



Cover

Welcome Home ~ Celebrating the Anniversary of VE Day 1945
by Silvia Pecota



Canada's Commitment to NATO: Are We Pulling Our Weight?



Future Soldiers: "The Few ..." ~ Military Personnel Trends in the Developed World

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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

Well, autumn is almost here in the Great White [not yet] North, and with it, our autumn edition of the *Canadian Military Journal*.

This time out, Colonel John Alexander, a very experienced tactical aviation and special operations pilot, takes the point with an assessment of Canada's recent spending commitment to national defence made at the 2014 NATO Summit held in Wales, and what the effect of this commitment will have upon Canada's specific NATO commitment. While Alexander believes that while Canada is unlikely to achieve the promised targets, he also maintains that the failure to do so "... does not reflect a reduction in Canada's commitment to NATO, either politically or financially."

Next, a highly experienced soldier who has seen service in three national armies and two wars tackles a very timely subject, that of future military recruitment. Tom St. Denis opines that there are issues currently developing as trends that raise such an acute military personnel problem for recruitment that they threaten to undermine both national and global security. "Five stand out as potentially the most deleterious: ageing and shrinking populations; increasing obesity and lack of fitness among youth; disinclination for military service; rising defence costs; and the influence of technology." St. Denis also asserts that these developing trends are "... shared more-or-less equally by all advanced societies."

Suicides have become a very significant issue in the Canadian military in recent years, and historians Matthew Barrett and Allan English remind us that there have been more deaths by suicides in the Canadian Armed Forces since 2002 than mission deaths in the twelve years Canada was engaged in the war in Afghanistan. However, the authors maintain that this is not a new concern, and that over the years, a number of cases "... have come to public attention, especially those *during or immediately after* a major conflict in which Canada has been involved." They use two case studies, one centering on the immediate aftermath of the First World War, and a more contemporary one from the Afghanistan conflict to help assess how public attitudes towards mental stress injuries and suicides involving Canadian servicepersons changed during the course of each conflict. Barrett and English then "... assess how destigmatization efforts might be improved by using historical evidence, and how this knowledge could be leveraged to help facilitate a more productive and open dialogue about mental health and suicide in the military."

Although at the time of writing, no decision has been made as to what Canada's next generation fighter aircraft will be, defence analyst Richard Shimooka believes that an examination of the Canadian Air Force's historical transition to the CF-18 *Hornet*

in the early-1980s is warranted, "... in order to understand some of the potential weaknesses that surfaced, and to provide some consideration for Canada's future transition towards a next generation fighter."

In a similar fashion, in terms of lessons to be learned from the past, Lieutenant-Commander Jeff Dargavel, a very experienced sailor, offers an interesting comparison between the United States Navy, Marine Corps, and Coast Guard unified maritime strategy, as published in their *A Cooperative Strategy for 21st Century Seapower*, and Emperor Augustus Caesar's strategic aim to provide security for the Roman Empire without undermining the Empire's economic base or compromising its hegemonic political order. Dargavel asserts "... that Julio-Claudian emperors [31 B.C. – 68 A.D.] employed seapower to protect and maintain their empire in the same fashion that the U.S. uses seapower today to maintain its hegemony and position as the world's superpower."

We then move on to our two opinion pieces, which, once again, are very diverse in their subject matter. First, combat engineering officer Major Anthony Robb offers a very candid assessment of the need for a critical healthy exchange of negative feedback in the Canadian Forces Personnel Appraisal System (CFPAS). Robb suggests that while the relatively-recent After Action Review (AAR) process with tenets of continual learning and collective growth through a 'no thin skins' approach has permitted a more honest exchange of feedback at the *macro*-level, "... a refreshed approach is needed at the *individual* level." Next, in response to Major Mike Draho's comments with respect to the Canadian Armed Forces' proposed FORCE Incentive Program in the last issue on incentivised fitness, Dr. Mike Spivock, a Senior Officer—Human Performance Research within the CAF Directorate of Fitness, suggests that Major Draho's opinions "... appear to be based upon some inaccurate interpretations of the facts." To that end, while grateful to Major Draho for raising the issue, Dr. Spivock provides some elaborative background on this complex and important initiative.

Then, our own resident commentator Martin Shadwick takes a look at some *historical* prescriptions for Canada's defence needs, and compares them to *recent* contributions to the process of determining those needs.

Finally, we close with a quartet of book reviews that hopefully will be of interest to our readership.

Until the next time.

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



NATO photo

NATO and French flags flying at half-mast, 8 January 2015, at NATO Headquarters in honour of the victims of the terrorist attack at the office of the Charlie Hebdo magazine in Paris.

Canada's Commitment to NATO: Are We Pulling Our Weight?

by John Alexander

Colonel John Alexander, CD, has served in the Canadian Armed Forces for the past 25 years and holds a Bachelor of Arts in History from Western University, and a Master of Defence Studies from the Royal Military College of Canada. A tactical aviation and special operations pilot, he commanded 427 Special Operations Aviation Squadron in Petawawa, Ontario, and has held numerous appointments at the tactical, operational and strategic levels. A recent graduate of the NATO Defense College in Rome, Colonel Alexander is currently Commander Task Force El Gorah in northeastern Sinai in Egypt.

“As a Conservative government we have the same philosophy on defense budgeting that we do on any other budgeting, which is we don’t go out and just specify a dollar figure and then figure out how to spend it. We go out and figure out what it is we need to do and then we attempt to get a budget as frugally as possible to achieve those objectives.”¹

~ Prime Minister of Canada, Stephen Harper

Introduction

Following the most recent NATO Summit held in Wales, Canada along with all alliance members, committed to “reverse the trend of declining defence budgets, to make the most effective use of our funds and to further a more balanced sharing of

costs and responsibilities.”² The alliance members accepted as “guidance”³: to continue to spend a minimum of 2 percent of individual national GDP, or where a country is currently spending less than 2 percent, then to increase spending within the next ten years to 2 percent. A similar commitment was made to spend “20 percent of their defence budgets on major equipment, including related Research & Development,” or, where they are not currently doing so, to increase to this percentage within ten years.⁴ And lastly, nations agreed to enhance interoperability and “... that their land, air and maritime forces meet NATO agreed guidelines for deployability and sustainability and other agreed output metrics.”⁵ In 2013, Canada spent the equivalent of 0.89 percent of GDP on defence.⁶ Among G7 nations, Canadian defence expenditures as a percentage of GDP are the lowest, even behind the ‘cash-strapped’ nations of Europe.⁷

Despite Canada’s commitment at the Wales Summit, a number of questions remain regarding future levels of Canadian defence expenditures and their effect upon Canada’s NATO commitment, particularly in light of Prime Minister Harper’s comment highlighted above. Are political commitments like those coming out of the Wales Summit largely symbolic in nature without an expectation of substantive follow-through by contributing nations? More pointedly, to what degree is Canada actually prepared to meet her commitment? This article will demonstrate that Canada is unlikely to achieve these targets, based upon historical precedent, and based upon recent indications given by the Government of Canada. However, despite



NATO Secretary General Anders Fogh Rasmussen and the Prime Minister of the United Kingdom, David Cameron, welcome Stephen Harper, Prime Minister of Canada, to the Wales Summit.

this, it will be argued that the failure to achieve these targets does not reflect a reduction in Canada's commitment to NATO, either politically or financially.

What Is Meant by the Target of 2 Percent GDP?

Before attempting to analyse whether Canada will meet the targets that she committed to at the Wales Summit, it warrants examining the meaning and scope of that commitment. The targets are measured as a percentage of GDP. The first criticism of this type of target mirrors common criticism of GDP as a measurement of economic growth and capacity in the first place.⁸ A common, accepted measure of GDP is necessary to allow for a common understanding of commitment levels.

This criticism translates across to the analysis of the absolute amount of defence spending used to calculate the 2 percent. The manner by which NATO members report spending towards their military is not consistent across the alliance, and therefore, the manner of comparing them has always been a challenge.⁹ A dollar (or pound or euro) in the hand of one member's military is not the equivalent of a dollar in the hand of another. Spending is reported differently. It may appear as operations in one budget, and personnel costs in another, or even as military spending in one budget, and other departmental spending in another, and how the funds are used will also

“A further criticism of a military defence spending target based upon a percentage of GDP is that it fails to take into account a country's ability to pay.”

differ among nations. Factors at issue include how much money nations spend towards operations, capital equipment acquisitions, personnel costs, and real property management. These differences demonstrate the difficulty of using this type of measurement to determine real levels of military investment and financial support, as it is the responsibility of each reporting nation to identify how the funds have been spent.

A further criticism of a military defence spending target based upon percentage of GDP is that it fails to take into account a country's ability to pay. In considering what it means to be a nation that can 'afford' to pay, there are a number of possibilities, two of which are considerations of a nation's GDP per capita, and national debt levels. The GDP per capita analysis provides a context that calculations based simply upon aggregate GDP do not. It is clear that \$2 million in military spending in a country with

a GDP of \$100 million impacts that country differently if it is supporting a population of 100,000, or a population of 10,000, although both situations represent a 2 percent contribution level. However, even with this added level of analysis, it does not go far enough to answer how much a country can *afford* to pay. One must also consider a nation's debt load. This calculation subtracts the public debt from GDP, and calculates the percentage of the surplus (per capita) that is expended on defence. One can see the effect of these two additional considerations in the following: On a per capita

basis, Canada's military spending ranks tenth out of 27 nations, contributing \$537 per individual citizen towards defence.¹⁰ When national debt as a percentage of GDP is then factored in, Canada ranks fifth overall.¹¹ In the cases of Greece, Italy, Portugal, and Belgium, their national public debt exceeds their GDP. It should be clear by now that the simple funding formula of 2 percent of GDP towards defence spending is an insufficient metric for determining how much each partner of the alliance *should* be committing.

In summary on this issue, a target of 2 percent of GDP for defence spending is a crude measurement. There is a multitude of other ways to determine the fair contribution of each nation towards the overall shared responsibility for collective defence that could have been used. Katarzyna Zukrowska, in *The Link Between Economics, Stability and Security In A Transforming Economy*, argues that determining the appropriate level of defence spending per nation is best arrived at through an appreciation of the linkage between the triad of security, stability, and economy within each nation.¹² In other words, the appreciation for threats to one's security, balanced against the stability in 'the neighbourhood,' and the health of the national economy should combine to dictate the necessary level of funding by nations towards defence. This represents a far more nuanced analysis than that employed in the 2 percent per GDP Wales Summit commitment.

Is a Percentage Target Even a Meaningful Measure?

Ironically, it is not clear that meeting the 2 percent of GDP target will actually *increase* or even *maintain* current levels of defence spending. Were all nations to meet their respective 2 percent of GDP defence spending target within ten years, significant changes to the funding levels of most countries would have to occur. In Canada's case, the defence budget would double, while at the extreme, Lithuania's defence budget would increase 278 percent.¹³ The Wales Summit declaration commits Allies "... to reverse the trend of declining defence budgets."¹⁴ Beyond the 20 percent commitment to major new equipment, including related Research & Development, nothing contained within the declaration defines how Allies are to expend their defence budgets.

A percentage target in no way addresses *how* that money is being spent. Canada, for its part, has long contended that it is not strictly about how much the military is funded, but rather, how efficiently those funds are being expended. For example, the US spends 34 times the amount that Canada spends on defence. However, the US military is only 22 times the size of Canada's military.¹⁵ This *could*, but *does not* mean that United States' defence spending is inefficient. However, absent from this raw comparison of reported funding levels is how that funding is allocated, for example, the proportion of declared funding spent on research and development, various alliance funding (i.e. NATO) or other global commitments, such as military training provided to developing nations. These amounts vary widely for each nation. By way of example, in 2012, the US carried 22 percent of NATO's Common-Funded Budgets and Programs, while Canada's share totalled 6.09 percent.¹⁶ As a percentage of each nation's budget, the portion committed towards NATO is substantially higher from Canada than the United States.

Similarly, if one were to compare Canada to Italy, two countries committing roughly \$18.9B US to defence spending in 2013, it becomes readily apparent how differently two countries can expend their military budgets. Canada expends 49.7 percent of its budget towards military/civilian salaries and pensions, while Italy expends 76.9 percent for the same. Under combined Operations and Maintenance (O&M) and Research and Development (R&D), Canada expends 30.3 percent of its budget, while Italy expends 7.5 percent.¹⁷ This demonstration is not intended to shame any nation, but rather, it serves to demonstrate that merely addressing military expenditure as a percentage of GDP does not address the efficiency with how those funds are utilized.¹⁸ The need for efficient spending is a theme of the current Canadian government, as noted earlier herein by Prime Minister Harper.

For the Sake of Argument ...

For the sake of argument, assuming that the 2 percent of GDP target for defence spending is a valid target, is Canada likely to reach that goal? In order to answer this question, one must look at Canada's historical levels of defence spending, and at the current government's level of commitment to the target, as evidenced in its public statements.

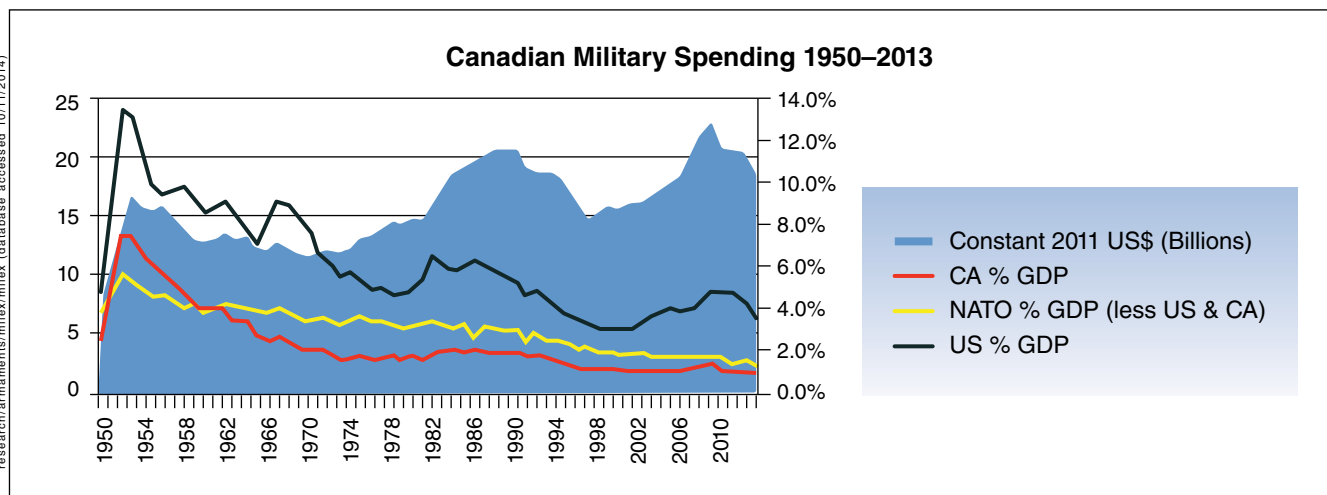


Figure 1 – Data compiled from Stockholm International Peace Research Institute

www.sipri.org/research/armament/milex/research/armament/milex/research/armament/milex (Database accessed 10/11/2014)

Canada's Historic Defence Funding Levels

An analysis of Figure 1 demonstrates that Canada has not kept pace with the average level of defence spending by NATO countries (in terms of percentage of GDP) since 1962. While Canada's reduction in defence spending is not unique—an examination of the budgets of NATO members over recent years demonstrates that virtually every country has been reducing funding for their militaries, including the United States¹⁹—Canada's reductions have been more significant than the NATO average. As noted by Ivan Ivanov, a visiting Assistant Professor at the Department of Political Science, University of Cincinnati, in *Transforming NATO: New Allies, Missions, and Capabilities*, “Canada, the Netherlands, Belgium, Denmark, Luxemburg, and Spain formed another group of relatively rich countries with low defence spending.”²⁰

Political Will

In light of Canada's historical low levels of defence spending, it is likely that a very significant political commitment would be necessary for Canada to meet the 2 percent of GDP target. Given this, it is interesting that in the first public statement following the Wales Summit, Prime Minister Harper made no mention of the alliance members' funding pledge, but instead, chose to highlight Canada's ongoing (non-NATO) commitment towards the fight against terrorism, and, in particular, the fight against ISIL.²¹ Ironically, the Wales Declaration highlighted

that “the commitment to achieve a target of defense spending at 2 percent of Gross Domestic Product is an important political signal and demonstration of solidarity among the member states of the NATO Alliance.”²² Should the absence of any commentary by the Prime Minister of Canada on this significant commitment pose a concern to NATO alliance members? The answer to this, unfortunately, is not clear-cut. While lukewarm on the idea of meeting specific funding level targets, it is clear that Canada remains committed to collective defence through NATO. The effect of these opposed themes on Canada's NATO commitment bears exploration.

Should Canada Fail to Meet Its 2 percent of GDP Target, Will That Adversely Affect Its NATO Commitment?

Canada clearly remains committed to NATO. Speaking in an interview at the Economic Summit in London on 3 September 2014, Prime Minister Harper stated, “... where there is a common threat to ourselves and our allies, and where particularly our major allies the United States, but also the United Kingdom, France, are willing to act, the general position of the Government of Canada is that we are also willing to act and prepared to play our full part.”²³ Despite this clear commitment, is it likely that Canada's failure to meet the 2 percent of GDP target will adversely affect NATO? It will be argued herein that due to current sufficient NATO funding levels and Canada's self-interest, the answer to this question is likely to be ‘no.’



DND photo BN2013-0056-233 by Corporal Pierre Habib

CF-18 *Hornets* fly over Iceland during NATO Operation *Ignition* 2013.

How Much Does NATO Require?

It is easy to be sympathetic with Ivanov's observation of the United States' frustration with the apparent "unwillingness of European allies [and Canada] to contribute to collective defense," when, as of 2006, only seven allies were spending 2 percent or more of their GDP on defence.²⁴ This number of committed nations remained unchanged as of 2013. However, one question that begs asking, is how much does NATO require? Speaking to the Western Economic Association International Conference in June 2013, Adrian Kendry, Head of Defence and Security Economics in the Political Affairs and Security Policy Division at NATO Headquarters stated that "... the positive news is that the Alliance, as a whole, does have a pool of forces and capabilities sufficient to conduct the full range of its missions."²⁵ The Wales Summit emphasizes the requirement for an agreed output metrics to assess the interoperability and effectiveness of NATO nations' forces provided, although further fidelity to these metrics is not defined within the declaration.

At a policy level, there is a push to better utilize the resources that NATO currently possess. On 30 September 2011, NATO Secretary General Anders Fogh Rasmussen stated: "I know that in an age of austerity, we cannot spend more. But neither should we spend less. So the answer is to spend better. And to get better value for money. To help nations to preserve capabilities and to deliver new ones. This means we must prioritise, we must specialise, and we must seek multinational solutions. Taken together, this is what I call Smart Defence."

It is surprising, given Prime Minister Harper's statements at the beginning of this article that focus on the efficient use of resources, which the idea of Smart Defence does not seem to resonate back in Canada in any policy level documents within the Department of National Defence. The reasons are unclear as to why. Perhaps it is the physical separation between Canada and Europe, or the concern with losing sovereign control over one's forces when capabilities are pooled together. Either way, there is little indication emanating from Canada that it will in any significant way contribute towards Smart Defence in the immediate future. Despite this, NATO's current level of funding and its commitment to "spend better" suggest that Canada's failure to meet its 2 percent of GDP commitment may not have adverse consequences for NATO.

Output Metrics

The Wales Declaration called upon allies to "ensure that their land, air and maritime forces meet NATO agreed guidelines for deployability and sustainability and other agreed output metrics."²⁶ Canada's declaration on finding efficiency and arguing for better spending of defence dollars seems to be consistent with this goal. Beyond the Wales Declaration, nothing further has been published which quantifies or explains what those metrics will look like, or how they will be applied. It will be interesting to see what form these metrics take moving forward. Will these metrics consider, for example, the obligations of each nation's military beyond their NATO commitments? What is the balance of effort towards each nation being able to provide for their own national security and how much effort should they



DND photo IS2011-4028-2 by Master Corporal Shilo Adamson

Canadian Air Weapons technicians mount GBU-10 two-thousand pound bombs to CF-18s helping to protect the civilians of Libya, defined in United Nations Security Council Resolution 1973(2011), as part of Operation *Unified Protector*, 7 May 2011.

then be called upon to have dedicated directly towards the collective security of the alliance?

The Canadian Conundrum: An Envious Place to Be

The *Canada First Defence Strategy* articulates the three roles of the Canadian Armed Forces (CAF) as being, "... defending Canada, defending North America and contributing to international peace and security."²⁷ This articulation seems to imply defending Canada is the top priority. Yet, 'top priority' does not equate to 'highest funded.' An analysis of funding estimated to be expended for 2013, as reported by the Department of National Defence, demonstrates that funding towards International Peace, Stability and Security, the 'last in the chain,' will consume 77 percent of the \$2.6B earmarked for the three roles of the CAF. Defending Canada will consume 14 percent, and North American defence will consume 9 percent.²⁸ The reported funding does not include personnel, capital equipment, or real property costs associated with each role. Only the operations and management (O&M) costs are factored into the equation.

The unique geographic positioning of Canada, combined with a very low population density and immense geography, means that defending Canada would be very problematic were Canada to have a serious threat to its sovereignty.²⁹ Identifying the defence of Canada as a priority is easier than devising an actual defence policy achievable by the CAF, given the immense size of Canada when compared to the size of its military forces. In *The Future Security Environment: 2013-2040*, a publication recently produced by the Chief of Force Development within the Department of National Defence, it was noted that the CAF should be prepared to deploy "... in reaction to events that threaten Canada's sovereignty, national interests, key allies, or in an effort to contribute to regional and global security."³⁰ However, beyond identifying as a task the protection of Canada's territorial sovereignty, including the Arctic, no further mention is given to specific threats to her territory.

Fortunately, due to Canada's geographically opportune location, Canada has not been faced with a serious domestic threat.³¹ She has no direct threats to her sovereignty that necessitate a large domestic military presence for deterrence. Her single largest trading partner is also her greatest ally with which she shares a separate



HMCS *Charlottetown* (background) provides protection during Operation *Unified Protector*, 5 May 2011, as Belgian Mine Hunter M923 *Narcis* conducts mine countermeasure operations along the paths that ships use to get to the Misratah harbour.

military alliance in the defence of North America through the North American Aerospace Defence Agreement (NORAD). The two nations also jointly participate in several economic associations, such as the North American Free Trade Agreement (NAFTA), the Asia Pacific Economic Cooperation (APEC), and the Free Trade Area of the Americas (FTAA). Threats to Canadian sovereignty remain relatively low. The low threat to sovereignty permits the commitment of a greater percentage of operational funding towards UN, NATO, NORAD, and other coalition operations throughout the world.

Membership in the 'Big Boys Club'

A November 2004 Chief of Review Services report detailed the Canadian benefits from membership in NATO as: a "Seat at the Table" argument; a "United States" argument; a "European" argument; and a "Collective Defence" argument. NATO has provided, and continues to provide, Canada with "... access to a venue where it sits as an equal with other influential states"³² in an increasingly integrated world. Interestingly, when discussing the benefits of Collective Defence, CRS reported that "... enhancing the effectiveness of NATO will also support Canadian interests by discouraging the formation of smaller security pacts among NATO members."³³

"Fortunately, due to Canada's geographically opportune location, Canada has not been faced with a serious domestic threat."

The NATO alliance continues to serve Canadian interests for now and for the foreseeable future. The alliance provides Canada with a collective defence capability, although as demonstrated earlier, this is not as significant, given its relatively low threat exposure level. The most significant benefits Canada derives from membership in the alliance are an equal voice at the table.

DND photo HS2011-EO11-001 by Corporal Chris Ringlus

In this regard, Canada has a greater voice within the alliance than perhaps can be argued it has within the United Nations. However, as mentioned by Ivanov in *Transforming NATO: New Allies, Missions, and Capabilities*, the strength of that voice can be limited by the need for consensus within the alliance. He states that: “It is necessary to note that the lack of consensus and further commitment of the allies naturally reflects the alliance’s limited capabilities to meet the specific operational demands of the mission.”³⁴ In other words, it will be in Canada’s interests to remain within the alliance as long as the alliance can reach consensus when required.



NATO photo

Latvian and Canadian soldiers practice their marksmanship skills side-by-side during NATO Operation *Summer Shield*, 26 March 2015.

Canadian Concerns

The November 2004 Chief of Review Services report expressed concern “... with respect to Canadian contributions to projects in countries where audits are slow, or the audit trails are not solid.”³⁵ The question of accountability within NATO is all the more relevant now as several European nations are struggling with an increasing debt crisis and are looking to shrink defence expenditures. While a valid concern, it does not appear that issues of accountability are currently a significant factor affecting Canadian NATO contribution levels.

Canada’s Recent Commitments to NATO – ‘Boots on the Ground’

Despite concerns with respect to accountability within NATO, and the fact that Canadian defence spending as a percentage of GDP is at an unprecedented low level since the end of the Second World War, evidence suggests continued Canadian support for NATO operations. As noted by Benjamin Zyla, an Assistant Professor in the School of International Development and Global Studies at the University of Ottawa, in *Years of Free-Riding? Canada, the New NATO, and Collective Crisis Management in Europe, 1989–2001*, “Canada has demonstrated a dedication to the alliance that seems stronger than NATO’s collective commitment to itself.”³⁶ Canada demonstrated in Afghanistan that it was prepared to undertake a difficult mission in Kandahar province, and as a result, sustained casualties per capita higher than other alliance members. Canada is once again demonstrating commitment to international peace in contributing fighter and transport aircraft and Special Operations Forces to the (non-NATO) coalition fight against ISIL in northern Iraq.

Conclusion

Writing a year before the Wales Summit, Kendry noted, “... there can be no absolute reassurance concerning the commitment to 2 percent.”³⁷ Despite the Declaration committing to defence funding of 2 percent of GDP within ten years, and a commitment to dedicate 20 percent of defence funding to capital acquisition and Research and Development, there is little reason to believe Canada will achieve this goal. Lieutenant-General (retired) Jo Godderij, former Director General of the International Military Staff of NATO, addressed the NATO Defense College on 22 October 2014, expressing his personal opinion that the more significant messaging emanating from the Wales Summit was not whether nations would achieve the funding levels prescribed, after all ten years is a very long period in the political scape, but rather, that there is a commitment by member nations “to stop the decline” in military spending now and realise an increase.³⁸ And that perhaps, is the most significant message for Canada to take out of the Wales Summit. Canada enjoys a unique and enviable position within the alliance: her borders are relatively unthreatened, her economy is secure, and her ability to commit precious resources towards her various alliances is higher than most other nations. Canada demonstrates every reason to believe she will continue to deploy and sustain NATO missions in the future. Canada should continue to be seen as a reliable partner within the alliance for years to come.





NOTES

1. Privy Council Office, "Prime Minister Stephen Harper Economic Summit-London, England." *Economic Summit-London, England*. (Ottawa: HK Publications, 2014), p. 10.
2. North Atlantic Treaty Organization, *Wales Summit Declaration: Issued by the Heads of State and Government participating in the meeting of the North Atlantic Council in Wales*, 2014, para 14.
3. *Ibid.* The paragraph preamble to the 2 percent commitment in paragraph 14 states: "Taking current commitments into account, we are guided by the following considerations:" This language certainly leaves open to individual nations to identify how far towards the commitment they can realistically achieve.
4. North Atlantic Treaty Organization, *Wales Summit Declaration ...*, para 14.
5. *Ibid.*
6. IISS. *The Military Balance 2014*. (Abingdon: Routledge for the ISS, 2014), p. 486. NATO officially reports a figure of 1 percent. However, the means of reporting/accounting differs between sources. For consistency in comparing nations, the *Military Balance 2014* is being utilized.
7. Roland Paris, "Is Canada Pulling Its Weight in NATO?" *Centre for International Policy Studies*. May 9, 2014, accessed 27 September 2014, at <http://cips.uottawa.ca/is-canada-pulling-its-weight-in-nato/>.
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9. Ivan Dinev Ivanov. *Transforming NATO: New Allies, Missions, and Capabilities*. (Plymouth: Lexington Books, 2011), p. 26. Dr. Ivanov is a visiting Assistant Professor at the Department of Political Science, University of Cincinnati. He has also taught at Georgetown College and Muskingum University. His regional focus is Europe and the Middle East, as well as various aspects of international cooperation, politics of transition and economic development.
10. Based upon current statistics as reported by the Central Intelligence Agency's World Fact Book at <https://www.cia.gov/library/publications/the-world-factbook/geos/xx.html>. Accessed 11 October 2014.
11. Formula = Defence expenditure per capita/(GDP per capita – Debt per capita).
12. Kataryna Zukrowska, *The Link Between Economics, Stability and Security In a Transforming Economy*, at <n.d. www.nato.int/docu/colloq/1999/pdf/269-283.pdf>. Accessed 11 October 2014, p. 270.
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15. IISS. *The Military Balance 2014*. (Abingdon: Routledge for the ISS, 2014), p. 486.
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36. Benjamin Zyla, "Years of Free-Riding? Canada, the New NATO, and Collective Crisis Management in Europe, 1989-2001," in *The American Review of Canadian Studies*, Vol. 40, No. 1 (2010), p. 1 Benjamin Zyla is an Assistant Professor in the School of International Development and Global Studies at the University of Ottawa. Before coming to the University of Ottawa, he held a Social Sciences and Humanities Research Council of Canada (SSHRC) Postdoctoral Fellowship, and was a fellow at the Europe Center at Stanford University, the Centre for International Relations at Queen's University and the Centre for International Policy Studies at the University of Ottawa.
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38. With kind permission of Lieutenant General (retired) Jo Godderij, NATO Defence College, 22 October 2014.



Major Thamer leads his paratroopers to their staging area to conduct an exercise in the Oleszno training area of Poland, 4 July 2014, as part of NATO reassurance exercises.

Future Soldiers: “The Few ...” Military Personnel Trends in the Developed World

by Tom St. Denis

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Introduction

Even in peacetime, militaries are seldom untroubled institutions. They are almost always beset by a multitude of concerns, some technical in nature, others financial or societal, and all, to some extent, political. However, a concern currently facing the militaries of the developed world approaches the existential, to wit: where will they get their soldiers?

Evidence for such a concern emanates from population studies,¹ human-resources research² and defence-technology literature.³ Taken together, the issues such works raise a military personnel

problem in the developed world so acute that it threatens to undermine not only national security but also global security. These issues qualify as trends in that they are developing, and show a marked inclination to worsen. Five stand out as potentially the most deleterious: ageing and shrinking populations; increasing obesity and lack of fitness among youth; disinclination for military service; rising defence costs; and the influence of technology. These are broad-stroke trends shared more-or-less equally by all advanced societies. They were selected for study because of this and because each bears decisively on the human element. From a military perspective, the first three manifest worrisome features of developed-world populations: at once too *old* for military service, too *unfit*, and too *uninterested*. Rising defence costs reflect rising personnel costs,⁴ while technology influences military life as ubiquitously as it does civilian life.

The Trends

Ageing Populations. The trend in population ageing is a combination of both falling fertility rates and substantial increases in life expectancy.⁵ Since the end of the Second World War, and particularly since the 1970s, mortality among the aged has fallen continually—in some countries, the pace is actually accelerating.⁶ Average life expectancy in the developed world rose from 76 years in 1990 to 80 years in 2010.⁷ In the same period, the average fertility rate in the developed world

remained steady at 1.7. The fertility rate refers to the average number of children born per woman in a given country, with the *sustainability rate* (at which the population replaces itself) being at least 2.1 children per woman. Among advanced countries in 2010, the average fertility rate in Germany, Italy and Japan, for example, was 1.4; only New Zealand, at 2.2, and the United States, at 2.1, achieved stability.⁸ (See Table 1)

Low fertility exerts a major influence on population size. A study of developed countries projected that, by 2050, the populations of Poland and Germany will shrink by 16 and 14 percent respectively, and that only high rates of immigration will enable the populations of Canada, Spain, Sweden, and the UK to grow.⁹ Overall, by 2050, the world's population will have grown by two-to-four billion people, but because of population decline in the more developed regions, it will have grown more slowly than in the past. And it will be older.¹⁰ In an all-but-irreversible trajectory, those aged 65 years and older are becoming both more numerous than children and more numerous as a percentage of the population. By some estimates, they will soon represent one-quarter to one-third of many national populations.¹¹

An important consequence of increasingly fewer young people and longer-living old people is a change in the composition of the population – the age structure is distorted. The normal structure is a pyramid with few very old people at the apex, and increasingly larger cohorts as the ages get younger. By way of example, until the Industrial Revolution, people aged 65 and over never amounted to more than 2 or 3 percent of the population.¹² During the 19th Century, however, populations in the advanced countries began to age as fertility rates entered a period of sustained decline, until by 1950, the oldest population had about 11 percent of its members aged 65 and over. In 2000, that figure had climbed to 18 percent, and is currently projected to reach 38 percent by 2050.¹³ As the mid-20th Century 'baby-boomers' age, they swell the number of elderly at the top, while the middle section (the working-age population between 15 and 64) and the base (those aged 0 to 14) narrow considerably.¹⁴ (See Chart 1) Such a structure is not sustainable.

Country	Life Expectancy at Birth*		Total Fertility Rates**	
	1990	2010	1990	2010
Australia	77	82	1.9	1.9
Belgium	76	80	1.6	1.8
Canada	77	81	1.8	1.7
Denmark	75	79	1.7	1.9
Finland	75	80	1.8	1.9
France	77	81	1.8	2.0
Germany	75	80	1.5	1.4
Italy	77	82	1.3	1.4
Japan	79	83	1.5	1.4
Netherlands	77	81	1.6	1.8
New Zealand	75	81	2.2	2.2
Russia	69	69	1.9	1.5
Spain	77	82	1.3	1.4
Sweden	78	81	2.1	2.0
United Kingdom	76	80	1.8	1.9
United States	75	78	2.1	2.1

*Life expectancy at birth is the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life.

**Total Fertility Rate is the number of children that would be born to a woman if she were to live to the end of her child-bearing years and bear children in accordance with the age-specific fertility rate of the specified year.

Table 1: Average Life Expectancy and Average Fertility Rates

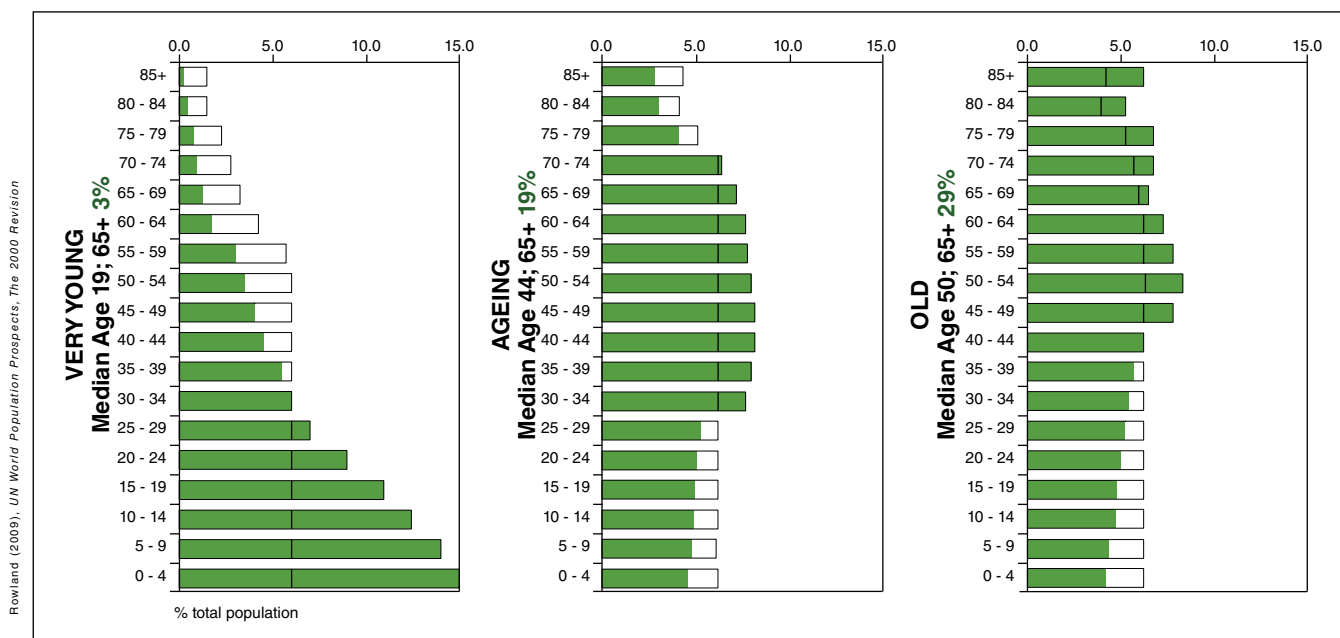


Chart 1 – Age Structures as Fertility Rates Drop

Obesity and Lack of Fitness. Globally, the issue of obesity has reached “epidemic proportions.”¹⁵ A 2007 study found that the number of overweight and obese people is increasing exponentially in all age groups in the United States, Australia, Latin America, and many European countries.¹⁶ In the United States alone in 2009, an estimated 72.5 million Americans were obese, which equated then to 26.7 percent of the population.¹⁷ Especially disquieting is the incidence of obesity in children, which has been accelerating rapidly over the last 20 years. A World Health Organization 2005–2006 study reported overweight and obesity

levels of 20 percent or more among 15-year old boys in Canada, Finland and Spain, with levels in Germany and Sweden at about 15 percent.¹⁸ (See Chart 2)

More pertinent is the incidence of overweight and obesity among military-age adults. In the United States, between 1995 and 2005, the proportion of 18-to-29-year-old individuals who were obese (i.e., with a body mass index (BMI) of 30 or more) increased from 10 to 18 percent. Among the cohorts studied, 18 to 54 percent of men and 21 to 55 percent of women were too overweight to enlist in the armed forces.¹⁹

In Australia in 2006, 36 percent of men and 28 percent of women of military age (18 to 24) were found to be overweight or obese. Among those just slightly older (25 to 34), the figures were 58 percent of men and 38 percent of women.²⁰ A German study that tracked young men from age 17 to 26 discovered significant, and “monotonously” regular, increases in BMI over the period of the study, a finding the authors say “supports previous reports that overweight and obesity are established at an increasingly earlier age.”²¹ (See Fig. 1)

The situation is exacerbated by evidence of decreasing physical fitness. In a review of 85 studies on physical activity among young men from 1966 to 2009, Finnish researchers found “a disturbing worldwide trend of decreased aerobic fitness and increased obesity.”²² In the United States, a survey of young people aged 12-to-19 years discovered that approximately one-third of young males could not meet the recommended standards for aerobic fitness,²³ while a German study involving more than 58,000 volunteers for the *Bundeswehr* reported, not only that over 37 percent could not pass the physical fitness test, but that the failure rates had increased significantly since 2001.²⁴ (See Fig 2)

Disinclination to serve. The militaries of the developed world are, with very few exceptions, all-volunteer forces. Yet, almost universally, the propensity for military service is very low. The reasons for this are multiple, but two stand out: increasing levels of education, and a growing

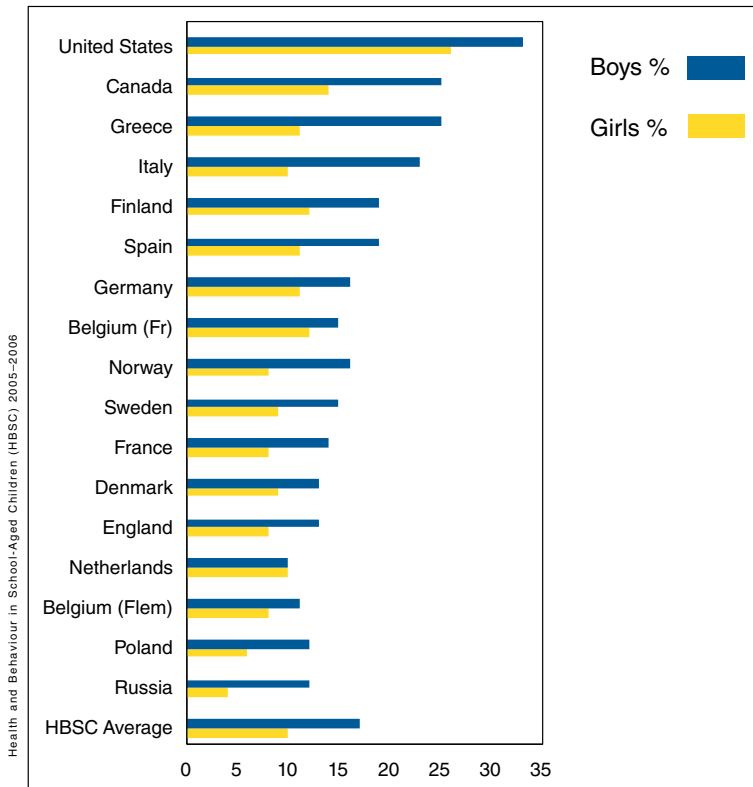


Chart 2 – 15-year-olds overweight or obese according to BMI

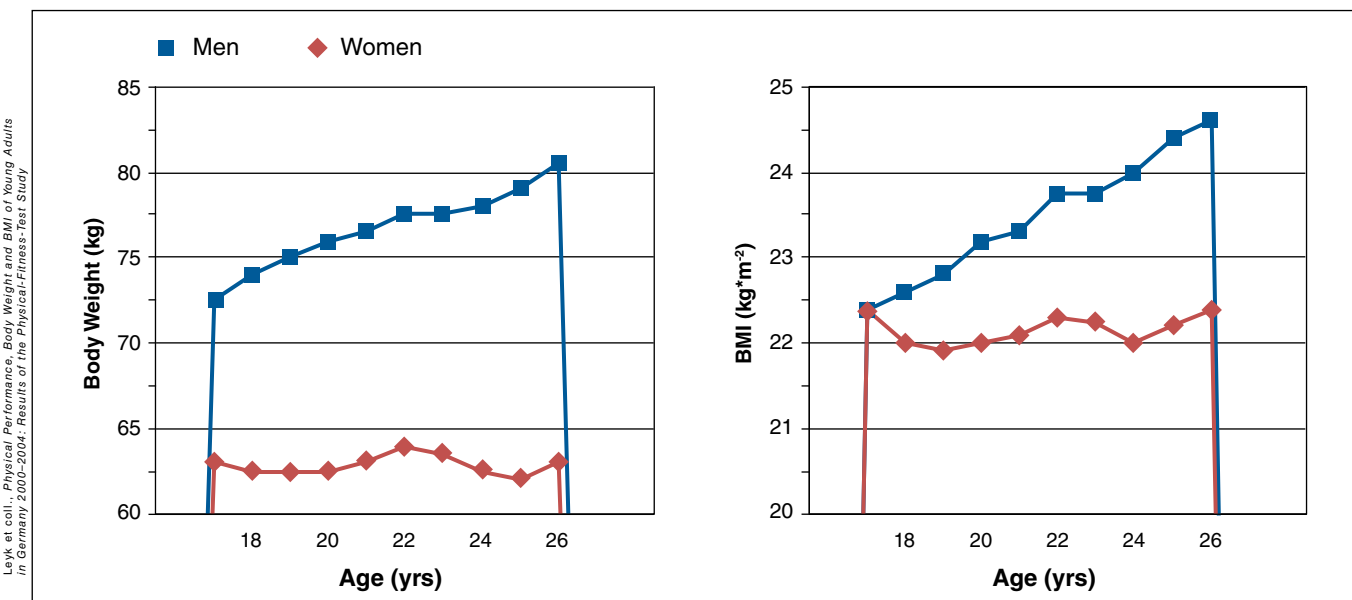
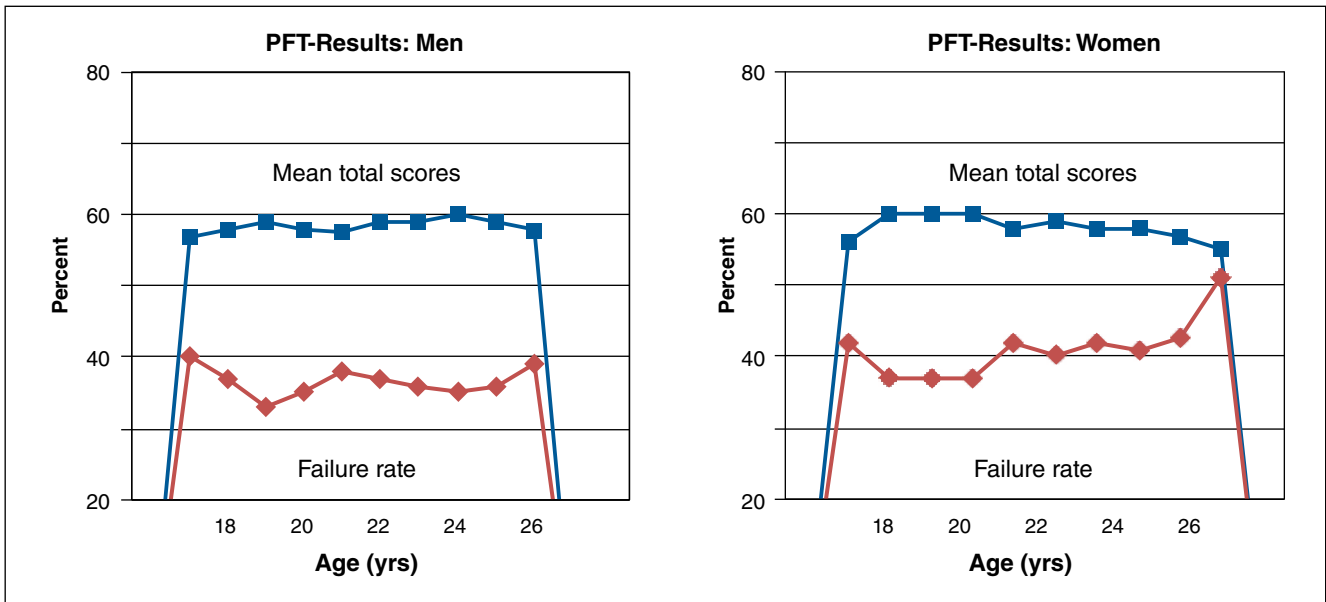


Figure 1 – Body Weight and BMI of Men and Women Aged 17 to 26

Health and Behaviour in School-Aged Children (HBSC) 2005–2006

Leyk et coll., Physical Performance, Body Weight and BMI of Young Adults in Germany 2000–2004: Results of the Physical-Fitness-Test Study



Levy et al., Physical Performance, Body Weight and BMI of Young Adults in Germany, 2000-2004: Results of the Physical-Fitness-Test Study

Figure 2 – Mean Total Scores and Failure Rates of the Physical Fitness Tests

separation of people, not only from the military (in terms of values and ideals), but also from national institutions in general (in terms of social identity). For many years among advanced nations, there has been a noticeable trend toward higher education,²⁵ and studies in the United States indicate a statistical correlation between the level of educational attainment and the propensity for a military career.²⁶ Indeed, a 2003 study concluded: “The dramatic increase in college enrolment is arguably the single most significant factor affecting the environment in which military recruiting takes place.”²⁷

Along with increased levels of educational attainment, the last several decades have also seen dramatic shifts throughout the developed world in societal values and attitudes, away from what sociologist Donna Winslow identified as “outward directedness, tradition, communalism and morality” towards “inward directedness, individualism and hedonism.”²⁸ Such values are diametrically opposed to those crucial to all military organizations: subordination of the self to the group, obedience, acceptance of sacrifice, commonality of effort, and self-discipline. This incongruity of value systems means that the military culture no longer resonates with its parent society. Ergo, the institution’s prestige wanes, and with it, the attraction of a military career.²⁹

The military, however, is not the only institution to find itself in conflict with changing societal values. In recent years, the influence of church, family, school, and political establishments have all been greatly weakened. In general, throughout the developed world, there is a growing rejection of uncritical obedience and subordination to institutional authorities.³⁰ Deference and loyalty can no longer be taken for granted, and for young people, institutions, including the military, and even the nation-state, are less relevant.³¹ Paradoxically, these societies continue to view their armed forces favourably and believe that, in certain circumstances, military force should be used. The caveat is that military service should be performed by “someone else.”³²

Rising Costs. Militaries everywhere are expensive. Those of the developed world are *very* expensive. The 2013 defence budget of the United States was \$600 billion; that of the United

Kingdom, was \$57 billion (in US dollars); that of France, \$52.4 billion; Japan, \$51 billion; and Germany \$44.2 billion. Even among the lesser powers, the amounts are considerable: Australia, \$26 billion; Canada \$16.4 billion; the Netherlands, \$10.4 billion.³³ Roughly half (and more) of these expenditures cover personnel costs: salaries, benefits, and, in some cases, pensions.³⁴ Modern military professionals are well-paid members of the middle class, “with perquisites and benefits *comparable to*, and, in many ways, *superior to*, those members of a large corporation.”³⁵ The authoritative International Institute for Strategic Studies (IISS) reports that the US military pays “substantially more than the private sector,” noting that “[w]hen compared to workers in the civilian sector ... on average armed forces personnel earn more than 90% of civilian employees.”³⁶ The situation is broadly comparable in Britain,³⁷ Australia, and Canada,³⁸ and while salaries and benefits are a good deal lower in Europe’s armed forces, the Europeans tend to spend much larger proportions of their defence budgets on personnel.³⁹

Non-personnel spending (i.e., ‘materiel’) covers everything the armed forces use, from the mundane to the exotic. Increasingly significant proportions of these monies are being allocated to technology, specifically to information and communication technology. Since the First Gulf War in 1991, the US military has become evermore technology-driven in pursuit of a “techno-centric vision of future warfare.”⁴⁰ The most revolutionary and expensive element of this transformation concerns operationalizing the concept of net-centric warfare, “... a hugely ambitious programme to create a Global Information Grid (GIG) integrating all US military and [Department of Defense] information systems into one seamless and reliable super-network.” While the whole network is not expected to be fully developed until around 2020, just putting the GIG’s core capabilities in place by 2010 was estimated to cost some \$20 billion.⁴¹

Even in the developed world, no military can hope to match the US investment in military-related technology, and so, efforts to emulate the American model tend to be relatively modest in scope.⁴² Nevertheless, even modest efforts entail costs, the first of which is the expense of recruiting and retaining well-qualified personnel.



An Air Vehicle Operator with 4 Air Defence Regiment operates the *ScanEagle* unmanned aerial vehicle using a pilot control console during Exercise *Maple Resolve*, CFB Wainright, 30 May 2014.

High-tech militaries may require fewer people, but those people are invariably more costly. Then, there is the ever-growing cost of training even the lowest ranking soldiers.⁴³ Militaries sometimes find it more cost-effective to concentrate on simply operating the equipment and weapons, and contracting out their maintenance to civilian firms.⁴⁴

High-Tech Militaries. Advanced militaries aggressively pursue cutting-edge technology—largely information-processing, but also precision-guided munitions. One significant impetus for this is the requirement to keep casualties low. Equally important, as recruiting pools grow shallower and qualified personnel more expensive, investment in technology enables militaries to substitute capital for labour.⁴⁵ High-tech weapons (i.e., pilotless drones and cruise missiles) are more efficient than other means at projecting force to remote locations, while also limiting non-combatant casualties. They negate the need for large numbers of troops on the ground, and greatly reduce the hazards of combat for those who are deployed. Indeed, the transformation of the American military following the Vietnam War was predicated on just such strategic needs: “the need for power projection, quick wins, low casualties, and the flexibility to move from one theatre to another.”⁴⁶

America’s allies have similar needs for short wars and few casualties, but more importantly, they see future combat commitments almost exclusively in terms of US-led coalitions. Therefore, maintaining interoperability with the US military is a major imperative,⁴⁷ and likely to be the primary focus of the British, French, Canadian, and Australian militaries. Among the majority of European allies, the challenges are more prosaic. After two hundred years as conscription-based organizations, their

“America’s allies have similar needs for short wars and few casualties, but more importantly, they see future combat commitments almost exclusively in terms of US-led coalitions.”



Launch of the *ScanEagle* unmanned aerial vehicle during Exercise *Maple Resolve*.

militaries are struggling to turn themselves into professional armed forces, and, as yet, “cannot fully exploit the potential of the new technologies.”⁴⁸ On the other hand, even the most advanced allies continue to lack some components of effective military power—i.e., sufficient stocks of precision weapons, as evidenced in the air campaign against Libya – and consequently, the technological gap between the US and other militaries is likely to increase in the immediate future, not to diminish.⁴⁹

Mitigating Measures

Ageing Populations. There are not many ways to mitigate the effects of ageing and shrinking populations on military recruiting. Of course, the most telling solution would be to reverse the decline in fertility rates. Unfortunately, there is currently no prospect for this.⁵⁰ In any case, fertility rates would have to increase dramatically, and remain consistently high, to have any appreciable effect, and even then, ageing would only be slightly slowed.⁵¹ Moreover, to get populations to start replacing themselves, childlessness and one-child families would have to be actively discouraged, or there would have to be a sustained increase in the percentage of families with three-or-more children. This flies in the face of numerous developed-world social conditions working in the opposite direction. Parents with few children are seen as ‘better parents’ because they can devote more time and resources to each child; poverty-reduction programs curb fertility by encouraging smaller families among the poor; and finally, Western women are gaining in gender equality and economic independence, both of which result in lower fertility rates.⁵²



DND photo AS2014-0042-001 by Sergeant Bern LeBlanc

Paratroopers from 3rd Battalion, Princess Patricia's Canadian Light Infantry, go for a 10 kilometre run to celebrate Canada Day at Ziemsko Airfield, Poland, 1 July 2014.

Another strategy is to raise the age at which people typically retire, and already, many governments are abolishing mandatory retirement ages.⁵³ But while this may be a viable strategy in the civilian world, most militaries retain a compulsory retirement age for a very good reason: some tasks, notably those of the combat arms, demand the stamina and strength of youth. On the other hand, many armed forces have increased the age at which volunteers can apply to join. For example, in the UK, the maximum age was increased from 26 to 33,⁵⁴ and in the US, from 35 years to 42.⁵⁵

Alternatively, militaries can search for new sources of young people, and two groups with relatively high fertility rates immediately present themselves: established minority communities, and new arrivals. In terms of the first, particularly in Canada, population growth is far outstripping that of the dominant Caucasian group, and it offers a diverse military-age pool from which to draw.⁵⁶ In terms of the second, it is estimated that to 2050, about two million people a year will migrate from less-developed to developed countries at a more-or-less steady rate.⁵⁷ Yet, studies have shown that only massive and sustained increases in immigration would have any effect upon slowing or reversing population ageing.⁵⁸

Obesity and Lack of Fitness. As with ageing, there are not many options when it comes to obesity, although there may be with the quite separate issue of the general unfitness of youth. Militaries put great store in physical appearance, which is perceived to indicate general fitness, and to contribute to how the military is viewed by the public. Appearance also influences individual self-esteem and acceptance by peers.⁵⁹ And so, militaries are generally loathe to contemplate any relaxation of standards. In 2006, the Australian

Defence Forces did revise the entrance standard to accept overweight applicants because the original standard severely limited the number of potential recruits.⁶⁰ However, American researchers regard such a policy as both “simplistic” and expensive, since obesity costs the US military over \$1.2 billion a year in higher health spending and lower productivity. It was found that 80 percent of recruits who exceeded the weight-for-height standards but were accepted on waivers left the military before completing their first term of enlistment.⁶¹

One strategy to deal with obesity and general unfitness is simply to employ *technology* in lieu of *humans*. More and more militaries are, in fact, doing this through the use of unmanned aerial vehicles (UAVs) for reconnaissance, and even for combat. Other robotic devices are substituting for soldiers in bomb-disposal, improvised explosive device neutralization, and mine-clearing chores. Navies, too, are researching ways to utilize technology instead of humans. Capital ships are being designed to function with fewer sailors, primarily to reduce acquisition and operating costs,⁶² but also to allow for more selective recruiting. Air forces have been working with missile technology for several decades.

Disinclination to serve. How does a liberal democracy fill the ranks when the bulk of its citizens choose not to volunteer? Once again, one option is to look to immigrants. However, immigrant communities often regard the military as a low-status career option. In such communities, education is highly valued, and, as already noted, with higher education comes a diminishment in the propensity to serve.⁶³ With few takers at home, militaries may choose to follow the example of large corporations and go abroad to recruit. To answer the need for fit young males for ground combat roles, researcher



Non-live fire training activities near Kaneohe Bay, Marine Corps Base Hawaii, during Exercise *Rim of the Pacific* (RIMPAC), 27 June 2014.

George Quester cites the examples of Britain’s Gurkhas and France’s Foreign Legion, both of which recruit specifically for infantry employment. To find technological talent, he suggests emulating the firms of Silicon Valley.⁶⁴

Another solution is to institute compulsory military service. Many in favour of conscription stress the concept of duty, along with the requirement that the military represent the entire country in the same manner that the central government must represent the nation as a whole. If shared by all the able-bodied, military service would not be a career, but a duty of citizenship.⁶⁵ The key is that any system must draw fairly from all segments of society,⁶⁶ and it is at least arguable that a universal system that conscripts all citizens, as Israel does, is more equitable than a system of selective service in which all are *eligible* but only a few are *chosen*. Conscription opponents point out the inherent dilemmas. Politically, there is little-to-no support for conscription where it does not currently exist—when asked, 67 percent of American college students opposed reinstating the draft⁶⁷—an antipathy mirrored in Europe, where many countries have only recently abolished conscription.⁶⁸ Administratively, it would be difficult if not impossible to implement a system free of abuses, exemptions, and inequalities. *Economically*, conscription is far from the most efficient method of producing the means for national defence. And *militarily*, it depletes the quality of both personnel and operational effectiveness.⁶⁹ Conscripts typically serve for only two years, and modern soldiers need up to three years to be judged fully competent in combat and combat support skills.⁷⁰

“With few takers at home, militaries may choose to follow the example of large corporations and go abroad to recruit.”

Rising Costs. For any government intent upon realizing savings with minimum delay, slashing the number of people on the payroll is the quickest way to an immediate effect. The first result is a reduction in the number of salaries that have to be paid, but there are longer-term savings in the benefits and allowances not claimed and the pensions not taken, plus the associated health and welfare costs for which the government is no longer responsible. This is largely the thinking behind the force reductions currently underway in militaries

across the developed world. Proposed reductions will shrink the US Army from 500,000 to between 440,000 and 450,000,⁷¹ while British reductions have already produced the smallest army “since the early 1930s.”⁷²

Downsizing, however, does foster ever-greater military cooperation and interdependence. Even before joining the coalition in Afghanistan, European forces had joined in multinational deployments to the Balkans and to Africa “in order to sustain and develop joint security partnerships.”⁷³ Consequently, “European armed forces are increasingly interdependent and inter-operable at a level that would have been inconceivable before the 1990s.”⁷⁴ The result is pragmatic. In a continuing environment of declining defence spending, integration is just about the only way to retain an appreciable level of military capability.⁷⁵ However, the danger is that countries will satisfy financial imperatives by “salami-slicing” their capabilities to the point where they maintain only “Bonsai” armies: “small and aesthetically pleasing, but effectively useless.”⁷⁶

In a bid to preserve their ‘teeth-to-tail’ ratio, many countries have turned to private military companies (PMCs).⁷⁷ One part of this phenomenon is the largely-invisible outsourcing of such functions as clerical administration, vehicle maintenance, computer network control and the like to reduce the number of military or government employees in these occupations. PMCs are more visible on overseas missions, where they are responsible for many camp operations, from initial set-up of living quarters and administrative facilities, to staffing the mess halls, to managing the water supplies.⁷⁸ More highly paid contractors, those with military or police experience, train host-nation military and paramilitary personnel, guard VIPs, and carry out convoy protection. The most highly paid are those associated with very sophisticated weaponry, who are either *seconded from* or *hired by* the manufacturers to maintain, and even operate, weapons for the military.⁷⁹

It has been suggested that political leaders will find it increasingly attractive to privatize military ventures, considering both the financial costs and the ‘shadow price of death’ attached to committing national troops to dangerous missions. Employing private companies would obviate not only the ‘body bag syndrome,’ but also the need to develop the level of popular consensus necessary to support a national effort.⁸⁰ There are, however, caveats to the employment of PMCs when it comes to actual fighting. As one study notes: “... the endemic uncertainty of virtually any military situation makes economically efficient contracting between the state and a private military firm inevitably problematic”⁸¹—in other words, given the vicissitudes of warfare, how is the client to know he is getting his money’s worth? What are the criteria for progress, for success, and are these equally understood by both sides? Also, PMCs pay considerably better than national militaries for comparable skill levels,⁸² which serves to siphon off trained and experienced personnel.

High-Tech Militaries. Given the unceasing integration of technology into military affairs, perhaps the only mitigating measure is to regard military technology with some skepticism. There are those, like Stephen Biddle, who believe that the brilliance of military technology has been oversold. He holds that trading “mass for speed and close combat for stand-off precision” worked only against unskilled Taliban and the incompetent Iraqi military, and became demonstrably less effective once trained foreigners replaced the Taliban, and Iraqi insurgents learned what they were up against.⁸³

Michael Mosser sees a problem in what amounts to blind faith in technology. He states that “American society believes in its technology and believes its technology can be adapted to overcome any obstacle,” and that this attitude carries over wholesale into the US military.⁸⁴ As a consequence, believing in technological ‘quick fixes’ leads to an uncritical preference for technological solutions “even when ‘better’ (i.e., cheaper, more robust, but less ‘sexy’) alternatives present themselves.”⁸⁵ Mosser worries that “[a]pplying net-centric, techno-wizardry solutions to complex, anthropologically driven questions may be generating the right answers to the wrong questions.”⁸⁶

“Another disadvantage is that militaries do not control their funding, and cannot adjust their wage and benefits packages in order to compete with the private sector.”

Conclusions

What do these several trends foretell? First of all, that for military recruiters in the developed world the future is not promising. They will be engaged continuously in a battle with their private-sector counterparts for an ever-shrinking pool of qualified young people, and that battle will be in no way equal. Militaries in the industrialized world are severely disadvantaged as employers in that their values and ideals are diametrically opposed to those most cherished by the very people they are trying to attract. In order to align themselves with the tenets of their target audiences, to be more relevant to them, militaries would have to abnegate the very traits that make them effective institutions. It would amount to self-immolation.

The militaries’ values and ideals are at least within their control. Their other disadvantages are beyond their abilities to mitigate or affect. Concerning ageing populations, they might try to retain experienced individuals longer in service, and even accept older recruits, but as Christopher Dandeker as pointed out, the armed forces are “quintessentially a young people’s organization.”⁸⁷ Against the problems of obesity and general unfitness, militaries *can and do* strive—but often in vain, and at great expense. The problem begins long before young people reach military age, which is why the retired US generals’ and admirals’ lobby group, *Mission Readiness*, has called for the nation’s schools, where children regularly buy their breakfast, lunch and snacks, to be “properly managed” in order to become “instrumental in fostering healthful eating habits.”⁸⁸ This may very well be the first step in a move to securitize childhood health and fitness, given that the same organization has labelled the epidemic of obesity “a potential threat to our national security.”⁸⁹

Another disadvantage is that militaries do not control their funding, and cannot adjust their wage and benefits packages in order to compete with the private sector. Even if they were to expand their recruiting efforts to include foreign countries, there, too, they would be in unequal competition with private firms. The unassailable fact is that in the well-educated, affluent West, very few youth evince any desire to pursue a career in what they see as an archaic, anti-individual institution. In time, this could lead to conscription again being seriously considered as the only option short of foregoing military forces entirely.

In the matter of military costs, the operative word in defence ministries everywhere is ‘reduction.’ Fortunately, this is occurring at a time when, for sound political, strategic, and financial reasons, the Western allies’ military ventures are almost invariably thought of in terms of coalitions, usually ‘US-led.’ And this, in turn, strengthens military integration as an economical means for them to possess modern military capabilities, albeit on a restricted scale. Further savings might be realized by outsourcing some military functions to private firms, largely in the realm of camp services or ‘policing duties’ short of major combat. But one of the strengths of such enterprises—relatively high salaries—is also a weakness. No for-profit company can afford to pay high salaries to the numbers required for high-intensity close-quarter fighting for sustained periods. Thus, private military firms will always be a circumscribed option.



More training activities during RIMPAC, 27 June 2014.

In light of these seemingly-intractable problems, and given the developed world's propensity always to expect technological solutions, Western militaries understandably seek salvation in technology. The promise it holds is that a sufficient application of the right kind of software and hardware can substitute for the people that armed forces do not have, do not want or cannot afford, and for the funding they are not given. But technology has a number of downsides. It is enormously expensive in a host of ways, and while it can perform some tasks spectacularly well on the battlefield, close-quarter combat will always be the preserve of vulnerable humans wielding short-range personal weapons. I believe Wenke Apt is quite right in saying that "armed conflicts will continue to be a human endeavour,"⁹⁰ and so humans, in appropriate numbers, will always be *the* essential element in war. Which returns us to the original question: Where are the soldiers going to come from?



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Fallen on the Field of Honour?: Attitudes of the Canadian Public towards Suicides in the Canadian Military ~ 1914–2014¹

by Matthew Barrett and Allan English

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Introduction

There have been more deaths by suicides in the Canadian Armed Forces since 2002 than mission deaths in Afghanistan. In the twelve years that Canada was engaged in the War in Afghanistan, 158 Armed Forces members were killed. During the same period, 178 members died by suicide, of which some might have been attributed to Operational Stress Injuries (OSIs).²

In addition to being personal and family tragedies, suicides constitute a significant loss of personnel to the CAF, and a loss to Canadian society as well.

Recent political and media attention surrounding the issue of suicide in Canadian military and veteran populations is not a new concern. In the aftermath of the First World War, the Canadian government, veterans' groups, and the public-at-large confronted the problem of soldier suicide in the context of contentious debates over pensions and rehabilitation for returned men. Just over a decade after the end of the war, Colonel G. S. Rennie, the former commander of No. 2 General Hospital, observed: "These men become despondent and we read in the newspapers every week or even sometimes more frequently that one of these men, despondent, out of work, ill and unable to get a pension, has committed suicide."³ Although the number and details of suicides in Canadian military and veteran populations is not well documented, a number of cases have come to public attention, especially those *during* or *immediately after* a major conflict in which Canada has been involved.

This article uses two case studies as a preliminary examination into Canadian attitudes toward suicide in the military: Lieutenant Colonel Samuel Simpson Sharpe (1873–1918), and Major Michelle

Mendes (1978–2009). After introducing the cases, we examine how public attitudes towards suicide and mental stress injuries in the Canadian military changed during the course of each conflict—the First World War, and Afghanistan. We then assess how de-stigmatization efforts might be improved by using historical evidence, and how this knowledge could be leveraged to help facilitate a more productive and open dialogue about mental health and suicide in the military.

Four key perceptions have influenced public attitudes towards military suicide: (1) Perceptions of the military itself—what is the role of the military within society? (2) Perceptions of the conflict—how is the mission interpreted by the Canadian public? (3) Perceptions of mental illness—what are the prevailing cultural beliefs concerning mental illness? (4) Perceptions of place of death—the significance of where a soldier dies reflects the values the public associates with the military, the conflict, and mental illness. Examining this issue from an historical perspective indicates which societal attitudes towards suicide in the military have been more durable, and which

“Greater awareness of the war’s psychological effects resulted in sympathetic reports of soldier suicide in the press.”

have been more susceptible to change. Identifying these attitudes will assist in shaping how stakeholders pursue de-stigmatization and suicide prevention strategies.

First World War: Lieutenant Colonel Sam Sharpe

Lieutenant Colonel Sam Sharpe was a sitting Member of Parliament for Ontario North who commanded the 116th Battalion for eleven months on the Western Front. In a letter to the widow of one of his officers in October 1917, Sharpe admitted that if he began to contemplate the misery and suffering he had witnessed, “I would soon become absolutely incapable of ‘Carrying on.’”⁴ Three months later, he suffered a nervous breakdown and was confined to a

hospital in England with a diagnosis of general debility. On 25 May 1918, shortly after returning to Canada on convalescence leave, Sharpe jumped to his death from a window in the Royal Victoria Hospital in Montreal.⁵

During the early phase of the First World War, many military leaders and doctors believed that suicidal soldiers were predisposed to suffer from depression and delusions due to hereditary weakness and innate cowardice. Viewing self-harm as a symptom of lack of discipline, armies tended to treat soldiers who attempted to kill themselves as deserters.⁶ Late-war reassessment of mental stress injuries as legitimate war casualties resulted in a growing sense that sufferers overwhelmed by suicidal depression or traumatic stress were not necessarily responsible for their conduct.⁷ Greater awareness of the war’s psychological effects resulted in sympathetic reports of soldier suicide in the press.⁸ At the time of Sharpe’s death, changing perceptions of shell shock and the patriotic mood of the country caused many to emphasize his courage and sacrifice as opposed to his tragic end. The *Toronto Globe* for example treated Sharpe’s death the same as a combat fatality, noting significantly, “He gave up his life as truly ‘on the field of honor’ as if he had fallen in action.”⁹

During the First World War, and since, commentators have used the expression ‘field of honour’ to memorialize and respect dead soldiers. Death on the ‘field of honour’ associated the fallen with righteousness and higher significance, thereby legitimizing their sacrifice and memory.¹⁰ The experience of the First World War illustrated a shift in how the “field of honour” could be applied to military dead. In the course of the conflict, the phrase assumed an egalitarian meaning that could encompass all individuals who had died in the course of the conflict. Symbolically grouping all casualties as “dead on the field of honour” could include soldiers killed in direct enemy action, killed by accident, died from disease as well as died by suicide. Rather than stigmatize a suicidal soldier such as Sharpe, many Canadians could accept that the “death was the result of service in France.”¹¹



Lieutenant-Colonel Sam Sharpe



Recently, Sharpe has received greater recognition from the Minister of Veterans' Affairs, Erin O'Toole, as "a teaching device" in the campaign to bring awareness to the issue of mental health in the military.¹² O'Toole, who represents the same region of Ontario as Sharpe did as an MP, hosts the annual Sam Sharpe Breakfast with former Senator and retired CAF Lieutenant-General Roméo Dallaire, "... in part to show that we are making progress," but the Minister also notes, "We still have a long way to go ..."¹³

War in Afghanistan: Major Michelle Mendes

A century after the First World War, the challenge of mental strain and wartime stress among service members continues to confront stakeholders in the government, the military, the medical profession, veterans' groups and the Canadian population in general. On 23 April 2009, Major Michelle Mendes was found dead in her room at the Kandahar airfield. She had been serving a second tour of duty in Afghanistan as an operations officer with the Kandahar Intelligence Fusion Centre. Initial media reports inferred suicide and military investigators later determined she had died by self-inflicted gunshot.¹⁴

Just as the early phase of the First World War, during the "Decade of Darkness" of the 1990s, a state of "blissful ignorance" existed about some of the precursors of suicide as Canadian policy-makers and military leaders lacked sufficient data on the nature of OSIs. In the public's mind, peacekeeping missions of the day were not perceived as combat operations. Consequently, few resources were allocated to mental injuries and the problem of OSIs was

largely interpreted as a disciplinary issue.¹⁵ The recent experience of Canada's combat mission in Afghanistan has placed greater focus on issues of mental health in the military. This emphasis on mental health care reflects the public's focus on the Canadian soldier as a heroic national symbol.¹⁶

On 26 April 2009, Mendes was repatriated to Canada along the Highway of Heroes as the 118th Canadian fatality in Afghanistan. In media interviews, one observer who watched the procession emphasized, "It's still a soldier ... She (was) still doing her job in Afghanistan for all of us." Another explained, "We try and treat them with the same respect, if it's combat or not combat."¹⁷ In an official statement, Defence Minister Peter MacKay connected the death to "our important mission to bring peace and stability to the people of Afghanistan."¹⁸ In public commemorations and tributes to Mendes, civilians and government officials drew no clear distinction between a death by suicide and a serviceperson killed in action.

Comparison of 1918 and 2009

The cases of Sharpe and Mendes represent two snapshots in time to illustrate changing perceptions of OSIs and military suicide. Whereas pre-war attitudes in 1914 and in the 1990s often portrayed suicidal actions and mental stress as a discipline issue, in both instances, the experience of each war resulted in greater public attention and concern for mental health in the military. By 1918, after four years of war, there was willingness in the press to acknowledge Sharpe as a wartime casualty and attribute the cause of his mental instability to

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DND photo

his battlefield experience. By 2009, after four years of Canada's combat role in Afghanistan, media reports of Mendes' death treated her as casualty of the mission. Positive press coverage indicated a desire to recover meaning in the tragic deaths by emphasizing higher ideals of duty, honour, and sacrifice, rather than stigmatize the individual and the actual cause of death. For the Canadian public in each era, it seemed self-evident that Sharpe and Mendes had died on the field of honour, even though they were not technically in the combat zone at the time of death.

De-stigmatization, Contagion, and Commemoration

Despite this inclination to treat soldiers who die by suicide in a time of war as casualties, the nature of the deaths continues to produce certain taboos and silences. At the close of the investigation into Mendes' death in August 2010, the military police were, for instance, not proactive in making their conclusions public. Media outlets observed that the reluctance to disclose the cause of death seemed at odds with the goal of reducing the stigma of mental illness.¹⁹ The situation is further complicated by the fact that service members who died by suicide in Afghanistan are counted as mission casualties, whereas returned soldiers and veterans who kill themselves in Canada are not.

The differing viewpoints articulated by former Chief of the Defence Staff, General Tom Lawson, and former Senator Roméo Dallaire represent two of the conflicting approaches in confronting how military suicides are understood by the public and reported in the media. These perspectives represent what we term "contagion" versus "commemoration." In February 2014, General Lawson stated,

"...actually stigmatizing the act of suicide is probably a very good thing in our society." He added, by embracing those who might have suffered mental stress injuries, "... we may have brought a slight honour to the act of suicide."²⁰ In December 2012, Dallaire stated, "It is already catastrophic enough that we are not recognizing these individuals on our monuments as true casualties ... We are not even doing that, and so the stigma is still there."²¹ General Lawson's comment reflects a concern that increased public attention or sympathetic media coverage may result in a suicide contagion effect, thereby exacerbating or exaggerating the problem of suicide in the Canadian military.²² By contrast, Dallaire's statement reflects a concern that lack of public attention and muted coverage may result in more instances of suicide by service personnel due to negative stigmatization.

The tension between anxiety over a contagion effect and a desire for commemoration in turn influences how suicide cases are presented to the public. The Suicide Prevention Resource Center (SPRC) has specified guidelines for the media to follow when reporting suicides. Citing evidence-based literature that suggests forms of reportage might trigger additional suicides in certain at-risk populations, the SPRC has advised media outlets not to romanticize and glamorize a person who died by suicide, nor to include detailed descriptions of method and location of death.²³

By presenting soldiers like Sharpe as heroic casualties of war, Canadian press reporting during the First World War era would have certainly violated current procedures and restrictions about romanticizing death by suicide. Consider the case of one of Sharpe's officers in the 116th Battalion, Lieutenant C. V. V. Coombs, who suffered shell shock and shot himself in December 1919. The *Toronto Globe* not only explained, "Everybody feels



DND photo AR2010-0320-56 by Sergeant Daren Kraus

that it is as if he had died at the hands of the enemy,”²⁴ a news correspondent paid tribute to the soldier “... who feared not to end the life which battle wounds had made unbearable.”²⁵ In the cases of Sharpe and Coombs, contemporary newspaper coverage showed greater interest with commemorating the dead and highlighting their bravery and dedication than an anxiety that such tributes might “... bring a slight honour to the act of suicide.”²⁶

As indicated by General Lawson’s statement, modern government and media institutions are more sensitive to the possible negative effect of detailed or subjective suicide coverage. However, as Senator Dallaire observed, when applied to the issue of suicide in the military, restrictive guidelines might serve to reinforce stigmatization. This point reflects Senator Dallaire’s concern about the perceived lack of recognition for service members who died by suicide outside of Afghanistan, even if the cause of their death might have been an OSI incurred during their tour in Afghanistan.²⁷ The ways in which the public interprets the mission and perceives the soldiers involved will affect how resulting mental injuries are regarded and treated.²⁸ If military personnel who died by suicide outside of the combat theatre are not considered part of the overall mission, their deaths may be perceived as less worthy of recognition than combat fatalities. Consequently, the



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mental difficulties and OSIs that could possibly have contributed to some of the deaths may not be identified as a vital concern because the public perceives the deaths to have occurred at home, and not in the war.

The contagion perspective necessarily entails an aspect of stigmatization that prevents this kind of inclusion on the field of honour, and it maintains a clear distinction with those killed in



DND photo AR2005-AO1-382a by Sergeant Gerry Kean

action overseas. Had Sharpe died by suicide in Canada today, outside of the combat theatre, he would not be included in the total number of war casualties. In the same way, had Mendes' death occurred in Canada, she would not have been included in mission casualties, either. This point highlights the central question of how Canadian society has defined the place of the field of honour in relation to different types of casualties, both psychological and physical.

The field of honour has often literally described the actual combat zone—the Western Front or Afghanistan—but it has also been represented as a symbolic metaphor. While every death of a Canadian Forces member to occur in Afghanistan is counted as a mission casualty, in certain instances, a mission fatality could also take place at home. Master Corporal Charles-Philippe Michaud, the son of the 2014 Silver Cross Mother, Gisèle Michaud, had been wounded by an IED in Afghanistan in June 2009. He was transported to a city of Québec hospital where he died only a few days later as the 122nd mission casualty.²⁹ In this case, the field of honour could be expansive to include Canada; just as for Sharpe in 1918, the field of honour had been a Montréal hospital. Consequently, the field of honour has also been a flexible symbol for how Canadian society has identified certain casualties as honourable and worthy of commemoration.

Narrow or expansive definitions of the field of honour influence how stakeholders will prioritize certain types of injuries—physical and psychological—as well as what the Canadian public believe

“A significant durable attitude in the Canadian military is the stigmatization of the act of suicide, but not necessarily the person.”

constitutes an honourable casualty. The ways in which Canadians think about the field of honour is directly related to de-stigmatization because, historically, public attitudes toward soldier suicide have tended to be more sympathetic when the individuals were considered to be engaged in the overall mission, as in the case of both Sharpe and Mendes. This commemoration viewpoint suggests that de-stigmatization efforts might benefit from removing supposed distinctions between a service member who died by suicide, died of wounds, or was killed in action. At the same time, stakeholders in the government, military, and medical profession need to consider Lawson's concern about bringing “a slight honour” to the act of suicide as possibly leading to a contagion effect.³⁰ It is possible that a commemoration approach might risk a contagion effect, but it is nevertheless vital to recognize that the contagion viewpoint restricts commemoration.

Conclusion

By conducting an historical analysis of two selected case studies nearly one hundred years apart, this research has identified some attitudes towards suicide in Canadian culture that have historically hindered or aided de-stigmatization. However, some attitudes appear to be more durable than others. A significant durable attitude in the Canadian military is the stigmatization of the act of suicide, but not necessarily the person. Whereas, a belief subject to change is that, in certain circumstances, soldiers



DND photo by Robert Schwartz, 3 Canadian Division Support Base, Edmonton

who have died by suicide can be considered wartime casualties. Based upon the two case studies of Sharpe and Mendes, it is hypothesized that efforts to de-stigmatize durable attitudes towards suicide in Canada's military and veteran population will require more time, effort, and resources than less durable attitudes. Historically, even if suicide as an act has been stigmatized as social taboo, military fatalities of suicide have not always been burdened with the same stigma. This historical evidence may help inform the priorities and strategies that stakeholders pursue in reducing incidents of suicide.

This article has argued that an inclination to de-stigmatize suicide and commemorate service members who have killed themselves as war casualties often rests in opposition to a fear that such normalization could trigger suicide contagion in some at-risk populations. In confronting how the issue of soldier suicide is discussed and interpreted by the public, government officials, military leaders, media commentators, and medical professionals need to identify which strategies will be prioritized. An approach that emphasizes commemoration too strongly risks obscuring the actual cause of death and the underlying mental health issues. An approach that focuses upon contagion might similarly reinforce silences that stigmatize the individual. Only by balancing an awareness of contagion triggers with an expectation for appropriate commemoration can public sympathy for all military casualties be leveraged to facilitate a more open and productive dialogue about mental health and suicide prevention in the Canadian military.



NOTES

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A CF-18 *Hornet* soars above the clouds over Iraq before commencing the next mission during Operation *Impact*, 23 January 2015.

Training at the Edge: The Canadian Air Force's Transition to the CF-18, and Lessons Learned for Canada's Next Generation Fighter

by Richard Shimooka

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Introduction

In the early-1980s Canadian Forces pilots and technicians were introduced to their new fighter aircraft, the CF-18 *Hornet*. A slightly modified variant of the US Navy and Marine Corps' F/A-18A, it promised a near revolutionary improvement over the three aircraft it was replacing, the CF-5 *Freedom Fighter*, the CF-101 *Voodoo*, and the CF-104 *Starfighter*. One area where there were major hopes was a significant improvement in the air force safety and availability record. The *Starfighter* was a notorious aircraft in this regard, difficult to fly in its demanding roles, and it suffered from numerous technical issues. Consequently, 111 of the 238 aircraft originally purchased were lost due to accidents or failures during its operational life with the Canadian Armed Forces. Yet, hopes for a dramatic improvement were quickly dashed. By 1991, its selected replacement, the CF-18, had been involved in a string of tragic crashes, leading to the deaths of 11 pilots. It was only in the 1990s that a significant improvement with

respect to the CF-18 flight safety occurred. It should be noted that early operational attrition is an unfortunately common occurrence with new operational fighter-type aircraft. Every air force faces teething issues with the introduction of a new aircraft, even if it has been in service with other countries. With the impending replacement of the CF-18, however, managing an effective transition will be essential in order to reduce the risk of attrition, and to ensure that the reborn Royal Canadian Air Force (RCAF) maintains a high level of capability.

With this in mind, this brief study aims to examine the air force's historical transition to the CF-18 in order to understand some of the potential weaknesses that surfaced, and to provide some consideration for Canada's future transition towards a next generation fighter. Certainly, a crash or any major mishap is rarely the result of a single cause; it is usually a combination of factors. However, inexperience, in combination with inadequate or improper training, can lead to greater overall risk that may exacerbate a potentially dangerous situation. The CF-18's early history certainly bears out this reality. This article will focus upon two areas relating to a new fighter fleet: the ability of the Canadian Armed Forces to obtain corporate knowledge from the supplying government and to effectively employ it, and the importance of effective and appropriate lead-in training.

The CF-18's Transition History

At the time of its introduction, the CF-18 represented the leading edge of a new generation of aircraft from the 'agile-supersonic revolution.' Based upon the experiences of Vietnam, the US military developed a series of aircraft with outstanding maneuverability and impressive thrust-to-weight ratios designed to win aerial engagements. They were also significantly easier to operate than earlier aircraft. Cockpit layouts, including a new generation of heads-up and multifunction displays, provided pilots primarily with information relevant to their current situation. Fly-by-wire controls, essential to keep aerodynamically unstable aircraft under control, made flying significantly easier for pilots. Canadian evaluators of the New Fighter Acquisition (NFA) program to replace the CF-104, CF-101 and CF-5 quickly realized this, as retired General Paul Manson, former NFA Program Manager, recalls:

We sensed that this new generation of cockpit technology would greatly change a pilot's workload. In the case of the *Starfighter*, a pilot would spend approximately 85 percent of his time on 'housekeeping,' i.e., just keeping the aircraft safely in the air. The rest of the time would be spent doing what the aircraft was designed to do: performing the assigned mission. We quickly acknowledged that, in the case of the F-16 and F/A-18, the numbers would be reversed, with housekeeping taking up roughly 15 percent of the pilot's cockpit time. The rest was spent on the important mission-related aspects of flying.¹

Prior to the CF-18's introduction, the then-Canadian Air Force (CAF) had predicted its catastrophic mishap rate (known as Category 'A' mishaps) would be 5.6 crashes per 100,000 flight hours.² This would be a major improvement over the CF-104, which experienced a Category 'A' rate of 18.5 incidents per 100,000 flight hours.³ The CF-18 predicted rate, it was believed, would be more in line with the other fighter aircraft operated by Canada at that time, the CF-101 and CF-5, which experienced rates of 5.68 and 6.74, respectively.

Unfortunately, the expected safety dividend did not emerge. While the CF-18 was inherently safer to fly than the CF-104, its early attrition rate was significantly higher than expected. In the first eight years of operation, the Canadian Air Force's loss rate was 7.14 aircraft per 100,000 flying hours.⁴ By comparison, the American mishap rate during this time frame was only 3.75 aircraft per 100,000 flying hours.⁵ In essence, Canadian *Hornet* pilots were therefore twice as likely to become involved in a major crash as their American counterparts.

There are several factors that may help explain this difference. A common view among a number of Canadian officials interviewed was that the comparison between CAF and the US Navy (USN) and Marine Corps (USMC) is misleading. CF-18s tended to fly more hours in low-level exercises compared to their American counterparts, in part because the Canadian aircraft were often closely based to their training areas and spent more of their actual flight time in the training environment. USN and USMC Hornets often had to fly longer flights in relatively benign flight regimes to reach ranges, or to transit from ship to shore facilities.



DND/CFJC photo PCN-5098

A CF-104 *Starfighter* overflying the airfield at Decimomannu, Sardinia, which supported the weapons ranges in the area. Canada's *Starfighter* pilots deployed there for weapons training on a regular basis.



While greater transit time was a factor, it may not be salient. Although Canadian *Hornets* flew a substantial number of low-level training flights, such missions accounted for only two of the Category 'A' mishaps (see Table 1: Crash 1 and Crash 8). The majority of crashes occurred as a result of 'human factors,' where pilot error was determined to be a primary cause. These often occurred during take-off, or at medium-to-high altitude, where the pilots' situational awareness was impaired in a way that caused them to crash into the ground. The USN and USMC appeared to experience proportionally fewer such incidents; over 50 percent of their Category 'A' mishaps occurred, due either to technical faults or mid-air collisions, based upon the data available to this author.⁶

Further corroboration of the difference between Canadian and US fighters can be found in the USAF's statistics with respect to the F-16 *Fighting Falcon*. This aircraft generally flew similar flight patterns, although again, less in low altitude operations. The USAF's figures indicate a mishap rate of 6.51 per 100,000 hours for the first decade of service.⁷ While this may seem comparable to the CF-18, it should be noted that the F-16's Pratt and Whitney F100-200 engine was notoriously unreliable at the time, and it factored into a disproportionate number of crashes. Once the engine failures are factored out, the F-16's crash rate is around 4.7, or even lower.⁸

Based upon this preliminary examination, Canadian adoption of US flight training approaches might have helped to avoid some accidents and losses. Yet, the government decided not to purchase this package of information, and this can be traced to how the government decided to procure the CF-18. Normally, when a country procures military equipment produced by a company in the United States, it does so through the US Government 'Foreign Military Sales' (FMS) process. Here, the US Department of Defense purchases the equipment on behalf of a given foreign country, and then provides it, along with training and other aspects of continuing support.

Currently, FMS contracts include a non-recurring Research and Development [R&D] fee added to every unit sold, and an administrative levy of 3.6 percent is added to the purchase price, in addition to any long-term support contract brokered.⁹ Yet, due to the austere fiscal environment of the early-1980s, the Government of Canada was actively trying to reduce the cost of purchasing military equipment. To this end, Canadian officials eschewed the FMS approach and elected to purchase the CF-18 through Direct Commercial Military Sales (DCMS). In this manner, Canada bought aircraft directly from the manufacturer, McDonnell Douglas, deleting the US military as an intercessor, with its attendant fees and associated assistance. Again, according to General Manson:

By dealing directly with the two short-list manufacturers, the Canadian government was able to negotiate fully executable contracts for both the F-16 and F-18 in an intensely competitive environment, which ultimately paid dividends in the final evaluation in terms of the number of aircraft purchased and in the negotiation of favourable industrial regional benefits to Canada.¹⁰

In particular, Canada was able to negotiate a lower than expected price on the F/A-18, which eventually allowed the purchase of an additional aircraft.

There were drawbacks to this decision, as Canada would not obtain American training and program materials as a *single comprehensive package*. The CAF instead developed an indigenous training syllabus, based on three sources:¹¹

1. Basic operational instruction and materials acquired in the contract with McDonnell Douglas;
2. Doctrinal and tactical information obtained through *informal* contacts with the US Navy's first F/A-18A training squadron;
3. Canadian experience gained flying the CF-18's predecessors.

However, this approach was not necessarily seen as a drawback. First, Canada had a strong and distinguished history of providing flight training, going back to the British Commonwealth Air Training Plan (BCATP) of the Second World War, as well as the post-war training of numerous foreign nationals, an expertise which the air force believed still existed. Second, Canada would need to develop some parts of its training indigenously in any case, in part because CF-18s would undertake different roles than the F/A-18A. Finally, there was some question as to the value of acquiring the American training packages as, at the time of its consideration, Canada actually had more *Hornets* under contract than did the United States.¹²

“These inputs were then ‘Canadianized,’ or adapted for the CAF-unique requirements, and were then provided to the staff pilots.”

their arms, since they were unavailable to Canada.¹³ One document proved to be particularly valuable: the *Naval Aviation Training and Operations Procedures Standardization Manual* (NATOPS). It was designed to provide pilots with a complete manual of the best and safest operating procedures. The document was constantly updated as new knowledge was obtained, and it was credited with significantly improving flight safety within US service.¹⁴ The effects were quickly apparent, as one CAF pilot remarked:

Pilots sometimes mistook normal operation for a problem, and sometimes could not note critical information that would have aided in troubleshooting. At first, many ground aborts happened because guys didn’t understand the flight controls, INS, etc., and [either] mishandled them or couldn’t rectify a minor fault. An example is a frozen Leading Edge Flap—they are easy to avoid if you know what to do, and super easy to rectify if you know the procedure.¹⁵

An initial cadre of pilots and maintainers were given instructional courses at the McDonnell Douglas facility in St. Louis, Missouri, on how to operate and care for the aircraft. All subsequent flight training was conducted at 410 Operational Training Squadron in Cold Lake, Alberta. There, McDonnell Douglas test pilots and maintenance staff trained the first cadre of Canadian personnel in operating and maintaining the aircraft. This cadre then became the first instructors for all subsequent individuals in the CF-18 pipeline. Unfortunately, the contract did not include information on doctrinal and tactical information with respect to the aircraft’s employment. For this area of expertise, the CAF relied heavily upon its strong informal relationship with the US Navy’s first F/A-18A pilot training squadron, VFA-125, in Lemoore, California. This unit provided 410 Squadron staff with information, documentation, and advice on the US Navy’s operational employment of the aircraft. These inputs were then ‘Canadianized,’ or adapted for the CAF-unique requirements, and were then provided to the staff pilots. This assistance proved to be invaluable in the development of Canada’s training syllabus.

Overall, these findings suggest that the CAF likely faced some difficulty in transition to the CF-18, although some ambiguity remains with parts of the data. The following section will attempt to provide greater context, to better understand where issues may have emerged.

Analyzing the CF-18 Crashes

The overall CF-18 Category ‘A’ incident rate is a worrying trend, but in itself, it is far too blunt a measure to understand the issues relating to the aircraft’s early history. An in-depth analysis of the thirteen crashes provides a much better sense of the problems faced (Table 1). Only one of the early CF-18 mishaps was primarily attributed to a mechanical failure. Of the twelve remaining, two aircraft were lost in a mid-air collision during basic fighter maneuvering. In this case, although the 1000-foot safety distance rule was violated, the accident cannot necessarily be attributed directly to a lack of proper training.

Nevertheless, some pilots felt that that this approach did not provide them with all the necessary information. Several pilots recalled that they would return from joint American-Canadian exercises with binders of F/A-18 documentation under

Num	Date	Alt	Primary Cause	Visibility	Prev exp.	Notes
1	4/84	M	CFIT (sit awareness)	Low Cloud	CF-5	GLOC
2	6/85	NA	Takeoff settings	N/A	CF-5	Secondary tech fault
3	5/86	Lo	CFIT (sit awareness)	Low Cloud	CT-114	Somatogyral
4	5/87	Hi	Failed spin recovery	N/A	CT-114	Secondary tech fault
5	9/87	Hi	Maintenance error	N/A	CF-101	
6	10/87	NA	Take off technique	N/A	CT-114	Secondary tech fault
7	4/88	Lo	CFIT (sit awareness)	Low Cloud	CT-114	Secondary tech fault
8	1/89	Lo	CFIT (sit awareness)	Low Cloud	CF-104	Training Mission
9	1/90	Lo	CFIT (sit awareness)	Night	CT-114	Somatogyral
10	4/90	Lo	CFIT (sit awareness)	Clear	CF-5	Training Mission
11	4/90	Hi	mid-air collision	Clear	CF-5	
12	4/90	Hi	mid-air collision	Clear	CT-114	
13	4/90	Hi	CFIT (sit awareness)	Cloud	CT-114	GLOC/Sec. tech fault

Table 1: Early CF-18 Aircraft Crash Causes.¹⁶

NOTE: In Table 1, the altitude band of occurrence is expressed as ‘Alt,’ and the pilot’s previous experience is expressed as ‘Prev exp.’

CAF Directorate of Flight Safety [1991]

The leading cause of catastrophic mishaps in the remaining ten incidents was the lack of situational awareness either just after take-off or in-flight, which resulted in a “controlled flight into terrain,” or CFIT. In most of those cases there was an additional factor that degraded the pilot’s situational awareness [sit awareness], or ability to control the aircraft. The most common primary cause for CFITs were either G-force induced loss of consciousness (GLOC), where a violent maneuver incapacitated a pilot who was unable to regain control before flying to the ground, or Somatogyral effects in low light situations. The latter occurs in absence of visual cues due to poor weather or low light, and the pilot can misinterpret his or her actual situation, occasionally leading to crashes. Of the remaining accidents, two involved an improper aircraft configuration as a major factor, with the pilot failing to apply a proper corrective procedure. In those incidents, better aircraft knowledge may have helped the pilot safely recover the aircraft. Such incidents accounted for seven of the crashes listed, and they are an aspect of operational safety that can often be addressed with enhanced training.

The CF-18’s early safety record also illustrates the need for effective fighter lead-in training. A disproportionate number of the accidents involved pilots who had only flown the CT-114 *Tutor* trainer and/or the CF-5. These aircraft were somewhat less demanding to fly than the CF-104, CF-101, and the CF-18 in key areas. Both the CT-114 and the CF-5 possessed rudimentary avionics, which meant that basic pilot skill was essential to fly the aircraft safely and effectively. The CF-101 *Voodoo*’s all-weather role added the requirement for significant skills in managing the aircraft’s avionics, and in flying extensively in instrumented conditions. Finally, the CF-104 was a demanding aircraft to fly, particularly in its low-level strike and reconnaissance roles. Thus, it is understandable that pilots transitioning to the CF-18 from the CF-5 and CT-114 experienced a higher crash rate than those transitioning from the CF-101 and the CF-104 communities. It suggests the need to provide pilots the necessary training to have very good general flying skills, particularly in a high performance environment, as well as the ability to quickly and effectively synthesize situational awareness information from the on-board avionics and other sources. These findings are confirmed in the US Navy’s Flight surgeon manual:

Surveys have shown that flight experience does not prevent disorientation, but the incidence appears to be reduced with increasing experience. Current flying practice is helpful in several ways. A number of studies of repeated exposure to unusual motion have shown that both disturbance and counter-productive reflexive actions are diminished or modified in a productive direction as a result of repetitive experience with unusual motions.¹⁷

The manual goes on to state:

Instrument skills are highly dependent upon practice. Interpretation of instrument information is an intellectual function which demands integrating symbolic orientation cues from some instrument with digital information from others... However, with current aircraft instruments, the information provided may be far less compelling than the direct perceptual response to some unusual flight

conditions. Yet, the pilot must use the intellectually-derived information from his instruments. By the time instrument scan information becomes second nature, the pilot may be unaware of many disorienting sensations because his control actions may be overriding these sensations, and he is also highly proficient in the use of his instruments.¹⁸

Certainly, the Canadian instructors were well aware of these dangers. Both McDonnell Douglas and VFA-125 personnel warned 410 Squadron officials of the potential dangers involved in this area.¹⁹ The CAF’s training approach attempted to address this issue, but it may not have been sufficient. Canadian *Hornets* still experienced comparatively more CFIT accidents related to situational awareness than the US: 53 percent of all Category ‘A’ *Hornet* incidents compared to approximately 20 percent, respectively.²⁰ Moreover, half the US F/A-18 CFIT incidents occurred within training squadrons, while only two of Canada’s seven incidents occurring within the same environment. The difference suggests that the USN and USMC may have been more effective at instructing pilots with respect to avoiding CFITs.

There are mitigating circumstances. The difference in cockpit instrument technology from the CF-101, CF-104, CF-5, and the CT-114 to the CF-18 was quite significant. The previous generation of jets and jet trainers possessed mostly analog dials in their instrument panels, nothing like the digital displays with which to *Hornet* was equipped. This posed a significant challenge for new CF-18 pilots, as Craig Richmond, a 439 Squadron pilot remarked:

As the simulator instructor in Baden, along with watching and instructing pilots, in between training missions, I had the chance to spend literally hundreds of hours practicing all kinds of radar intercepts. I also took advantage of the fact that one of my co-instructor pilots was an ex-*Voodoo* navigator who taught me a lot of his ‘tricks.’ This was tremendously helpful a few years later when conducting low-level intercepts of [dummy] cruise missiles in the -40 degree darkness of the Arctic ~ I had had a unique opportunity to hone the mechanics of my radar and instrument flying skills in the simulator in this extremely demanding single-seat role.²¹

American pilots were at a less of a disadvantage: they had more experience with digital displays because several ‘fleet’ fighter aircraft prior to the *Hornet* possessed them, including the F-14A and A-7E. This may in some way partially explain the differences in the loss rates.

Since 1990, the air force has been able to significantly improve the CF-18’s flight safety record. There have only been seven Category ‘A’ incidents, with the lifetime mishap rate declining to 3.04 incidents per 100,000 hours.²² Even more impressive is that of those seven incidents, only four are attributable to human factors, with three being the direct result of a maintenance failure. The improvement in flight safety emerged due to several different factors. Significant effort was expended towards evolving the training process in order to improve a new pilot’s ability to manage

“The CF-18’s early safety record also illustrates the need for effective fighter lead-in training.”

multiple tasks and unexpected flight situations, as well as revised flight regulations that reflected a decade of lessons learned.²³ This included the regular ‘Anti-G’ training in a centrifuge, which improved pilots’ ability to delay the onset of GLOC.

These policies can be attributed in part to a greater focus upon providing an authentic, comprehensive training approach for student pilot. Nevertheless, the air force still faces the challenges in this area. The 17 November 2010 crash of a *Hornet* was caused by a pilot who was disoriented by a sudden blooming effect in his night vision goggles due to his aircraft’s landing lights illuminating falling snow. The pilot believed he was descending quickly and ejected, which illustrated his inexperience with night vision goggles, and basic flight skills were key contributors to the crash.²⁴ It reflects the need to prepare pilots for the rigorous and challenging demands of flying a modern jet fighter.

The experience of the Canadian Armed Forces pilots during the CF-18 transition highlights three areas that any future transition should take into account:

- Incorporating new technologies to improve flight safety;
- Developing a comprehensive, realistic lead-in training system, as well as high fidelity simulator systems; and
- Ensuring unfettered access to all available operational, technical, and training materials, as well as a system to effectively synthesize that information into operations.

The following section will examine how these findings correspond to current trends in aerospace development.

Placing the CF-18 Transition into Context: Present Developments

Technological Advances

The first is the incorporation of technologies to improve flight safety. The F/A-18A design possessed a number of key design features that were markedly superior to previous generations of aircraft. Fly-by-wire controls, improved situational awareness through digital instruments and heads-up displays, as well as greater aircraft performance were key. These advances contributed heavily to a marked increase in flight safety in the transition between the CF-104 and the CF-18.

When the CF-18 entered service, fly-by-wire was a new technology: the F/A-18A and the F-16 were the first *operational* aircraft to feature it. Since then, digital control systems have proliferated, both on the type of systems they control and on the variety of aircraft that employ them. For example, The F/A-18E *Super Hornet* uses a Fully Automated Digital Engine Control

“The F/A-18A design possessed a number of key design features that were markedly superior to previous generations of aircraft.”

system, (FADEC) on its GE F414 engines, which provides significant safety and engine performance improvements over its predecessor, the GE F404, that powers the CF-18.

Perhaps the most significant development is advent of *Automatic Ground Collision Avoidance Systems* (AGCAS) for modern aircraft, which seek to prevent CFITs altogether. AGCAS technology is based upon two scientific developments from the 1990s.²⁵ The first is the creation of an extremely precise (<30 meters) digital topographical database for the entire planet derived from the 1999 NASA Shuttle Radar Topography Mission (SRTM). It was three times more accurate than previous data. The second technology rests in the development of Embedded GPS Inertial Navigation systems (EGIs) that can locate aircraft with an accuracy of less than a few meters. Combined, they enabled researchers to create a system that continuously compares the aircraft’s position and flight path to the ground without relying upon active emissions.



The Advanced *Super Hornet* and its cockpit.



Two CT-155 *Hawks* in formation.

There are several implementations of this approach, the most high profile being the joint NASA and Lockheed Martin program, which has been installed in the F-35 and F-16 fighter aircraft. The system intervenes in the narrow band of time *before* the aircraft becomes unrecoverable, but *after* a pilot's reactions cannot recover it. Thus, the system cannot intrude nor do harm to the pilot, because he would not have been able to apply corrective measures to prevent a CFIT. It can do so with less than '6Gs' placed upon the aircraft and pilot. Other aircraft manufacturers, including Saab and Dassault AG, have developed similar systems for their respective aircraft, illustrating their belief in the technology's value to save lives and property.

Realistic Training Systems

Another requirement of any fighter program is a realistic training environment for pilots. In the 1980s, new CF-18 pilots came from a variety of flying backgrounds. The balance of evidence suggests that pilot inexperience and unfamiliarity with flying a high performance aircraft was at least a contributory factor in many incidents. This encompassed two parts. The first was a suitable lead-in trainer. Pilots that had transitioned from the CT-115 and the CF-5 accounted for the preponderance of Category 'A' incidents in the CF-18. Currently, the air force utilizes the CT-115 *Hawk* for initial jet familiarization and the CF-188B for operational conversion training, which has been largely successful in preparing pilots for the rigours of piloting the fighter.

Unfortunately, Canada will need to implement a new system to train new pilots. The RCAF's CT-155 *Hawks* are nearing the

end of their service lives and will require replacement within the next fifteen years. The budgetary constraints placed upon the acquisition of Canada's next generation fighter capability will almost certainly result in a decline in overall fleet size and fewer training opportunities. This problem is exacerbated for the F-35, which does not have a twin seat variant to provide traditional instructor training.

In light of these challenges, a key focus for the RCAF must be to procure a new training aircraft that can provide a flight experience as close as possible to the fighter Canada selects as its CF-18 replacement. This suggests a relatively-high aerodynamic performance capability, as well as a cockpit environment that closely resembles the selected future fighter aircraft. If a sufficiently-capable training aircraft is chosen, it will also be able to effectively supplant some training sorties on the fighter aircraft.

In addition to aircraft, any successful training system will also require a significant investment into a synthetic training environment. New simulators and other aids can provide complementary training experiences for new pilots. Many of the advantages of simulators are already well-known. They can model a whole range of scenarios that would be otherwise impossible to replicate in flight training, such as in-flight emergencies, complex operational scenarios, and combat maneuvering. They can also reinforce specific skills, behaviors, and responses through repetition, before applying them on the aircraft. Finally, instructors can watch students real-time and immediately identify and correct their faults, which can be very difficult to accomplish in-flight.

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The Eurofighter and its cockpit.

However, there are several new developments that have enhanced the role of simulators in training new pilots. This includes linking multiple pilots together in a scenario, even in distant global locations. Opposing forces can also be piloted by instructors or students, which can offer valuable insights into operational usage. Finally, new simulator systems can provide feedback in ways that more effectively convey information to students. For example, EADS has developed a simulator package for the Eurofighter that replays sorties in '3D' on a large screen, showing such variables as sensor's vision or potential flight arcs at any specific instance. These developments can assist in improving trainee skills in a way not possible, even a decade ago.

Training packages and information transfers

Unfortunately, technology alone is not a panacea for all possible risks facing Canadian pilots, as training is an essential element of fully exploiting the potential of technical improvements. Canada's decision not to purchase the US Government's information as a package and develop its own syllabus, was a likely factor in the CF-18's unusually high Category 'A' incident rate. Thus, a key focus for any transition is to ensure that Canada obtains access to all available training and operational data and materials in an effective manner.

There are a number of possible approaches available here, which reflect the greater multinational character of aircraft programs compared to what was available thirty years ago. In the case of the Eurofighter, there are a number of mechanisms that ensure a smooth transfer of information. Among these is a dedicated military-industry organization, the International Weapon System Support Centre. Its key function is "... the collation and distribution of information into the Common Source Database (CSB)", which is the primary information node for all operators' engineering and pilot data.²⁶ The Support Centre's functions are supplemented by a formal user group, which meets informally to discuss operational experiences and best practices, as well as coordinate industry support. Combined, these systems have effectively managed the multinational project's information distribution systems.

The Joint Strike Fighter program has established a large training center at Luke Air Force Base in Phoenix, Arizona. The USAF will train most of its F-35 pilots at the base, and it will eventually house over 144 fighters. Other partner states and FMS customers for conversion training will also use Luke as their training facility to varying degrees.²⁷ Many users, including Australia and the Netherlands, will only utilize Luke's facilities during their transition to the F-35. However, it is expected that some partners will incorporate the Luke AFB facilities as a permanent fixture in their training pipelines.

The general availability of such structures and programs can be viewed as a major opportunity for Canada to ensure a safe transition for its next generation fighter. However, there are still risks if the RCAF fails to properly implement its training approach. In his Spring 2013 *Canadian Military Journal* article, the then-Director of Air Staff Coordination, Brigadier-General Dave Wheeler, outlined Canada's proposed training program for new pilots transitioning to the CF-18's next generation replacement.²⁸ In particular, the RCAF would break up its current Operational Training Unit in Cold Lake, which handled the majority of pilot training after their initial jet familiarization in the Hawk. The proposed new system would offer conversion and combat ready training phases at either 4 Wing in Cold Lake, or 3 Wing in Bagotville, Quebec.



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The Lockheed-Martin F-35 *Lightning II* and its cockpit.

In addition, Wheeler outlined a vision where the use of simulators and training aircraft would provide the vast majority of conversion training. Certainly, such systems can supplant some ‘in-seat’ flight hours. However, the proposed RCAF approach would go significantly beyond that, and only provide in-flight

training in the last phases of combat ready training. This would have the benefit of reducing the flight hours devoted to training even further, and would allow the squadrons to retain almost all aircraft for operational usage.

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Another possible contender for the impending replacement of the CF-18, the Dassault Rafale and its cockpit.

However, the proposed approach may repeat some of the failings of the original CF-18 transition. Any training system should incorporate the best practices of the original aircraft operators, rather than attempting to develop a unique Canadian approach without fully understanding the original program's fundamentals. Furthermore, The RCAF would need to maintain two sets of training establishments, while developing a unique curriculum to minimize flight hours on operational fighter aircraft. It introduces a number of major uncertainties into the process, which could lead to gaps in pilot training. A more prudent method might see the RCAF becoming proficient in the original users' training system, and then making alterations based upon operational service.

Conclusion

More than 30 years ago, Canada selected the F/A-18A as its replacement for the CF-104, the CF-101, and the CF-5. It held the promise of vastly superior capability and safety for its pilots compared to the previous generation of aircraft. While it certainly achieved the former, the latter was an elusive goal for the first decade of service. A combination of issues conspired to cause a higher than expected crash rate, with tragic consequences. With the RCAF facing the replacement of its fighter fleet in the next decade, these lessons should be understood and updated to reflect the upcoming transition. New flight safety technologies, more mature and developed approaches to information sharing, and improved simulator/training systems again hold the promise for improving the RCAF's fighter force's already-impressive flight safety record. It only remains to be seen if the Department of National Defence and the Canadian Armed Forces can successfully manage such an implementation.



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US Navy photo 150608-N-EH855-654

Nusquam Novus Sub Sol Solis: Analyzing the Similarities between A Cooperative Strategy for 21st Century Seapower and Roman Imperial Maritime Strategy

by Jeff Dargavel

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Introduction

In 2007, the United States Navy, Marine Corps, and Coast Guard published a unified maritime strategy titled *A Cooperative Strategy for 21st Century Seapower*. Stressing an approach that integrates seapower with other elements of national power, in broad terms, this new maritime strategy discusses how the U.S. will apply seapower to defend national interests over the next fifteen years. Central to this strategy document are six strategic imperatives, which include: deploying seapower in forward positions around the world to limit regional conflict, deterring war between major

powers, and should deterrence fail, winning wars for the nation. Additionally, the U.S. will deploy mission-tailored maritime forces around the globe in order to create an in-depth defence of their homeland, and focus upon fostering and maintaining cooperative relationships with international partners. The final strategic imperative is the prevention or elimination of regional destruction before it can affect the international system.¹

What is new is old. According to *A Cooperative Strategy for a 21st Century Seapower*, the American security challenge is “to protect and sustain the peaceful global system comprised of interdependent networks of trade, finance, information, law, people and governance.” This challenge is not unlike Emperor Augustus Caesar’s strategic aim to provide security for the Roman Empire without undermining the vitality of its economic base and compromising the stability of its hegemonic political order.² Having personally studied the importance of seapower, including its active and latent applications during the Civil Wars (44 B.C.–30 B.C.), Augustus ensured its elements were carefully woven into the fabric of his grand-strategy.³ Using the U.S. maritime strategy’s six strategic imperatives as a framework for analyzing how seapower was employed during the Julio-Claudian dynasty (31 B.C.–68 A.D) of the Roman Empire,

US DoD photo 352877-P-DRW13-744



Show of force. USN ships conducting composite training and joint task force exercises in the Pacific, 11 August 2015.

Photo: akq-images/AKG614669



Battle of Actium, 2 September, 31 BC



Photo: akg-images/ulstein bild/AGK1137186

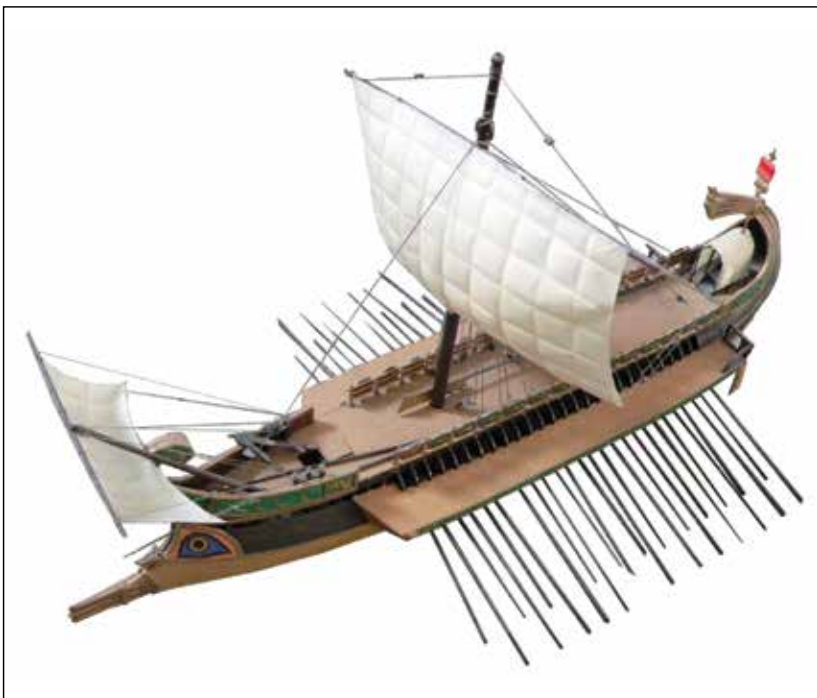
Emperor Augustus Caesar

this short article will assert that Julio-Claudian emperors employed seapower to protect and maintain their empire in the same fashion that the U.S. uses seapower today to maintain its hegemony and position as the world's superpower.

Limit Regional Conflict and Eliminate Regional Destruction

The first and sixth strategic imperatives identified in the American maritime strategy concern preserving the global system and U.S. national interests by forward deploying maritime forces alongside allies in order to provide political leadership with options that include deterrence, escalation, and de-escalation to contain local disruptions before they impact the global system.⁴ Critical to this idea is the maintenance of a powerful fleet of ships and marine forces with a view toward controlling the seas, projecting power, and protecting friendly forces and civilian populations from attack.⁵ By being forwardly deployed, this strategy seeks to enhance security by constraining transnational threats from terrorists, proliferators of weapons of mass destruction, pirates, and traffickers of drugs, conventional weapons, and people.⁶

Immediately upon assuming power as Rome's first emperor, Augustus set to work formulating a grand strategy based upon a series of military reforms centred on the idea of redeploying the military to the periphery of the empire. Augustus formally established the Imperial Navy, which included two main fleets: the *classis Misenensis* based on the west coast of Italy, and the *classis Ravennas*, based on the east coast of Italy. Additionally, provincial flotillas were established in key areas around the empire, such as Syria, Egypt, Mauretania, the Black Sea, the English Channel, and the Rhine and Danube Rivers, and these were complemented by the fleets of Rome's client-states. Together, they formed an economy of force and the backbone of the Julio-Claudian system of imperial maritime security and *Pax Romana*.⁷



Rama/CeCIL/Wikimedia Commons

A Roman Trireme

By forwardly deploying his navy, Augustus ensured his maritime forces were strategically positioned to control and protect vital parts of the empire. For example, sixty percent of Rome's grain supply flowed from Egypt, and Alexandria was the gateway to the Red Sea where trade flowed in from India.⁸ According to historian Chester Starr: "As far as Augustus was concerned, the navy was chiefly an instrument for assuring the *pax*"—the cornerstone of Augustan grand strategy expected to cover land and sea alike."⁹ Through deterrence, the navy's task, with its marines and Roman Legions permanently forwardly deployed around the periphery of the empire, rendered major wars impossible so that commerce could flow freely around the empire, and costly rebellions in the provinces could be avoided. In the same vein, the provincial flotillas routinely executed policing functions including interdicting pirates, collecting tariffs and carrying troops along the Rhine and Danube Rivers in response to Germanic raids.¹⁰



Photo: akg-images/AKG950344

Roman Empire Third Century AD



Photo: akg-images/Peter Connolly/AKG297690

Reconstruction of a Roman quinquereme

During times of internal crisis, the provincial flotillas were employed to transport forwardly deployed legions to respond, as was the case in 69 A.D. when elements of the Syrian provincial flotilla were put into Cythera to defeat a ‘pseudo-Nero’ who seized the island.¹¹ According to historian Chester Starr: “The very unity of the empire rested on control of the Mediterranean, which permitted the emperors to maintain their rule on all its coasts, to localize any scattered revolts, and to retain an avenue of escape if Italy itself were lost.”¹² In other words, when deterrence failed, imperial forces were pre-positioned to either escalate or de-escalate a given situation.

Deterring and Winning Wars

The second and third strategic imperatives include deterring and winning wars between major powers. Within the context of the American maritime strategy, no event is more disruptive to global stability and the international

system than war. By maintaining formidable maritime forces with credible and scalable abilities to respond either conventionally or unconventionally anywhere around the world, the U.S. seeks to preserve global trade and to nurture it through peace.¹³ War between great powers, while improbable, promises to bring ruinous consequences, hence the American emphasis upon deterrence.¹⁴ Should deterrence fail, their maritime strategy seeks to win by maintaining its ability to preserve sea control, force entry, and to project and sustain power ashore.¹⁵

Central to the strategic imperatives of deterring and winning wars are the concepts of soft and hard power. Scholars Joseph Nye and Richard Armitage argue that if the U.S. is serious about extending its hegemonic rule, "... it must attach greater importance to the coordinated use of hard and soft power."¹⁶ Nye calls his idea of combining hard and soft power strategies "smart power."¹⁷ In his book *The Future of Power*, Nye identifies military deterrence as the fourth step out of five needed to construct an American "smart power" grand strategy. Chester A. Crocker expands upon Nye's idea, stating that "smart power involves the strategic use of diplomacy, persuasion, capacity building, and the projection of power and influence in ways that are cost-effective and have political and social legitimacy"—essentially the engagement of both military force and all forms of diplomacy.¹⁸ However, not everyone agrees.

In his book *Smart Power*, Ted Patrick criticizes Washington's attempts to be both a global police force and a social worker. Carpenter cautions that the pursuit of interventionist foreign policies advocated by U.S. smart power strategies will sacrifice domestic interests.¹⁹ Whether or not one chooses to believe Patrick's criticisms, the effective application of smart power strategies by

Julio-Claudian emperors was extremely effective in maintaining Rome's hegemony and the *pax* for over two centuries.

In addition to their combat capabilities, scholar Edward Luttwak argues that the peacetime political function of seapower differentiates maritime forces from other forms of military power. In peacetime, "the inherent mobility, tactical flexibility and wide geographic reach—render it [seapower] peculiarly useful as an instrument of policy."²⁰ However, Luttwak's argument fails to take into consideration the vital nation-building operations the Roman army, supported by the navy, conducted in the provinces.

The forward positioning of the legions and provincial flotillas to strategic locations along the periphery of the empire, according to scholar Arther Ferrill, provided the emperor with mobile strike forces.²¹ Whether shifting legions from one side of the Mediterranean Sea to the other or along the Rhine and Danube Rivers in response to crisis, the navy played a vital role in the application of Roman hard power. For example, during Claudius' conquest of Britain in 43 A.D., the navy scouted suitable landing sites, executed the amphibious landing and sustained the army's operations.²² For over two centuries, this physical presence and ability to project force anywhere in the empire deterred internal rebellion and aggression from hostile tribes beyond the empire's borders, as well as a major war with Rome's greatest military threat, Parthia.²³

During this period, Roman soft power blossomed. The army's construction of aqueducts, bridges, roadways, and arenas in the provinces was extremely effective in convincing the population that life was better under Roman rule than not. Following the military



Photo: alg-images/Peter Connolly/AKG397961

Caesar's 10th Legion lands in Britain, 54 BC.

invasion of Britain, the navy was vital in the application of soft power. By ferrying the required manpower across the channel along with materials and supplies, the navy enabled the *Romanization* of the empire's newest province.²⁴

Although the term smart power is original to the 21st Century, the concept is not. Smart power was clearly a significant component of Roman grand strategy. Rome's military presence and



Statue of Emperor Claudius

Photo: akg-images/Gilles Mermel/AKG391279

ability to project power in the provinces both deterred internal and external threats from erupting while at the same time persuading and convincing conquered populations that life under the Roman system was preferable to any alternative. Seapower enabled Rome to pursue this type of smart power grand strategy because its deterrent effect limited regional conflicts and helped eliminate major war for centuries, a condition that fostered trade and expanded Rome's economic power. In concert, seapower was instrumental in the empire's soft power strategy of *Romanization*.²⁵

Provide an In-depth Defence of the Homeland

The fourth strategic imperative identified in the American maritime strategy concerns the ability of maritime forces to identify and neutralize threats as far away from the homeland as possible. Notwithstanding the tasks of forward deployed units, the role of the fleet at home rests with supporting civil authorities in the event of an attack or natural disaster. Within the strategic context of the Julio-Claudian period, the Roman Imperial Navy was utilized in much the same way.

The creation of the provincial flotillas along the Rhine and Danube Rivers is evidence of Augustus' desire to employ seapower to provide a layered defence of the empire. Along the empire's riparian frontiers, the imperial flotillas secured the borders by conducting patrols, combatting intruders, supporting imperial expeditionary operations and carrying out surveillance.²⁶ With a view toward projecting power and forming a buffer between the hostile tribes along the Rhine and Danube Rivers and the empire, the imperial navy routinely inserted its marines and sustained these types of riverine operations over prolonged periods by transporting reinforcements, cavalry, and supplies.²⁷

Similarly, the Roman home fleets based in the Italian ports of Misenum and Ravenna provided for an in-depth defence of the empire and aided civil power. In 24 A.D., sailors from the *classis Ravennas* were deployed to restore order following a slave uprising in Brundisium.²⁸ In 36 A.D., following a series of raids that saw several coastal towns plundered, the *classis Ravennas* was ordered by Emperor Tiberius to suppress an outbreak of piracy along the Cilician coast.²⁹

Foster and Maintain Cooperative Relationships

In an endeavour to apply smart power, the new U.S. maritime strategy's fifth strategic imperative calls for expanded cooperative relationships with other nations' navies. Specifically, the strategy document emphasizes "building and reinvigorating relationships through Theatre Security Cooperation..."³⁰

Stemming from the American recognition that no one nation has the resources available to guarantee the security of the entire maritime domain, *A Cooperative Strategy* proposes that "collective security activities will be conducted to address



Littoral combat ship USS *Fort Worth* in waters to the west of the Korean peninsula, 11 March 2015.

US Navy photo 150311-N-11474-304

common threats and assemble common interests in an open and multipolar world.³¹ Albeit to a lesser extent, as proposed in U.S. maritime strategy, Augustus' recognition for the need to economize on the maintenance of the empire's security led him to leverage reliable client-states to assist in the maintenance of maritime security, and to engage in the practice of theatre security cooperation.

Under the aegis of the Roman Empire's first of three distinct systems of imperial security, hegemonic expansionism, the Julio-Claudian emperors sought to economize on imperial defence through careful management of its client-states.³² When Tiberius succeeded Augustus in 14 A.D., client states constituted a substantial part of the empire.³³ Defined as an economically, politically, and militarily subordinate state, client states were conquered kingdoms that maintained a degree of autonomy, albeit through a puppet ruler.³⁴ Efficient and reliable client rulers, such as King Herod of Judea (74 B.C.–4 B.C.) were valuable instruments for the maintenance of the empire, as they required less management than unstable client states led by rulers who could not master the technique of client statecraft.³⁵

While an undertone of hegemonic dominance exists within the American maritime strategy, the Julio-Claudians' strategic focus of maintaining their hegemony and expanding the empire meant that Roman cooperative maritime security was born purely from these much more Realist motives. Several examples support Rome's proclivities toward collective maritime strategy as a tool for maintaining control and expansion. In 26 B.C., Aelius Gallus, Augustus' prefect of Egypt, was dispatched on an expedition in the Red Sea. Under his command were 10,000 men, including a 500-man contingent from King Herod of Judea, and a 1000-man contingent from King Obodas of Nabatea. The naval expedition entered the Red Sea with approximately 80 warships and 130 transports. The fleet included elements from Herod's navy and remnants from the once great Ptolemaic fleet.³⁶ Similarly, dynastic unrest in the Roman client kingdom of Bosphorus caused Augustus to dispatch Agrippa to the eastern Mediterranean, where he gathered the provincial fleet stationed in Syria, and was joined by warships from the kingdoms of Judea and Pontus. Under Agrippa's leadership, the coalition fleet entered the Black Sea and deposed the Bosphoran usurper for assuming power absent Augustus' consent.³⁷

While the American term 'theatre security cooperation' is considered unique to the 21st Century, the concept dates back as far as the Julio-Claudian period. Archaeological evidence found at the site of an ancient city, located in what is presently Israel, demonstrates a substantial amount of cooperation existed between Romans and Judeans in the construction

of this naval base and port facility. Constructed between 22 B.C. and 10 B.C., the Judean port of Caesarea Maritima was home to Herod's navy, and it represented an expansion of Roman political, economic and military presence in the area.³⁸ The extensive use of Roman technology, in particular, the widespread application of hydraulic concrete, makes it inconceivable that Caesarea Maritima could have been built by anyone other than Roman engineers.³⁹ A formidable fortress, Caesarea Maritima gave Herod a loyal port in which he could station his navy.⁴⁰ In return, Rome gained a

fortified port from which to base future operations, and a new hub for trade between Italy and the eastern Mediterranean.

“While the American term ‘theatre security cooperation’ is considered unique to the 21st Century, the concept dates back as far as the Julio-Claudian period.”

Conclusion

Intended to represent a defining moment in U.S. strategic thinking, *A Cooperative Strategy for 21st Century Seapower*, introduces six strategic imperatives that are not original to this period in time. Two thousand years ago, Rome's first emperor, Augustus, forged a grand-strategy designed to maintain the empire's hegemony and expand its reach. In pursuit of these strategic goals, Rome

employed seapower in a similar manner to the way Washington does today. The six strategic imperatives of seapower designed to guide the U.S. in protecting and maintaining the international system are the same strategic principles used by the Julio-Claudian emperors.

Where the U.S. seeks to limit regional conflict and prevent/contain local disruptions by forward deploying its maritime forces around the world and having them work in cooperation with other navies, so too did the Julio-Claudians. Rome's forward deployed provincial flotillas worked with client state navies to limit regional conflict through deterrence or intervention. The American intent to maintain formidable maritime forces designed to *deter* war, and when deterrence fails, *to win* war is not unlike how Rome applied seapower. The permanent maritime forces established by



Ballistic missile submarine USS *Henry M. Jackson* arrives home at Naval Base Kitsap-Bangor following a strategic deterrent patrol, 5 May 2015.

US Navy photo 150509-N-KZ413-045



US DoD photo 744 058-U-1Q94-663

An MH-60S *Seahawk* helicopter performs plane guard operations near USS *John C. Stennis* in the Pacific Ocean, 1 May 2015.

the Julio-Claudians were designed to deter elements of internal and external conflict, and, when necessary, to crush any disturbance to the *pax*. By employing seapower to provide an in-depth defence of the homeland, the new U.S. maritime strategy seeks to eliminate maritime threats before they reach America's shores. Similarly, by strategically positioning the military along the periphery of the empire, Augustus built a defence framework designed to deal with internal and external conflict before it threatened Italy. The strategic imperative of fostering and sustaining cooperative relationships for the provision of global maritime security was another feature of Roman seapower.

Like the U.S. today, the Julio-Claudian emperors desired the most cost effective defence of the realm, leading them to leverage the navies of client states whenever possible. While no formal text exists to describe Roman maritime strategy, it is obvious from the literature regarding Rome's grand strategy that seapower was an integrated concept employed strategically, beginning with the reign of Augustus. Nevertheless, future academic research in this field is required to better understand the strategic application of ancient seapower.



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39. *Ibid.*, pp. 15-16.
40. Caesarea Maritima was vital to the defence of Herod's crown. An unpopular king, not all Judean ports were completely loyal to Herod, and basing his navy in such harbours risked their desertion. *Ibid.*, p. 17.



DND Photo IS2014-1007-01

An Unfortunately Popular Aversion to Truthful Feedback within the CAF

by Anthony Robb

Introduction

Professional development is a cornerstone of the Canadian Armed Forces (CAF). Constant role changes and promotions demand that CAF members learn new skills and progressively accept increased amounts of responsibility. Typically, there is not an immediate expectation of perfection. Instead, CAF members are supposed to be periodically counseled and candidly presented with a clear list of their strengths and areas of development. At one end of the continuum, there is positive feedback—feedback that highlights an individual's strengths, which is generally easy to give and receive. At the other end lies critical negative feedback—feedback which reveals performance deficiencies and areas for improvement, which many find difficult to provide and accept. The latter, however, is the foundation of real meaningful growth. Indeed, thoughtful, negative feedback needs to be given so agents can shorten their learning curve and achieve success more quickly.¹ To facilitate the exchange of critical negative feedback, two rather obvious things must occur: first, those in a supervisory role must ensure that performance-related matters are clearly

communicated to their subordinates. Second, the subordinate must readily accept this critical feedback and earnestly endeavour to change behavior such that noted deficiencies are overcome. While seemingly simple, this exchange does not occur often enough in the CAF due to a widespread aversion to delivering critical negative feedback. This brief article discusses both the cultural and procedural factors that ultimately undermine the healthy exchange of critical negative feedback between leaders and subordinates within the CAF. From a cultural perspective, many leaders lack the ability to dispassionately reveal the truth to their subordinates. The fear of hurting feelings trumps their ability to speak with honesty. Instead, necessary criticism is masked in a smokescreen of positivity, thereby obscuring hard-to-hear truths. Furthermore, many individuals view critical negative feedback as a personal attack and refuse to accept it as a necessary step in self-improvement. In many cases, instead of accepting the criticism, defensiveness and denial ensue, the message is lost, and a newfound contempt toward the supervisor takes hold. From a procedural perspective, the manner in which the Canadian Forces Personnel Appraisal System (CFPAS) is employed does not necessarily promote the healthy exchange of critical negative feedback. Unit norms,

DND photo HS2014-A121-009 by Master Seaman Peter Reed



inconsistency in implementation, language nuances, and several other factors can often veil an individual’s true performance and potential. Over the last decade, the After Action Review (AAR) process has gained in popularity and widespread use. Continual learning and collective growth are its tenets, and the rule of ‘no thin skins’ permits a more honest exchange of feedback. While the AAR has allowed honest feedback delivery to work at the *macro*-level, a refreshed approach is needed at the *individual* level.

The Truth Hurts

Master Corporal Sampson, a highly regarded clerk within her unit, was without peer. Her administrative job knowledge and dedication to her sub-unit were exemplary. When the time arrived to write her quarterly Performance Development Review (PDR), her direct supervisor, Captain Picard, had no trouble highlighting her many strengths. He did, however, feel it necessary to identify one particular item for development. Master Corporal Sampson had a habit of inflecting her voice at the end of nearly every phrase. Although she likely did this subconsciously, this habit gave off a rather dim-witted first impression. Armed with tact and diplomacy, Captain Picard capably wrote this in the PDR. Unfortunately, due to training requirements, Captain Picard was unable to deliver the PDR to Master Corporal Sampson himself. Instead, the responsibility fell to the sub-unit commander, Major Renault. Having been briefed by Captain Picard, Major Renault chose an appropriate time and delivered the PDR. Within seconds of reading it, Master Corporal Sampson broke down into tears. Major Renault’s efforts to put her at ease did not work. Believing there was no other solution to solve the crisis of a weeping subordinate seated in his office, Major Renault informed Master

Corporal Sampson that the voice inflection was really no big deal and that she should disregard the observation entirely. To assure her that the issue was completely forgotten, he physically tore the development section out of the PDR, effectively redacting the observation as though it never existed. This, according to Major Renault, was the right thing to do. Master Corporal Sampson left the PDR interview assured that such an embarrassing observation would not be immortalized in a quarterly PDR. The voice inflection continued.

This entirely true story (names changed) yields two key deductions. First, Master Corporal Sampson was extremely uncomfortable (or unable) to receive honest, constructive and albeit *negative* feedback. Second, and equally concerning, was Major Renault’s inability to offer *honest* feedback—feedback that would have greatly benefited Master Corporal Sampson. Unfortunately, far too many CAF members can identify with Master Corporal Sampson, Major Renault, or, in some cases, both of them. A culture has been created within the CAF where constructive feedback often equates to bullying, where compassion for our members equates to protecting their feelings, and where employee happiness supersedes meaningful professional development. To better understand this cultural problem and how to fix it, this study will divide the cultural discussion into two areas: inability to offer critical negative feedback, and inability to receive it.

Fierce Conversations and Tough Empathy

Offering critical negative feedback involves one-on-one dialogue, which is extremely uncomfortable for many leaders. A recent survey of private businesses found that more than 70 percent of managers admit they have trouble giving a tough performance review to an underachieving employee.² A

recent survey of 150 CAF members revealed that 40 percent of respondents felt discomfort when giving constructive negative feedback to subordinates.³ Furthermore, 51 percent of respondents claimed to have received positive feedback when they knew that their performance deserved critical negative feedback.⁴ In an effort to explain this phenomenon, psychoanalyst and business consultant Kerry Sulkowicz suggests, “Since the toughest feedback usually touches on deeply ingrained behaviors and personality traits, there’s a fear of the intimacy required when offering observations that hit so close to home.”⁵ Alternatively, emotional intelligence (EI) expert Travis Bradberry suggests that today’s leader lacks the requisite level of EI. His research suggests that leaders with low EI are unable to control their own emotional response, thereby negating their ability to offer critical negative feedback. The internal emotional discomfort caused by the potential hurt feelings of the recipient competes with the need to offer the feedback, thereby resulting in cognitive dissonance for the leader. Bradberry observes, “For the titles of director and above, EI scores descend fast.”⁶ This is not surprising, given that deliberately causing emotional discomfort to an individual is generally something a leader endeavours to avoid.

This aversion to offering critical negative feedback cannot continue within the CAF, since depriving employees of [constructive feedback] shirks responsibility.⁷ The worst consequence that results from a lack of constructive criticism is not merely the continuity of poor performance. Rather, it is the *tacit encouragement* of poor performance. If an individual is not overtly made aware of an ongoing deficiency, then he or she may reasonably assume that the behavior is indeed tolerated, which could lead to the undesired behavior being imitated by others. Additionally, without honest feedback, we cannot effectively evaluate and develop our subordinates, which is one of the espoused leadership fundamentals of the CAF. How can change be elicited within the CAF leadership? Simply put, our leaders must act more dispassionately when delivering performance reviews and accept the fact that truthful feedback is what is best for the individual, the leader, and the organization writ large. The data from a survey of CAF members suggests, however, that this is easier said than done, and that perhaps some new tools are required. One tool, as posited by leadership and communications



DND photo IS2013-2006-231 by Master Corporal Marc-André Gaudreault



DND photo CX2013-0060-41 by Corporal Sylvie Kervin

consultant Susan Scott, is to embrace the concept of a *Fierce Conversation*, which involves delivering the truth in a clear, concise, and empathetic manner. Summarizing this point, Scott suggests:

Where we get into trouble is in taking the high road too often. It’s easy to withhold important messages from others, supposedly for the sake of being kind, when in reality what we need to do is come out from behind ourselves into the conversation and let someone know how we really feel.⁸

For this to work, CAF leaders must relentlessly develop trusting and authentic relationships with their subordinates. This does not mean coddling soldiers or redacting negative feedback at the sight of tears. It means enforcing a standard of

fierce honesty in all conversations, and, for some people, eliminating confusing conversational escape mechanisms such as sarcasm, double-meanings, jokes, retractions, and so on. Another tool, as suggested by leadership consultants Goffe and Jones, is the idea of exercising *tough empathy*—that is, the delivery of the hard-to-hear truth in a timely and understanding manner—and ruthlessly applying it when building relationships with subordinates. Based upon several case studies, they assert that *tough empathy* is one of the single-greatest ways for leaders to show that they care and can be trusted.

About tough empathy... When people care deeply about something—anything—they’re more likely to show their true selves. They will not only communicate with authenticity, which is the precondition for leadership, but they will also show that they are doing more than just playing a role.⁹

If constituents do not trust the messenger, then they certainly will not trust the message, which, in this case, is the critical negative feedback. Lying to subordinates for fear of being labelled as an unkind or uncaring leader will not lead to changed behavior and will not foster trust between leaders and subordinates. Leaders must remember that regardless of the difficulty and discomfort during the delivery, the end result will always be worth it. *Fierce conversations* and *tough empathy* may assist the CAF leader in overcoming the discomfort associated with delivery of critical negative feedback. Unfortunately, this is only half the battle, as many



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CAF members possess a strong subconscious aversion to accepting critical negative feedback, regardless of how well it is delivered.

Subtracting Insult from Injury

While leaders struggle to offer critical negative feedback, many individuals are unable to accept it. Instead of viewing the feedback as an earnest attempt to encourage professional development, many individuals decide to react in an entirely unhelpful manner, adopting a defensive attitude to fend off the seemingly personal attack. A recent survey of 150 CAF members revealed that nearly half the respondents experience some level of discomfort when receiving critical negative feedback.¹⁰ Endeavouring to explain this phenomenon, human resource consultants Jay Jackman and Myra Strober suggest, “People avoid feedback because they hate being criticized, plain and simple... they associate feedback with the critical comments received in their younger years from parents and teachers.”¹¹

Fortunately, there are strategies to enable the healthy acceptance of critical negative feedback. First, as Jackman and Strober suggest, leaders should divide up the large task of dealing with feedback into manageable, measurable chunks, and set realistic time frames for each one.¹² This intuitive and simple piece of advice pays dividends when delivering hard-to-hear truths. Categorizing areas of development and linking each of them to achievable goals and milestones is far more useful than merely presenting a list of observed deficiencies. Highlighting the role of the leader, leadership consultant Alan Zimmerman advises, “Make sure you do more than give feedback that only creates awareness. Make sure you provide the tools that help the agent improve his or her performance.”¹³ In

many cases, offering criticism of a subordinate’s behavior without offering an action plan will likely not result in changed behavior, which is the purpose of critical feedback.

Second, increased formal training on mental resilience could assist CAF members in viewing critical negative feedback as a necessary means to a better end. The same survey of CAF members revealed that only 28 percent of respondents felt that their training received thus far has fully enabled them to receive constructive negative feedback.¹⁴ Daniel Goleman, an organizational behavior and EI expert, suggests that formal training in EI with a view to fostering increased self-awareness constitutes part of the training delta:

Self-aware people know—and are comfortable talking about—their limitations and strengths, and they often demonstrate a thirst for constructive criticism... People who are in control of their feelings and impulses—that is, people who are reasonable—are able to create an environment of trust and fairness.¹⁵

Based upon Goleman’s insights, one may conclude that truly self-aware people eagerly seek truthful feedback regarding their strengths and weaknesses. Indeed, it is this feedback which enables people to become aware of potential barriers to success, thereby affording them the knowledge to ascend and surpass these barriers. Additionally, self-aware people, capable of recognizing and regulating their emotions, are better equipped for stifling their own negative emotional impulses as required. Perhaps inclusion of formal EI training in key leadership courses, such as the Primary Leadership Course (PLQ), or the Canadian Armed Forces Junior



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Officer Development (CAFJOD) program, would foster the right level of resilience and self-awareness early on. Of course, many people—even those who are adequately self-aware—do not enthusiastically appreciate their weaknesses exposed or discussed. As Scott states, “The truth will set you free—but first it may thoroughly irritate you!”¹⁶ Irritation, however, is a small price to pay for meaningful development. As can be seen, both the leader and subordinate have roles to play in normalizing the practice of delivering critical negative feedback. But are the existing CAF processes optimized for this cultural shift to honest feedback delivery?

Procedural Unfairness

While the organizational culture surrounding critical negative feedback is in need of change, there are some notable flaws within the CAF evaluation process that ultimately discourage the delivery of honest feedback. Prior to discussing those flaws, a quick summary of the CFPAS is required. Two key items constitute the CFPAS: the PDR and the Personnel Evaluation Report (PER). The PDR is five-part process that includes 1) an initial interview between the superior and subordinate that aims to clarify performance objectives, 2) the subordinate’s initial action plan, 3) a summary of the subordinate’s accomplishments, 4) a summary of the subordinate’s career goals, and 5) quarterly reviews that consist of a written report, accompanied by a verbal debrief regarding performance thus far. The PER, which consists of both a written report and verbal debrief, is a year-end summary of the subordinate’s performance and potential. It is worth noting that the written PER is the single-most important document with regards to promotion and overall career advancement. Unfortunately,

six key issues severely undermine the value of the feedback generated from the CFPAS process.

First, each CAF unit develops unique standard operating procedures for end-year ranking and PER writing. Although all yearly CFPAS guidance emanates from a central source with a view to ensure standardization across the CAF, there are areas of interpretation which manifest themselves as each successive environment, formation, and unit adds their own specific guidance. For example, some units will automatically rank certain people at the top of their merit list, simply due to the position they hold. Second, there is an unwritten rule dictating that only in extreme circumstances can an individual’s PER score be lower than the one from the previous year. As such, last year’s PER score becomes the starting point for this year’s, regardless of this year’s actual performance. Third, given that the PER is partly narrative—and the quality of this narrative is a determinant in promotion merit boards—an individual’s suitability for promotion is somewhat influenced by the superior’s quality of writing. Somewhat ironically, items one to three reveal that an individual’s actual performance during the reporting year is often not the prime factor in their level of merit. Fourth, there is a general rightward shift in the manner in which PER scores are decided, which is likely due to commanders strategically ranking people higher so as to set them up for future promotions. As a result, a PER score of ‘exceeded standard’ really equates to ‘met the standard’ and a PER score of ‘skilled’ really equates to ‘needs improvement’. Fifth, PDRs—the essential quarterly review—are often done poorly or not done at all. Consequently, individuals do not receive the formal coaching throughout the year and, therefore, may be completely unaware of their own poor performance. This failure to communicate only makes the eventual revelation that much

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more surprising and difficult for the recipient. Sixth, many leaders fail to properly document an individual's accomplishments and development throughout the year. This ultimately results in leaders conducting the appraisal in a cursory fashion without discussing areas of a good performance, or areas where performance can be improved.¹⁷ In some truly unfortunate circumstances, leaders fail to document anything regarding their subordinate's performance or potential, thereby resulting in a highly generalized or ad-hoc feedback session void of any substance. At the extreme pinnacle of personnel mismanagement, managers request that their subordinates prepare an appraisal of their own performance for his or her review and use this appraisal to comply with company policy.¹⁸ Regrettably, this self-assessment practice does occur within the CAF, and it represents the peak of leader laziness. Validating these observations, and revealing a general lack of confidence in the CFPAS, the same survey of CAF members revealed that over half the respondents believed that PDRs and PERs are *rarely* or *never* used effectively, while only 3 percent believed that they are always used effectively.¹⁹ Perhaps an organizational change as to how the CFPAS is employed may be warranted.

The intent of this study is not to exhaustively criticize the CFPAS. It would be difficult to develop an unbiased, objective, and perfectly fair appraisal system for the CAF. Instead, the goal is to highlight how the CAF's interpretation and application of discrete elements of the CFPAS have adversely affected the delivery of critical negative feedback. Fortunately, the CFPAS is in the midst of transformation, which may help eliminate some or

all of the issues mentioned above. There are, however, simple, immediate, and no-cost ways to make better use of the CFPAS. Specific command direction and guidance at the unit level can drastically reduce the impact of the six CFPAS issues mentioned earlier. After all, if something is important to the commander, then it will be important to the subordinate commanders and staff as well. Reinforcing the need for high-quality and concise writing, enforcing the delivery of PDRs at least quarterly, formal teaching of coaching techniques, and disciplining those who fail to invest the requisite time in developing their subordinates are just some ways in which the intended benefits of the CFPAS can be maximized.

Conclusion

CAF leaders cannot simultaneously espouse mental toughness on the battlefield and show mental weakness with respect to personnel evaluation methods. Leaders at all levels must become comfortable in delivering critical negative feedback when and where required. The Canadian Forces Mentoring Handbook suggests, "Leaders are entrusted with a duty to challenge... subordinates."²⁰ This does not mean CAF leaders must adopt boorish or bullying behavior. Indeed, CAF leaders must achieve balance with other key roles: teacher, motivator, guide, counselor, sponsor, coach, and role-model.²¹ Instead, it means embracing concepts such as *fierce conversations* and *tough empathy*. Additionally, all CAF members must become adept at accepting critical feedback as a necessary means to a better end. The subconscious linkage between criti-



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cism and personal attack must be broken. Perhaps inclusion of EI and formal coaching training in the PLQ or CAFJOD courses would aid in these endeavors. Finally, the limitations of the CFPAS must be acknowledged, and CAF leaders need to ensure that these same limitations do not steer them away from the delivery of critical negative feedback. A healthy injection of command direction with regards to the application and implementation of the CFPAS can significantly mitigate the CFPAS shortfalls. Great leadership is characterized by strong, open and honest relationships between leaders and subordinates. As Scott suggests, “The success of our relationship depends on our ability to understand and be truthful with each other.”²² But building trust is neither easy nor quick. CAF leaders must possess the courage to deliver critical negative feedback when warranted, CAF members must foster the resilience to receive it, and CAF evaluation systems must ultimately support the healthy exchange of honest feedback. Failure to deliver critical negative feedback can lead to the wrong people being put into the wrong positions at the wrong time, thereby promoting the cycle of personnel mismanagement.

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DND photo RE2012-0008-008



Elements of clarification on the Canadian Armed Forces' proposed FORCE Incentive Program: A response to Major Draho's "An Alternate View of Incentivized Fitness in the Canadian Armed Forces," (CMJ Vol. 15, No. 3, Summer 2015)

by Michael Spivock

Background

One of the privileges of performing fitness research for the Canadian Armed Forces (CAF), and perhaps more particularly, physical activity promotion research, is that there is no lack of support and interest from our target population. Cast not only as a cornerstone of military performance, but also as a lifestyle that is so relatable, tangible, and personal to many of our men and women in uniform, fitness represents an issue that the chain of command, as well as the general CAF population, are always willing to discuss and debate with us. These exchanges are essential in shaping and improving the fitness standards and programs that we provide to the CAF. Major Draho's opinion piece *An Alternate View of Incentivized Fitness in the Canadian Armed Forces* (CMJ Vol. 15, No. 3, Summer 2015) is a great example of the well-expressed and collegial discussions that we have had with hundreds of CAF personnel over the past two years in the development of the FORCE Incentive program. In fact, the entire project is based upon the results of approximately 15,000 questionnaires and

seven focus groups which sought to uncover what CAF personnel would find motivating and attainable in a fitness rewards program. Our role in such projects is always one of facilitation, striving to find an ideal way ahead at the intersection of the scientific evidence base, the opinions of our men and women in uniform, and the logistical constraints of the CAF.

Major Draho appears to have attended a town hall-style meeting with Commodore Watson, our Director General Morale and Welfare Services, and has written a very thoughtful piece, based upon information provided relating to the upcoming FORCE Incentive Program. Although we respect and appreciate Major Draho's opinions, they appear to be based upon some inaccurate interpretations of the facts. To be sure, a project involving this level of detail in statistics, exercise motivation, exercise physiology, and human resources management can hardly be explained in a few minutes as part of a broad and all-encompassing town hall on morale and welfare issues in the CAF. We are therefore grateful to Major Draho for raising the issue, and to the editor of CMJ for allowing us the forum to provide some background on this complex and important subject.

Structure of the individual rewards program

The first concern brought forth by the author is in relation to “the relative importance of fitness in identifying our future leaders.” Major Draho appears to be working on the assumption that only the top 2 percent of the CAF in terms of fitness will receive points at the promotion board level. In fact, the proposed program (as approved by Armed Forces Council [AFC] in February 2015) is much more comprehensive and inclusive than that (Figure 1). Based upon the results of over 35,000 FORCE Evaluations performed in the CAF, frequency distributions were produced by gender and 5-year age group. Within each group, age and gender-specific scoring tables were developed for each of the four FORCE Evaluation components, wherein each test element is scored on a scale of 100 points, for a total of 400 points on the overall test. The proposal for the incentive program is to establish a bronze, silver, gold, and platinum category, based upon whether-or-not an individual falls above the mean, or 1, 2, or 3 standard deviations above the mean respectively, for their age and gender group.

More concretely, this means that anyone who scores better than 50 percent of their age-and- gender-matched counterparts on the FORCE Evaluation will fall in the bronze category, thus entering the incentive program and becoming eligible for merit board points. If they score better than 84 percent of their cohort, they will attain the silver category and receive maximal merit board points. Outperforming 98 percent percent of one’s counterparts will earn the gold, and finally, the fittest 0.1 percent of people in each age/gender category will attain the platinum level. It is important to note at this stage that although the incentive program structure

was approved by AFC in February 2015, the logistics of assigning and administering rewards are currently being addressed by the Chief of Military Personnel within the CAF, and the rewards themselves could change prior to their scheduled implementation in April 2017.

Intrinsic vs extrinsic motivation: More than meets the eye

Major Draho’s second concern is in relation to the distinction between intrinsic and extrinsic motivation. He correctly points out that ideally, CAF personnel should be intrinsically motivated to exercise and remain fit by virtue of the fact that they wear the uniform. Unfortunately, this is simply not the case in the CAF, as evidenced by the results of the 2008/2009 Health and Lifestyle Information Survey which showed that less than half the CAF can be considered physically active (Born *et al* 2010). The author is also correct in pointing out that a purely extrinsic motivator (i.e. dangling a carrot in front of someone) is only effective as long as the carrot remains. What he failed to consider, however, are the steps between purely intrinsic and purely extrinsic motivation, and the empirical research supporting a shift from one to the other. The incentive program is based upon Self-Determination Theory—the most widely accepted framework for the study of individual human motivation, which presents several ‘shades of grey’ between the poles of purely intrinsic and purely extrinsic motivation (Deci & Ryan, 1995). It posits that external or extrinsic motivation exists upon a spectrum from most to least autonomous, where more autonomous motivation represents a higher likelihood of lifelong behavioural adherence.

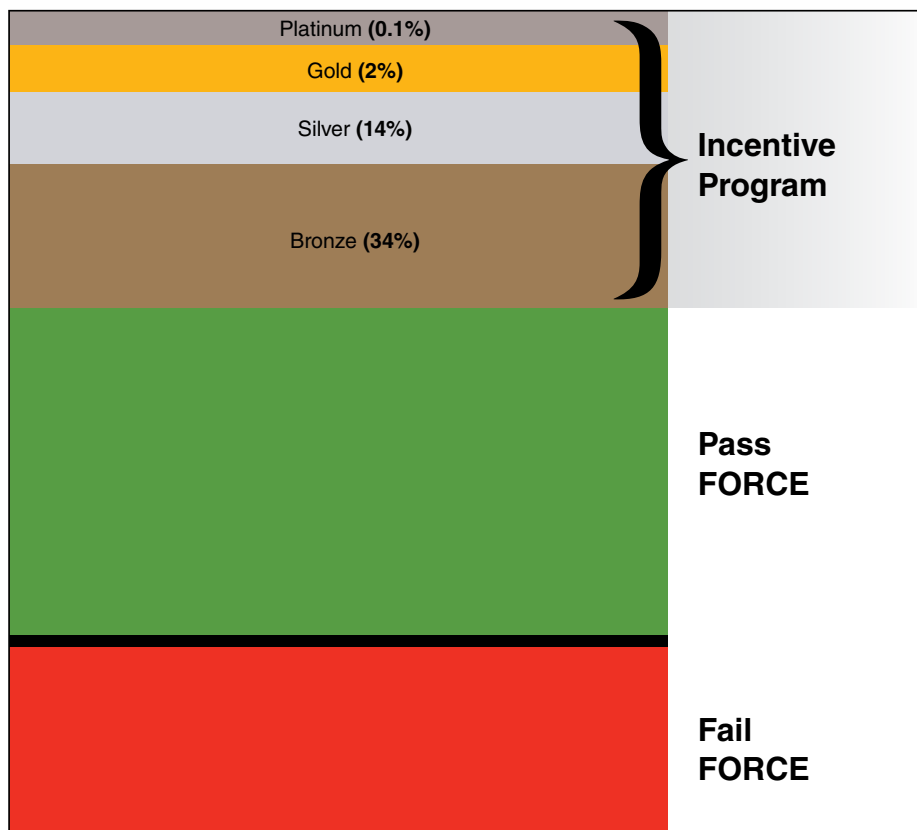


Figure 1 – Individual incentive program structure

Externally regulated behaviour is the *least* autonomous. It is performed because of external demand or possible reward, i.e., “I will perform better on my fitness test if there is a financial incentive to do so.” Introjected regulation of behaviour describes taking on regulations to behaviour, but not fully accepting said regulations as one’s own, playing more to social recognition, i.e., “I will perform better on my fitness test if I get to wear a t-shirt or a pin to show people how well I did.” Regulation through identification is a more autonomy driven form of extrinsic motivation. It involves consciously valuing a goal or regulation so that said action is accepted as personally important, i.e., “I will perform better on my fitness test, if it advances me in my career—promotions are important to me.”

Integrated Regulation is the most autonomous kind of extrinsic motivation. Occurring when regulations are fully assimilated with oneself so they are included in a person’s self-evaluations and beliefs on personal needs, “I will

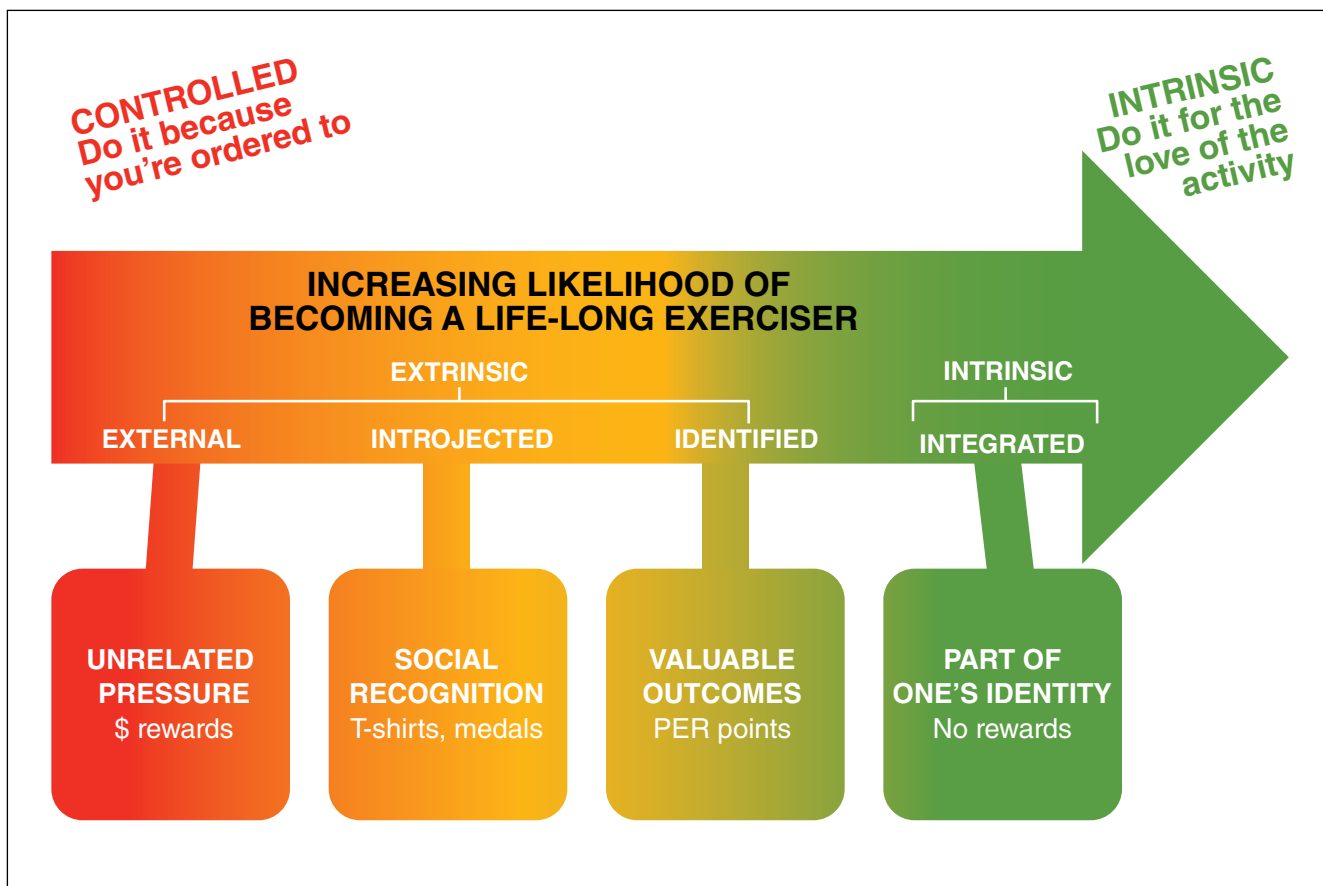


Figure 2 – Different levels of motivation according to Self-Determination Theory

perform better on my fitness test because I am a soldier and this is what I do.” The proposed rewards program includes elements from each of these levels, in order to gradually assist in shifting people from a less to a more autonomous stage. Figure 2 summarizes these different levels of motivation.

Group rewards: Creating a culture of fitness at the unit level

To Major Draho’s concluding point about a culture of fitness, great attention has been given to this concept. In fact, throughout the research process on individual-level rewards, a view was constantly encountered both in the literature and with CAF personnel in surveys and focus groups—that of group-level rewards. The opinion often expressed by lower performing personnel in particular (those who were just barely passing their FORCE Evaluation) was that the 50 percent cut-off required to enter the incentive program at the bronze level could seem quite unattainable to some. This is particularly relevant, given that lower performers on the FORCE Evaluation are at higher risk of mortality/morbidity, as well as being more likely to become an administrative burden on the personnel management system. It was expressed repeatedly in the focus groups that if a lower-performing individual understood that their result was used to calculate an overall unit mean, and that a small improvement on their part could serve to improve the overall standing of their unit, they could be motivated to shave a few seconds off their time on a particular FORCE

Evaluation element. This view is well-supported in the scientific literature as well. When one examines motivation at the group level, analogous studies in the sport literature illustrate the Köhler effect—that lower performing group members have significantly greater motivational gains than higher performing team mates when placed in a group setting (Osborne *et al.*, 2012). Furthermore, this same study showed no evidence of social loafing effects—a situation where weaker team members would take advantage of the group setting and let themselves be “carried” by the stronger ones. Having fitter unit members encourage their less fit colleagues in attaining a common goal and building upon the *esprit de corps* and inter-unit competitiveness inherent to the CAF, a group rewards program shows great promise in creating a culture of fitness at the unit level.

In order to develop the group rewards program, the CAF was broken into seven Commands (i.e., Army, Navy, Air Force, Military Personnel Command, Canadian Joint Operations Command, VCDS, and all the ADMs together as one command), as it was decided that unit recognition would occur at the command level. The research team held several meetings with representatives from each command in order to determine an optimal clustering structure and preferences for the nature of group rewards, as well as logistical requirements in administering these rewards. Units are currently being clustered within each command, based upon operational tempo and time allotted for physical training during the work day in order to compare similar units.

Conclusions

As can be gleaned from this response, despite approval in concept from AFC, several details of the FORCE Incentive Program remain unconfirmed. Details will be provided by official channels as they become available. What is clear, however, is that no fitness test, no matter how intricate and sophisticated, can be expected to single-handedly improve the culture of fitness in the CAF. Improving the operational and health-related fitness of CAF personnel will be a function of what happens on the other 364 days of the year, and not on testing day. The programs, services, leadership, and resources that personnel encounter on a daily basis are key to shaping their lifestyle choices in relation to physical activity. For example, a recent CAF study shows a direct positive link between leadership support/role modeling of physical activity and the likelihood of the leader's subordinates being active. The Chief of the Defence Staff Guidance to the Canadian Armed Forces in 2013 clearly imparts upon leaders the importance of promoting a culture of strong mental and physical fitness and bolstering fitness programs. It is for this reason that the CDS has tasked the Directorate of Fitness with the development of a new, comprehensive CAF Fitness and Wellness Strategy, one which considers and addresses individual, inter-personal, unit, command, and CAF-wide influences on physical activity. Several of the points raised by Major Draho are at the forefront of this strategy, and it is our hope that we can continue to rely upon the input of CAF personnel in this and all other initiatives.

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Mike Spivock graduated from the University of Montreal's School of Public Health with a PhD in Health Promotion in 2007 focusing on the promotion of physical activity from both a health psychology and an environmental perspective. He is currently a Senior Officer – Human Performance Research within the Directorate of Fitness in the Canadian Armed Forces (CAF). As part of this dynamic and interdisciplinary team, his current research portfolio includes several initiatives related to monitoring and optimizing the fitness and operational wellness of CAF personnel. Dr. Spivock also holds a faculty position as an adjunct professor in the School of Human Kinetics at the University of Ottawa where he supervises graduate students, in addition to teaching courses in public health and research methods.



DND photo IS01-2015-0002-006



DND photo RP001-2015-0023-007 by Corporal Nathan Moulton

Canadian and German military members ready for a parachute jump during a parachute training exercise in Kalna, Poland, 29 July 2015, as part of Operation *Reassurance*.

Prescriptions for Defence

by Martin Shadwick

In the run-up to the Chrétien government's 1994 white paper on defence, a host of non-governmental organizations, some permanent, some ad hoc, offered up their recommendations and prescriptions for Canadian defence and international security policy—and concomitant force structures—in the post-Cold War geo-strategic environment. One of the most visible participants, the Canada 21 Council, a blue-chip group of former government officials, retired senior officers, and academics, argued that in the new strategic context there was “no obvious need to maintain the wide range of air, ground, and anti-submarine conventional forces needed to repel a military attack” and that in any event, the Canadian defence budget “today cannot not meet the rapidly increasing costs of a modern, high-technology military. Unless policy is changed quite radically, the result will be that Canada will have simply a miniature model of a traditional ‘general purpose’ military force—one with just a little of everything, but not enough of anything to be effective in any conceivable situation.”

To the Canada 21 Council, the “new global circumstances” and the “reality of financial stringency” demanded a restructured military establishment “that would be capable of assuring our territorial sovereignty, assisting in the protection of North America, and participating in common security operations to a greater extent than is possible now.” The protection of territorial sovereignty,

a task falling primarily upon the air force and the navy, required “an ability to know what is going on within our borders, in our airspace, and in our contiguous oceans.” By contrast, participating in common security operations, “usually under the aegis of the United Nations, implies having reasonable numbers of combat-ready, well-trained troops, with fully adequate equipment, able to respond to requests in well-defined circumstances.” The Council advocated the “adoption of a Canadian policy that would specify the level of military operations above which Canada would decline to participate,” adding that it did “not believe that Canada either wishes to or could afford to maintain armed forces that would be capable of undertaking a peace enforcement role against modern, heavily-armoured military forces.” Moreover, “if we wish to expand and improve the armed forces’ ability to support common security missions, while also protecting territorial sovereignty, operating the search and rescue system, maintaining stand-by forces for aid to the civil power, and being prepared to act in national disasters, we must find the necessary resources by reducing or eliminating some current roles. This, in turn, implies the reduction or elimination of some of the armed forces’ traditional military capabilities.”

The Council therefore proposed that: (a) current Canadian military capabilities “be progressively eliminated where they depend upon the use of heavy armoured formations, heavy artillery, air-to-ground fighter support, and anti-submarine warfare techniques”;



DND photo SW2015-0228-734 by Corporal Felicia Ogunniya

HMCS *Moncton* sits at anchor in Pond Inlet, Nunavut, during Operation *Qimmiq*, 21 August 2015.

(b) the recently acquired *Halifax*-class patrol frigates be retained “to patrol our contiguous oceans,” but that “they should abandon their anti-submarine role and should, in the long term, be replaced by much smaller ships, more appropriate to the new role than is the present fleet;” (c) planning for replacement submarines be shelved in favour of acquiring “three peacekeeping support, multi-role replenishment ships;” and (d) that the “fighter fleet should be reduced by about two-thirds.”

Although the prescriptions offered up by the Canada 21 Council did not find favour with the architects of the 1994 white paper on defence—most fortuitously, given subsequent developments in the international strategic landscape, even if the Chrétien government remained vulnerable to criticisms that it failed to back an essentially sound white paper with adequate funding—the deliberations and reports of such bodies as the Canada 21 Council served a constructive purpose by challenging the status quo, advancing thoughtful analysis, and contributing to a Canadian defence policy debate that is all too often conspicuous only by its absence. Today, as Canada confronts the requirement for a thoroughgoing review of defence policy—one prompted and shaped by a ‘witch’s brew’ of tough economic times, profound questions over the fiscal sustainability of Canada’s existing national defence program, and a tough, unpredictable and frankly disconcerting geo-strategic environment—the need for thoughtful and thought-provoking input from the widest possible array of voices on the defence of

the realm has seldom been greater. One might disagree, indeed, disagree most strongly, with some of the proffered prescriptions for defence, but time spent in thoughtful debate is seldom wasted.

One recent, albeit controversial, contribution to this process has been a June 2015 report by Professor Michael Byers, *Smart Defence: A Plan for Rebuilding Canada’s Military*. Published by the Rideau Institute and the Canadian Centre for Policy Alternatives, the report enumerates a range of contemporary defence challenges in Canada, including deficit-cutting burdens that have fallen heavily upon DND, procurement delays that have compounded the spectre of inflation, and perceived mismanagement in the procurement system. The report points to a “crisis” in defence procurement but posits that the “crisis” presents “both a challenge and an opportunity...to rebuild the military from the ground up, and do so in a way that addresses this country’s actual needs.” By adopting a “smart defence” approach to defence policy and defence procurement rooted in NATO concepts of specialization and burden sharing, the report envisages a substantial saving—“more than \$10 billion over twelve years”—in Canadian defence spending, an increase in “capabilities on most fronts, including Arctic and coastal surveillance, search and rescue, disaster and humanitarian relief, and peacekeeping,” and the maintaining of jobs in “the Canadian defence, aerospace, and shipbuilding industries by honouring or renegotiating existing contracts and adding the possibility of Canadian-made [fixed-wing] search and rescue [aircraft].”

DND Photo WT03-2015-0012-01, Joint Task Force Ukraine



Canadian Armed Forces personnel await transportation to the International Peacekeeping and Security Centre in Yavoriv, Ukraine, after arrival at L'viv Danylo Halytskyi International Airport, 25 August 2015, during Operation *Unifer*.

DND photo CK2004-0065-22d by Corporal Robert Boittrill



CT-155 Hawk.



DND photo 739-IMG0025

A CP-140 *Aurora* flies by Mount Rainier in the State of Washington.

Although separated by a span of more than 20 years and a plethora of significant jolts to the strategic landscape, it is intriguing that both the report of the Canada 21 Council—*Canada and Common Security in the Twenty-First Century*—and Michael Byers’ *Smart Defence: A Plan for Rebuilding Canada’s Military* embraced similar examples of role specialization as pivotal elements of their respective rebuilding strategies. Similar, too, was their strong support for such roles as Arctic and coastal surveillance, search and rescue, disaster and humanitarian relief, and peacekeeping. It is also noteworthy that strong public support for such roles surfaced in DND-commissioned polling from both the early post-Cold War period and recent years.

The *Smart Defence* report is informed by an analysis of the types of missions undertaken by the Canadian Armed Forces between 2000 and 2014. This analysis identified six “core missions” including: (a) the surveillance and defence of coastlines and airspace in Canada; (b) search and rescue and disaster relief in Canada; (c) humanitarian, peacekeeping and combat missions against non-state actors overseas; (d) naval patrol and interdiction missions against non-state actors overseas; (e) air strikes against ground targets overseas, in coalition operations involving air superiority; and (f) air transport. “These six core missions,” notes Byers, “provide essential background, and thus a starting point for

planning the rebuilding of Canada’s military. Most significantly, this analysis shows that the Canadian Armed Forces are never actually tasked with high intensity state-to-state combat missions.”

This benchmarking of recent missions in a study promoting increased specialization has drawn criticism from David McDonough of the Conference of Defence Associations Institute. “By so doing,” argues McDonough, [Byers] assumes that future missions for the CAF will be the same as past missions, which effectively embodies what military strategists try to avoid—namely, fighting the last war. Uncertainty about the future means being careful not to assume the next conflict will be like the last one. Who would have guessed before 9/11 that the CAF would find itself focused on stabilization and counterinsurgency operations in Afghanistan? Or, from the perspective of a few short years ago, that it would be currently undertaking bombing missions in Syria/Iraq and busy training Kurdish forces.” McDonough criticizes the fifteen year timeline because it excludes Canada’s role in the Kosovo conflict and also posits that “the report...pays little attention to increasingly sophisticated capabilities—from anti-ship cruise missiles to advanced (and possibly portable) surface-to-air missiles, to unmanned vehicles—that have proliferated to a growing number of actors.”



DND photo CX2014-0664 by Captain Trevor Field

A CH-149 *Cormorant* flies over Lima, Peru during a functional flight test as part of Exercise *Cooperation III*, 22 April 2014.



DND photo ET2011-0153-07 by Master Corporal Daniel Mallette

HMCS *Cornerbrook* departing C-Jetty at CFB Esquimalt for sea trials.

The cornerstone of the *Smart Defence* prescription, and certainly the largest generator of its projected financial savings, is its plan to cancel the planned acquisition of the F-35—on cost and performance grounds and because it is single-engined—and “extend the CF-18 fleet with 30-40 new F/A-18 *Super Hornets*.” The latter “could then be used for day-to-day operations, including training, while the CF-18s are rested in climate-controlled hangars

for situations requiring a greater number of [fighter aircraft].” The resulting savings would then be applied to the purchase of 40 to 50 BAE Systems *Hawks* (or a “similar” aircraft). The latter would be used to replace the leased *Hawks* currently utilized as fighter-trainers and the *Tutors* utilized by the Snowbirds. The new aircraft would also be “available for close air support, should they be needed when Canadian soldiers are deployed on peacekeeping or other missions overseas.” This approach, argues Byers, would “ensure that new [aircraft] arrive before the CF-18s have to be retired, while providing a 10-15 year ‘bridge’ during which time it should be possible to ascertain whether a completely new fleet of fighter jets is needed, or whether geopolitical or technological developments (e.g., dogfight-capable drones) have rendered such planes an unnecessary component of Canada’s military.”

This is, to be sure, an unorthodox proposal, albeit one with some intriguing operational and other attributes—not least, in some quarters, its ability to buy time on a contentious procurement issue. But, as various commentators have noted, it is difficult to see how a small fleet of only 30 to 40 *Super Hornets* could adequately address Canada’s national (i.e., air sovereignty), NORAD, NATO and other commitments. Supplementary CF-18s and *Hawks* may appear attractive on paper, but would introduce their own complications, including the lifespan and upgrade status of any retained



DND photo LE2015-0056-21 by Master Corporal Mélanie Ferguson

A Company of the Immediate Response Unit [West] leaves Prince Albert in LAV IIIs [6.0] in a convoy to travel to a fire affected zone of Saskatchewan during Operation *Lentus 15-02*, 13 July 2015.

CF-18s, their availability rate, the *very* modest level of commonality between the *Hornet* and the *Super Hornet*, and the number of *Hawks* that could readily be diverted from domestic training and air demonstration tasks to such functions as close air support (assuming, of course, that they would be adequate in some CAS scenarios). If one is prepared to forego the stealth and sensor attributes—admittedly, expensive attributes—of a fifth generation fighter and remains troubled by the F-35’s single engine, a mixed fleet option more palatable than that advanced by *Smart Defence* might be a force of more than 30 to 40 F/A-18E/F *Super Hornets* and EA-18G *Growlers*. Some form of successor to the leased *Hawk* fighter-trainers (and, ideally, the air demonstration *Tutors*) would, of course, still be required. The degree to which that type might hold a secondary CAS or other commitment would be worthy of study.

The air element of the Byers plan also argues that “there is no need to acquire new [maritime patrol] aircraft, including unmanned drones,” but does recommend the upgrading of four additional *Auroras* (thereby upgrading all 18 aircraft in the inventory). This is an intriguing proposal, but one harbours reservations about the absence of maritime patrol UAVs and the cost-effectiveness of diverting funds from a longer-term *Aurora* successor to the upgrading of four additional aircraft. The plan also advocates the expansion of the *Cormorant* search and rescue fleet by five to fifteen aircraft, with the final number dependent upon Ottawa’s acceptance or rejection of a related Byers plan to increase SAR reliance upon long-range helicopters while reducing the attention

devoted to fixed-wing SAR aircraft and their SARTECHs. A lessened role for fixed-wing SAR aircraft, posits Byers, could generate procurement opportunities for suitably-equipped Viking *Twin Otters* and Bombardier Q400s. Some additional *Cormorants* are clearly required (it is curious that there is no reference to potential VH-71 conversions) but the case for a significantly reduced role for fixed-wing SAR, and a dramatically expanded *Cormorant* fleet, remains insufficiently proved.

Byers recommends that the contract for the “performance-compromised” *Harry DeWolf*-class Arctic Offshore Patrol Ships (AOPS) be renegotiated and “twelve high-speed purpose-built offshore patrol vessels...utilizing off-the-shelf designs, for patrol and interdiction on the Atlantic and Pacific coasts,” substituted at a total cost of \$500 million—thereby implying a comparatively small (and not necessarily ideal) vessel. The new class would replace the twelve *Kingston*-class maritime coastal defence vessels. The Canadian Coast Guard’s projected heavy icebreaker, the *John G. Diefenbaker*, would be axed in favour of two-to-three medium icebreakers. The latter, and existing medium icebreakers, would receive light deck guns. Although Byers is not alone in his lack of enthusiasm for AOPS, its cancellation, and renewed reliance upon the Coast Guard, would once again leave the RCN devoid of an Arctic capability. Other analysts, perhaps reconciled to the AOPS, have pointed to the utility of an embarked *Cyclone* helicopter, but under current plans the AOPS will possess only a limited ability—certainly not a frigate-like ability—to operate the *Cyclone*.

In addition to cancelling AOPS, for a projected saving of \$3 billion, the Byers plan would cancel the *Victoria*-class submarine (for a projected saving of \$2 billion), proceed with the building of two *Queenston*-class joint support ships, and reduce the projected fleet of Canadian Surface Combatants (CSC) from fifteen to twelve ships. The latter would “be equipped as large corvettes or small frigates rather than air-and-missile defence-capable destroyers, in recognition that the Navy’s current and future likely missions concern non-state actors” (a recommendation that would save a not insignificant amount of funding). No specific alternative is identified, but the description could favour something along the lines of the Dutch *Holland*-class. In his review of *Smart Defence*, David McDonough criticized the submarine recommendation, arguing that Byers was too quick to dismiss their advantages, “including their range and endurance, capacity for surveillance and intelligence, and ability to operate in much more contestable and dangerous regions, not to mention their impressive combat capabilities.” He also notes that, without submarines, Canada “would be largely left out of the water-space management arrangements that provide information on submarine activities of other nations...” The CSC recommendation fared no better, with McDonough positing that Byers had “ignored the value of larger vessels in terms of range, endurance, and sustainability, as well as their multi-purpose capabilities... He also overlooks the value of air defence, especially in littoral zones and even against non-state actors.”

On the army side of the ledger, Byers argues that, “... as with peacekeeping, operations against non-state actors demand lighter equipment than state-to-state warfare. Heavy armour is unnecessary and can actually impede efforts to ‘win hearts and minds.’”

He consequently praises the original acquisition of the LAV III, and recommends that the current upgrade project continue. So too should the acquisition of 500 Textron Tactical Armoured Patrol Vehicles (although he notes that “modifications (‘Canadianization’) requested by [DND] have caused some unfortunate delays”), and “armoured trucks” (presumably a reference to the subsequent July 2015 order for 1500 Mack 8x8 standard military pattern trucks and 150 armour protection systems). Sensible findings for the most part, although there is continuing room for debate on the future utility of heavy armour.

On balance, the Byers report represents a useful addition to the debate over role specialization and advances some intriguing, albeit controversial and challengeable, force posture and procurement options. Some of its identified options are worthy of further study or could serve to stimulate debate on follow-on scenarios. Repackaging the CSC project as a mix of full-scope frigate/destroyer-type vessels and a smaller number of vessels similar to the *Holland*-class wouldn’t be ideal, but could prove intriguing. Further role specialization is unavoidable, but, as in the past, the real challenge is selecting which capabilities to retain or retain in part, and which to jettison. The cost of ‘getting it wrong’, as Colin S. Gray reminded us in another study from 1994, *Canadians in a Dangerous World*, could prove very steep.

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



DND photo ET2015-0061-01 by Leading Seaman Zachariah Stoga

HMCS *Victoria* returns home through the Straits of Juan De Fuca, from operations with the United States Navy (USN), 26 February 2015.

What Soldiers Do: Sex and the American GI in World War II France

by Mary Louise Roberts

Chicago and London: University of Chicago Press, 2013

351 pages, \$30.00 US

ISBN-13: 978-0-226-92309-3

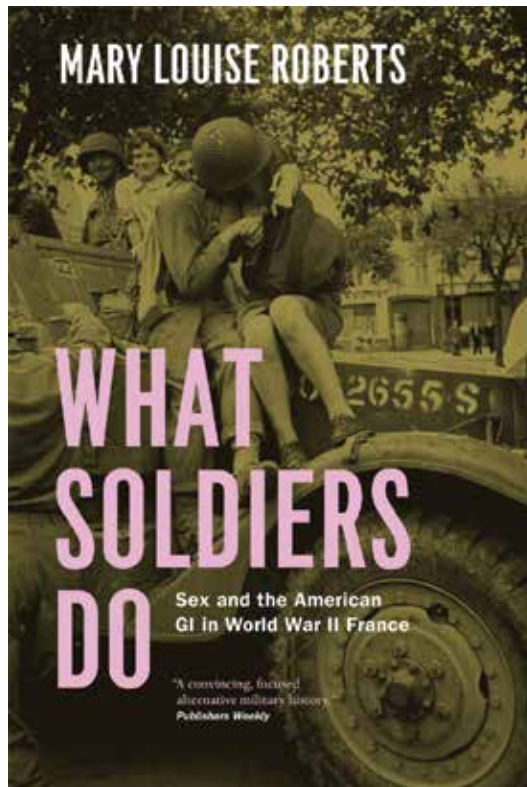
ISBN-10: 0-226-92309-6

Reviewed by Curran Egan

Recent developments in Canada have demonstrated that military leaders can no longer afford to ignore sexuality or to imagine that it has no bearing on the effective functioning of military organizations. In *What Soldiers Do*, University of Wisconsin historian Mary Louise Roberts argues that American soldiers' attitudes about sexuality—from the most senior generals to privates in infantry and support units—had profound political and strategic implications in France during the Second World War. Roberts contributes to a growing body of historical literature examining the impact of sexuality in modern warfare, alongside Atina Grossmann's study of occupied Germany (*Germans, Jews and Allies: Close Encounters in Occupied Germany*, Princeton University Press, 2007) and Norman Naimark's chapter on rape by the Red Army in *The Russians in Germany: A History of the Soviet Zone of Occupation, 1945-1949* (Belknap Press of Harvard University Press, 1995).

Roberts argues that American soldiers developed an eroticized image of France which ultimately "complicated the postwar French bid for political autonomy" (P. 2). American military propaganda encouraged GIs to view French women as a means to the fulfillment of their sexual fantasies. On the ground, the fulfillment of these desires played out in the context of a power dynamic which favoured the materially wealthy, armed GI over the scores of destitute and dislocated French women, many of whom turned to prostitution to survive in the chaos of newly "liberated" France. Political relationships mirrored intimate relationships, as American commanders privileged the health of GIs over that of French women while insisting on the right to control French bodies.

What Soldiers Do consists of three parts, each of which explores one manifestation of GI sexual fantasy in France: romance, prostitution, and rape. In Part I, Roberts explores the origins of GI perceptions of France and the French as hyper-sexualized. Many GIs first encountered the stereotype of the sexually available French woman from fathers or other relatives who served in France during the First World War. American military propaganda, especially the military gazette *Stars and Stripes*, encouraged soldiers to view the invasion of Europe as a mission to rescue French women



from Nazi occupation, for which they expected to be rewarded with affection and physical intimacy (PP. 59-63). Early encounters with civilians in the war-ravaged Norman countryside reinforced GIs' perceptions of the French as backward and shameless about bodily functions, and contributed to the belief that the French were more sexually promiscuous than Americans, when, in fact, the opposite was more likely true (PP. 53-54). While GIs believed French women were hypersexual, they perceived French men as effeminate, incapable of defending their country, and therefore undeserving of exercising control over "their" women. American condescension to French manhood coloured interactions at every level, from intimate encounters in the bocage, to the question of French self-government following liberation.

Part II examines the impact of the insatiable GI demand for prostitution, and the social and political consequences of the commodification of French women's bodies for the gratification of foreign soldiers. Although prostitution was legal and regulated in pre-war and occupied France, the arrival of thousands of GIs looking for sex quickly overwhelmed the traditional system of *maisons closes*, and generated an uncontrollable market in which the poor, young, and often inexperienced women who worked as prostitutes were extremely vulnerable. American officers generally did not care if their soldiers had sex with prostitutes, so long as their soldiers did not contract venereal disease. Roberts observes that "in the army officer's view, the necessarily complete command of the GI's body gave them dominion over the French woman's body as well" (P. 160), and the imperiousness with which American authorities attempted to control prostitutes fuelled conflicts with French civil authorities.

In Part III, Roberts situates the problem of GI rape within the context of the Jim Crow-era United States, and French struggles to come to terms with their loss of global standing. Both American and French authorities assumed rape to be a problem specific to black GIs, and accorded the testimony of French women different weight, depending upon the race of their alleged rapists: women who claimed to have been raped by white GIs were assumed to be prostitutes (P. 211), while accusations against black soldiers received so little scrutiny that "... white soldiers could rape a French white woman with impunity if an African American was in the vicinity and could be blamed" (P. 220). This pattern of "racial scapegoating" (P. 254) was made possible by the coincidence of southern American racism and French colonial prejudices exacerbated by the prospect of France losing control of African colonial possessions.

Roberts, an American historian of France, combines extensive research in both French and American archives to forge a narrative

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which is by turns entertaining and horrifying. She draws upon and seamlessly integrates a wide range of sources, including the records of the US Army and French civilian administrations, personal letters and memoirs from GIs and prostitutes, and French newspapers and American propaganda publications. By incorporating the voices of American GIs and generals, and French politicians, prostitutes, and peasants, Roberts illuminates aspects of the Normandy campaign which have long awaited their historian. While *What Soldiers Do* makes a significant contribution to the historiography of the liberation of Europe, its implications are much broader. As Roberts indicates in the conclusion, "... this book suggests that military historians dismiss at their own risk sexual relations as an ahistorical

sideshow of combat" (P. 260). Roberts not only makes a compelling case that military history and the history of sexuality can no longer exist in isolation from one another; she has produced a book which calls upon readers to think about how military operations influence society and culture, and how social and cultural practices in turn affect military objectives.

Lieutenant Curran Egan holds an Honours BA in International Relations from the University of Toronto, and an MA in History from McMaster University. He is currently a doctoral candidate in History and Gender Studies at McMaster University, and serves as a reserve officer in the Royal Regiment of Canada in Toronto.

Behind the Front: British Soldiers and French Civilians, 1914-1918

by Craig Gibson

Cambridge: Cambridge University Press, 2014

453 pages, \$108.95

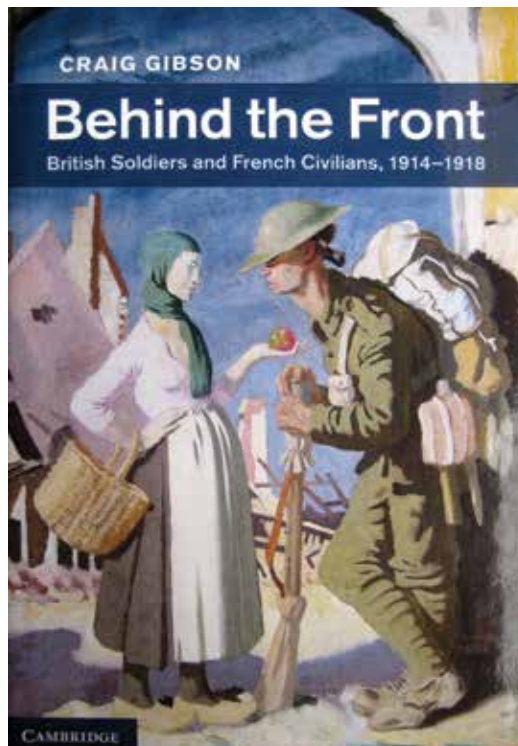
ISBN: 9780521837613

Reviewed by
Anthony J. Minna

The image many people have of the Western Front in the First World War is one of deadly trench warfare: soldiers being shot, shelled, and gassed in a murderous, multi-year stalemate. Without denying the wretchedness of life in the trenches, this understanding of soldiering in France and Flanders during the Great War needs to be broadened in two ways.

First, as squalid and dangerous as life was in the trenches, the fighting itself was far more lethal during the phases of mobile warfare in 1914 and 1918 and during the major offensives launched in the middle years in attempts to break the stalemate. A trench was a place of relative safety compared to an open battlefield.

In *Behind the Front*, Canadian historian Craig Gibson invites us to broaden our understanding of British and Dominion soldiers' wartime experience in a second way. When not participating in battles, soldiers of the British Expeditionary Force (BEF) spent most of their time outside the trench system. Indeed, hundreds of thousands of soldiers seldom if ever set foot in a trench. What almost all soldiers did do at one time or another, however, was interact, in a whole series of ways, with civilians in unoccupied France and Belgium. Gibson explores the multifaceted relationships that developed between those soldiers and civilians, and, far from relegating them to footnote status in the history of the conflict, sees



them as an integral part of the Allied war effort and a contributing factor to ultimate victory in 1918.

This is not to say that soldiers and civilians always got along. Gibson unflinchingly recounts the good and the bad. BEF soldiers were generally welcomed by French and Belgian civilians in the war zone, and, in addition to defending them and fighting for the liberation of their countrymen, they improved infrastructure in towns and frequently assisted with household chores and the harvest when billeted in private dwellings. Civilians, for their part, billeted soldiers, cooked them meals far better than the army rations they received, and served and sold them alcoholic beverages.

But soldiers and civilians are human beings, and war brutalizes human beings. Soldiers vandalized and stole from private homes, pillaged evacuated towns, and sometimes

assaulted and killed civilians. Rape was likely not common, but it happened. Perhaps surprisingly, civilians also attacked and even killed soldiers. Some civilians grossly overcharged soldiers for food, drink, and other items, prompting one BEF officer to claim 'they robbed us right and left.' Friends could also be foes: behind the front lines, violent fights broke out between Canadian soldiers and Belgian civilians (and between British soldiers and Australian soldiers) on several occasions.

War profiteers notwithstanding, civilians were first and foremost casualties of the Great War. Gibson describes many of the ways that the proximity of armies destroyed civilians' lives, even those fortunate enough to be living on the 'unoccupied' side of the front. Thousands of civilians died as a result of German shelling, aerial bombardment, and the effects of poison gas, which could be felt up to twenty-five miles behind the front. Children and farmers who were playing in or working the fields near BEF training facilities were killed or maimed by grenades and shells that had

failed to detonate. The village of Coigneux was destroyed when a BEF munitions dump exploded during the Somme offensive. Other explosions at munitions dumps and accidents involving pedestrians and military vehicles killed and injured hundreds of people unfortunate enough to be in the wrong place at the wrong time.

Wars are generally fought by young men, and stationing millions of young men among a civilian population inevitably leads to many forms of contact, one of the more obvious ones being sex. Gibson devotes a chapter to the subject. Sexual relations between BEF soldiers and civilian women ran the gamut from one-night stands to storybook romances culminating in marriage, to prostitution being practiced by thousands of ‘registered’ professionals and ‘amateurs’ alike. The number of British and Dominion soldiers hospitalized for venereal disease, in the thousands at any given time, and well into the hundreds of thousands during the course of the entire war, was of no insignificant concern to the command of the BEF.

Despite constant friction, Gibson believes that the BEF made a good faith, and, on balance, successful effort to win the hearts and minds of civilians living in the war zone. When crimes against civilians and their property were reported to the BEF, specially appointed officers investigated the claims, and, where the claims were found to be justified, punishment was meted out or restitution provided. To be sure, justice was not always served. Commanding

officers, fearful for the effect upon the morale of their troops, were frequently reluctant to cooperate with investigations or to enforce punishments. Civilians sometimes submitted bogus claims in the hope that unsuspecting investigators would blindly grant restitution. Even in a life-and-death struggle where trust and cooperation among friends and allies is critical to victory, brazen self-interest can still dictate people’s actions.

But the efforts that were being made to protect the security and property of civilians in the area behind the front, which was home to industry, mines, and ‘the most productive farm lands in Europe,’ were not lost upon those civilians, or their national authorities. Gibson counts the farmers and miners who kept those lands productive, sometimes with assistance from the BEF, and not infrequently within range of the German guns, as ‘among the unsung heroes of allied victory.’ In the common cause and the mutual sympathy that developed between soldiers and civilians over the course of the war, Gibson sees both a critical source of the soldiers’ fighting spirit and a material reason that civilians offered similarly vital support to the BEF.

Anthony J. Minna is a lawyer, living in Toronto, formerly the CEO of UBS Trustees (Cayman) Ltd. He holds a history degree from the University of Toronto and law degrees from the University of Toronto and the University of Brussels.

The Battle of Lake Champlain: A ‘Brilliant and Extraordinary Victory’

by **John H. Schroeder**

Norman, OK: University of Oklahoma Press, 2015

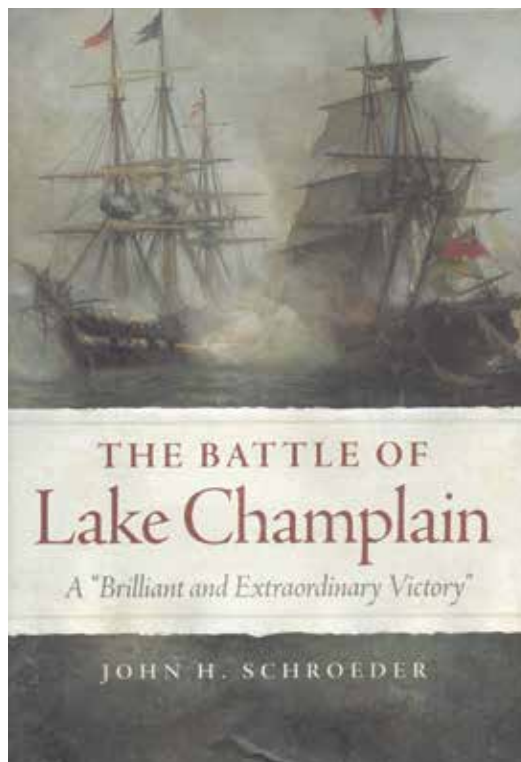
xiii+164 pages, \$26.95 (US)

ISBN 978-0-8061-4693-5 (cloth)

Reviewed by

John R. Grodzinski

In *The Battle of Lake Champlain*, American historian John Schroeder offers a balanced and well-written perspective of naval affairs on Lake Champlain in 1814. The author places the campaign in the broader context of the Anglo-American War of 1812, examines the reasons for the American victories at Plattsburgh and on Lake Champlain, and considers the subsequent diplomatic and political fallout in America and Britain. In 1812 and 1813, military and naval campaigns in the northern theatre—the provinces of Lower and Upper Canada and the adjacent American states—proved inconclusive, while the successes of American



warships and privateers on the ocean may have boosted American confidence, but had little effect on British naval or economic power. In 1814, the character of the war changed, when, after having spent two campaign seasons invading Canada, the United States now found itself “unprepared and vulnerable” (p. 23) to invasion, including an offensive against Plattsburgh using a portion of a traditional north-south invasion corridor.

Whereas the ‘Great Warpath,’ the military corridor between Ticonderoga and Montreal proved important in the Seven Years’ War and the War of American Independence, it remained a backwater in 1812 and 1813. In the summer of 1814, it witnessed the only major British offensive in the northern theatre as nearly 10,000 troops were assembled near Montréal, while a squadron of four warships and a flotilla of 12 gunboats were readied

at Île aux Noix, the naval station on the Richelieu River; their objective was to reduce potential strikes against Lower Canada by seizing Plattsburgh and securing control of Lake Champlain. Facing them were 4,500 well-trained American regulars and volunteers, and a naval force similar in size to that of the British.

British naval preparations were marred by several “highly questionable” (p. 57) decisions made by Commodore Sir James Yeo, the Commander in Chief on the Great Lakes. Yeo not only hoarded the stores that would have allowed the timely completion of the 37-gun frigate *Confiance* at Île aux Noix, for his own purposes, he also appointed Captain George Downie to replace Captain James Fisher as naval commander on the eve of the campaign. Meanwhile, the fortunes of the army appeared to increase when it was learned that most of the regulars had departed Plattsburgh to reinforce a spent division at American-occupied Fort Erie in the Niagara Peninsula.

Facing light resistance during the march to Plattsburgh, Lieutenant-General Sir George Prevost, the Captain General and Governor in Chief of British North America, and commander of the expedition, decided to postpone an immediate assault on Plattsburgh until Downie arrived on the lake. After expending considerable effort to complete his flagship, Downie signalled his readiness to engage the American squadron under Commodore Thomas Macdonough on 11 September 1814, concurrent with Prevost’s assault on the defences of Plattsburgh.

The balance that both squadrons shared in manpower (917 British versus 820 American) and weight of metal (1,864 tons for the 92 British, and 2,033 tons for the 86 American guns and caronades) (p. 73) ended with the *type* of ordnance they carried. The British enjoyed superiority in long guns, giving them a weight of 1,128 pounds against 759 pounds for the Americans. Furthermore, Downie and his subordinates were seasoned naval officers, whereas this would be Macdonough’s first battle. Leadership can have a profound effect on battle, and in this case, the “Americans were better prepared and had planned more carefully than the British” (p. 84).

Instead of giving Downie the benefit of a long range engagement on the open lake, Macdonough positioned his vessels in Cumberland Bay, where the closer quarters would allow him to employ all his guns. Surprisingly, Downie accepted battle under these conditions, and within a short time, enemy fire had killed him and pounded his ships into submission. Witnessing the defeat of Downie, Prevost cancelled the attack on Plattsburgh, and on the following day, he marched his troops back to Lower Canada.

The British could find little comfort in knowing that the damage to the American squadron and the few regulars left at Plattsburgh had spared Montréal from invasion. As the reality of the defeat on

Lake Champlain and Prevost’s withdrawal sank in, repercussions “surfaced unevenly” (p. 91) in America, Britain, Canada, and at Ghent, although the outcome at Plattsburgh did “not shorten the war” (p. 109).

The British and American governments “reacted similarly to the first reports” (p. 91) of the campaign. The American war effort received a much needed boost as Congress voted additional funds for troops and equipment, while Britain launched a new campaign in the Gulf of Mexico. The setbacks at Baltimore and Plattsburgh, and the subsequent misfortune at New Orleans, did not end the British presence on the Atlantic or Gulf Coasts of North America. British forces had occupied the Territory of Massachusetts, continued raiding the Atlantic coast, and maintained the naval blockade of the United States, while 37,000 British regular troops guarded the frontiers of British North America, and their naval squadron dominated the strategically important Lake Ontario.

The threat of renewed war in Europe proved crucial in ending the Anglo-American conflict. Aspirations for any land grab ended and a peace was sought quickly, as European interests reasserted their premiere position in British policy, a factor that influenced British decisions during the war more than events in North America did, and an element that this book ignores. One last casualty from the ruins of the Plattsburgh campaign was the governor of British North America.

A nasty campaign led by Sir James Yeo succeeded in having Prevost blamed for the defeat on Lake Champlain. In March 1815, Prevost was recalled to London, where he died before a hearing to clear charges the navy had brought against him could sit. Prevost’s reputation has suffered to this day.

The Battle of Lake Champlain is an unparalleled study of the Battle of Lake Champlain. Drawing upon American and British archival sources and more recent secondary works, the author has crafted a succinct and balanced narrative, thus making an important contribution to our understanding of the dramatic events in this theatre during the War of 1812.

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BOOK REVIEWS

Forgotten Victory. First Canadian Army and the Cruel Winter of 1944-45

by Mark Zuehlke

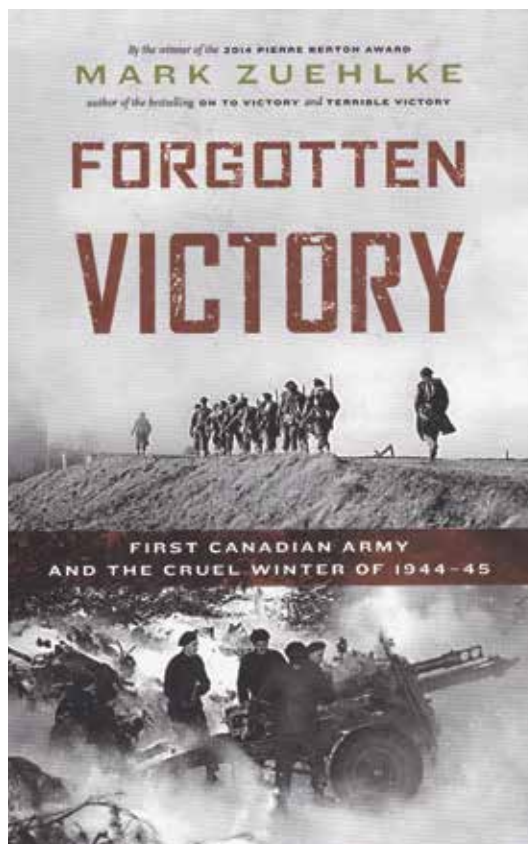
Vancouver: Douglas & McIntyre, 2014
528 pages, \$37.95 HC

Reviewed by Bernd Horn

This is the eleventh book in Zuehlke's celebrated Canadian Battle Series. In his latest book, Zuehlke, an award winning and highly acclaimed military historian, tackles the story of the Canadian Army and its role in the victory in Europe through the bitter Rhineland Campaign. Zuehlke is abundantly clear on his thesis, namely that Operation *Veritable*, which began on 8 February 1945, and lasted for 31 days in abominable conditions (in fact the worst winter in northwest Europe in 50 years), is largely a forgotten battle, despite its critical contribution to ending the war in Europe.

The author picks up the story with the Allied failure of Operation *Market Garden*, Montgomery's master plan for breaking through the German defences and driving to the heart of industrialized Germany. He moves quickly into the impact of the German Ardennes offensive and the differences of opinion among the Allied commanders on how best to react to it. These two events set the stage for the last great Canadian offensive of the war. The fighting was savage, Canadians forced to fight a tenacious enemy, as well as harsh and bitter weather and unforgiving terrain. Although Operation *Veritable* progressed slower than desired, by 10 March 1945, it was finally over. The path was now open for the final Allied advance that would lead to victory in Europe. And, as Zuehlke asserts, it was the First Canadian Army that was responsible, having just won one of the war's most decisive victories.

Not surprisingly, particularly considering that Zuehlke was the 2014 Pierre Berton Award recipient, the book is exceptionally well written and meticulously researched. Zuehlke's Canadian



Battle Series is highly acclaimed, and he brings the same expertise and attention to this volume as he did to those before. His writing is exceptional, and he handles complex and potentially tedious military detail with such ease and expertise that the narrative flows quickly, with almost a novel-like intensity. This literary outcome is due to his mastery of combining first person dramatic accounts and experiences with contextual meticulous details of the larger operation.

The research, as noted already, is similarly first-rate, and the book contains a wealth of endnotes that consist of excellent primary and seminal secondary sources. The work also includes a comprehensive select bibliography, and a very thorough index. Moreover, the book also possesses a series of informative appendices that outline Allied and German commanders, the organizational make-up of the Canadian Army in the Rhineland Campaign, and a helpful table of rank equivalency.

Further adding to the value of the book are seven very detailed maps that allow the reader to position the major operations and battles geographically. Adding to this level of visualization is an insert of 29 outstanding black-and-white photos that also provide visual support to the text. The select photos highlight the key personalities, equipment used, and the miserable terrain in which the Canadians were required to fight.

This book is excellent. Furthermore, I strongly recommend it as a must read for military practitioners, students of Canadian military history, or anyone with an interest in the Second World War and/or military affairs.

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