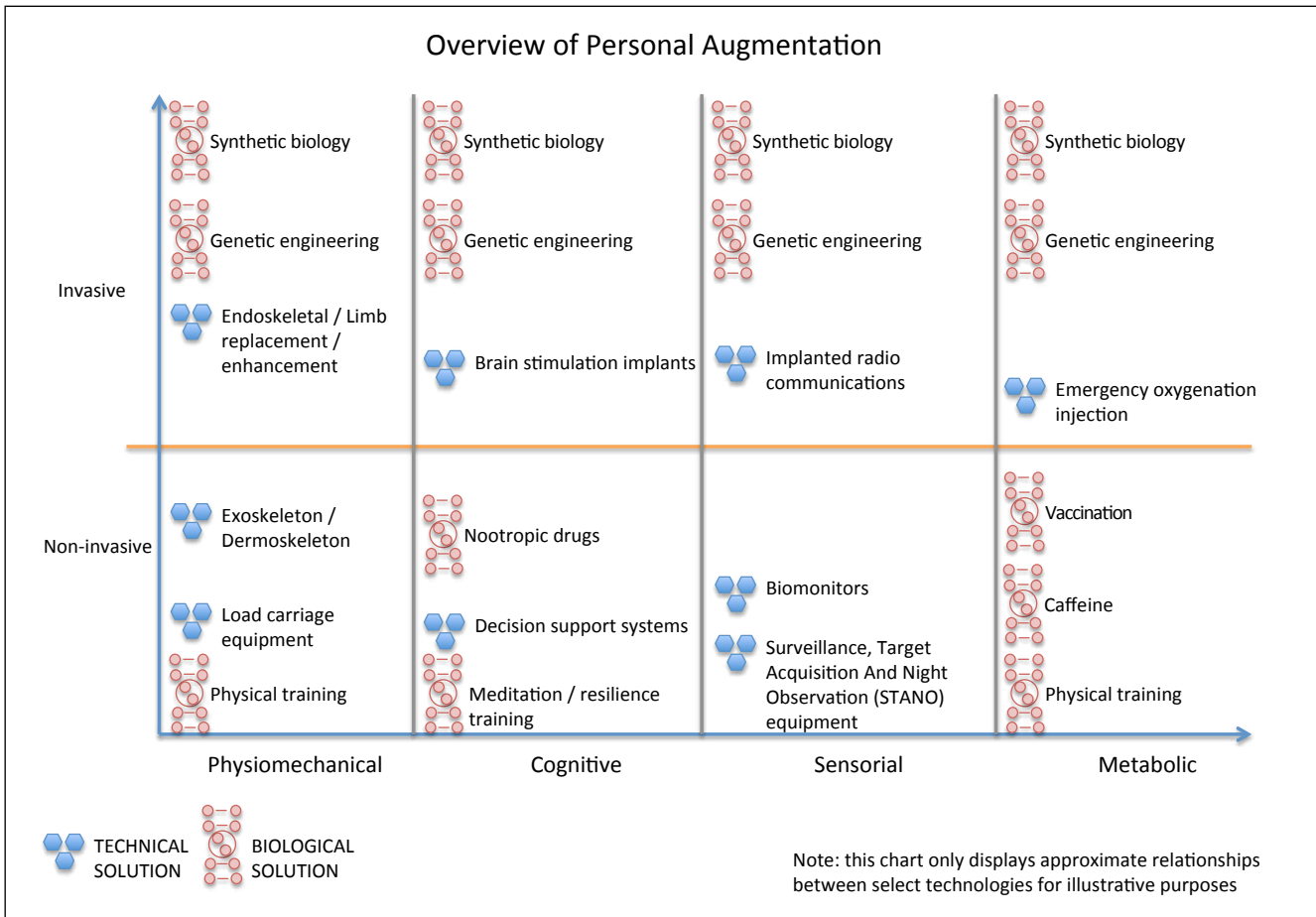
Author

additions to a human in their natural state. These domains may be blended to derive the optimal solution to any given problem. In developing future soldier systems, biological treatments may be developed to enhance a soldier's ability to operate while deprived of sleep and food while maintaining a superior level of cognitive function as he/she wears an exoskeleton that will provide enhanced strength, endurance, and sensorial capabilities. The chart below highlights the approximate relationship between the domains and the relative invasiveness of different technologies.

Down the rabbit hole: where is technology leading us?

Although humanity has been making use of minimally-invasive PA for more than a thousand years in the form of inoculation[21] to improve our immune systems in preparation for contact with pathogens, the first mainstream exposure to the controversy that enhancement may pose is the case of the South African runner Oscar Pistorius. He was almost prevented from attending the London Olympics, due to the concern that his carbon fibre legs would provide an unfair advantage over other runners.[22] Although it is debatable that current technology is capable of providing record-setting performances,[23] the rate of technological development suggests that this may change soon enough.[24] It is easy to dismiss this example as a one-off event, but cybernetics are

> **"Human enhancement can be achieved through biological means, those that affect the warfighter at the cellular level, or technical means, which are the result of the mechanical or electronic interface of man and machine."**

becoming widespread, and their potential to profoundly affect humankind is beginning to creep from science fiction to becoming science fact.[25]

The growing presence of PA technologies, and their move beyond the natural human's performance,[26] suggests an imminent military application. If there is any lesson to be drawn from the military employment of chemical and nuclear weapons, unmanned systems,[27] as well as the recent revelations of the US PRISM program,[28] it is that we first employ disruptive technologies before the frameworks are in place to manage and integrate them into their arsenals. Such soul-searching usually happens long after a capability first trickles into service. The US military has been employing primitive cyborgs in combat theatres since at least 2006. A US Army Ranger has even returned to full combat duty after the amputation of his leg below the knee. He carries a spare prosthetic with him so that he can switch his leg out, should it be damaged in battle.[29] Although soldiers currently prefer simple, rugged, and reliable prosthetics during combat operations,[30] the barriers to implementing military cybernetics posed by the state of hardware, materials, and artificial intelligence are quickly fading. Only power supply refinement is lagging, but significant strides are now being made, suggesting that developmental vectors will converge within the next five-to-fifteen years so as to create systems that may be desirable to soldiers.

The pace of development in the fields of molecular and synthetic biology is accelerating, allowing biological augmentation to dovetail with technical augmentation in the coming decades. Indeed, the Central Intelligence Agency foresees such augmentation being widely available by 2030, albeit most likely constrained by high cost to the privileged and the wealthy.[31]

The three scenarios below illustrate PA's possibilities. Sooner or later, we will encounter one or all of these, and we need to be prepared to handle them.

1. **Mild**: Friendly force tracking through implanted radio frequency identification (RFID) chip.[32] Technological advances in the next five-to ten-years[33] could achieve force tracking's quintessential objective to track personnel without observable sign of a device on an individual. A small chip, embedded in a soldier's dermis, could enable commanders to track personnel across the battlefield, securely store passwords, and act as replacement for identification disks, even carrying their Personnel Evaluation Reports with them, to the delight of staff officers everywhere. Such minimally-invasive PA would be low cost, have minimal health risks and support requirements,[34] and would yield many advantages in terms of security and human resource management. Advanced medical implants that provide advanced remote monitoring of heart function, and even implanted defibrillation, already demonstrate some militarily desirable characteristics.[35, 36] There is promising work being accomplished in developing prophylactic inoculations against hearing loss.[37] Such developments in life-sustainment, injury prevention, communications, and personnel location would be the most likely vector for invasive technologies in the near-to-mid-term.

2. **Moderate**: Electronic telepathy[38] and thought controlled unmanned systems.[39] Surgically implanted biofuel cells can generate small amounts of electricity by transforming the blood glucose into electrical power,[40] coupled with an implanted transceiver,[41] could provide the means for soldiers to maintain discrete communications, albeit over short distances.[42] This leads to the question of what happens to augmented soldiers if an opponent that is aware of their capability captures them? Implanted receivers may enable soldiers to operate the wide variety of unmanned systems 'hands free,' and perhaps more intuitively than is currently possible,[43] allowing them to maintain better situational awareness, and also to improve their safety as they operate the systems. Such an option would probably be in the upper range of what Canadian values would allow in the next two decades, and would likely be achievable without requiring a staggering overhaul of the current medical and technical support services required to field them.

3. **Extreme**: Molecular/synthetic biology with cybernetic augmentation. This scenario sees PA taken to its conceptual limit, fielding bespoke and novel human biology created specifically to meet the requirements of military operations. These soldiers then undergo a range of cybernetic augmentation in an attempt to squeeze every possible ounce of performance out of the human form factor. The barriers to entry for such a scenario are tremendous, but it allows us to scope out the limits of PA. The use of such technologies

within the Canadian Armed Forces is likely so ethically repugnant in the medium term that the likelihood of its occurrence is practically nonexistent. However, it would be possible that Canadian firms produce and export the technologies required to achieve this end state.[44] This would beg the discussion of the appropriate regulation of exportation of these technologies to countries that do not demonstrate the same level of restraint that we do.

Opening Pandora's Box

The high likelihood that invasive PA in general, and cybernetics in particular, will eventually become a viable capability development pathway raises several weighty ethical and operational questions. While the CAF does have a Human Research Ethics Committee (HREC), its mandate is focused upon the ethical conduct of experimentation involving humans.[45] Defence Research & Development Canada (DRDC) Toronto has retroactively studied the ethical impacts of decision-making on operations,[46] but has not proactively examined operational ethical issues before they arise. Efforts to characterize the ethical requirements of human performance enhancement technologies for research purposes lay out four key considerations that must be met to ethically conduct human enhancement experimentation: pre-trial animal and other surrogate testing, informed consent, privacy, and confidentiality, and monitoring of both the research and the participants.[47] Although useful, on their own, these do not provide sufficient definition of the issues relating to the operational fielding of PA technologies.

> "The use of such technologies within the Canadian Armed Forces is likely so ethically repugnant in the medium term that the likelihood of its occurrence is practically nonexistent."

The other major player in shaping ethics within the CAF is the Army Ethics Program. It seeks to provide a framework for ethical behavior within the Canadian Army. The program's current investigative thrusts are focused upon the human dimension of why decisions are made on the battlefield. Examining the ethical impacts of military human enhancement fall outside its mandate and resources.[48]

PA will carry a wide range of thorny issues that will have to be addressed before being fielded. Given the lack of existing structures within the CAF to tackle these issues, it is essential to begin the discussion in a forum that will allow commanders to become engaged in a timely manner. Some salient questions are highlighted below:

1. **Moral and Legal Authority**. Who has the moral authority for PA? Perhaps the most pressing question to answer at this point, identifying the appropriate personnel with the level of authority required to truly parse the question of appropriateness for given PA vectors will be essential to ensure a definite ability to pursue or to shut down avenues of exploration. While the HREC may have significant insight into the ethical questions pertaining to human experimentation, and therefore have input in the developmental stages of these technologies, it does not have an operational mandate, and therefore, it cannot authoritatively shape capability fielding.[49] The CAF Code of Conduct offers some insight on the legal aspect of PA by highlighting the requirement for authorizing the use of weapons and ammunition.[50] Augmentation technologies could be

Hybrid Assessment Model	
Legitimate military purpose	the enhancement must be in support of a legitimate operational objective
Necessity	an enhancement's use must reasonably be expected to be necessary in order to achieve an objective
Benefits outweigh the risks	the operational benefits, as well as those to the warfighter, must outweigh the risks the enhancements pose
Maintenance of dignity	the enhancement must be implemented and operate in such a manner as to ensure that the warfighter may continue to live and operate in a manner that does not negatively affect his or her self-esteem
Minimization of burdens	the long-term burdens to the soldier must be minimized. Ideally, this requires enhancements to be reversible
Consent	candidates for enhancement must be volunteers and properly informed of the nature of the procedures to be undertaken, their effects, and long term consequences
Transparency	although security considerations may prevent the disclosure of the details relating to human enhancement, its pursuit should be disclosed to the public so as to ensure their understanding of the procedure's necessity and ensure that appropriate oversight is maintained
Fair distribution of risks and benefits	where possible, enhancements should be equitably distributed to ensure that no advantage is conferred in such a manner as to be deemed unfair by the greater military community, thereby adversely affecting morale, cohesion, and operational effectiveness
Chain of command accountability:	the chain of command must be held accountable for the processes that implement soldier enhancements so as to prevent abuses

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within the CAF. This centralization would offer greater control, but also carries the risk of becoming mired in branch-specific requirements and constraints. A final possibility is that the moral authority for PA could rest beyond the environmental chiefs of staff. As the Deputy Minister and Chief of the Defence Staff approve the terms of reference for the Defence Ethics Program, it may be that the final approving authority for invasive PA should lie with these positions.

2. *Canadian Values*. When examining the operational potential of invasive PA, one must consider how it relates to core Canadian values. The *Values and Ethics Code for the Public Sector* lays out the core values that public ser-

considered as a weapon system, and therefore approved for use by a board with legal standing, in the same manner as an Ammunition Safety and Suitability Board (ASSB) is called for the fielding of new natures of ammunition and weapon systems. The authority for approval to field these systems for regular use lies with the environmental chief of staff.[51] A multi-disciplinary team consisting of operators, scientific, engineering, medical, bioethical, and legal experts may be sufficient to form a Personal Augmentation Safety and Suitability Board (PASSB). A similar board has already been proposed to support human performance enhancement research.[52] It would be advisable to either integrate operational input during research and development to address questions about the fielding of emerging technologies early in the process, or to draw upon this body during capability development reviews to complement the board's operational representatives with technical expertise. The board should assess warfighter enhancement procedures using the hybrid assessment model.[53]

Enhancements of cross-environmental interest could lead to procedural complications, requiring a separate PASSB to evaluate a technology for employment within each service. Alternatively, a centralized PASSB could be responsible for all augmentation

> **"When examining the operational potential of invasive PA, one must consider how it relates to Canadian core values."**

vants are to internalize. A key value to this discussion is respect for the people: "…treating all people with respect, dignity and fairness is fundamental to our relationship with the Canadian public and contributes to a safe and healthy work environment that promotes engagement, openness and transparency. The diversity of people and the ideas they generate are the wellspring of our spirit of innovation." It does not disallow the concept of PA, so long as an individual's wishes are respected, and the procedures relating to its implementation are conducted in a medically sound manner and properly maintained. With sufficient clinical trials to confirm a high level of safety and reversibility for a given technology prior to fielding, it could be acceptable to implement certain invasive forms of PA. When CAF values[54] are layered onto this assessment, we find that loyalty, courage, and excellence may be regarded allowing the sacrifices needed to proceed with invasive PA. While the medical community would be understandably reluctant at first to operate on healthy individuals,[55] there are no fundamental barriers to fielding enhancement technologies in the long term.

3. *Eligibility*. Clear eligibility criteria for invasive PA will help drive the scope of future augmentation efforts. The impact

could be limited, augmenting specialized volunteers for focused mission sets, or it could be profound, becoming a mandatory gateway during the enrolment process, fundamentally changing who may be recruited into the CAF. Recruits could have to undergo an augmentation pipeline during recruit school, much as they undergo the battery of vaccinations before graduating from training. The applicant's mental, emotional, and moral suitability for enhancement needs to be assessed to mitigate the risks of problems developing later in their careers, or in retirement.[56] Potential recruits need to be informed if augmentation became mandatory. Off-ramps must be identified for serving personnel that decide to surrender their enhancements. Should enhancements become widespread, could an individual join the military while not volunteering for augmentation? If current practices with vaccination are used as a guideline, this is likely.[57] Will certain augmentations become prerequisites to qualify for operational deployment? Personnel tracking technologies would appear desirable to implement on each person deploying to a high-risk theatre. What of our wounded? Is it acceptable to augment their performance in the process of treating their injuries and potentially return them to operations more rapidly? Do we rebuild them better than they were before? Among the wounded, there appears to be a willingness to explore this possibility, as long as the technologies, procedures, and risks are well explained to the patient.[58] How do these soldiers then re-integrate into units with un-augmented soldiers? Will this lead to soldiers willing to harm themselves in order to be augmented, if only the wounded

> **"Russia, and most prominently, China, have displayed the drive to win at all costs at sporting events, such as the Olympics, leading them to devise training pipelines that would be deemed abusive by Western observers."**

are allowed to undergo such procedures? What happens in the improbable event of another total war? Would individual rights be curtailed in order to ensure maximal fighting effectiveness? In essence, would we be willing to mutilate a soldier in order to save his life?

4. *Time*. Where possible, cybernetics would have to be 'future-proofed' in order to avoid burdening the individual and the system with onerous upgrade procedures, also limiting the impact upon the member's health and safety while reducing the project overhead to maintain a given capability. How do we treat the augmented individual? Military equipment is highly controlled. The most sensitive and expensive is stored in vaults when not in use. Enhancements by definition will have to move with the soldier at all times. Will tighter off-duty controls be needed, affecting soldiers' quality of life? Will augmentations need to be rendered non-functional, or set to perform at natural levels when soldiers are off duty? What if the augmentation requires some degree of consumable resource to function? Is consumption while off-duty the member's responsibility? More importantly, how are invasive technologies handled at the end of a soldier's career? Can the member transition to civilian life with augmentations? Will they be able to remove them at cost to the CAF or Veterans Affairs at a later date? Will they be forced to have the augmentations extracted? What if they refuse and are no longer willing to volunteer for surgical procedures for removal? How are matters of synthetic biology addressed when a member's very DNA may have been altered to meet mission requirements? Can these matters be dealt with without infringing upon respect for the person?

5. *Canadian Society*. It is possible that by 2030, a certain level of invasive PA may have become mainstream in the civilian population. A few decades ago, tattoos and body piercings were not popular outside a limited population subset. They are quite prevalent today. These individuals have decided to undergo very limited invasive PA to alter their appearance. Potential recruits may already have augmentation technologies that have a cosmetic effect,[59, 60] or increase elite athletic performance prior to their enlistment. Will they be required to remove their augmentations, particularly if they do not meet military specifications and put the individual at risk in their workplace?

6. *Opposing Forces*. Should Canada deem invasive PA abhorrent, it may still have to contend with opponents that have augmented their combatants. If recent experience with the proliferation of unmanned

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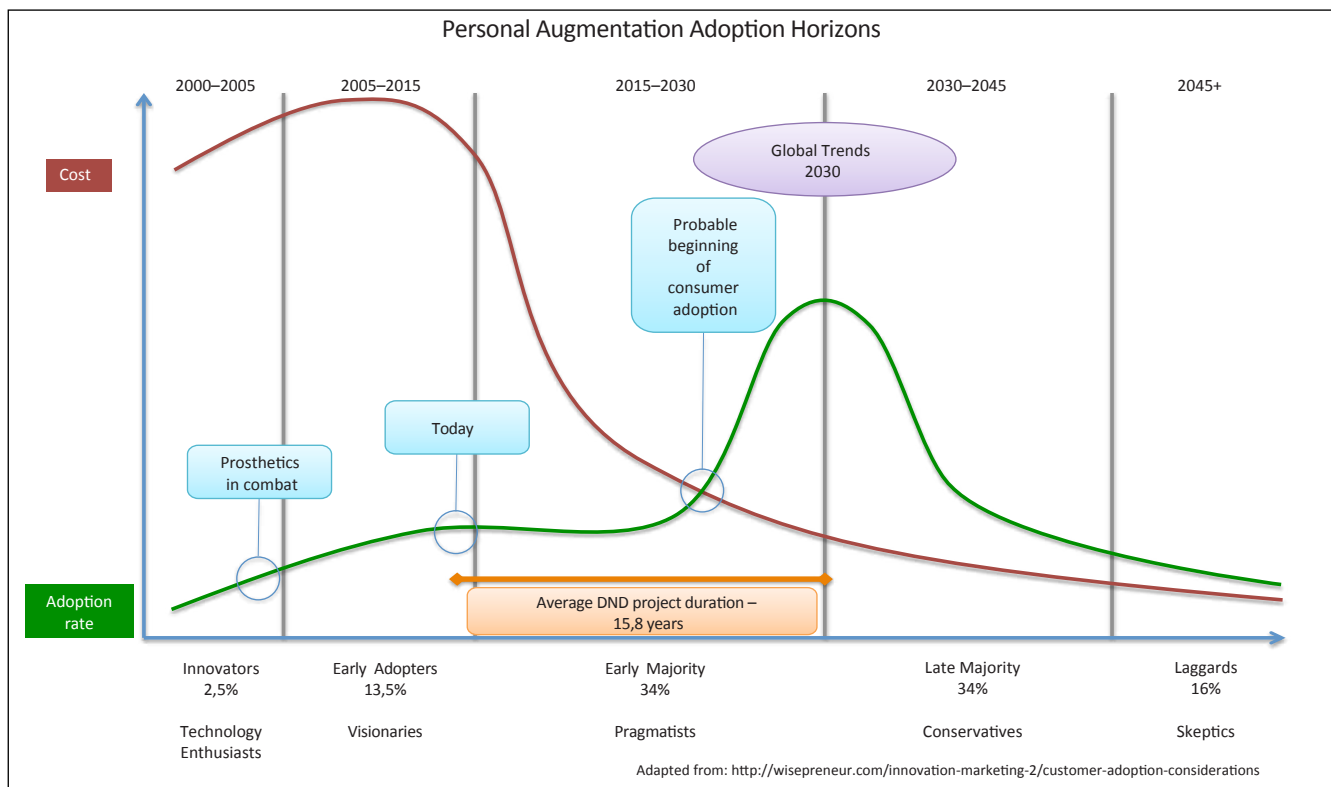
Future soldier in advanced armour.

systems is any indication, once human enhancement begins to take hold in one country, others will follow suit in short order.[61] Certain countries have demonstrated their inclination to take extraordinary measures to obtain the maximum possible performance out of their elite athletes. Russia, and most prominently, China, have displayed the drive to win at all costs at sporting events, such as the Olympics, leading them to devise training pipelines that would be deemed abusive by Western observers.[62, 63, 64, 65] If they are willing to invest such tremendous effort into selecting and training their athletes, they may be willing to do so in the interest of national security. Although the probability of a direct clash with another major global power remains unlikely in the mid-term, the global sale of advanced military hardware[66] suggests that next-generation military hardware may be encountered in secondary theatres of conflict, and that there can be no expectation of absolute technological overmatch over threat forces.[67] Therefore, PA capabilities could be present in opposing forces in the coming decades. Western-supplied PA could make its way into the hands of combatants in proxy conflicts as a result of insufficiently-regulated trade in arms, or through the covert acquisition of technology via cyber espionage or industrial theft. Strong regulations may lessen the likelihood of leading-edge technologies falling into threat forces' hands. Furthermore, should we explore the means to attack cybernetic systems independently from their biological host? If an opposing force augments their soldiers' hearts to obtain higher cardiovascular performance, and a vulnerability was exposed by which a computer virus could attack and cause a heart attack,[68] would this be an acceptable use of force under the Laws of Armed Conflict, or would it be deemed to cause unnecessary suffering? What do we do with augmented prisoners of war and detainees? Under the Geneva Convention (III) of 1949 relative to prisoners of war, we are responsible to provide a level of care that is commensurate with that provided to our own soldiers within a theatre of operations. How do we handle soldiers for whom we may not have the medical or technical wherewithal to treat? Will we need to develop the technical means to support augmented systems that are not in our inventory to ensure the safety of detainees?

The treatment of our enhanced soldiers, should they become prisoners of a force or organization whose respect for the Geneva conventions is questionable, is a concern. Captors could attempt to forcefully extract augmentations to gain a better understanding of their function, or to obtain them for their own use or profit.[69] This risk needs to be evaluated, not only in fielding the technology, but also in the operational planning process before deploying augmented soldiers on a given mission. Augmentations should be designed to reduce their attractiveness once removed from their intended host, reducing interest in their extraction, and mitigating the risk of their employment against friendly forces, either directly or as bait for a trap, in the case of implanted geo-location reporting, for example.

> **"Unlike the fielding of a major weapon system, enhanced soldiers would probably trickle into the ranks."**

7. ***International Law***. Under the Geneva conventions, weapons and tactics must respect the following principles: distinction, proportionality, and prohibition with respect to superfluous injury or unnecessary suffering. Military enhancement must adhere to these principles or be held in violation of international humanitarian law. Augmentation initiatives must allow our combatants to maintain a clear sense of judgment. A hypothetical 'berserker' drug that incidentally inhibited its subject's ability to discern combatant from non-combatant, or increased aggressiveness beyond where it can be controlled, would be prohibited.[70]

Personal Augmentation Adoption Horizons

| 2000–2005 | 2005–2015 | 2015–2030 | 2030–2045 | 2045+ |

Cost

Global Trends 2030

Probable beginning of consumer adoption

Today

Prosthetics in combat

Adoption rate

Average DND project duration – 15,8 years

| Innovators 2,5% | Early Adopters 13,5% | Early Majority 34% | Late Majority 34% | Laggards 16% |
| Technology Enthusiasts | Visionaries | Pragmatists | Conservatives | Skeptics |

Adapted from: http://wisepreneur.com/innovation-marketing-2/customer-adoption-considerations

Making Them Better: Who builds the Six Million Dollar Man?

The CAF have a strong capability development structure under the Chief of Force Development, supported by the various elemental directors of requirements and directors of program management. This allows us to adjust to the changing paradigm, but we must still decide who shall be the primary authority for these technologies. As these will inherently involve medical procedures, will the medical community be the lead? This model would be similar to the manner in which we have chosen to develop our command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) capabilities, where the signals community has the lead on developing and implementing our networked technologies, but carries the risk of not effectively delivering capabilities that directly support operational requirements. It is essential that operational commanders and force employers take the lead and drive their requirements to dominate in their future engagement spaces. I propose that the Directorate of Land Requirements (DLR) and the Directorate of Soldier Systems Project Management should be the lead directorates for CAF PA as a whole, since most PA will have some tie-in to soldier systems. However, specialized air, maritime, and other special applications will emerge that will doubtless also necessitate the involvement of other environmental project offices.

Although considerations relating to military PA seem reserved for the distant future, the reality is that the average CAF procurement cycle for major projects is 15.8 years.[71] Even if the duration of projects relating to PA were streamlined to five years per iteration, we stand today, at best, only two-to-three project cycles away from when PA is expected to be commonplace. At worst, the projects needed to deliver these cutting edge technologies must be established up now to meet the 2030 timeframe. DLR's planning horizon already points beyond 2020 as a target to deliver the next generation of soldier systems with a vision of leveraging novel materials and technologies. It has also provided as part of the Soldier Systems Technology Roadmap capability targets for industry to meet by 2030. The capabilities identified to date are non-invasive.

Prime Directive: Who controls the Cyborg?

Where and how to employ enhanced warfighters will become a significant issue for commanders.[72] Unlike the fielding of a major weapon system, enhanced soldiers would probably trickle into the ranks. Assigning an augmented soldier in the same section as normal soldiers could lead to issues when meriting for career progression. Would an enhanced soldier be automatically considered more devoted to his duties? Would special measures be put into place to favour retention of those in which tremendous resources have been invested? Would cognitive enhancements unfairly advantage the augmented in their ability to progress in relation to their un-enhanced peers? A fundamental shift may need to take place in military career management to eventually integrate the augmented warfighter.

Conclusions

Some have argued that the military's human enhancement efforts could fundamentally alter the fabric of society.[73] However, there are good chances that the inverse will be the case. The pace of development, due to commercial market pressures, will lead to enhancement technologies cropping up in civilian circles with a greater preponderance than in the military, as is currently the case with information technologies. These will force the military to adapt to PA, regardless of whether it has pursued their development. This is an imminent issue; we have not begun to identify requirements, secure funding, put in place the required infrastructure, and to develop the skills and human resources to support it.

Human enhancement's ethical effect upon military operations raises many questions for which a definitive answer cannot be established at this time. There are early adopters: cyborgs have already begun to walk among us.[74] The genie of military human enhancement will inevitably be let out of the bottle. We will have to ask how far we are willing to go in order to ensure the success and safety of our troops. Let us begin this discussion, priming the field for others far better equipped to study the question before we are caught unaware and unprepared for another technology that is fielded before it is suitably evaluated. The solution will not likely involve a binary outcome. It will most likely comprise a 'blend of greys' that will allow flexibility, while providing constraints to prevent excesses and abuses.

123RF, Jesse-lee Lang, ID 27503273

Advanced super soldier.

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DND photo

Working Towards Greater Diversity: A Blessing or a Curse? The Experience of the Canadian Military Chaplaincy

by Guy Chapdelaine

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Introduction

Religious diversity is not a new reality for the Canadian Armed Forces chaplaincy. During the Boer War (1899–1902), six Canadian military chaplains,[1] including a Methodist, a Presbyterian, two Anglicans, and two Catholics, were tasked with accompanying the troops to South Africa. This group of chaplains was disbanded at the end of this conflict.

When Canada entered the First World War in 1914, initially, no chaplain escorted the troops overseas. Then, the Minister of the Militia, Sir Sam Hugues, decided to send 33 chaplains, six of whom were Catholics, to provide pastoral services to soldiers. At the end of this war, the Canadian military chaplaincy was disbanded. More than 524 members of the clergy, 447 of whom were posted overseas, served in the so-called 'Great War.' However, even though the office of the directors was disbanded, some chaplains continued to serve in militia units.

In 1939, the Canadian government established two chaplaincies: one Catholic and one Protestant, because the authorities' lack of sensitivity to the pastoral needs of Roman Catholics during the First World War led to the creation of the dual chaplaincies.[2] During this war, there were also rabbis who were called upon to serve the Jewish military community. Following the war, the Protestant and Catholic chaplaincies both continued to pursue their mission among the military personnel and their families.

Department of National Defence/Library and Archives Canada, MIKAN 3522121

Chaplain of 72nd Canadian Battalion talking to a Canadian soldier up the line, April 1918.

Lieut. H. Gordon Aikman, Department of National Defence/Library and Archives Canada, PA-142245

Chaplain H/Captain Robert Seaborn of the Canadian Scottish Regiment, giving absolution to an unidentified soldier of the 3rd Canadian Infantry Division near Caen, France, 15 July 1944.

associated with managing religious diversity, while ensuring that chaplains maintain close links to their own religious community. In conclusion, I will respond to the question, namely, of whether diversity is a blessing or a curse for the Chaplain Branch.

History

It was this uneasiness and a lack of sensitivity regarding pastoral needs of Catholics which led the Canadian government to authorize two separate chaplaincies in order to provide pastoral services to both Protestant and Catholic military personnel.[3] However, it was only on 9 August 1945 that the Governor-General in Council made official the creation of the Protestant and Roman Catholic chaplaincies. In its wake, in October 1945, the Adjutant General issued "…an order setting up chaplain services, with an establishment of 137 Protestant and 162 Roman Catholic chaplains."[4]

Throughout the history of the chaplaincy, diversity has been an inescapable reality. Canada's management of religious diversity has been unique, due to the federal policy of multiculturalism. The thesis that I present demonstrates how diversity is a central element of our Canadian society, and how this policy of multiculturalism enabled Canadian Armed Forces chaplaincy to become a leader in the management of this diversity.

First, I will present the key moments in the history of the Canadian chaplaincy since the creation of Protestant and Catholic chaplaincies in 1939. Then, I will discuss the Canadian multiculturalism model. Third, I will examine the means that we have used to prepare our chaplains to work in a pluralistic context. I will then discuss the challenges

DChapSvc

Chaplain diversity

In 1958, the chaplaincies of the three services (Navy, Army, Air Force) were the subject of a partial integration.[5] At that moment, the positions of Protestant and Roman Catholic Chaplains General with the rank (army) of brigadier-general or the equivalent for the other services came into being. The positions of Command Chaplains were created to supervise the chaplains of the Regular Force and of the Reserve Force within their respective organizations.

In 1967, the Canadian government united the Canadian Forces under a single Chief of the Defence Staff with the introduction of the *Canadian Forces Reorganization Act*. The distinct Protestant and Roman Catholic chaplaincies in each of the three armed services disappeared and became the Roman Catholic (RC) and Protestant (P) Chaplain Branch. The chaplains in each of these unified Chaplain Branches could serve in any of the three elements: army, navy, and air force.[6]

It was only in 1995 that the separate Catholic and Protestant Chaplain Branches merged to form a single integrated Canadian Forces Chaplain Branch. This merger was necessary because of the financial cuts which forced religious leaders at that time to find a new way of working together. By creating a single Chaplain Service, Catholics and the various Christian denominations had to learn to work together in an ecumenical context. The leadership of the chaplaincy brought together Catholic and Protestant chaplains under the supervision of the first joint Chaplain General of the newly-integrated Chaplain Branch, Brigadier-General Jean Pelletier, who took office in July 1995. The latter, a Catholic priest, became the military authority who supervised all military chaplains with the help of a team of three directors with the rank of colonel.

> **"In 1958, the chaplaincies of the three services (Navy, Army, Air Force) were the subject of a partial integration."**

The creation of a Canadian Forces Chaplain School and Centre (CFChSC) in April 1994 helped to foster the integration of the two chaplaincies by offering unique training in an ecumenical context. The philosophy of the new Chaplain Branch was based upon three concepts: "…to minister to our own, facilitate the worship of others, and care for all." [7] The School offered, at the very beginning, training that enabled chaplains to work together. In the fall of 1997, along with the Land Force Quebec Area Chaplain and the Regular and Reserve Brigade Chaplains from Quebec, I underwent a one-week training course to learn how to work within an ecumenical team. The first Basic Training course for chaplains was offered in 1998. Today, the CFChSC continues to be an indispensable institution used to foster cohesiveness in this new ecumenical and now multi-faith environment.

Even though Jewish chaplains served during the Second World War, it was only in 2003 with the hiring of the first imam, Suleyman Demiray, that the Canadian military chaplaincy opened the door to a multi-faith chaplaincy.[8] As there was still no specific crest for Islam, our first imam wore the crescent on his tunic in order to identify the religious group of which he was a member. In 2006, the Governor General of Canada officially approved the new badges for the Canadian chaplaincy: three badges united by a common theme with at the centre the religious symbols, that is, the Jewish tablets and *Magen David* (Star of David), the cross and the crescent.[9] In March 2007, the first Jewish chaplain since the end of the Second World War, Rabbi Chaim Mendelsohn, enlisted in the Reserve Force.[10] In addition to a military hat badge with the symbol of the tablets, he also had the tablets on his tunic. In 2011, the Canadian Forces finally adopted a new primary badge which incorporates the symbols of the Tree of Life[11] and the sun, which represents light.[12] This badge is used as the primary badge of the Canadian Forces Chaplaincy. The chaplains must still wear the military hat crest of the religion to which they belong. However, the primary badge of the chaplaincy is worn on the chaplain scarf (sign of office) that is worn by the Chaplain General. Today, the Chaplain Branch is made up of chaplains from more than twenty Christian denominations, as well as Muslim and Jewish chaplains.[13]

Canadian Multiculturalism

Canadian multiculturalism is one of the key characteristics of the Canadian identity.[14] It is both a means to integrate immigrants and promote cultural plurality, as well as a fundamental Canadian value. In 1971, Canada became the first country in the world to endorse an official policy with respect to multiculturalism. This policy enables Canadians to maintain their cultural identity and to be proud of that identity, and, in turn, this increased exposure makes individuals more open to various cultures and more tolerant of them. The cities of Montreal and Toronto embody this ethnic, linguistic, and religious diversity, given their numerous cultural communities. This pluralistic society illustrates well the Canadian mosaic. According to the 2011 census, 20.6 per cent of the national population was born outside Canada, which places our country in second place in this category after Australia.

DND photo

The primary Chaplain Branch crest

Canadian Forces Chaplain Major Martine Belanger with Afghan children.

Canadian society is a veritable mosaic of religions that is constantly changing. There has been a significant increase in the number of religious minorities in this past decade, such as the Muslim, Sikh, Hindu, and Buddhist communities. About 22 million Canadians still identify themselves with a religion, that is, three-quarters of the Canadian population. Of this number, 95 per cent describe themselves as Christian, and among this group, 60 per cent are Roman Catholic. However, the 2011 census shows that the number of persons who identify themselves with a religion has declined 10 per cent since 2001. Thus, there has been an increase in the number of persons who declare that they have no religion.

> **"The *Multiculturalism Act* reiterates that all Canadians are equal in the eyes of the law, and can proudly retain their culture, their language, and their religion."**

Even though there is a separation between the various religions and the State, Canadian society recognizes the supremacy of God, which is noted in the preface to the *Charter of Rights and Freedoms*. The national anthem also refers to the divine reality. Furthermore, because of its multiculturalism policy, Canada supports religious pluralism.

Diversity is not limited to the religious world only. On the contrary, diversity is a term which encompasses various elements, such as culture, religion, sexual orientation, ethnicity, language, disability and socio-cultural realities. The Employment Equity Act is an obligation for all federal departments with regards to the inclusion of women, aboriginal persons, and visible minorities. The Chaplain Branch includes chaplains who come from a number of ethnic and cultural backgrounds, as well as representatives of various religions. That said, to an extent, the number of women

within the chaplaincy remains a concern. However, the personnel make-up of the Canadian Forces was 14.84 per cent female on 1 April 2013,[15] and female chaplains represented 16 per cent of the Chaplain Branch. Among Catholic chaplains, 13.64 per cent are women. As for homosexual chaplains, they are accepted and do not face any discrimination, in accordance with the *Charter of Rights and Freedoms*. It should be mentioned that the policy regarding homosexual soldiers changed suddenly in 1992. Please note that the policy "*Don't ask, don't tell*" never existed in Canada. There was a radical change from prohibition to unconditional acceptance. Furthermore, in February 2012, the Chief of Military Personnel announced a new policy concerning the management of transsexual soldiers in the Canadian Forces.[16] As a Canadian institution, the Canadian Armed Forces has approved the policy on multiculturalism and encouraged diversity.

Now that I have presented this diversity within the Canadian Armed Forces and also within the Chaplain Branch, I would like to introduce a model that represents this reality of diversity. According to the diversity model proposed by Canadian political scientists Jane Jenson and Martin Papillon, respect for diversity in the Canadian context relies upon three pillars: linguistic duality, recognition of the rights of Aboriginal peoples,[17] and multiculturalism. The *Multiculturalism Act* reiterates that all Canadians are equal in the eyes of the law, and can proudly retain their culture, their language, and their religion. The *Canadian Constitution* and the *Charter of Rights and Freedoms* guarantee the rights of every citizen. This diversity is a national treasure. Because of the multiple

An Aboriginal Elder at prayer.

languages spoken and the understanding of various cultures, this asset has resulted in Canada playing a greater role in the areas of education, international trade, and diplomacy. Canadians have become real ambassadors promoting exchanges between Canada and the rest of the world.

However, it should be noted that the province of Quebec appears to focus more upon interculturalism,[18] which emphasizes sharing and interaction among citizens. This idea stems from a rejection of multiculturalism and the desire to find a model which is better adapted to Quebec's society, while protecting the Francophone identity.[19] This concept focuses upon the interests of the cultural majority by enabling them to assert themselves and to value the interests of immigrants and minorities who also have a place in the society. Quebec's *Charter of Values* as proposed by the Parti Québécois (PQ) government in September 2013 distanced itself from the Canadian multiculturalism policy which promotes cultural, religious, linguistic, and ethnic diversity. One of the points that provoked controversy was the intention of the PQ government to restrict religious symbols worn by provincial employees. The neutrality of the State does not necessarily mean neutrality of the people. This project aroused numerous reactions within Quebec society, as well as in the rest of Canada. With the election of the Liberal Party in April 2014, it now has been abandoned.

In a society as diverse as Canada's, conflicts are unavoidable. When they occur, citizens are encouraged to go before the courts to resolve disputes. In recent years, reasonable accommodation measures concerning religions have attracted the attention of the media, notably because of the particular situation in Quebec.

The means to manage cultural and religious diversity

To respond to the challenges of managing religious diversity, the chaplaincy can count on three tools: the Interfaith Committee on Canadian Military Chaplaincy (ICCMC), the policies that provide guidance to chaplains in their daily ministry, and training at the CFChSC. Let us take the time to examine each of them.

Since its creation in 1997, the Interfaith Committee on Canadian Military Chaplaincy (ICCMC) has supported the Chaplain Branch and represented it in various faith groups and before the Minister of National Defence. Before the creation of this Interfaith Committee, RC Military Ordinary of Canada and the Committee on Chaplain Service in the Forces of the Canadian Council of Churches (5Cs)[20] were two separate entities. A new constitution approved by the Minister of National Defence resulted in the creation of this Committee, which later welcomed a rabbi and an imam. Other Christian traditions were also approached by welcoming a representative belonging to the Evangelical Fellowship of Canada, and a representative for the Orthodox churches. The constitution has been replaced by a Statement of Understanding, which has been signed by the ICCMC and the Minister of National Defence on February 2013. The ICCMC endorses candidates of their respective faith group and collectively decides upon the candidacy of a person supported by the representative of his/her faith group. The Chaplain General selects future chaplains through a selection committee, which is established annually.

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In addition to the Interfaith Committee, the Chaplain Branch can rely upon several policies developed over the years to guide chaplains in their pastoral ministry. I will examine two policies: one dealing with religious accommodations, and the other on the new policy regarding public prayer.

The interim policy on religious accommodation requests, issued by the Canadian Armed Forces in January 1998, recently underwent an important amendment.[21] This new policy was not developed by the Chaplain Branch. However, chaplains participated in its rewording. It was a judgment of the Supreme Court of Canada in 2003 in the *Amselem* case,[22] which forced the Canadian Armed Forces to readjust its policy concerning religious accommodations. In the first policy, military chaplains were encouraged to check whether the request was justified by validating it with the faith community of the individual. Today, the requestor can point out to the responsible authorities that his/her request is based upon a sincerely held belief. The military chain of command must then make a decision, while taking into consideration security, military operations, and possible prohibitive costs. The religious issue cannot be challenged, due to the sincerely held belief of an individual. The chaplain can facilitate the dialogue and can attest to this sincere faith before the military command without checking with a competent religious authority. Again, the emphasis is placed on the faith of the individual.

This *Amselem* case considers that personal religion can also include atheist beliefs and stresses the separation between dogma and personal religion:

> **"In addition to the policy on accommodations, a new policy on public prayer is about to be announced."**

[unofficial translation] The broader definition of the "personal religion" criterion, as defined in the *Amselem* case, has resulted in two major and interdependent effects. First, it seems to us to allow the inclusion of "atheist" beliefs within the set of protected "religious beliefs," which had never yet been officially acknowledged in Canadian law. Aside a few *orbiter dicta* (including that formulated in the majority opinion of the case P (D) v. S. (C.), which clearly implies that atheism must be considered a form of "religious beliefs"), the Supreme Court has never pronounced directly on the issue. …. The other major impact resulting from this very broad definition of the "personal religion" criterion is directly linked to the split, imposed by the Supreme Court since the adoption of the *Canadian Charter of Rights and Freedoms*, between "religious beliefs" and "religious dogma," which is the basis of the latter. In the process aimed at determining whether a given belief may be described as "religious," there is a categorical refusal to demand evidence of the existence of any religious dogma upon which may be based the belief which is the subject of the evaluation.[23]

In addition to the policy on accommodations, a new policy on public prayer is about to be announced. It reiterates the importance of offering a prayer during some public military ceremonies, while taking into consideration the religious diversity of individuals who attend a military gathering and being sensitive when using sacred expressions. Often chaplains are invited to pray during memorial ceremonies, such as Remembrance Day, but also during other

DND photo AR2006-B045-1012

Chaplains of Catholic, Protestant and Muslim faiths at a Memorial Ramp Ceremony, Kandahar Airfield, 24 April 2006.

spent getting to know one another helps to create an atmosphere of trust that is essential in order to work in an interfaith chaplaincy. The idea is not to work separately, but, while respecting the religious tradition of the chaplain, the military chaplain is called upon to work as part of a team and to interact with his/her colleagues. I personally believe that friendships between chaplains of various faith traditions help to overcome the fear of others.[24] By rubbing shoulders in daily life, the chaplains get to know each other and to respect their differing faiths.

A concern of the Chaplain Branch is to enable chaplains to work in a pluralist context. After five years of effort, the CFChSC offered, for the first time in August 2013, the course, *Chaplains in a Pluralistic Environment*. This eight-day course provides in-depth training to chaplains in order to expand their knowledge of ecumenical and inter-religious dialogue. Representatives of the Jewish, Christian, Aboriginal Spiritualities, Eastern religions, and Muslim faiths teach by giving chaplains the chance to interact with them, and by asking questions on subjects of concern. The various policies are presented and discussed in groups. The formula takes into consideration the experience of chaplains, and the group work enables them to share among themselves their own knowledge. This course is offered to chaplains after a few years of experience in the Chaplain Branch in order to prepare them for greater responsibilities, and to help them better understand the challenges of a pluralistic environment.

military ceremonies, such as a change of command, the commissioning or decommissioning of ships, the dedication of regimental colours, or even at a mess dinner. The prayer must be inclusive when the military chaplain is the only voice heard. What is new in this policy is the fact that the chaplain mentions at the start of the prayer that the latter is voluntary, and that those who do not wish to pray for one reason or another are encouraged to take advantage of the occasion to engage in personal reflection, or to meditate in silence while others pray.

It should be noted that the chaplain can pray according to his/her own religious traditions during voluntary celebrations in chapels, or during the funeral of a soldier. The policy primarily covers prayers in the public sphere.

These two policies serve as benchmarks for all chaplains. It should be pointed out that our policies must take into consideration National Defence's ethics program and the Code of Values and Ethics of the Department of the National Defence.

In addition to the policies, the training of chaplains is essential. The CFChSC is the place par excellence to prepare military chaplains to work in a pluralist context. The chaplain's basic training (Basic Occupational Course) is a place of learning where a chaplain gets to know his/her fellow chaplains, and is exposed to various religious traditions that are part of the Chaplain Branch. It is not unusual to see a chaplain candidate enter into contact with other religious denominations for the first time. The time

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Rabbi Lazer Danzinger leading a wedding ceremony.

Future Challenges

The Chaplain Branch faces several challenges in the years to come. I will focus upon three challenges which are of concern to me at this particular point in time.

The first challenge is to recruit military chaplains in the coming years. I will present the example of Roman Catholic chaplains. More than 60 per cent of Roman Catholic chaplains will leave the service in the next 15 years, that is, 51 out of a total of 88 Roman Catholic chaplains. The Chaplain Branch has 225 chaplains. This reality does not only affect the Catholic Church, but also the other main Christian churches. It is becoming increasingly difficult to recruit chaplains who have a minimum amount of training and who have at least two years of pastoral experience. It should be pointed out that the Canadian Armed Forces not only hire Catholic priests as chaplains, but also deacons and married or single pastoral associates.

Along with the difficulty in recruiting quality religious leaders, an important observation has also been noted: fewer and fewer young people are studying theology in Canadian universities. Those who make this choice are rarely affiliated with a faith community. In terms of other non-Christian religious communities, there are few places to prepare young religious leaders to fulfill the function of military chaplain. It is important that training programs for non-Christian religions be developed in order to prepare future candidates for military chaplaincy. I believe that we will see more and more

> **"In the face of changes within the chaplaincy, some chaplains nostalgically contemplate the past. It is not every minister or religious leader who is called upon to serve in the Canadian Armed Forces."**

religious denominations join the Chaplain Branch, and that the Christian presence will diminish. This will probably be a better reflection of Canadian society.

A new training program SEELM[25] allows a non-commissioned member, an officer, and even a civilian to complete a graduate degree in theology (Master in Divinity), and to do a two-year internship in a parish. However, placements are limited, and, at the moment, we only have approximately two such positions available per year.

A second challenge is the importance of maintaining chaplains' close links to their respective religious traditions. There is always a danger of losing one's identity when constantly in contact with various religious traditions. This plurality forces the chaplain to remain in contact with his/her religious tradition through a life of active prayer, participation in activities of his/her traditions, as well as taking the time to go on an annual spiritual retreat. The integrity of his/her vocation as a minister or religious leader is essential in order to have a healthy chaplaincy. I have noted a certain difficulty among chaplains who retire and return to their respective communities as the ecumenical and inter-religious experience has an impact upon our way of seeing the world. For my part, presiding at the Eucharist on the weekend, when my schedule allows, is important in order to maintain a connection with my Church.

The last challenge is the danger of forming an identity through withdrawal. Given the secularization, which is a reality that must

Padre André Gauthier administers Holy Communion to an American soldier in Afghanistan.

be acknowledged, the religious diversity, and the challenge to religion in the public sphere, chaplains sometimes seek comfort in an idealized view of the past, and, out of fear of the other, isolate themselves through an identity marked by withdrawal. In the face of changes within the chaplaincy, some chaplains nostalgically contemplate the past. It is not every minister or religious leader who is called upon to serve in the Canadian Armed Forces. It appears to me essential to have this openness and to recognize the richness of pluralism.[26] Without this openness, it seems to me that it would be difficult for a chaplain to function under such circumstances.

We must face these challenges squarely, but I remain confident that we can overcome them with patience, and above all, by focusing upon continuous learning. The richness of diversity is greater than the challenges.

Conclusion

Is this greater diversity a blessing or a curse? The Canadian experience clearly shows that religious diversity is a blessing and a sign of hope. The Canadian chaplaincy is the expression of this religious plurality that we see throughout this country. I believe that the Chaplain Branch will be called upon in the future to be even more open, going beyond the Jewish, Christian, and Muslim faiths.

Recent studies concerning diversity demonstrate its benefits, and that it contributes to the success of an organization.[27] The increase in diversity has a positive impact. The results reveal that multiple points of view and experiences create a more dynamic environment where new ideas emerge, thereby helping an

> **"The winds of change are sweeping the Canadian Armed Forces Chaplain Branch. I see it as a sign of the times."**

organization to accomplish its mission more efficiently. Therefore, a more diverse military chaplaincy would be more efficient and more resilient than a homogenous chaplaincy. The change in the Canadian demographic profile is an opportunity to adopt a recruitment strategy that promotes diversity in order to better respond to our ever-changing world.

Religious diversity has always existed, but we now possess a new awareness of it. I am thinking in particular of the installation ceremony of the new Chaplain General, Brigadier-General (the Venerable) John Fletcher in early September 2013. This ceremony was held at the Beechwood multi-faith chapel, on the site of our national military cemetery in Ottawa. A Christian aboriginal chaplain of the Moose Cree Nation, Major Catherine Askew, began the installation ceremony with a traditional aboriginal rite of purification known as a smudging ceremony, thereby creating a sacred place for the liturgical portion of the service of installation for the new Chaplain General. This ceremony was carried out with much inner contemplation while a choir of young girls from Christ Church Cathedral in Ottawa interpreted a traditional song *The Mi'kmaq Honour Song* adapted by Lydia Adams. Representatives of the Jewish, Christian, and Muslim chaplaincies then offered sacred readings from their respective faith traditions, as well as a prayer for the new Chaplain General.

The Canadian Chaplaincy is considered a world leader with respect to the management of religious diversity. It remains to date the only integrated military chaplaincy that brings together the chaplain services provided to the three military services

Art Babych

(L to R): Rabbi Barry Schlesinger of the Agudath Israel Congregation, Iman Samy Metwally from the Ottawa Main Mosque, and Padre John Fletcher, Chaplain General of the Canadian Armed Forces take part in an interfaith service in Ottawa, October 2014.

(Navy/ Army/ Air Force) under the supervision of a single Chaplain General. From the military operations point of view, it is important to underscore our belief that a single multi-faith chaplaincy serving the three elements is easier to incorporate into operations, and it better manages all the chaplaincy resources.

The Chaplain Branch is an example of diversity as espoused by the multiculturalism policy. To further illustrate this diversity, our Chaplain General, Brigadier-General John Fletcher, is our first openly gay Chaplain General.[28] This reality changes in no way the position of the Catholic Church or of other religious faiths regarding same-sex marriage, ordination, and so on. However, this situation encourages us to respect various religious traditions and the diversity of our Canadian society. Brigadier-General Fletcher's installation as Chaplain General occurred a few months after the first openly gay woman assumed the position of Premier of the Province of Ontario. The winds of change are sweeping the Canadian Armed Forces Chaplain Branch. I see it as a sign of the times.

CMJ

NOTES

1. Anglican Church of Canada, " History of Canadian Military Chaplaincy", http://www.anglican.ca/amo/history/

2. Major (ret'd) Albert Fowler, *Peacetime Padres. Canadian Protestant Military Chaplains 1945–1995*. (St. Catharines, ON: Vanwell Publishing Limited, 1996), p. 15: "In the First World War, there had been a single chaplaincy service for all faiths, but poor leadership and a lack of sensitivity to other's [sic] practices had left a bitter legacy. Indeed, in August 1939, the Bishop of Quebec, J.M.R. Villeneuve, had taken advantage of a meeting with C.G. (Chubby) Power to push for some say in the appointment of Roman Catholic clergy, should war be declared and a chaplain service be needed. Even before the Protestant committee had been organised, a group of Roman Catholic bishops from Ontario, speaking for their church in English Canada, had met and mapped out their plan. They insisted on their own separate organization, and they wanted Bishop Charles L. Nelligan of Pembroke to lead it."

3. *Information Digest. Canadian Forces Chaplain Branch Manual*. Issued on Authority of the Chief of the Defence Staff. 1 June 2003, p. 1–2, No. 13: "The Canadian Conference of Catholic Bishops was already organized. They could not tolerate serving under the same conditions as they had faced in the previous war. Months before, Defence Minister and Quebec city MP, "Chubby" Powers [sic], had gone to the Quebec Church to request the use of the large Quebec churches as possible air raid shelters. Bishop Villeneuve had bargained for a separate chaplain service. [At that time, Monseigneur Maurice Roy was still not a bishop. After serving as Honorary Colonel during the Second World War, he became Bishop of Trois-Rivières in 1946, while simultaneously serving as Military Vicar of Canada for Catholics. Then, he was appointed Archbishop of Quebec in 1947. He held the position of Military Vicar from 1946 until his retirement in March 1982.] A deal had been struck, and to Well's surprise, Bishop Nelligan had been named to establish a parallel Roman Catholic chaplain organization."

4. *Ibid*, p. 1–4, No. 18.

5. *Ibid*, p. 1–5, No. 23.

6. R.C. McNeill, "Keeping up with the flock.," in *Canadian Forces Sentinel*, March 1969, Vol. 5, No. 3, pp. 1–5. Already in 1969, the basic training of chaplains exposed them to the three elements (land/sea/air). "The Chaplain's indoctrination course a three months of drill, physical conditioning, small arms, leadership, survival training, and abbreviated staff school. The chaplains discover what each military environment expects of them, and among themselves develop a comradeship which overcomes differences in belief.", p.5.

7. *Information Digest. Canadian Forces Chaplain Branch Manual,* p. 7–1, No. 6.

8. « Forces' first Muslim chaplain », *Anglican Journal*, 1 February 2004, http://www.anglicanjournal.com/articles/forces-first-muslim-chaplain-2299

9. http://www.forces.gc.ca/en/news/article.page?doc=canadian-forces-welcomes-jewish-chaplain/hnps1tt3f

10. Grazia Scoppio, "Diversity Best Practices in Military Organizations in Canada, Australia, the United Kingdom, and the United States", *Canadian Military Journal*, Vol. 9 No 3, 2009, p. 17–30, http://www.journal.dnd.ca/vo9/no3/05-scoppio-eng.asp

11. Taken from a presentation of the Chaplain General, the Venerable Brigadier-General (ret'd) Karl McLean on 6 June 2012: "The Tree of Life has part

12. *Ibid.* "The Sun burst represents light. Every major religion speaks a language of light. Religions of the Abrahamic traditions recognize the command: "Let there be light." During Diwali, Hindus, Sikhs and Jains light lanterns to awaken awareness of God and the triumph of good over evil. Muslims speak of Allah as the source of light—inspiring, motivating and guiding God's people. Light is revelation, awareness, awakening, light dispels darkness, light reveals the truth."

13. Taken from the speech of the Chaplain General, the Venerable Brigadier-General John Fletcher, on Wednesday, 4 September 2013 at the Beechwood inter-faith chapel in Ottawa: "Firstly, as the new Canadian Armed Forces Chaplain General, I support the roughly two-hundred-and-twenty chaplains serving in the Regular Force and about one-hundred-and-thirty-five serving in the Reserve Force. These chaplains represent over twenty different Christian denominations, as well as our Jewish and Muslim communities."

14. Will Kymlicka, *Finding our Way: Rethinking Ethnocultural Relations in Canada*. (Toronto: Oxford University Press, 1998). I strongly recommend the reading of this book by Will Kymlicka, one of the principal Canadian theoreticians on multiculturalism.

15. Lieutenant-Commander G.J. Aucoin, *Briefing Note for the Chief of the Defence Staff. CAF Employment Equity*. DHRD, 28 May 2013. The goal of Canadian Recruiting Group (CFRG) for women in CAF is 25%.

16. *Management of CF Transsexual Members*. CANFORGEN 031/12 CMP 017/12 081428Z FEB 12.

17. Kymlicka, p. 1: "Aboriginal peoples are another vital component of diversity in Canada. Indigenous peoples are found in many countries. But with the possible exception of New Zealand (where the Maori form 15 per cent of the population), there is no Western country in which indigenous peoples have achieved a more prominent political status. The provisions relating to Aboriginal peoples in Canada's 1982 Constitution—both those sections affirming the existence of Aboriginal rights and the section requiring the government to negotiate the meaning of these rights with the Aboriginal peoples themselves—are virtually unique in the world."

18. Gérard Bouchard, *L'interculturalisme. Un point de vue québécois*. (Montréal : Boréal, 2012).

19. *Ibid*, p. 94.

20. The 5C represent the Anglican, Presbyterian, United, Baptist, and Lutheran churches.

21. *Amendment – Religious Accommodation policy for the CF*. CANFORGEN 162/12 CMP 072/12

22. Terrance S.Carter, "Supreme Court of Canada adopts broad view of religious freedom," in *Charity Law Bulletin*, Caters Professional Corporation, No 51, 23 August 2004. This article is available on the Internet at: http://www.carters.ca/pub/bulletin/charity/2004/chylb51.htm. The author concludes his article by stressing the importance of this judgment: "It is clear that the *Amselem* decision will be a benchmark decision and will be relied upon in the future, both with respect to freedom of religion and what constitutes advancing religion in Canada, as it confirms that courts confronted by religious freedom claims should limit the individual review to assessing the sincerity of the claimant's belief and refrain from adjudicating on questions of religious doctrine or practice. The decision also recognizes that profit and the aesthetics of individuals affected should not trump validly held religious beliefs and practices, regardless of whether the claimant can demonstrate that their beliefs are objectively recognized as valid by other members of the same religion."

23. Louis-Philippe Lampron. *La hiérarchie des droits. Convictions religieuses et droits fondamentaux au Canada*. (Brussels : P.I.E. Peter Lung, Coll.), *Diversitas*, No 12, pp. 85 and 87.

24. Guy Chapdelaine, *Inter-religious prayer in a military context: A Canadian Praxis*. Dissertatio ad Licentiam in Sacra Theologia assenquendam. (Rome: Université de l'Angelicum, 2006), pp. 82–83.

25. Subsidized Education Entry-Level Masters Plan.

26. Claude Geffré, *Le christianisme comme religion de l'Évangile*. (Paris: Cerf, 2012), p. 43: [unofficial translation] "But there is a good pluralism which simply demonstrates a necessarily plural humanity and which renders diversity an opportunity to progressively seek the truth. It would thus be better to simply speak of plurality. The Tower of Babel which represents an inability to communicate is a curse, but the Tower of Babel which recognizes the need for a plurality of languages and thus of cultures and religions is instead a blessing and an opportunity that corresponds to a mysterious design of God."

27. *Visible Minorities in the Security Community. Deep Dive to 2022*. External participants included RCMP, CSIS, CSE, and CBSA.

28. James Park, "Canadian Armed Forces installs new Chaplain General", *Ottawa Citizen*, 3 September 2013, http://www.ottawacitizen.com/life/hotos+Canadian+Armed+Forces+installs+Chaplain+General/8870271/story.html

American and Russian ships offshore Puerto Rico, 10 November 1962.

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Intelligence Models in Practice: The Case of the Cuban Missile Crisis[1]

by William Wilson

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Introduction

The overall complexity of the intelligence profession poses serious conceptual challenges for practitioners and scholars alike. For one, the exact nature of the relationship between policymakers, analysts, and collectors can be difficult to articulate. Moreover, the highly interactive order of decisions, actions, and events cannot be easily captured in 'linear' descriptions. At any given time, decisions, actions, and events can take place simultaneously, or even in reverse logical order. Finally, the secretive nature of intelligence work presents the greatest challenge of all: sometimes it is just not known or 'knowable' as to what has actually occurred.

In light of these challenges, a number of intelligence models have been created to help grasp this complexity. None of the models claims to completely or faithfully represent the intelligence profession, acknowledging the inherent difficulty of mapping a highly fluid and oftentimes ambiguous work process, but they all claim a degree of authenticity and promise certain advantages to those who employ them. These advantages often relate to greater *insight into* (and presumably, *control over*) the intelligence process itself. Among the different models on offer, three prominent ones include the cyclical model, the target-centric model, and the multi-layered model, as presented in the first section of this article. Each model is based upon a slightly different understanding of the intelligence process, and each carries different strengths and weaknesses as a result.

The remainder of this article aims to test the usefulness of these three models by evaluating them against the Cuban Missile Crisis. This crisis demonstrates many of the conceptual challenges confronting intelligence practitioners and scholars, making it an ideal test case. Bearing this in mind, the second section outlines the unique characteristics of each model, while, the third section provides a brief and general history of the Cuban Missile Crisis. In turn, the fourth section situates the three intelligence models within this history to critically evaluate their respective merits. The final section serves as a short conclusion, restating the article's main findings, and returning to the overall complexity of the intelligence profession. In the end, the best model is the one that acknowledges this complexity and seeks to incorporate it.
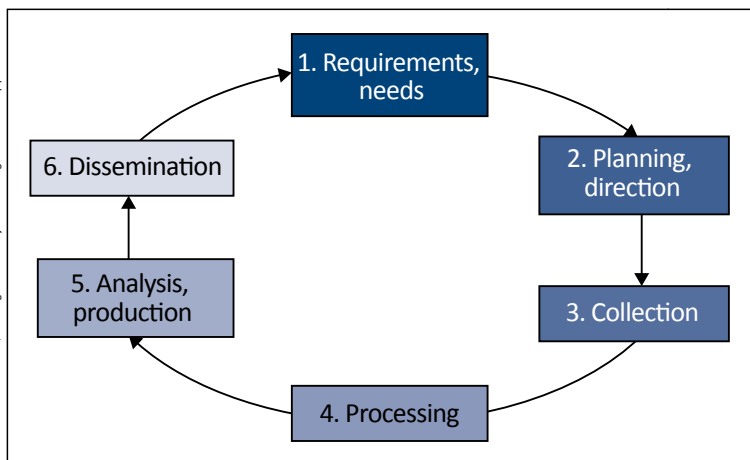
Figure 1.1: The Cyclical Model

Intelligence Models in Theory

As mentioned, the intelligence profession is very complex, involving multiple actors and roles. Some of the most critical actors involved in the intelligence process include policymakers, analysts, and collectors. The different roles performed by these actors generally reflect their different namesakes. In this respect, policymakers set the overall objectives of the intelligence process and guide its workflows. They are also the primary consumers of intelligence products.[2] Collectors are responsible for the collection of raw data, which is then interpreted by analysts, culminating in an intelligence 'product' destined for consumption by policymakers. Individual intelligence operations can vary in length and scope, but they tend to follow this basic pattern of interaction among policymakers, analysts, and collectors.[3] Admittedly, such a pattern is not ideal, failing to properly account for the inherently unequal statuses between these three types of actors, and overstating the autonomy of each actor within the overall intelligence process. Nonetheless, any intellectual exercise that seeks to impose clear meanings on highly fluid and oftentimes ambiguous workflows is likely to face these problems. This basic description of the intelligence profession—commonly known as the "cyclical model"—is represented in Figure 1.1. It is the model that practitioners and scholars often encounter first when attempting to 'map' the intelligence process.[4]

In contrast, Robert M. Clark has developed the "target-centric" model, which aims to address some of the perceived faults of the cyclical model. The target-centric model is depicted in Figure 1.2. Overall, this model attempts to increase the degree of interaction among policymakers, analysts and collectors, acknowledging the complexity of their true relationship. It also attempts to avoid an overly 'linear' presentation of the intelligence process, permitting

forward and backward movements across the work cycle. Finally, it attempts to situate the intelligence objective at the *centre* of the intelligence process, pushing other considerations to the periphery. As Clark argues:

> The target-centric approach has more promise for complex problems and issues than the traditional cycle view. Though depicted as a cycle, the traditional process is in practice linear and sequential, whereas the target-centric approach is collaborative by design. Its nonlinear analytic process allows for participation by all stakeholders, so real insights into a problem can come from any knowledgeable source. Involving customers increases the likelihood that the resulting intelligence will be used. It also reminds the customers of (or introduces them to) the value of an analytical approach to complex problems.[5]

These are only some of the purported strengths of the target-centric model, but they speak directly to the perceived faults of the cyclical model. Ultimately, it is Clark's view that the target-centric model creates greater appreciation for the intelligence process as a whole, including the distinct contributions of policymakers, analysts, and collectors. This point can be seen in its unorthodox appearance when compared to the traditional cyclical model.

A third intelligence model has been introduced by Mark M. Lowenthal, namely the "multi-layered model." Like the target-centric model, this model aims to address some of the perceived failings of the cyclical model. Having said this, as shown in Figure 1.3, it does not radically depart from the basic structure of the cyclical model. Instead, it attempts to make provision for greater discretion and contingency within the intelligence process, noting decisions, actions and events can move in almost any direction, while maintaining the same basic conceptual categories and workflows as the other two models. Lowenthal is aware of the overall complexity of his model, but presents this feature as its key strength: "This [model] is a bit more complex, and it gives a much better sense of how the intelligence process operates in reality, being linear, circular, and open-ended all at the same time."[6]
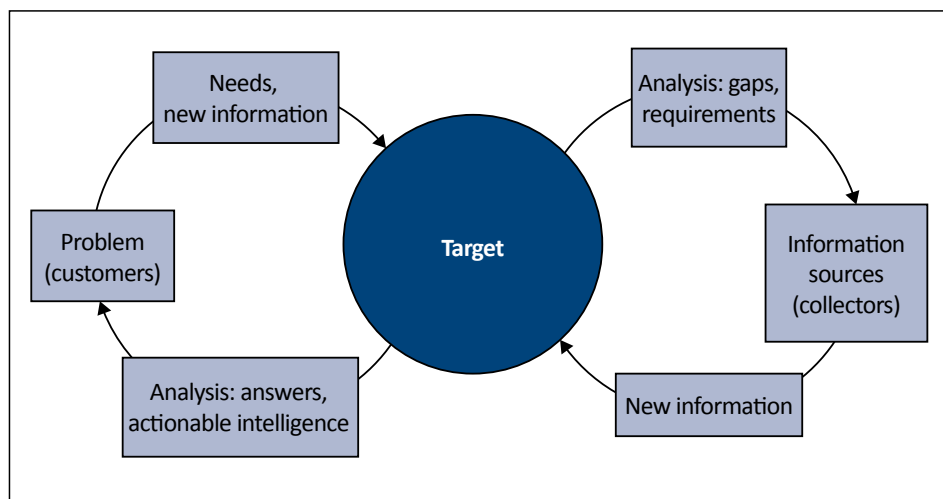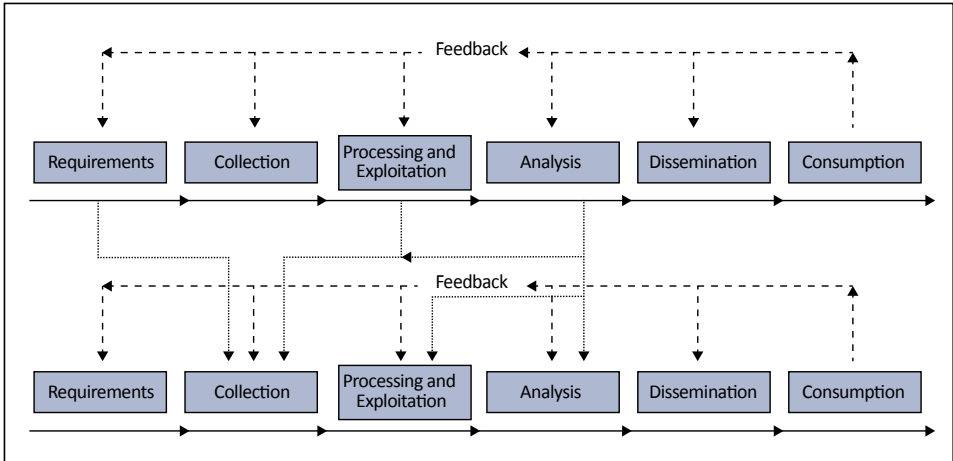
Figure 1.2: The Target-Centric Model

Figure 1.3: The Multi-Layered Model

surface-to-air missiles (SAMs), to the Cuban government. This movement of arms became known to the Americans, but it drew little initial concern from the United States intelligence community. One notable exception to this general truth was Central Intelligence Director John McCone, who interpreted the presence of SAMs as part of a defensive system for *offensive* nuclear weapons. A Special National Intelligence Estimate was issued on 19 September 1962, which reflected the mainstream opinion. McCone criticized the CIA for displaying a lack of imagination when it came to the Soviet's intentions.

As a set, the three intelligence models discussed in this section claim to offer practitioners and scholars alike greater *insight into* (and presumably *control over*) the intelligence process. Their applicability to real-world intelligence situations, however, is debatable, as exemplified by the Cuban Missile Crisis.

The Cuban Missile Crisis

What follows is a short history of the Cuban Missile Crisis. This history is based mainly upon the writings of Raymond L. Garthoff, who worked in the US Department of State as a special assistant for Soviet bloc affairs during the Crisis.[7] The history also draws upon the writings of several other authors to provide greater perspective.[8] It is hoped that the Cuban Missile Crisis, which contains distinct intelligence 'successes' and 'failures,' will serve as an illustrative, real-world example by which to test the three intelligence models under discussion. In particular, the Cuban Missile Crisis demonstrates the importance of hierarchy within the intelligence process; the non-linear and non-sequential nature of intelligence work; and the importance of unknown events or actions that occur *outside* the traditional intelligence cycle.

It can be argued that the Cuban Missile Crisis started rather innocuously in the summer of 1962 when the Soviet Union began transferring defensive weapons, including

McCone's skepticism was partially correct: the Soviets decided at a later date to transfer nuclear warheads and tactical nuclear weapons to Cuba, but this decision had no direct connection to the SAMs. The continued presence of SAMs in Cuba after the Crisis had subsided led McCone to argue that the Soviets intended to reintroduce nuclear weapons at some future date. Interestingly, the Americans were never able to confirm or identify the presence of nuclear warheads in Cuba during the Crisis, but decided to operate under the assumption that such weapons had been delivered. Moreover, they never became aware of the presence of tactical nuclear weapons until the late-1980s, when the new Soviet state policy of *glasnost* allowed for greater openness, including the release of previously secret government records.

An MRBM missile launch site in Cuba, 23 October 1962.

The American intelligence community received thousands of human reports with respect to the presence of Soviet long-range missiles (which would have been necessary to deliver the nuclear warheads) in Cuba from Cuban refugees, but many of these reports were easily discredited. Significantly, the majority of these reports failed to properly describe the missiles, and they were provided *before* the actual delivery of missiles to Cuba would have occurred. Having said this, the Americans received two accurate reports towards the end of September, and they decided to investigate the matter further through the use of U-2 reconnaissance aircraft. A desire to avoid offending the Soviets *and* poor weather conditions combined to delay the flights for two weeks. However, on 14 October 1962, the Americans finally confirmed the construction of long-range missile sites in Cuba through the use of aerial photographs. They kept this knowledge secret for one week before announcing it publically to the world, then catching the Soviets off guard.

Meanwhile, President John F. Kennedy issued two public warnings aimed at the Soviets on 4 September 1962 and 13 September 1962 respectively. Therein, he warned them not to ship 'offensive' weapons to Cuba. These warnings were the result of mounting domestic political pressures and should have clearly communicated the American's position on nuclear weapons to the Soviet leadership,

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A USAF U-2 reconnaissance aircraft

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President John Fitzgerald Kennedy

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Premier Nikita Khrushchev

President Kennedy and Ambassador Dobrynin, 30 March 1962

despite the fact that nuclear weapons were probably already present in Cuba by this time. Nonetheless, the Soviet leadership did not heed the warnings, and they continued with the transportation of offensive weapons to Cuba and the construction of offensive weapons delivery systems in Cuba.

Two subsequent Special National Intelligence Estimates were issued on 19 October 1962 and 20 October 1962, after the discovery of offensive weapons delivery systems in Cuba. These estimates did not vary greatly in detail, considering possible Soviet intentions and potential American responses. The two estimates ascribed an offensive purpose behind the Soviet's actions, and this led to a more aggressive stance from the Americans. The three potential responses were: 1) a naval blockade; 2) an air strike; and 3) an invasion of Cuba. The National Security Council (NSC) was also created at this time; its Executive Committee (ExComm) being led by the president. The NSC and ExComm were meant to pool resources across the US intelligence community, and it is generally regarded as having succeeded in this respect *at first*.

The Soviets did not anticipate a naval blockade by the Americans—they assumed that the Americans would simply accept the missiles as part of the 'game,' and that the existing presence of the missiles would force the Americans to accept their continuing presence. Therefore, they were caught off guard when the Americans announced their knowledge of the missiles and their intention to set up a naval blockade on 22 October 1962 (the blockade would

United States Attorney General Robert Kennedy

actually commence on 24 October 1962 at 10:00 A.M. EST). The Soviet leadership, in particular, Premier Nikita Khrushchev, considered 'running' the blockade, but ultimately decided against such a response.

At this point, an ostensible stalemate took place. The two main sides (i.e. the Americans and the Soviets) opened lines of communication between each other, but the Americans also began mobilizing their air forces as a precaution. The Soviets were aware of these mobilizations through satellite imaginary, and the Cubans became aware of the American's contingency plans through human intelligence. Nonetheless, both the Soviets and the Cubans took the American contingency plans to represent their *actual* plans, and it is commonly argued that this led, in part, to the sudden willingness on Khrushchev's part to negotiate a settlement on 28 October 1962. Although this general account of the conclusion to the Crisis is accurate, it glosses over several important events that took place between 22 October 1962 and 28 October 1962. Likewise, it downplays some of the lingering issues that were not resolved until much later.

> **"Two subsequent Special National Intelligence Estimates were issued on 19 October 1962 and 20 October 1962, after the discovery of offensive weapons delivery systems in Cuba."**

Among these other events were two letters sent by Khrushchev on 26 October 1962 and 27 October 1962, as well as a series of authorized and unauthorized backchannel communications. The first letter sent by Khrushchev was conciliatory in tone, and it laid out many of the concessions that would form the final settlement. In contrast, the second letter, which was sent mere hours after the first, was aggressive in tone, and it demanded the withdrawal of American missiles from Turkey. In preparing their reply to the first letter, the Americans were surprised by the sudden change of tone, and they decided to ignore the second letter.

The origin of the letters is often attributed to an unauthorized backchannel communication between Soviet embassy counselor Aleksandr Fomin and ABC News correspondent John Scali. Fomin was instructed to make contact with the Americans by Soviet Ambassador Anatoly Dobrynin, who was not informed of the Soviet plan to place missiles in Cuba until after it became common public knowledge. The positive response expressed by Scali is read by many to have pushed the Soviets for further concessions. However, Fomin's encounter would not have reached Moscow in time for Khrushchev's first letter, meaning the Soviets were *already* prepared to offer serious concessions. In response to the second letter, Scali met once again with Fomin. This time, he was instructed to offer a firmer message for the Soviets. It is this message that many now believe led the Soviets and the Cubans to believe the Americans were preparing for a full-scale attack. The fact that Soviet SAMs shot down a U-2 reconnaissance aircraft around the same time only added to the sense of alarm felt by all sides.

The idea of trading missiles in Turkey for those in Cuba, however, actually originated through parallel backchannel communications between Attorney General Robert Kennedy and Ambassador

A Soviet attack submarine near Cuba during the missile crisis, 1 November 1962.

The Soviet freighter *Anosov* leaving Cuba, 6 November 1962.

President Kennedy meets with his cabinet officers and advisers during the Cuban Missile Crisis, 1 October 1962.

26 October 1962 and 28 October 1962, the Soviets and the Cubans acquired reports of the Americans downgrading their plans to attack. This may have led to greater confidence in the Soviet-Cuban camp, but subsequent reports reiterated the expectation of an immediate attack. Such a sudden change in intelligence could have pushed the Soviets closer towards settlement, even if the Cubans read it as cause for a pre-emptive attack.

Finally, the Cuban Missile Crisis did not terminate on 28 October 1962. As partial payment for their co-operation, the Cubans demanded that a small show of Soviet force remain in Cuba. This force was meant to act as a 'trip-wire' in the event of any future American attack, and it went directly against the agreed upon settlement. In fact, a small Soviet combat brigade of 2500 men remained in Cuba until their discovery in the summer of 1979, which caused a mini-crisis. Moreover, the Soviets tried to exploit the difference between 'offensive' and 'defensive' weapons, but the Americans were generally effective in denying this difference.

Intelligence Models in Practice

The Cuban Missile Crisis offers an ideal case through which to test the three intelligence models discussed above. For instance, all the models appear to have some degree of difficulty incorporating 'outside' events

Dobrynin on 27 October 1962. Other members of ExComm, apart from the President, were not aware of these talks. For this reason, any exchange of missiles was generally understood to be part of a *separate* settlement. Khrushchev may have misunderstood this point, but the other major players were aware of it. Finally, between or actions, such as the secret backchannel communications between Attorney General Kennedy and Ambassador Dobrynin, into their workflows. A corollary of this shortcoming concerns the generally-stated relationship between policymakers, analysts, and collectors. While there were somewhat even

and ongoing interactions between these three types of intelligence actors at the beginning of the crisis, towards the end, policymakers such as President Kennedy and Attorney General Kennedy assumed sole ownership of the issue. Furthermore, they began to actively perform the roles of analysts and collectors themselves, problematizing the conceptual categorization of separate intelligence activities based upon separate intelligence actors. In this sense, the true nature of hierarchical power is not properly captured by any of the models. Their general focus upon interactions between policymakers, analysts, and collectors obscures the fact that the degree to which this relationship is truly interactive depends upon policymakers. Likewise, it obscures the fact that policymakers alone can perform all three roles.[9]

In terms of the particular intelligence models, Figure 1.1 indicates that the cyclical model fails to incorporate outside events or actions, presenting itself as a closed process. This is problematic for the reasons already addressed. The same model also suggests an overly linear process in that instructions proceed unidirectionally from policymakers to analysts and collectors. Such a depiction ignores the reality of interaction between these three actor types. Although the true nature of their relationship is by no means ideal or equal, it *can*

> **"Once again, it bears mention that policymakers enjoy considerable influence, authority, and autonomy over the other actors involved in the intelligence process."**

prove complicated. For example, collectors may communicate with analysts to get a better sense of their needs. This point can be directly related to the American surveillance of Soviet missile sites in Cuba during the Crisis. Here, collectors were actively photographing the pace of construction, providing analysts a better sense of the actual threat posed by the missiles, based upon feedback. Finally, the cyclical model succeeds in recognizing hierarchy within the intelligence process, but it arranges policymakers, analysts, and collectors in a way that overstates their independence. As demonstrated, policymakers enjoy the unique capacity to bypass analysts and collectors, or to unilaterally assume their roles.

Figure 1.2 shows that the target-centric model encounters some of the same problems as the cyclical model. However, it also encounters some additional problems, based upon its target-centric nature. First, alongside the cyclical model, the target-centric model fails to incorporate outside events or actions, and it overstates the reciprocal nature of the intelligence process, albeit in greater excess. A cursory glance at the model would suggest a nearly equal, symbiotic relationship between policymakers, analysts, and collectors, but actual experience, as exemplified by the Cuban Missile Crisis, proves otherwise. Once again, it bears mention that policymakers enjoy

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John F. Kennedy and Nikita Khruschev

considerable influence, authority, and autonomy over the other actors involved in the intelligence process. Second, the target-centric model presupposes that a clear intelligence target already exists. This was not the case with respect to the Cuban Missile Crisis. The American government scrambled to build such a target *after* it became known that the Soviets were building long-range missile sites in Cuba. Thus, the importance of long-term, forward thinking and investment implied by the target-centric model may reflect an expectation that is set too high for actual practice. On the other hand, the target-centric model allows for greater interaction among policymakers, analysts, and collectors than the cyclical model, which serves as its greatest strength.

In comparison to the other two intelligence models, the multi-layered model represents a highly complex account of the intelligence process. This can be seen in Figure 1.3. While this might seem like a fault, it actually serves to positively distinguish the model. The multi-layered model, for instance, allows for inter-action between policymakers, analysts, and collectors in myriad ways, injecting a critical sense of discretion and contingency into the intelligence process. Furthermore, this quality of contingency is better able to incorporate outside events or actions than the cyclical model and the target-centric model. Taken together, the qualities of discretion and contingency can account for the obscured activities of Attorney General Kennedy and Ambassador Anatoly, linking them to the larger intelligence process. A fault of the multi-layered model, however, concerns its overall complexity, which makes it a poor heuristic. Although valid, this criticism is belied in part by the fact that the intelligence process itself demonstrates great complexity. Thus, the multi-layered model, through its own complexity, closely approximates actual practice. For intelligence practitioners and scholars, this should be seen as the key strength of the model.

Conclusion

This brief article has attempted to outline the respective strengths and weaknesses of three prominent conceptual models in the world of intelligence, namely, the cyclical model, the target-centric model, and the multi-layered model. In pursuing this aim, it drew upon the real-world example of the Cuban Missile Crisis. To some extent, all the models encountered difficulty incorporating outside events or actions into the intelligence process. They also had difficulty conceptualizing the true relationship between policymakers, analysts, and collectors, but this might be a fault of any intellectual exercise that seeks to impose clear meanings upon highly fluid and oftentimes ambiguous workflows. Separately, the cyclical model is guilty of presenting a linear account of the intelligence process and of downplaying the full effect of hierarchy within this process; the target-centric model is guilty of both these faults, in addition to overemphasizing the availability of advanced knowledge; and the multi-layered model is guilty of being overly complex. Nonetheless, given the overall complexity of the intelligence profession, this 'fault' of the multi-layered model is actually the model's key strength, in that it provides a truer sense of the intelligence world. Therefore, although it is far from an ideal heuristic, the multi-layered model appears to be the best conceptualization of the intelligence process available to prac-titioners and scholars.

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NOTES

1. Kurt Jensen, who teaches intelligence studies at Carleton University, is due special mention and thanks for guiding me through this project. Without him, the secrets of the world would still be secrets to me.
2. Robert M. Clark, *Intelligence Analysis: A Target-Centric Approach*, 4th edition. (Los Angeles: CQ Press, 2013), pp. 4–7.
3. *Ibid.*, pp. 46–54.
4. Mark M. Lowenthal, *Intelligence: From Secrets to Policy*, 5th edition. (Los Angeles: CQ Press, 2012), p. 67.
5. Clark, p. 10.
6. Lowenthal, p. 69.
7. For example, see Raymond L. Garthoff, "Cuban Missile Crisis: The Soviet Story," in *Foreign Policy*, Issue 71 (Autumn 1988) and "US Intelligence in the Cuban Missile Crisis," in *Intelligence and National Security*, Volume 13, No. 3 (September 1998).
8. These sources include Arnold L. Horelick, "The Cuban Missile Crisis: An Analysis of Soviet Calculations and Behavior," in *World Politics*, Volume 16, No. 3 (April 1964); Bruce J. Allyn, James G. Blight, and David A. Welch, "Essence of Revision: Moscow, Havana and the Cuban Missile Crisis," in *International Security*, Volume 14, No. 3 (Winter 1989–1990); Len Scott, *The Cuban Missile Crisis and the Threat of Nuclear War: Lessons from History* (New York: Continuum, 2007); and Roger Hilsman, *The Cuban Missile Crisis: The Struggle Over Policy* (Westport, CT: Praeger, 1996).
9. Obviously, an analyst can perform the role of a collector and *vice versa*, but neither can perform the role of a policymaker without first being given the authority of a policymaker. This point relates to the leading position of policymakers in the overall intelligence process. See Lowenthal, pp. 1–9, for an expanded discussion on the true relationship between these three actor types in the intelligence profession.

Soldiers from the 16th Battalion of the 6th Polish Airborne Brigade, and Mike Company, 3rd Battalion, The Royal Canadian Regiment, storm a bridge as part of a joint exercise during Operation *Reassurance*, 30 July 2014.

A Competence-based Approach to Joint Professional Military Education (JPME) Educating the Joint Force for 2020 and Beyond

by Daniel H. McCauley

Introduction

The current Joint Professional Military Education system is centred in an educational paradigm more attuned to the demands of the Cold War era than those of the 21st Century. Although the Goldwater-Nichols Department of Defense Reorganization Act of 1986 served a critical role to integrate the Services and instill a spirit of 'Jointness' throughout the force, many of its functions have been overcome by social, cultural, and technological changes over the past 25 years. Gone are the days when the Joint Force concentrated solely upon fighting the Soviet Union and the Warsaw Pact. Instead, today's security environment demands a far more expansive education as the Joint Force is asked to be the global security provider, performing tasks and taking on responsibilities clearly outside the traditional military realm. Operating in non-traditional and unfamiliar domains, the Joint Force of 2020 must refocus its education from 'knowing how' to 'knowing why.' Knowing how "…is learning to think other people's thoughts,"[1] and is associated with linear problem-solving. Knowing why, which is learning to think your own thoughts, represents the higher order of learning demanded by today's highly contextualized and non-linear global environment.

Stalled in the 'knowing how' paradigm, the American JPME enterprise continually reacts to emerging issues in a futile attempt to account for an ever-expanding body of knowledge. Current JPME Phase II educational subject areas number over 100, and this list continues to grow. This knowledge-based approach is unsustainable and unmanageable by JPME institutions, overwhelming for students, and indicative of a training mentality. The JPME community must eschew this 20th Century paradigm and develop a competence-based approach that provides students with the abilities needed to operate across the multiple levels of war, traversing multiple domains and disciplines, and is applicable anywhere in the world. A competence-based approach encompasses 'knowing why,' and will better fulfill JPME's broader obligation to prepare officers for policy and staff duties. In addition, a competence-based approach will provide an education that is more adaptable and agile, and which leverages the strengths of andragogy. This short article will support this argument with a short synopsis of the current American educational approach for JPME. It will then provide a comparison of technical knowledge and adaptive competences, which represent the primary modes of thought in the 20th and 21st Centuries respectively. Next, it will give an overview of a competence-based approach followed by a discussion of the approach's strengths and needs. Finally, a recommendation for the JPME community is presented, which may also prove useful to America's allies.

The Current JPME Approach

Professional military education is the cornerstone of Joint Force development. It is intended to prepare rising military leaders with the ability "…to conduct Joint operations and to think their way through uncertainty."[2] To do this, the Department of Defense (DoD) has established five levels of

officer JPME, ranging from pre-commissioning education, to general or flag officer education covering a span of approximately 25–35 years. JPME Phase II, focused upon field grade officers, is the fourth level in the series, and is the focus of this article. The Officer Professional Military Education Policy (OPMEP) states that the Professional Military Education (PME) system should produce strategically-minded officers, critical thinkers, and skilled joint warfighters. Education seeks "…to foster a breadth of view, diverse perspectives, critical analysis, abstract reasoning, comfort with ambiguity and uncertainty, and innovative thinking, particularly with respect to complex, non-linear problems."[3] In short, the OPMEP calls for officers with the thinking competencies necessary for operating in complex environments around the world.

Unfortunately, this desire for competences quickly devolves into a list-making exercise highlighted by an expanding hierarchy of subjects. The Goldwater-Nichols Act statutorily mandates that the JPME enterprise teaches a range of topics spanning the operational and strategic levels of war with subject areas prescribed as national security strategy, theatre strategy and campaigning, joint planning processes and systems, and joint, interagency, intergovernmental, and multinational capabilities, and the *integration* of those capabilities.[4] Although there are five institutions that make up the JPME II community, the divergence from a consistent educational competency is immediate, as each institution has a different educational focus.

The Senior Service Schools (SSS) address theatre-and national-level strategies. The Joint and Combined Warfighting School (JCWS) develops joint attitudes and perspectives, joint operational expertise, and hones joint warfighting skills. The Joint Advanced Warfighting School (JAWS) focus is upon creating planners for the Joint Staff and combatant commands. The National War College's (NWC) focus is upon national security strategy. The Industrial College of the Armed Forces (ICAF) focuses upon national security development and on the evaluation, marshalling, and management of resources in the execution of that strategy. A sixth school, collocated with JCWS, is the Advanced Joint Professional Military Education (AJPME) course, a blended Reserve Component course covering material similar to JCWS, but it does not earn the JPME II credit.

Table 1 identifies the OPMEP-directed learning areas for each institution, as well as the number of sub-learning areas.[5] From the table, one could surmise that the institutions' curricula are closely related. However, the difference in the number of learning areas and sub-learning areas for each institution is a harbinger of the divergence to come. For example, NWC has six learning areas and 30 sub-learning areas, whereas JCWS (and AJPME) has

JPME II Learning Areas (Sub-learning Areas)					
SSS 6/26	National Security Strategy (4)	National Military Strategy (3)	Joint Warfare, Theater Strategy, & Campaigning (7)	National & Joint Planning Systems & Processes (3)	Integration of Joint, Interagency, Intergovernmental & Multinational Capabilities (5)	Joint Strategic Leadership (4)
NWC 6/30	National Security Strategy (5)	The U.S. Domestic Context of National Security Policy and Process (5)	The Military Instrument in War and Statecraft (7)	Non-Military Instruments of National Power and Statecraft in Peace, Crisis, War, and Post-Conflict Environments (5)	The Global Geo-strategic Context (5)	Strategic Leadership in a Joint, Interagency, Intergovernmental, and/or Multinational Context (3)
ICAF 6/28	National Security Strategy (6)	National and Joint Planning Systems & Processes (4)	National Military Strategy (4)	Joint Warfare, Theater Strategy and Campaigning in a Joint, Interagency, International, and Multilateral Environment (6)	Integration of Joint, Interagency, Intergovernmental, and Multinational Capabilities (4)	Strategic Leadership (4)
JCWS 4/16	National Security Strategy (3)	Joint, Interagency, Intergovernmental, and Multinational Capabilities (5)	Theater Strategy and Campaigning (4)	Joint Planning Processes and Systems (4)		
JAWS 6/17	National Security Strategy, Systems, processes, & Capabilities (4)	Defense Strategy, Military Strategy, & the Joint Operations Concepts (3)	Theater Strategy and Campaigning with Joint, Interagency, Intergovernmental, & Multinational Assets (4).	Joint Planning and Execution Processes (Pre-Conflict through Post-Conflict) (2)	Characteristics and Conduct of the Future Joint Force (2)	Joint Strategic Leadership (2)
AJPME 4/16	National Security Strategy (3)	Joint, Interagency, Intergovernmental, and Multinational Capabilities (5)	Theater Strategy and Campaigning (4)	Joint Planning Process and Systems (4)		

Table 1: OPMEP-directed JPME II Learning Areas

four learning areas and 16 sub-learning areas. If one factors in each institution's purpose, the learning and sub-earning areas take on entirely different perspectives across the JPME II enterprise. This 'hodge-podge' approach not only results in a lack of consistency in subject matter across the enterprise, it also undermines a gaining Joint organization's confidence in the expected abilities of a JPME II graduate.

To make matters worse, in addition to the multiple learning and sub-learning areas, there are a number of other input mechanisms that affect JPME II curricula. There are nine Special Areas of Emphasis (SAE)[6] promulgated by the Chairman of the Joint Chiefs of Staff (CJCS); six desired leader attributes;[7] 11 lessons learned from the *Decade of War Study*;[8] nine desired educational attributes identified in the CJCS' *Joint Education White Paper*;[9] eight Joint Matters;[10] six subject matters identified in 10 U.S. Code Section 2151;[11] four subject matters as identified in 10 United States Code, Sections 2151, 2152, and 668;[12] four senior leader-identified priorities for Joint Staff Officers;[13] seven elements, as identified in the Capstone Concept for Joint Operations;[14] nine areas, as identified in the CJCS White Paper;[15] and 15 competencies for Joint Staff Officers identified by Combatant Commands and Staff.[16] All told, there are over 100 general and specific subject matter areas directed to be addressed within JPME II curricula—and this does not even include the necessary supporting material. The bad news is that there are more subjects 'on the way' courtesy of this same educational model.

A Comparison of Technical Knowledge and Adaptive Competences

As evidenced above, this exhausting list of educational requirements is indicative of an approach that relies upon a 'know how' paradigm. This model assumes that every requirement can be identified and ultimately taught. It is representative of a by-gone era when the vast majority of challenges were technical.[17] Technical challenges rely preponderantly upon foundational knowledge, and include core content knowledge found in a deep understanding of specific disciplines, gained after years of study and experience, and that which resides with experts. If one has a problem, one summons an expert. Cross-domain or cross-discipline competency is typically unnecessary, as most technical challenges reside within one domain or another. An example of an expert with technical knowledge would be the Cold War analyst whose sole focus was the Soviet economy.

Two other types of knowledge are associated with technical challenges: meta knowledge and humanistic knowledge. *Meta* knowledge, or the understanding of how

we act upon *foundational* knowledge, involves problem solving, critical thinking, creativity, and innovation. Whereas technical challenges require all of these aspects, once the technical problem is solved, it remains solved, and thus, meta knowledge plays a critical yet fairly smaller role than foundational knowledge. *Humanistic* knowledge is an understanding of self within a broader social and global context.[18] During the Cold War, one only needed to know the difference between communism and capitalism; other cultural aspects, such as tribal, ethnic, and religious differences, were secondary considerations, if they were considered at all. Technical challenges typically rely very little upon this knowledge.

The following diagram (Figure 1) portrays the kind of education required for technical challenges that are representative of technical knowledge or 'know how' thinking. The horizontal axis represents the degree of certainty within the environment, ranging from high to low. The vertical axis represents the degree of agreement of solutions for any given problem. The four quadrants represent familiarity with the task and familiarity with the environment. Task and environmental familiarity are represented in the lower left-hand quadrant, and task and environmental unfamiliarity are represented in the upper right-hand quadrant. Most technical challenge knowledge requirements, represented by the three colored ovals (green, blue, and yellow), reside in the lower left-hand quadrant. Technical challenges, such as building a bridge or an airplane, involve the application of known skills to a known problem. Although these types of challenges are complicated, solutions remain within well-understood boundaries.[19]

To provide an educational experience needed by Joint officers, JPME must migrate away from over-structured menus of predefined, content-oriented curricula for the masses, to one that is designed for the individual, self-directed adult learner (Figure 2). Unlike
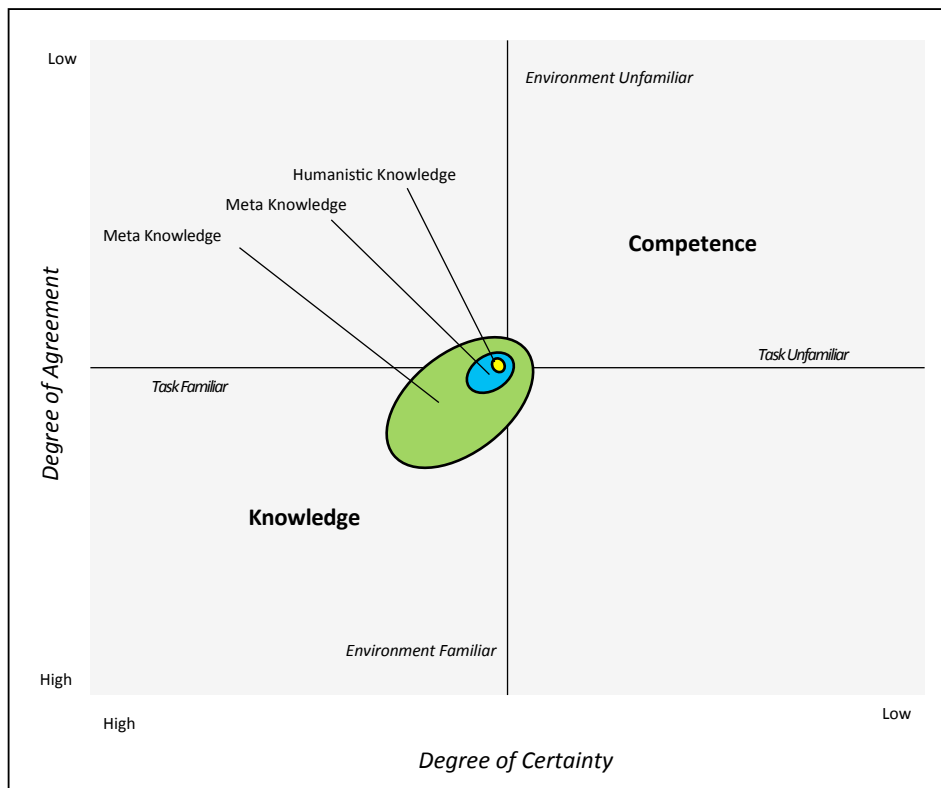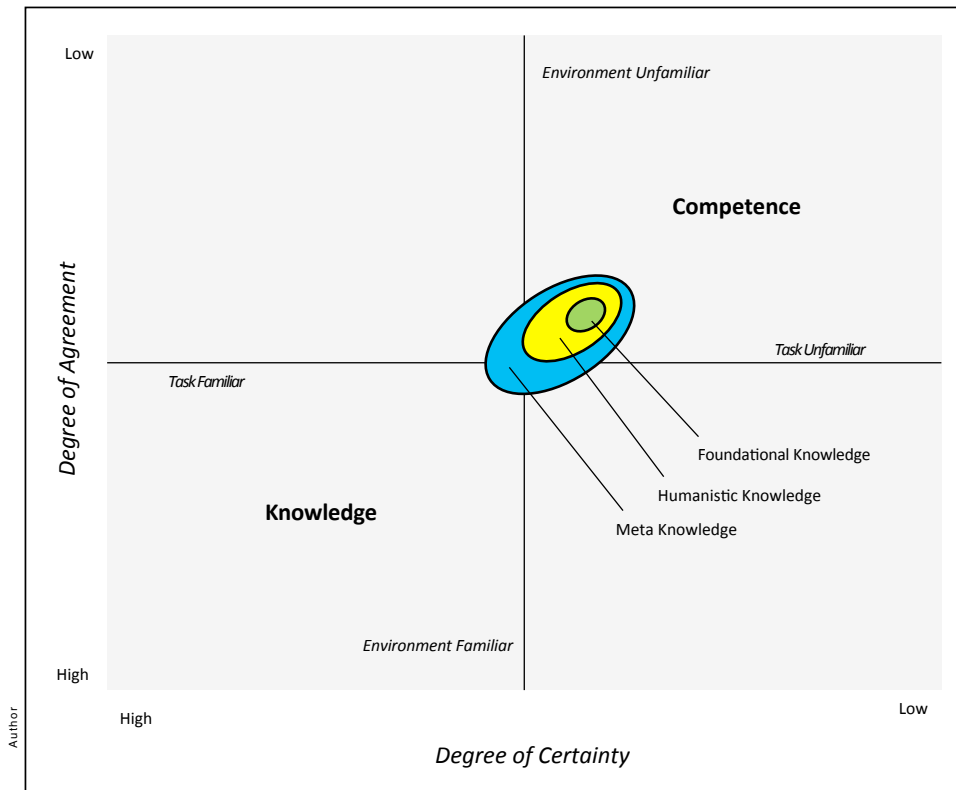

Figure 1: Technical Knowledge

Figure 2: Adaptive Competences

The Competence-based Approach

A competence is a quality, ability, capacity, or skill that is *developed by* and *belongs to* the student. Competences represent a dynamic combination of cognitive and metacognitive skills, a demonstration of understanding, interpersonal, intellectual and practical skills, and ethical values. Fostering these is the object of all educational programs. Some competences are subject-matter related (specific to a field of study), whereas others are more generic (common to *any* field of study).[21] A competence-based approach focuses upon the 'why' far more than the 'how' or the 'what.' A competence-based approach to education facilitates learners who can deal with the types of problems associated with higher levels of complexity and uncertainty.[22] Examples of generic competencies for JPME would be the ability:

technical challenges, future learning is based upon knowledge that is dynamic, open-ended, multidimensional, and that fully accounts for the complexities associated with human behavior. These types of challenges, known as adaptive challenges, are open-ended, poorly defined, and messy. The majority of strategic security challenges that confront the DoD today and in the future are adaptive challenges.

Unlike experts from the Cold War, 21st Century experts are those who can effectively access information (available to anyone with access to the Internet), and, more importantly, who can apply the information to new and unique situations. Today, learning takes place in environments in which certainty is low and agreements with respect to solutions are as varied as there are stakeholders. In this environment, individuals engage with an uncertain and unfamiliar context, seeking to discern the interrelationship and interaction of variables inherent within that particular system. No preset encyclopedia of knowledge can adequately describe or define the environment appropriately.[20] Understanding context takes on far more importance than traditional expertise. For example, Joint Forces conducting stability and reconstruction activities in the tribal villages of Afghanistan have an entirely different operating environment than when conducting shaping operations in the tribal regions of Mali. Thus, *meta learning*, or the learning methods and tools used in learning, and *humanistic learning*, or the way one sees oneself in relation to the rest of the world, come to the fore for 21st Century Joint leaders, especially as they operate at the higher levels of war. A 21st Century adaptive learner model emphasizes meta and humanistic knowledge far more so than foundational knowledge.

- to think critically and self-critically with a depth and breadth of understanding that leverages hindsight, insight, and foresight (critical thinking),

- to challenge assumptions, recognizing patterns, and seeing in new ways (creative thinking), and

- to create synergy, improve performance, and motivate people to learn, develop, share, and adapt to changes (collaborative thinking).

These generic competencies can be further specified leveraging subject specific competences. For example, a critical thinking competence specifically requires:

- knowledge and understanding of strategic thinking attributes,

- knowledge and understanding of systems thinking, and

- the ability to engage in visual thinking.

Any competence must be assessed or verified in some manner, which is typically accomplished through the development of associated learning outcomes. Learning outcomes describe what a learner is expected to know, understand, and be able to demonstrate after successful completion of a course of study.[23] Building upon the previous example of developing a critical thinking competence, associated outcomes for a JPME II graduate would be the ability to:

- explain systems thinking, systems dynamics, strategic thinking, and visualization,

- develop shared understanding of an issue using hindsight, insight, and foresight, and

- describe global security issues across domains and the consequences of such issues for global and national security.

A competence-based approach allows educators to leverage a broad range of faculty expertise, student experiences and expertise, and subject matter in a dynamic and relevant manner. It is generally agreed across multiple frameworks that the knowledge, skills, attitudes, and attributes of learners needed in the 21st Century show consensus that collaborative, communicative, cultural, critical, creative, conceptual, and contextual thinking competences[24] are essential for operating in a 21st Century global society. With these competences as 'anchor' material, faculty leverage their expertise to blend student experiences and specific subject matter into a unique learning experience[25] (Figure 3).

- facilitates an agile curriculum able to anticipate and adapt to surprise and uncertainty,

- leverages best practices in teaching and learning,

- demonstrates institutional effectiveness, and

- promotes and applies the tenets inherent within mission command.

A competence-based approach represents a significant paradigm shift in the JPME educational system. This change, however, requires more than just a subject matter change to the curriculum and the integration of even more technology. It requires the JPME enterprise leadership mindset to change as well. Developing the habits of mind necessary to set the conditions for the development of the education required by future Joint leaders' demands that senior leaders develop a whole new set of competences. These competences must mirror those of which are sought in the educational system: adaptability, agility, breadth of view, abstract reasoning, comfort with ambiguity and uncertainty, and innovative thinking. Thus, JPME senior leaders must empower their faculty to make adjustments as they see fit, operating on intent, and in an environment of trust. Senior leaders must be comfortable with uncertain specific outcomes and willing to accept a range of potential product outcomes. Finally, they must be willing to invest in faculty development and the technology needed to remain responsive and relevant.
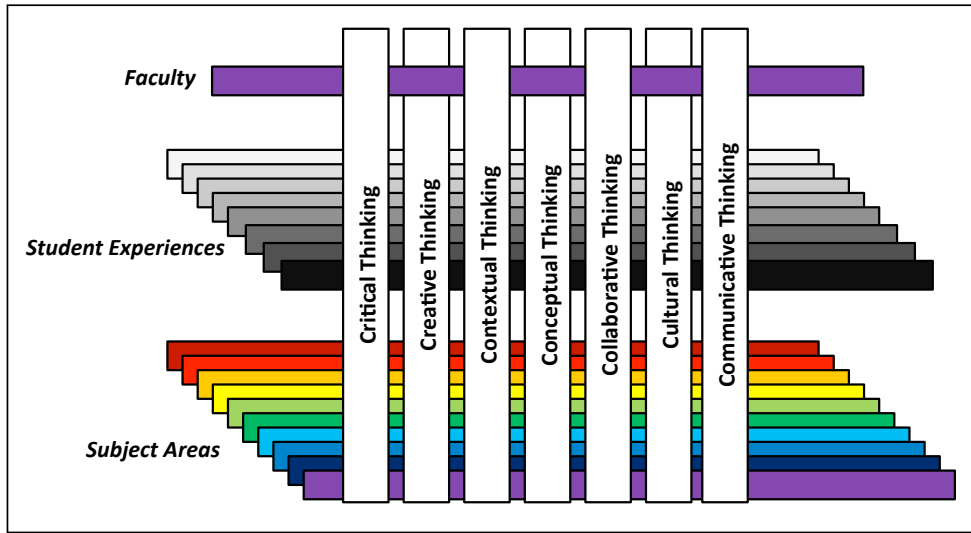

Figure 3: Competence-based Approach

Strengths and Needs of a Competence-based Approach

A competence-based approach to education depends upon a faculty that is agile, adaptive, and comfortable leveraging student expertise and experiences. In this approach, educators will understand the destination—in this case, the development of competences—but may not know the learning pathway or specific subject matter ahead of time. Comfort teaching in an ambiguous and somewhat uncertain learning environment is a hallmark of competence-based faculty and an agile organization.[26] Strengths of this approach are that it:

- facilitates consistency of student competences within institutions and across the DoD enterprise while allowing for Service or Joint institutional subject matter to frame the educational experience,

- leverages specific faculty expertise and experience,

- is student-centric and andragogical,

- allows application of education across a range of expected duties and tasks,

- meets a broad range of organizational and institutional competency needs,

Recommendation

Current JPME Institutional practices are relics of the past century, focusing upon developing a limitless reservoir of knowledge used to produce expected outcomes to somewhat certain conditions. Today's Joint professional military educational environment must take on new educational approaches that meet 21st Century global security environmental demands and organizational/staff needs. Any new approach must leverage best practices in teaching and learning, and leverage technology to streamline classroom efficiency and effectiveness. Programs and courses must be designed to feature learning activities that link directly to explicit competences with real-world application.[27]

Therefore, it is recommended that the JPME community adopt a competence-based approach to education. A competence-based approach meets the demands of the 21st Century, demonstrates institutional effectiveness, and ensures academic consistency across the JPME community. In addition, it ensures a more consistent outcomes-based qualification of graduates, and encourages a more coherent approach to planning and delivering educational programs at all levels of PME.[28]

United States Marine Corps Gunnery Sergeant Jacob Franks and members of 3rd Battalion Princess Patricia's Canadian Light Infantry Recce Platoon, 3 Section together as part of Exercise RIMPAC, 28 June 2014.

across Joint and Service communities. Today's senior Joint leaders are demanding agile and adaptable military leaders who can think "their way through uncertainty."[30] The same competence must be demanded from JPME institutions.

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A 21st Century competency-based educational framework leverages the seven competences of critical thinking, creative thinking, contextual thinking, conceptual thinking, collaborative thinking, cultural thinking, and communicative thinking[29] to gain a deeper and broader understanding of the issues facing the 21st Century Joint force. Building upon specific student experiences and expertise, a competence-based educational approach leverages specific subject matter providing students with the competences needed by planners, programmers, operators, and staff officers

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CFB Kingston Base Photo, Photo 205632

RMC graduation 2009

General Culture as School of Command: Training our Young Officers

by Danic Parenteau

Introduction

One is not born an officer, but becomes one. The path that leads a young man or woman to acquire the skills, knowledge, and ethos of an officer fit to exercise command are, of necessity, rigorous and selective. Not just anyone can become an officer. Training professionals in the management of violence[1] is one of the essential missions of the Canadian Armed Forces (CAF), and, in particular, of the Canadian Military Colleges (CMCs).

What type of initial training is the best for producing 'good' officers? What type of officers will the CAF need in the coming years? Is the training currently being given in the Canadian Military Colleges the most appropriate for training the officers of the future? This article reflects upon these questions and offers a few suggestions in response.

Should officer training be adapted to the political context?

Recent studies and *analyses of* and *reports on* the CMCs all emphasize the need for regular changes, sometimes big ones, to initial training for officers—changes that would reflect the shifting overall geopolitical context in which the CAF operates, and, in particular, the major transformations affecting warfare and military operations. Because the missions in which the CAF participate change over time, initial training for officers should be reviewed periodically so that it can be adapted to those changes.

For example, in response to the growing importance of peace-keeping and peace-building operations in the post–Cold War period, the *Report of the RMC Board of Governors – Review of the Undergraduate Program at RMC* ("Withers Report") of 1998 recommended that the core curriculum be reinforced in the training given at the Royal Military College of Canada (RMCC) (Recommendation 13). The report's authors believed that it was important to ensure that young officers acquired a solid grounding in subjects such as Canadian military history, international affairs, civics, and international law. During the first decade of this century, under the influence of strategic thinking developed primarily in the United States, all Western armies were affected by the Revolution in Military Affairs. Because the new theatres of operations would be dominated by new technologies, it was important to equip officers with solid skills in that area. *Officership in the 21st Century: Detailed Analysis and Strategy for Launching Implementation* (Officership 2020), published in March 2001, expressed that new

concern, particularly in its Key Initiative 2: "Develop the technology component of the Common Body of Knowledge to be imparted to all officers."[2] More recently, in a much- remarked-upon article in the Winter 2011 issue of the *Canadian Military Journal*, "Brains and Brawn: Cultural Intelligence (CQ) as the 'Tool of Choice' in the Contemporary Operating Environment," Emily Spencer posited the need for better officer training with respect to "cultural intelligence." Basing her argument upon the Canadian experience in Afghanistan, she held that CAF officers must develop that essential skill: Quite simply, people are *a* key if not *the* key component to mission success in the contemporary operating environment (COE), a space characterized by complexity, ambiguity, volatility, change, and danger.[3]

What are we to take from the various recommendations made in these reports? In a little less than 20 years, we have moved from a vision of initial training for officers that was focused upon international affairs, to another emphasizing new technologies, then, more recently, to a vision based upon cultural intelligence. The reports' recommendations force us to recognize that *it is extremely difficult to predict the environments where the CAF will be called upon to intervene in the future, and, consequently, it is difficult to model initial training for officers based on that environment.* Who can know the nature of the primary operations that future CAF officers will have to command in 10, 20 or 30 years? What will be the nature of the real challenges facing the officer cadets we are training today once they are deployed in a theatre of operations as junior and intermediate leaders of operational units?

Modelling initial training for officers based upon contemporary operational experiences or upon the most recent changes in the military environment may not be the best way to prepare our young officers. Rather, we should take a *long-term perspective* when reflecting upon the best kind of training to give them.

Critical thinking anchored in a broad general culture in the service of the profession of arms

"The real school of command is general culture."

– *Charles de Gaulle*

In a context characterized by a high level of uncertainty, in which it is extremely difficult to predict what future CAF missions will look like, it is crucial that our officers develop the skills of *versatility* and *adaptability*. They must be able to excel in adapting their actions and making decisions in a range of new and unpredictable situations. How can we teach these skills? What type of training can best help our young officers master them? These skills must be acquired through the development of *critical thinking* anchored in *a broad general culture* in the service of the profession of arms.

"Critical thinking" is *the ability to exercise good judgment in determining the validity of theories, explanations or arguments by challenging them*. Critical thought is independent thought that is not overly influenced by any form of rigid, predefined thinking —for example, by training that is overly specialized or tailored for a single context, and therefore, not easily transferable to other contexts. Critical thinking is based both upon analytical ability and mature judgment.

"General culture" *refers to the type of knowledge associated with the great tradition of humanist thought. It aspires to a better overall understanding of human affairs*. This type of knowledge is generalist in nature and it focuses more upon the disciplines that are part of the social sciences (sociology, political science, history, anthropology, geography, etc.) and the humanities (literature, communication, rhetoric, philosophy, etc.), but it is also fundamental to the natural sciences (physics, mathematics, chemistry, etc.). General culture does not mean the absence of specialized knowledge. One does not develop general culture simply by refusing to specialize, or by haphazardly accumulating a large amount of knowledge in a wide variety of disciplines. General culture is based upon an overall vision that attempts to bring together a body of knowledge from a number of disciplines in a coherent and significant way. That vision involves the ability to put knowledge in context, to draw connections between it and other knowledge, and to identify the major principles or dynamics driving various

DND photo ET2014-7006-03 by Corporal Michael Bastien

DND photo AS2014-0045-006 by Sergeant Bern LeBlanc

that officer can have is a broad general culture. General culture is the essential faculty that enables the individual to handle unforeseen situations, according to Lieutenant-Colonel David Last in his article "Educating Officers: Post Modern Professionals to Control and Prevent Violence."[5] When he or she is in a new situation, for which, by definition, there is no 'turnkey solution' and no know-how that can be mobilized, the officer is left to his or her own devices to imagine the best possible course of action. Therefore, the officer must be capable of set-

phenomena, so that the same principles or dynamics can later be detected in other contexts.

Exercising command in any situation

Officers who possess strong critical thinking skills anchored in a broad general culture will be more versatile and adaptable when faced with new situations. Critical thinking, supported by general culture, will enable them to mobilize their intellectual resources to guide their actions and their decision making in order to exercise command and to successfully accomplish the mission.

On one hand, critical thinking anchored in general culture arises from a mindset that privileges independent learning. Officers who, early in their careers, develop this intellectual capacity characterized by curiosity, the acquisition of a good base of knowledge in a wide variety of fields, the ability to synthesize, analytical skills, and sound judgment *will be better able to learn independently*. They will be better able to benefit from their personal experiences as well as those of others, using what they learn from their environment to guide their actions and decisions for the good of their organization and their subordinates.

On the other hand, as part of their initial (and specialized) training, officers acquire a large quantity of technical skills and know-how that equip them to handle a wide variety of situations that they may face during their careers. Once they have internalized this know-how, most often by way of 'drills,' all military personnel—officers and non-commissioned members alike—should be better able to react quickly when exposed to a routine situation.[4] This know-how is acquired essentially through training and instruction.

However, when an officer is placed in a new situation, that is, a situation for which there is no pre-existing solution, *the best tool*

ting aside the predefined thinking patterns that were acquired during training and of relying upon his or her own intellectual resources and practicality. The critical thinking and general culture required can be developed only through education.

It could be argued that initial training for officers should focus primarily upon the acquisition of skills or knowledge specific to exercising command at the tactical level, and that the development of general culture should be left until later stages of officer training. After all, senior officers are likely to have more opportunities to build upon this culture, whether at the operational or the strategic level. But the development of critical thinking anchored in general culture is a cumulative process that occurs over the long term: it must begin in early adulthood and be strengthened for the rest of a person's life. Therefore, the development of that culture and thinking should be an important element in the initial training of officers.

Cultural intelligence

The long engagement of Canadian troops in Afghanistan—the CAF's longest since the Second World War—revealed serious shortcomings, particularly among officers, with respect to cultural intelligence, "…the ability to recognize and understand the shared beliefs, values, attitudes, and behaviours of a group of people, and to apply that knowledge toward achieving specific goals."[6] A number of studies have demonstrated that such an ability could, by acting as a real 'force multiplier,'[7] contribute to greater operational effectiveness, especially in theatres where success is also measured in terms of support to the civilian population, and even in missions involving aid to the civil power here in Canada.

The development of cultural intelligence should play a central role in initial training for officers. However, it will not be possible to acquire cultural intelligence except as part of general culture, since cultural intelligence is, in a sense, the anthropological or

ethnological dimension of general culture. It would be a mistake to consider cultural intelligence as a form of knowledge that is learned like any other, such as a technical skill or a form of know-how. It is actually more of a mindset that makes cultural differences more visible, rather than a skill. It can really only be developed by people who are already intellectually curious and are already able to employ critical thinking anchored in general culture.

The officer: Both warrior and cultivated person

"The nation that will insist upon 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 by cowards."

– *Sir William Francis Butler*

Anyone interested in the issue of whether critical thinking anchored in a broad general culture is essential for every officer must inevitably consider the specific nature of the environment in which that thinking is to be mobilized: the military environment. Some say that a good officer is defined by his or her proficiency in everything to do with the profession of arms. Officers must live up to their status of professionals in managing violence. As such, they must first demonstrate 'warrior' skills, namely, the skills required to lead troops in combat, which is the ultimate requirement of any armed force.

However, an officer does not function only as a warrior. To command and to exercise the sound judgment required for making good decisions, officers must also be able to draw upon considerable intellectual resources. They must have critical thinking skills supported by a broad general culture. In other words, an officer must be *a cultivated person*. Indeed, an officer cannot be a warrior without being a cultivated person, any more than he or she can be a cultivated person without being a warrior. Every good officer must be *both*. The two dimensions are inseparable for any good officer; they form a coherent whole that *must be embodied in the same person, who is aware of simultaneously personifying both dimensions* and using them in his or her command.

Certainly, it is difficult to reconcile the two profiles, since the qualities that make a good warrior and those that lead a person to develop critical thinking skills and to acquire a broad general culture are different in nature. In the general population, few people have the potential to become both battle-ready soldiers and people who possess both critical thinking skills and a broad general culture. In addition, a career as an officer is within reach of very few people.

For these reasons, initial training for officers should be designed to *train young men and young women who, from the outset, demonstrate the capacity to simultaneously develop the two desired qualities*. It is important that their training not separate the two dimensions, as that would be likely to mould warriors who are lacking in critical thinking skills, uncultivated and unfit to exercise command in new situations, or the opposite; intellectuals who are incapable of commanding troops in a theatre of operations. If we want to encourage our young officers to aspire to that ideal, we must provide them with a well-integrated, coherent training program that emphasizes both these two aspects of the whole.

RMC graduation 2014

Conclusion

In order to function in a new and unpredictable environment, officers must be versatile and adaptable. The best intellectual tool an officer can have for developing his or her skills is critical thinking anchored in a broad general culture. *Developing critical minds should therefore be an integral part of initial training for officers in the CAF and occupy a prominent place in the training given by the CMCs*. This training model is the one that will best serve the CAF, no matter what specific missions are entrusted to it in the future.

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This article was adapted from a section of the *Report on the Optimization of Royal Military College Saint-Jean* (co-authored with B. Mongeau), submitted to the Canadian Defence Academy in May 2014.

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3. Vol. 11, No. 1, p. 15. Other examples are the *Report of the Ministerial Committee on the Canadian Military Colleges* ("Martin Report," 1993), the *Report of the Officer Development Review Board* ("Morton Report," 1995), the June 2012 report by Major David Wu, "The Value of the Royal Military College of Canada" and the *Report of the Officer Development Board* ("Rowley Report," 1969).
4. In many ways, it could be said that this is one of the major differences that distinguishes a senior officer's sphere of responsibilities from that of a junior officer. A junior officer's responsibilities are essentially limited to ensuring that his or her subordinates achieve proficiency in those routines; a senior officer's extend well beyond that. The art of command cannot be reduced to mastering this know-how, essential though it is.
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Her Majesty's Canadian Ship *Calgary* (FFH-335) departs Pearl Harbor on 8 July 2014 for the 'at sea' phase of Exercise RIMPAC 2014. HMCS *Calgary* is the first of the city-class frigates to be upgraded.

DND photo IS2014-1025-05 by Sergeant Matthew McGregor

Bridging Maritime Gaps

by Martin Shadwick

The 19 September 2014 announcement that four of the long-serving stalwarts of the Royal Canadian Navy (RCN)—the *Iroquois*-class destroyers *Iroquois* and *Algonquin* (commissioned, respectively, in 1972 and 1973), and the Protecteur-class Auxiliary Oiler Replenishment (AOR) ships *Protecteur* and *Preserver* (commissioned, respectively, in 1969 and 1970)—would be paid off in the immediate future was far from a surprise, given the deteriorating materiel condition of the ships, their declining availability, and the illogic of investing scarce defence dollars in ships which, in any event, possessed little remaining service life. This was particularly so in the cases of HMCS *Algonquin*, which suffered "extensive damage to its port side hangar" in a 2013 collision, and HMCS *Protecteur*, which suffered serious damage in a February 2014 fire, and was subsequently deemed to be beyond economical repair.

Although official statements understandably sought to put the best possible face on the disposals—the DND Backgrounder, for example, allowed that the "retirements of these ships will generate *some* [emphasis added] loss in both capacity and capability for the RCN," while noting that "these losses…will be mitigated in the short-to-medium term as the RCN builds toward the future fleet"—the paying off of these ships, so far in advance of the arrival of their intended successors, does pose significant challenges. Interim measures will indeed help to ameliorate some of these challenges, but there is no escaping the harsh mathematical reality that these retirements represent 100 percent of the RCN's existing replenishment fleet, 66.6 percent of its area air defence/command and control destroyers, and—less obviously—a steep reduction in the fleet's embarked maritime helicopter capacity, although, admittedly, the AORs and destroyers did not routinely embark their full helicopter complements. Expressed another way, the RCN's destroyer and frigate numbers will decline to levels not seen since the late-1940s and early-1950s, prior to Cold War rearmament.

There are a number of intriguing mitigation options to 'hold the replenishment fort' pending the arrival of the *Queenston*-class Joint Support Ships (JSS). Fewer options are available in the case of the two destroyers (and, in due course, the final survivor of the *Iroquois*-class, HMCS *Athabaskan*). Official statements have noted that the first four modernized *Halifax*-class frigates (*Halifax*, *Calgary*, *Fredericton*, and *Winnipeg*) were, in any event already receiving enhanced command and control capabilities. Additional

mitigation for the capabilities of the *Iroquois*-class will be "provided through defence partnerships and allies until delivery of [the] new Canadian Surface Combatant (CSC)." It also has been pointed out that on-going modernization and life-extension efforts on the *Halifax*-class and a host of projected additional upgrades—will produce a highly-capable frigate, although availability will continue to pose challenges while the frigates are in dockyard hands. In retrospect, it is even more unfortunate that the Mulroney government did not pursue—for financial, contractual, and other reasons—a scheme to build some of the later *Halifax*-class frigates to a stretched design, thereby providing future growth potential for an area air defence missile system. The acquisition, by lease or purchase, of surplus allied warships possessing area air defence and command and control capabilities as a gap-filler pending the arrival of the CSC appears at this juncture to be a non-starter.

Conversely, on the replenishment front, analysts and pundits have been quick to champion such options or supposed options as the lease or purchase of one or more surplus *Supply*-class fast combat support ships from the United States. The Dutch replenishment ship HNLMS *Amsterdam*—a vessel broadly comparable, except in age, to the *Protecteur*-class would no doubt have figured in the current Canadian debate but had already been sold, perhaps unfortunately, to Peru in July of 2014. The *Supply*-class, a fleet of four fast combat support ships commissioned into the United States Navy between 1994 and 1998 and subsequently transferred, with greatly-reduced civilian crews, to the Military Sealift Command,

is a very different proposition. Gas turbine-powered and far larger and of much heavier displacement than the *Protecteur*-class, the *Supply*-class vessels are, not surprisingly, expensive to operate—thereby helping to explain the American decision, the *controversial* decision, to commence phasing them out of service. Canadian sources appeared to rule out such a purchase. With respect to leasing, Vice-Admiral Mark Norman, the Commander of the RCN, observed in a 7 October 2014 interview with the Ottawa *Citizen*, that "…we're unlikely to see a dedicated short- to medium-term capability through a lease but we haven't ruled it out yet."

In addition to enhanced partnering arrangements with allies—effectively the default replenishment mitigation option outlined in the Backgrounder of 19 September 2014—other, or supplemental options could conceivably include a Ship Taken Up From Trade (STUFT) and converted to naval replenishment requirements, or a Canadian variation of the 2013 arrangement that saw a Spanish replenishment ship, SPS *Cantabria*, attached to the Royal Australian Navy (RAN), while an Australian replenishment ship, HMAS *Success*, was in dockyard hands. A variation on this theme that utilized a German *Berlin*-class vessel could be most intriguing and indirectly help to facilitate the eventual service entry of the RCN's forthcoming *Queenston*-class Joint Support Ships—effectively half-sisters of the *Berlin*-class. The STUFT option could offer attractions on several levels too, particularly if the conversion and leasing (or outright purchase) costs were reasonable and the conversion(s) could be undertaken in a Canadian shipyard (i.e., Davie) that was

DND photo HS2002-10260-03 by Master Corporal Michel Durand

From Right to Left: HMCS *Algonquin*, HMCS *Protecteur*, and HMCS *St-John's* in formation while conducting a replenishment at sea (RAS).

not part of the National Shipbuilding Procurement Strategy (NSPS). Indeed, some might even suggest retaining a STUFT conversion as a third, albeit less capable AOR/JSS in the event that a third such vessel was required, and an additional *Queenston*-class vessel proved unaffordable. At least partially representative of the attractions of STUFT was the Australian experience with HMAS *Sirius* (ex-MT *Delos*), a commercial tanker that was acquired while under construction in South Korea and converted to an AOR, albeit to meet long-term rather than interim requirements. A detailed and most laudatory, assessment of the *Sirius* project was conducted by the Australian National Audit Office in 2007.

One of the great ironies of the quest for replenishment mitigation options is that even if Canada could locate a stellar financial and operational opportunity to acquire by lease or by purchase one or two second-hand but modern replenishment ships from an ally, or perhaps something along the lines of the *Delos/Sirius* arrangement, they could be seen to collide with the made-in-Canada foundation of the National Shipbuilding Procurement Strategy and the arrangements already in place for the *Queenston*-class, thereby rendering such opportunities 'non-starters' for the medium-to-long term, and perhaps even in the short-term. Moreover, analysts and pundits with reservations about the NSPS will almost certainly argue that replenishment capability mitigation would not have been a problem, or perhaps even necessary, had Ottawa opted for the British and Norwegian approach of securing lower-cost, and expeditiously built, replenishment ships from South Korea. They would argue as well that foregoing *home-built* replenishment ships would have altered shipbuilding priorities, and thereby expedited construction of the Canadian-built Coast Guard icebreaker *John G. Diefenbaker*.

Irrespective of whether Canada opts for enhanced replenishment arrangements with allies, or chooses to combine such arrangements with some other option, time is of the essence. As Vice-Admiral Norman noted in a 27 September 2014 interview with *Defense News*, the retirement of the *Protecteur*-class creates "a significant gap for Canada that we need to look to mitigate as quickly and as cost-effectively as we can." Replenishment ships are valuable assets in their own right but, at root, they play an indispensable force multiplier role both at home and abroad. This is strikingly so at a time when the RCN's frigate/destroyer fleet is below its typical post-Cold War strength and at a time when multiple *Halifax*-class frigates are in, or *will be* in, dockyard hands for extended periods. If Canada opts purely for enhanced partnering arrangements with allies, it will mark the first time in more than 50 years that the RCN has lacked its own replenishment capability. Indeed, one could argue that it will be the first time in more than

The *Halifax*-Class frigate HMCS *Toronto* leads a fleet of NATO ships through the Black Sea on a training exercise during Operation *Reassurance*, 18 September 2014.

A CC-177 *Globemaster III* stands on the tarmac at CFB Trenton.

60 years given that the post-war light fleet carriers, initially HMCS *Magnificent* and later HMCS *Bonaventure*, were utilized to refuel destroyers and frigates. Additional support capabilities also were available from the escort maintenance ships HMCS *Cape Breton* and HMCS *Cape Scott*.

The definitive successors to the *Protecteur*-class, the *Queenston*-class Joint Support Ships *Queenston* and *Chateauguay*, are slated, optimistically, to many minds, for delivery in 2019 and 2020. A Seaspan-built variant of ThyssenKrupp Marine System's *Berlin*-class support ship—the lead ship of which, *Berlin*, commissioned in 2001, followed by *Frankfurt am Main* in 2002, and the substantially-newer *Bonn* in 2013—the *Queenston*-class ships will be able to provide 29 days of support (both fuel and supplies) to a Canadian Task Group, accommodate two CH-148 *Cyclone* maritime helicopters, and incorporate two dual-purpose RAS stations and a stern refuelling system for small vessels and submarines. For sealift, noted a PMO JSS presentation to a June 2014 National Shipbuilding Procurement Strategy (NSPS) Workshop at Dalhousie University, the *Queenston*-class will accommodate 50+ TEUs (twenty-foot equivalent units), as well as have the "potential for containerized payloads according to mission requirements"—

presumably a welcome reference to the HVAC, plumbing, and electrical utilities provided on their German half-sisters to support removable hospital or other (i.e., joint communications) modules.

By comparison to the *Bonn*, the Canadian ships will incorporate an enlarged operations room, thereby displacing the machinery control room to a lower location, revised armament, notably fore and aft *Phalanx* close-in weapon systems, the ability to operate and maintain two CH-148s, thereby requiring the displacement of some accommodation spaces, increased heating, venting, and air conditioning (HVAC) components, and insulation to accommodate colder and hotter areas of operation, the rearrangement of messing facilities, and two larger landing craft. In addition, surplus fresh water tanks will be "…repurpose[d]…to cargo fuel to maintain [the] same useable cargo fuel" as the *Protecteur*-class. All eminently sensible, but the *Queenston*-class short-sightedly dispenses with one of the distinguishing characteristics of the *Berlin*-class: a second heavy crane forward of the bridge. This omission dramatically reduces the self-unloading capability of the *Queenston*-class and undermines its claim to Joint Support Ship status. The elimination of the second crane almost certainly reflects a 'witch's brew' of ill-advised penny-pinching, the lack of a solid naval constituency

for non-core AOR/replenishment roles and army indifference, but that most assuredly does not make it a sound or prudent decision. This omission should be reassessed, jointly, on an urgent basis.

* * *

While on the subject of gaps in Canada's defence capabilities, this column would be remiss if it did not take note of reports at press time that Ottawa appears increasingly likely to acquire a fifth C-17A *Globemaster III*. This would be a most prudent development. As noted in a previous column (Vol. 13, No. 3, Summer 2013, pp. 76–79), such an acquisition would materially bolster Canada's strategic airlift capability, and significantly enhance availability and lines of tasking, provide valuable capacity when a C-17A is absent for heavy maintenance, maximize the return on investment already made in the existing C-17A fleet and infrastructure, avoid or reduce the need to charter commercial aircraft or rely upon the airlift resources of allies, extend the service life of the C-17A fleet, and provide an added hedge against unforeseen contingencies. Most importantly, perhaps, a strategic airlift fleet with credible critical mass is relevant to all branches of Canada's armed forces, to the full spectrum of military, quasi-military, and non-military roles, and to domestic, regional, and overseas operations. Conversely, failure to secure a fifth C-17A before Boeing's small run of 'white tails' is exhausted would represent a lost opportunity of the first magnitude.

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CMJ

DND photo TN2009-0129-47 by Corporal Igor Loutsiouk

Junior Leadership in Afghanistan (2006–2010)
'Testimonies of a Mission'

by Jos Groen

Netherlands: Dutch Veterans Institute

424 pages, 32.50 Euros

(Order via email bookswithamission@gmail.com)

ISBN 978 94 6228 152 3

Reviewed by Howard G. Coombs

*J*unior Leadership in Afghanistan is an unvarnished series of personal narratives that takes the reader through the Dutch involvement in Afghanistan from 2006 to 2010, with a focus upon the experiences of junior leaders in combat operations, particularly, but not exclusively, those in Uruzgan province. The author, Major Jos Groen of the Royal Netherlands Army, is uniquely qualified to put such a work together as he has served in mechanized infantry and personnel services, studied and taught leadership at the Royal Netherlands Military Academy, and has also deployed to Afghanistan and the Balkans. *Junior Leadership in Afghanistan (2006–2010) 'Testimonies of a Mission'* originated as a series of interviews intended to capture operational lessons over a four year period, and it is much more than the sum of its parts—it is an interesting and informative account of the Dutch tactical experience in Afghanistan.

This book is organized into two parts. The first portion contains individual narratives that are arranged chronologically, and the second is a thematic grouping of various perspectives under the primary headings of Preparation (for deployment), Execution (of the operation), and Reflection (after return to the Netherlands), with corresponding sub-headings. The majority of the testimonies are those of junior officers who served with combat and sometimes staff elements for a succession of deployments—twelve in all. At a more senior level are a number of accounts of those who commanded or served as staff in supporting or enabling organizations. These include the provincial reconstruction team, engineers, operational mentoring personnel, and liaison personnel. Of special interest to Canadians will be the Part One account, "A special mission," covering the force that acted as the reserve for Regional Command (South) from February to May 2007, and, at times, supported Canadian operations (pp. 299–311). Of particular note in Part Two of the book are the sections that deal with re-adjustment upon post-deployment. Overall, the themes and subordinate topics throughout this latter part are the same areas of concern and focus for other countries, and they are worth reviewing for Dutch cultural, institutional, and individual perspectives vis-à-vis these mutual matters of interest.

While reading this book, one is struck by the commonality of the Afghan mission experience for participating nations. This is manifested in the text through the personal leadership accounts of dilemmas posed by harsh climate and terrain, threats which are difficult to discern in advance, and the nuanced nature of the quandaries posed by culturally unfamiliar human terrain. All this comes through in a clear and unambiguous manner, and it reflects the Canadian experience. Additionally, the reader will be struck throughout by the introspective and self-critical nature of these narratives. They are not only rich in common experience, but are rife with transnational lessons.

As well, the dialogue created by these varied accounts over a four-year span shows the evolving nature of the NATO mission from a Dutch perspective. They also demonstrate the application of the whole of government construct using, not only security operations, but also capacity building in governance and reconstruction/development. Noteworthy is the pragmatism which comes through regarding what is *desired* and what is *possible* in terms of outcomes.

A delicate topic that has come to the forefront recently in Canada is also dealt with in the book, and that is the topic of suicide. The Dutch experienced their tragedies and dealt with them both in-theatre and out. The account of a suicide during deployment (pp. 75–78), its impact, and how it was handled by officers, non-commissioned officers, and soldiers, is moving in its sensitivity, and it provides much gist for individual reflection.

While a thoroughly enjoyable book, *Junior Leadership in Afghanistan (2006–2010) 'Testimonies of a Mission,'* is not without some areas that could have been improved. Firstly, it is a very dense book—over 400 pages packed with raw narrative organized chronologically and thematically. An index therefore would have been of great assistance. Secondly, while efforts have been made to make the recorded experiences accessible through the use of various appendices, such as maps, abbreviations, acronyms, organizations, and the liberal use of illustrations throughout the text, this work is not for the lay reader, being more suited for the military professional or those with a background in military studies. Finally, a contextual introductory chapter with a national overview of Dutch involvement in Afghanistan and a conclusion providing overall analytical perspective on the Dutch experience presented herein would have nicely tied this book together for foreign
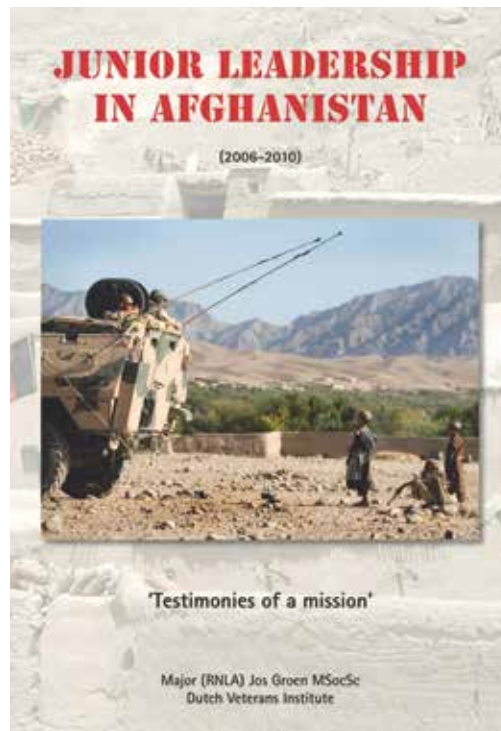
readers. However, to be fair, it was the author's explicit intent to have these testimonies stand alone.

Consequently, when all is taken into account, Jos Groen's work is very informative with many useful lessons identified for any military professional or researcher, regardless of nationality. *Junior Leadership in Afghanistan (2006–2010) 'Testimonies of a Mission'* provides the straightforward experience of junior officers during conflict, who were also simultaneously engaged in nation building. It also highlights the ill-defined and complex nature of the concomitant challenges experienced by tactical commanders and staffs. Moreover, given the paucity of English or French language works from countries such as the Netherlands, who were also involved in Afghanistan, this book provides a superb experiential *discussion of* and *reflection upon* the Dutch tactical contribution to the International Security Assistance Forces from 2006 to 2010. As such, *Junior Leadership in Afghanistan* is worth reading.

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Fighting to Lose. How the German Secret Intelligence Service Helped the Allies Win the Second World War

by John Bryden

Toronto: Dundurn, 2014

415 pages, $26.99 Soft Cover

Reviewed by Bernd Horn

This is a very intriguing, thought provoking book on the Second World War. Its premise is that the *Abwehr*, that is, the German Secret Intelligence Service, and particularly, its leader, Admiral Wilhelm Canaris, fought a secret campaign to prevent Britain from certain defeat in 1940/1941. The book begins strong by laying out the thesis and creating a foundation to build upon. The author uses the post-war interrogation of surviving senior intelligence officers to paint the picture of Canaris as an avid opponent to Hitler and his Nazi party.

Part I of the book is absorbing. It describes the ongoing battle of espionage between the great powers in the years prior to the start of the war. Importantly, it highlights the fact that the *Abwehr* was, by 1939, the most advanced and effective secret intelligence service operating, and that the British MI5 was arguably one of the most inept, which was in complete contrast to what the author indicates was the contemporary depiction of MI5 at the time as being highly effective. Bryden also lays out the opposition to Hitler and the attempts made by Canaris and his fellow conspirators to undermine and overthrow *der Führer* in the lead-up to the war, all, of course, failures, as history has shown.

The book takes a turn in Part II. The next 117 pages are a detailed account of the espionage war between Britain and Germany, a 'spy versus spy' narrative. This account is engaging, particularly the battle of double and triple agents. At times, the apparent ineptitude of the British intelligence authorities is shocking. The narrative is crisp, and, at times, it reads like a spy novel. The content is fascinating, and a number of important wartime issues arise. However, the link to the thesis of the book is tenuous. It is left to the reader to make a connection, or if there actually *is* one, between events described and the premise that Canaris was 'fighting to lose' by helping the British.

The author places a lot of emphasis upon the fact that German agents being sent over to Britain had cyphers and papers that were so primitive that capture was almost assured. Yet, he also points out that the British so badly managed their double agents, who, at the end of the war, were confirmed to have been triple agents, that it becomes logical that the Germans actually wanted their agents to be captured and 'turned,' since they were having so much success getting valuable information from their current crop of triple agents.

The book takes another turn in Part III, which makes up almost a third of the book. In this section, the author undertakes a detailed examination of the lead-up to the Japanese attack on Pearl Harbour on 7 December 1941. His research and narrative make a compelling case for those who argue the 'surprise' of the attack was the result of a Churchill/Roosevelt conspiracy that would finally push America into the war. The link to the *Abwehr* was the disclosure by one of the German triple agents of a number of microdots that held a long questionnaire received from the Japanese with specific queries on the military disposition of infrastructure and ships at Pearl Harbour in Hawaii. The text is exceptional, including great detail with respect to FBI and US military intelligence intercepts and decryption. However, again, the links are vague between the thesis of the book and the actual text. It is seemingly left to the reader to draw out the necessary assumptions and conclusions. Nonetheless, Part III is a powerful section that stimulates much reflection.
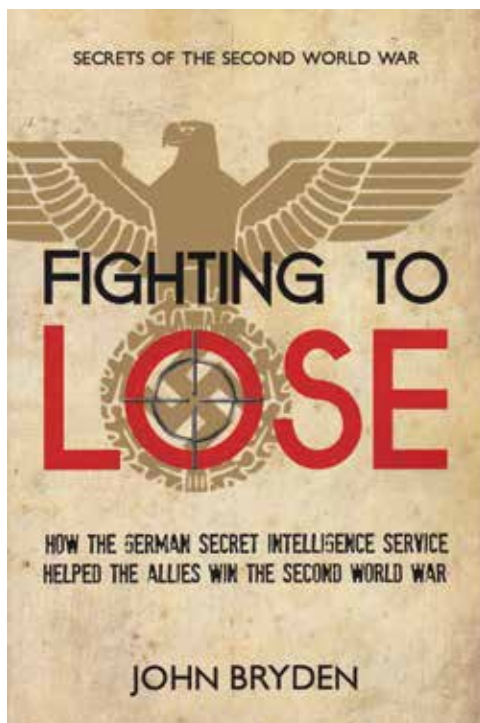
The final part of the book contains the analysis and epilogue, and it totals 33 pages. Therein, the author addresses and reviews myriad scintillating issues, ranging from the penetration of British security services by communist and fascist infiltrators, the ineptitude of MI5, the bombing of London and Churchill's role in deflecting the attacks on the RAF and from the centre of London to other civilian targets, and to the obvious *Abwehr* mistakes in preparing German agents sent to England. However, only seven pages actually address the thesis of the book, wherein the author tries to make a direct link between Canaris and his efforts to help the British. In the end, it is not the 'smoking gun' for which the readership might hope.

In sum, the book is very well written. The writing is exceptional and fast flowing. The research is equally first-class, and the book contains a wealth of endnotes that consist of excellent primary and secondary sources. It also has a superb select bibliography and a very comprehensive index. Important to note, however, is the fact that throughout the book, the author makes assumptions and conclusions to fill in gaps where there is missing evidence, many of which with readers may or may not agree. In all fairness, this is not surprising, since any work dealing with secret intelligence organizations, espionage, and conspiracies against dictators will suffer from a lack of hard evidence that prove theories conclusively, and *particularly* in this case, where files were destroyed due to the war, and records between the conspirators were not kept lest they fall in the hands of the secret police.

In conclusion, although I would argue the book fails to conclusively support its thesis, it is an extremely interesting read and a valuable tool to the understanding of some key issues in the Second World War. I unconditionally recommend it to anyone who has an interest in intelligence, espionage, and/or the Second World War.

Colonel (Ret'd) Bernd Horn, OMM, MSM, CD, Ph D, *is a former Regular Force infantry officer. Dr. Horn is also an adjunct professor of the Centre for Military and Strategic Studies at the University of Calgary, as well as an adjunct professor of history at the Royal Military College of Canada and Norwich University. Additionally, he is a (jolly good) Fellow of the Canadian Defence and Foreign Affairs Institute.*

How We Lead – Canada in a Century of Change

by Joe Clark

Toronto: Random House Canada, 2013

273 pages, $32.00

Reviewed by Wesley Stinson

Joe Clark is in a unique position to comment on the challenges that face both Canada's foreign affairs and domestic policies. As a long-serving Member of Parliament, Clark has been Canada's youngest prime minister, and has served also as both Minister of External Affairs and minister responsible for constitutional affairs. This breadth of experience and depth of knowledge is shared with the reader in *How to Lead Canada in a Century of Change*.

Instead of a memoir filled with stories of political success and failure laced with thoughtful musings on international affairs, *How to Lead* takes the form of an extended discussion between the reader and a former prime minister. This ease of flow allows for in-depth and engaging discussions on a broad set of topics. Clark sets out to identify in what ways Canada must take advantage of its tradition of democratic institutions and its diverse national strengths in order to be a more effective member on the international stage.

By understanding Canada's history of multilateral initiatives and diplomatic success, Clark envisions a Canada that will move forward in a 'brave new world' and 'punch above its weight.' Building upon principles first outlined by Louis St-Laurent in 1947, Clark's book lays out broad themes upon which both leaders and engaged citizens should reflect.

Clark discusses Canada's historic participation on the world stage, and criticizes what he sees as a step back from meaningful international engagement by the current government. The Canada / US relationship is dissected, arguing that instead of "sleeping with an elephant," Canada should see itself as "leading from the side." Along with Canada's other traditional ties (the Commonwealth, la Francophonie, and so on), this relationship should serve as a foundation to help create solutions as an "active, respected and independent member of the global community." Clark argues that this is best accomplished through a return to multilateralism and engagement.

Interspersed throughout the text, Clark's use of supporting evidence and anecdotes lend to the conversational style. The strength of his method shows through with the collage of facts and figures used to present the changes that have occurred since the end of the Cold War. Clark argues that these changes (globalism, the internet, free trade, and so on) should serve as guiding forces in policy and be taken advantage of for their strengths; not cause division and shift
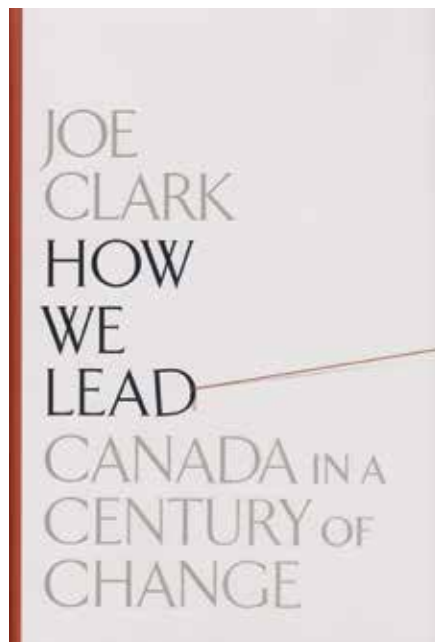
national focus solely inwards. This 'brave new world' will require a Canada instilled with a type of 'new thinking' to face challenges. This new approach must realize that countries now "…are a collection of human lives, hopes, fears and surprises and a broadening of aspirations, if not always opportunities." Canadian engagement is paramount.

Why then is this book pertinent for members of the Canadian Armed Forces and the defence community? Clark is slightly critical of the policies that led to Canadian military involvement in Afghanistan, but certainly never argues that the CAF should be a peacekeeping force whose sole mandate is to help turn swords into ploughshares. Instead, Clark envisions a strong and professional military capable of responding to a diverse array of government needs in complex operating environments. Both the Canadian Armed Forces and the citizens who make it u p are shareholders in Canadian society and they are important contributors to Canada's role on the international stage.

The modern Canadian Armed Forces and the defence community at large must understand its role in an active and engaged Canada. *How We Lead* provides a poignant look back at what has formed this nation's relationship with the world in the past, and what can help shape it for the future. As soldiers, citizens, communities, and as a nation, it is critical to understand our sphere of influence in effecting positive change if Canada is to be a world leader. Clark argues that it is up to both governments and people to "make the most of new circumstances," and Canada cannot be exempt from this challenge. *How We Lead* does not profess to have all the answers, but it certainly gets one thinking in the right direction.

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DND photo ET2014-7218-01 by Corporal Michael Bastien

Her Majesty's Canadian Ship *Regina*'s CH-124 *Sea King* helicopter deploys flares during a routine flight operation in the Indian Ocean, 14 August 2014.