CORRESPONDENCE

All correspondence, contributions, and submissions should sent to

The Canadian Army Journal
c/o the Editor at CLS detatchment Kingston (DLCD),
PO Box 17000 Station Forces,
Kingston, Ontario, Canada,
K7K 7B4

Tel: 613 541 5010 ext. 8721
Fax: 613 540 8713
Email: thearmyjournal@forces.gc.ca

The Canadian Army Journal

Canada's Professional Journal On Army Issues

The Canadian Army Journal, a refereed forum of ideas and issues, is the official quarterly publication of Land Force Command. This periodical is dedicated to the expression of mature professional thought on the art and science of land warfare, the dissemination and discussion of doctrinal and training concepts, as well as ideas, concepts, and opinions by all army personnel and those civilians with an interest in such matters. Articles on related subjects such as leadership, ethics, technology, and military history are also invited and presented. The Canadian Army Journal is central to the intellectual health of the Army and the production of valid future concepts, doctrine, and training policies. It serves as a vehicle for the continuing education and professional development of all ranks and personnel in the Army, as well as members from other environments, government agencies, and academia concerned with army, defence, and security affairs.

DISTRIBUTION AND SUBSCRIPTION

The Canadian Army Journal (ISSN 1713-773X) is distributed throughout the Army and to select National Defence Headquarters, Maritime Command, Air Command, and Directorate of Information Systems Operations addresses.

Copies are also provided to defence-related organizations, allied armies, and members of the public and academia. Inquiries regarding distribution, subscription, and change of address are to be made to the Editor, at Andrew.Godefroy@forces.gc.ca. On the Internet, visit The Canadian Army Journal at www.army.forces.gc.ca/caj/.

SUBMISSION GUIDELINES

Unsolicited article manuscripts, research notes, book reviews, and points of interest are welcome. Articles should be 5000–7000 words exclusive of endnotes, research notes 1500–2500 words exclusive of endnotes, book review essays and reviews 500–1000 words, and points of interest 1000 words or less. Articles may be submitted in either official language. Authors must include a brief biography. Authors must supply any supporting tables, charts, maps, and images, and these should not be embedded in the article text. Articles may be submitted via email or regular mail. All submissions are peer reviewed and the Editor will notify contributors on the status of their submission. Further details regarding author submission guidelines are available at www.army.forces.gc.ca/caj/.

DISCLAIMER

Opinions expressed in the articles remain those of the author and do not represent departmental or Canadian Forces policy. The doctrine, training, and other updates do not represent authority for action on that particular topic.

EDITORIAL

HONOURS AND AWARDS

ARTICLES

BIOGRAPHY

NOTE TO FILE

THE ART OF WAR

BOOK REVIEWS

Combat Camera AS2006-0954a

Strategy, Choice, and the Conduct of Land Warfare

Major A.B. Godefroy, CD, PhD, plsc

Major A.B Godefroy, CD, PhD, plsc
Editor-in-Chief

In many ways strategic development has become a lost art. In today's competitive and highly politicized strategic studies job market, scholars and practitioners are expected to produce effective and lasting land warfare strategy with incredibly short lead times.

For example, the current U.S. administration has demanded a winning strategy for the War in Afghanistan within 12–18 months. NATO armies routinely produce capstone strategies within the span of a single year or less. It is little wonder given such time constraints that the overall and lasting quality of strategic development is in some ways increasingly suspect. While those producing 'new' strategic concepts are never at a loss when it comes to creating a flashy, authoritative, and expert sounding buzzword, they are seemingly less sure when it comes to explaining exactly what the premise and foundation of their strategy is. Perhaps even more confusing is the fact that strategy and strategic thought has become increasingly associated with descriptive generalization rather than prescriptive taxonomy. The result too often these days is some form of instant 'strategy in a box' that fails to survive even the most cursory scrutiny.

Why is it that strategic development being so rushed? Consider for a moment that an enduring classic such as Sun Tzu's *Art of War* was produced over his entire lifetime, while Clausewitz spent nearly three decades writing *On War*, itself a critically important though unfinished work. Yet the investment in time obviously paid dividends not only in the age when these works were created, but also for many generations thereafter. The influences of Clausewitz's writings lasted well into the 20th century, for example, and were eventually widely adapted to NATO land force development from the mid-1970s onwards. The theory argued in *On War* heavily underpinned the conceptual and doctrinal design of the Canadian Army for many decades. One might argue that the proper maturation and manifestation of land warfare strategic thought requires an investment in time to ensure both its longevity and success.

Strategy remains an instrument too for increasing relative political power and influence as well as shaping the institutions charged with executing that strategy.

Today the word 'strategy' is used more by governments to describe peacetime policies than armies to shape wars, but what the term has gained in breadth of application it has lost in conceptual clarity.[1] Therefore if future land forces are to invoke or publish either strategy for the future conduct of land warfare or even an institutional 'army strategy' from which operational methods and approaches are developed, a simple, concise, and pragmatically clear understanding of the term is encouraged, in alignment as much as possible with the political imperative from which it is derived. After all, to develop lasting strategy is to not only understand its application but also its context.

Strategy is about addressing choices and it is shaped by opportunity costs. This latest issue of the *Canadian Army Journal* reflects that ideology as the authors seek to explore and discuss options, to debate choices, and to analyze the outcome of those decisions. Articles by Lieutenant-Colonel Cossar, and Majors Adair and Flight debate choices and the opportunity costs on a wide range of issues concerning Afghanistan. Meanwhile Major Young's article on the creation of the US Army Maneuver Centre of Excellence provides an excellent overview of some of the innovative debate underway within the U.S. Army on the future of its own land warfare capabilities. Other articles by Sergeant Grant, Master Corporal Gavriel, and Mr. Robert Fowler also discuss choices under various conditions and their possible outcomes. Finally, there is agood mix of new publications covered in the book review section including *The Cognitive Challenge of War* which I discussed in my editorial last issue.

As we head into a new volume you'll have noticed that *The Canadian Army Journal* has a new look. Our 'old' cover depicting the double photo and table of contents had worked well for us over the last six years, but like all things the journal must to continue to evolve and we felt it was time to take the format and layout to the next level. We hope you like the new format—not only have we given the amazing photographs captured by our combat camera troops the full space they deserve, we have also added several new features to assist with reader interest, navigation, and reference. Finally, in keeping with our desire to remain environmentally friendly, we've adopted new publishing processes to meet recyclable standards. It is important to us that you let us know what you think of the new look. The changes made are reflective of the many compliments, comments, and suggestions we received over the last few years and we sincerely appreciate your input and support. As always, enjoy the issue and keep writing for us, or should I say, writing for you.

ON THE EDITOR'S DESK…

These days, books both new and old surround me, but as always I try to focus on those that are making a buzz amongst military readers. I've just recently finished reading Hew Strachan's, *Carl von Clausewitz's On War—A Biography*, a concise yet detailed analysis of the creation, proliferation, and interpretation of this venerable magnum opus. Now I'm onto reading David Day's, Conquest: *How Societies Overwhelm Others*, as well as Antonio Giustozzi's, *Empires of Mud: Wars and Warlords in Afghanistan*. This last book is perhaps one of the best cultural and sociological studies I've seen of this region thus far. Reviews for all of these books will appear in upcoming issues.

Major A.B Godefroy, CD, PhD, plsc
Editor-in-Chief

1. Hew Strachan, *Books That Shook the World: Carl von Clausewitz's On War– A Biography*, London, Atlantic Books, 2007, p.106

Honours and Awards

CITATIONS

Star of Military Valour
Warrant Officer David George Shultz, SMV, CD
Edmonton and St. Albert, Alberta

On 6 May 2008, a Kandahar Provincial Reconstruction Team patrol was ambushed in the Zharey district of Afghanistan. At the first sign of contact, Warrant Officer Shultz formulated and executed a flanking manoeuvre to neutralize the insurgent position. After securing the area and providing a situational report, the patrol was attacked again. Regardless of the risks, Warrant Officer Shultz plunged into intense enemy fire to assess the situation, direct his soldiers and engage the enemy. He repeatedly entered the danger zone to extract casualties and execute the patrol's fighting withdrawal. His leadership and courage inspired his soldiers and prevented further casualties.

Medal of Military Valour
Master Corporal Michael J.C. Bursey, MMV
Shilo and Brandon, Manitoba; Conception Bay South, Newfoundland and Labrador

On 3 September 2008, during an insurgent ambush in the Zharey district of Afghanistan, an anti-tank round destroyed a light armoured vehicle, resulting in numerous serious casualties. While exposed to sustained enemy fire, Master Corporal Bursey repeatedly returned to the vehicle, in which ammunition was exploding in the ongoing fire, to help extract and tend to the casualties. Master Corporal Bursey's composure and decisive actions ensured critical care for the casualties until their evacuation.

Medal of Military Valour
Sergeant Martin Joseph Jean Côté, MMV, CD,
Edmonton and Lancaster Park, Alberta; Québec, Quebec

On 2 June 2008, insurgents ambushed a joint Canadian-Afghan patrol in the Zharey district of Afghanistan. As the patrol moved to seek cover, they triggered an improvised explosive device that seriously injured four members. Shaking off the effects of a severe concussion and oblivious to the ongoing attack, Sergeant Côté triaged the casualties, passed vital information to headquarters and began life-saving treatment. With the patrol unable to effectively break contact, he continued to expose himself to intense enemy fire, to treat injuries and encourage wounded personnel during the prolonged fighting withdrawal.

Medal of Military Valour
Warrant Officer Robin John Crane, MMV, CD
Edmonton and Morinville, Alberta; Bay Bulls, Newfoundland and Labrador

Corporal Tyler Brian Myroniuk, MMV
Edmonton, Alberta

On 4 August 2008, insurgent forces surrounded an Afghan National Army company in a complex ambush in the Panjwayi district of Afghanistan. Warrant Officer Crane and Corporal Myroniuk selflessly remained in the danger zone to extract an Afghan casualty and support another Canadian soldier who was caught in the open. Together, they stood against over 30 insurgents using small arms fire and, when their ammunition was depleted, resorted to hand grenades to hold off the enemy. The courage of Warrant Officer Crane and Corporal Myroniuk saved Canadian and Afghan lives and prevented the company from being outflanked.

Medal of Military Valour
Corporal Mark C.W. Ejdrygiewicz, MMV
Shilo, Manitoba, and Lethbridge, Alberta

On 3 September 2008, during an insurgent ambush in the Zharey district of Afghanistan, an anti-tank round destroyed a light armoured vehicle, resulting in numerous serious casualties. While under constant fire from the enemy, Corporal Ejdrygiewicz worked to extract the wounded from the vehicle, in which ammunition began exploding, while alternately providing suppressive fire against the insurgents. Corporal Ejdrygiewicz's selfless courage under fire was pivotal to the protection and treatment of casualties.

Medal of Military Valour
Master Corporal Brent W.L. Gallant, MMV
Borden and Angus, Ontario; Lower Sackville, Nova Scotia

On 2 June 2008, a Canadian soldier was wounded during an insurgent ambush in the Zharey district of Afghanistan. Surrounded on three sides, Master Corporal Gallant made his way through heavy enemy machine-gun fire to the casualty's location and began treatment while using his body to shield the soldier from ricochets. Master Corporal Gallant's unwavering devotion, courage and decisive actions were critical in the treatment and evacuation of the casualty, and were an inspiration to fellow soldiers of his platoon.

Medal of Military Valour
Sergeant Jayson William Kapitaniuk, MMV
Edmonton, Alberta

On 14 June 2008, during a major battle group operation in the Zharey district of Afghanistan, elements of C Company were ambushed by insurgent forces. In an attempt to support a platoon that was pinned down under heavy fire, Sergeant Kapitaniuk repeatedly exposed himself to intense enemy fire to regroup his own troops and to relay counter-attack directives. His leadership, determination, and courage were vital to the effectiveness of his unit throughout the engagement and fighting withdrawal.

Medal of Military Valour
Corporal Jordan E. Kochan, MMV
Shilo, Manitoba, and Cochrane, Alberta

On 3 September 2008, during an insurgent ambush in the Zharey district of Afghanistan, an anti-tank round destroyed a light armoured vehicle, creating a deadly mass-casualty situation. Exposed to sustained enemy fire and the exploding ammunition from the burning vehicle, Corporal Kochan, then private, assisted and treated one of the wounded soldiers who had been ejected from the vehicle by the blast. With insurgents targeting the casualty collection points, Corporal Kochan's actions were vital to the treatment and evacuation of casualties.

Medal of Military Valour
Corporal Anthony J.R. Rotondi, MMV
Edmonton, Alberta, and Hamilton, Ontario

On 6 May 2008, a Kandahar Provincial Reconstruction Team patrol was ambushed in the Zahrey district of Afghanistan. While exposed to intense enemy fire, Corporal Rotondi assisted two seriously injured fellow soldiers and relentlessly returned fire to allow first aid and casualty evacuation. Corporal Rotondi's bravery and perseverance in the face of a determined enemy were inspirational to those around him and helped save the lives of fellow soldiers.

Medal of Military Valour
Warrant Officer Dale Milton Verge, MMV, CD
Stephenville and Beachside, Newfoundland and Labrador

On 30 March 2008, insurgents initiated a fierce and persistent attack on an Afghan police substation in Spin Pir, Afghanistan. Early in the action, Warrant Officer Verge sustained significant injuries. Oblivious to his wounds, he re-engaged with suppressive fire and directed effective point defence, neutralizing the enemy and repelling the attack. Warrant Officer Verge's selfless courage, tactical acumen and leadership set an example of resolve and prevented the substation from being overrun.

CHANGES TO AFGHANISTAN RECOGNITION AND MORE

Recently, major changes regarding recognition for service in South-West Asia, Iraq and for Op ALLIED FORCE were announced.

SOUTH WEST ASIA SERVICE MEDAL (SWASM)

- Recognition now based on theatre rather than chain of command;
- All who served in theatre and were not eligible for other medals (such as GCS, GSM, UNSSM, etc) are now eligible for SWASM with AFGHANISTAN bar from 11 Sept 01 to 31 Jul 09;
- Eligibility for the SWASM ends 31 Jul 09 with eligibility from 1 Aug 09 transferred to either GCS or GSM;
- Rotation recognition now available with rotation bars awarded for each period of 180 days of SWASM eligible service after qualification for the SWASM with AFGHANISTAN bar; and
- Because rotation bars are denoted by maple leaves on undress ribbons, the silver leaf currently worn to denote the award of the AFGHANISTAN bar shall be replaced by the new silver shield device bearing three maple leaves on one stem.

GENERAL CAMPAIGN STAR (GCS) AND GENERAL SERVICE MEDAL (GSM)

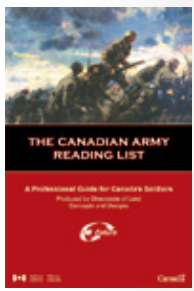
- ALLIED FORCE and ISAF bars are abolished and replaced with mission or theatre specific ribbons;
- Rotation recognition now available with rotation bars awarded for each period of 180 days of eligible service after qualification for the GCS or GSM;
- The type of support that can be made eligible for the GSM has been clarified;
- Those who had to give up their GSM to receive the GCS may be able to claim their GSM back provided they did not qualify for both during the same six months period;
- New ribbons are:
  - ALLIED FORCE: same criteria, simply remove the bar and remount the medal with new ribbon which replaces the green with Air Force blue;
  - SOUTH-WEST ASIA: remove the bar and keep the same ribbon which is now reserved for SWA. Criteria for GCS covers all ISAF service until 31 Jul 09 and all service in theatre (including ships at sea) from 1 Aug 09 onwards unless the service qualifies for another medal (foreign or UN). GSM criteria for support is lowered from 90 to 30 days; and

- EXPEDITION: new ribbon which has light grey instead of green. Created to recognize smaller ops in the presence of an armed enemy. CF members who served with US forces in Iraq since 20 Jan 03 are eligible for GCS-EXP.

- Units are responsible to collect ALLIED FORCE and ISAF bars and return them to DH&R which holds stock of the new ribbons.

More details can be found in the related CANFORGENs and on the DH&R web site.

More announcements are expected regarding the new overseas recognition framework, including recognition for Ops SCULPTURE, HALO, AUGURAL, PROTEUS and HESTIA… stay tuned.



The Canadian Army Reading List

In September 2001, the Canadian Army produced its first *Canadian Army Reading List*. In the time since its publication many new books and articles of interest to the Canadian Army have appeared, prompting the need to revisit the list, and review and expand it. This new and revised *Canadian Army Reading List* retains most of the original publication, while adding a considerable amount of new material for soldiers to consider. The aim of the *Canadian Army Reading List* is to provide an instructive guide to soldiers to explore suitable literature on a wide range of subjects.

Toward Land Operations 2021

To mitigate the unpredictability of future conflict and prepare itself for the challenges it will face in the years ahead, the Army has recently published *Land Operations 2021: The Force Employment Concept for Canada's Army of Tomorrow,* to serve as a guide for land force development through the year 2021. *Toward Land Operations 2021* is the foundation document, developed from a series of operating, functional and enabling concepts that collectively describe an approach to future land operations characterized by the deliberate dispersion and aggregation of adaptive forces in order to create and sustain tactical advantage over adept, adaptive adversaries.

Source: Combat Camera

Source: Combat Camera

Sensor Equipment and the Urban Battlespace[1]

Major D.L. Lynk, Major J.C.M Coulombe, and Major R.R. Kollman

*The Army will generate, employ and sustain strategically relevant and tactically decisive medium weight forces (based on) a knowledge-based and command-centric institution capable of continuous adaptation and task tailoring across the spectrum of conflict—**Chief of Land Staff's Vision**[2]*

The Canadian Forces and the Army, in particular, have begun a period of dramatic transformation in order to adapt to changing threats and to improve the effectiveness with which they employ their resources. From a threat perspective, the focus of the Canadian Forces has changed from the previously prevalent threat of large nation-states armies battling through the open plains of Europe to the insurgency warfare fought in complex terrain where decisions are made at the lowest level.

Commanders deployed in urban environments against asymmetric threats will require additional sensors and decision-making tools to make timely and well-informed decisions. The importance of technology in the development of "network enabled and effects based operations"[3] will become increasingly important. The efforts of the Unit Surveillance, Target Acquisition, Reconnaissance and Night Observation (STANO) Project combined with the Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR) Project have been to procure state of the art, mature sensors. These projects demonstrate the CF's commitment to enhance situational awareness at all levels. The Unit STANO Project is procuring image intensification and thermal imaging sensors and sights, laser pointers and markers as well as remote ground sensors to enhance the situational awareness (SA) of the individual soldier,[4] thereby increasing the same at the section and platoon levels. The ISTAR Project is providing the same capabilities at sub-unit, unit and task force levels as well as the architecture to integrate these capabilities. However, between the two projects there is a gap in the procurement of new capabilities; neither the Unit STANO Project nor the ISTAR Project specifically addresses the complexity of the urban environment with respect to house clearing or cordon and search tasks. The aim of the Urban Sensor Research Project was to determine if sensors have the potential of improving platoons' performances when conducting typical urban operations in order to make recommendations on the viability of these sensors as future projects. The scope of the project was limited to the effects the integration of new sensors had on a platoon's performance.

When considering the development or acquisition of new capabilities, however, it is important to set target timelines. Options were limited to a short-term view of one to four years (Horizon 1) with the primary focus of maintaining and enhancing current capabilities. To achieve these goals, commercial off-the-shelf (COTS) or military off-the-shelf (MOTS) equipment was viewed as the most expedient means for the Canadian Forces to field urban reconnaissance capabilities.

WHY URBAN WARFARE

Urban warfare has been part of military history for millennia, so why is it now becoming a prevailing tactic? Throughout the Cold War, armies prepared for warfare in open terrain. They are now being forced into combat within urban settings, and the lack of preparation for this reality is significant.[5] Since urban warfare can be adopted by either of the opposing forces, having the ability to drive an opponent into a situation they would prefer to avoid can lead to a tactical advantage.

In the absence of a major international war, regional and internal (intrastate) conflicts have drawn increased attention. In a number of instances, North Atlantic Treaty Organization (NATO) and other United Nations (UN) missions have intervened to restore stability in troubled areas. Since 1990, CF experiences in Yugoslavia, Somalia and Afghanistan bear witness to this phenomenon. But it is the significant imbalance in military power that has developed between the West and its most likely opponents that explains why the weaker belligerents have consistently demonstrated a willingness to draw military operations into urban centers.

Urban areas are becoming more and more prevalent in every region of the globe. In particular, urbanization in the developing world is increasing at a rapid rate; for example Africa's urban growth rate is 4% per year and Asia's is 2.6%.[6] Similarly, rural areas are also seeing an increase in population that entails an increased presence of small clusters of homes and villages.[7] Although most of the land surface of the globe is still considered rural, the urbanization trend provides increased opportunities for belligerents to draw military operations to populated areas. Therefore, the tactical and technical advantages of urban fighting are tremendous for the opponent with less capability, and first among these advantages is the line of sight / engagement range.

Non-state actors and failing states are seldom equipped with modern weaponry beyond small arms. The most common items will be shoulder carried weapons such as the AK-47 and the rocket-propelled grenade (RPG). Although quite effective in the hands of a trained soldier, these weapons have limited effective ranges of approximately 400 meters.[8] Conversely, most developed countries are now equipped with assault rifles and anti-armour weapons with longer ranges due to the improved performance of optical sights and better quality weapons. These weapons, along with the infantry that operate them, are often times coupled with fighting vehicles with effective ranges reaching 2,000 meters.[9] In situations like this, the belligerent with weapons of limited range must ensure he draws the fight to environments where he can best employ his weapons while minimizing the tactical advantage of his opponent's longer-range weapons. Here, the element of surprise becomes critical.

Because the potential areas of operation for the CF range from Africa to Northern Asia, it is impossible to select a single "urban layout" and use it as a standardized threat environment. There are, however, some general characteristics common to most urban areas that lend themselves to creating a standardized model.

To begin, there are the physical structures themselves. The variety of buildings found in a built-up area range widely from single story / single room houses to skyscraper buildings and historical cantonments. For the most part, buildings tend to be grouped by types in residential, commercial and industrial areas. Common characteristics of most buildings are that they obstruct the line of sight and they may have a different temperature than the surrounding environment; thus, buildings have the potential to hide people or material.

Street length and width also present challenges. In order to permit movement, streets are an omni-present feature of urban environments. Streets can either follow a well-established structure (as found in an urban planning environment) or be laid out in an ad hoc manner (as found in a very old city). They can range from small "pedestrian routes" to highways. Regardless of layout or size, streets provide areas of higher mobility and increased observation distances for all sides.

Underground sewers and other structures may not be present or even usable by humans in all urban environments, yet where present, they potentially offer hidden routes and the ability to communicate. The German experience in Stalingrad during the Second World War is a vivid example of how sewers can be used by both sides to advantage.

One of the obvious defining elements of an urban area is its population. In most modern conflicts, a large percentage of the population is expected to remain in built-up areas instead of fleeing. The resident population then becomes part of the environment and offers both advantages and disadvantages to friendly forces and opponents alike.

Urban areas frequently include structures and services (such as religious sites, hospitals, etc.) that must be protected in accordance with the law of armed conflict (LOAC).[10] The presence of civilians and these structures brings a second tactical advantage to the poorly equipped fighter: weapons limitation. In order to protect the designated structures and the local population, it will often be impossible for a force to employ large caliber weapons such as artillery and aerial bombing. However, this limitation has been mitigated somewhat by the introduction of smart bombs, laser-guided munitions and surgical strike capabilities.

But one of the most critical aspects of the urban environment is the opportunity it provides belligerents to fight (as depicted in Figure 1) on three levels: subterranean, street and above street level (supersurface and airspace in the figure). The ability to fight on three levels provides more space for hidden observation positions, firing positions and escape routes. This ability also makes it difficult to maintain good SA, even for a military force equipped with modern surveillance equipment.

Attacks from a vantage point provide one key advantage to the soldier equipped with basic armament: the ability to defeat modern armoured vehicles. Because of the weight burden of armoured vehicles, modern fighting vehicles almost all have relatively thin top armour, which renders them vulnerable to attacks from directly above, even for weapons such as the RPG.

The presence of civilians in the urban battlespace allows fighters who do not respect the law of armed conflict[11] the opportunity to hide amongst the population. The presence of many civilians in the same area as the opponents poses genuine combat identification (CID) problems, especially when the opponent wears civilian clothes.

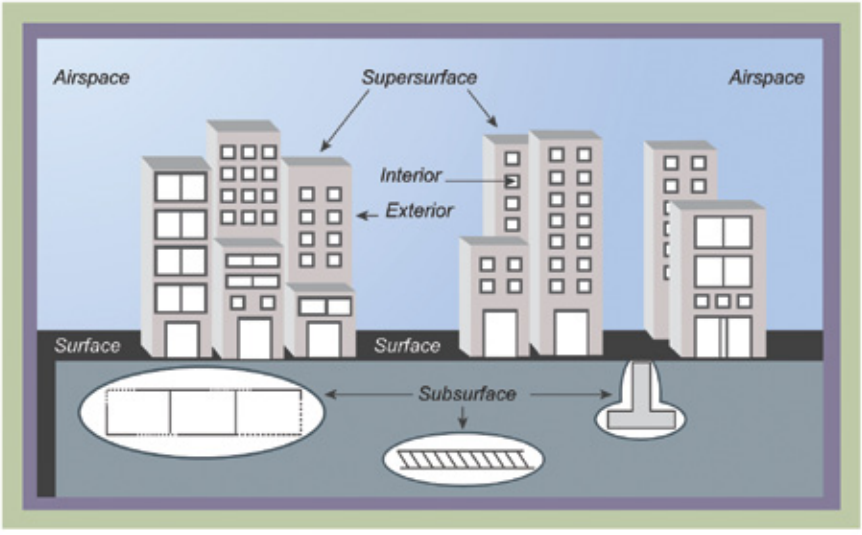


Figure 1: Multi-level Fighting in Urban Terrain[12]

In addition to the tactical advantages, fighting in an urban environment also presents technical advantages that will assist in leveling the playing field for ill-equipped forces. Modern military forces often possess night vision optics and radars that present a significant advantage at night. However, in an urban environment, these devices are not as effective as in open terrain due to the presence of "clutter." Urban areas are often illuminated which mitigates the effects of image intensification technologies. Similarly, the presence of civilians, civilian vehicles and heated buildings will clutter thermal imagers and radar devices. Traditional means of communications such as very high frequency (VHF) radios are also negatively affected by urban structures, specifically their line of sight operation. Therefore, organizations that do not rely on such means have an advantage.

Urban areas, being centers of economy and politics, also have an increased presence of mass media. Furthermore, conflicts tend to artificially attract and concentrate a media presence. This offers an advantage to the organizations that have information warfare objectives, as is often the case with non-state actors. Combatants who are not bound by the law of armed conflict can better exploit this situation compared to law abiding military forces.

The most recent examples of fourth generation warfare on foreign territories—such as Afghanistan and Iraq—have exposed another element of the urban battle: language. Belligerents operating on their own land benefit from being familiar with the local territory and culture as well as knowing the language. Conversely, Western soldiers are not familiar with the territory and culture and do not know the language and, therefore, rely on guides, interpreters, maps, etc. These tools, however, do not complete the information delta. When the above-mentioned factors are considered, the ill-equipped fighter has a definitive advantage over a developed military force. The advantages of reduced detection and increased firepower that modern and developed militaries enjoy are mitigated in the urban environment. Through the use of urban combat, undeveloped military forces can attack the center of gravity of a conventional army by forcing an attrition-based, protracted conflict that maximizes the use of mass media in order to undermine public support toward their opponent. The case of the first Chechnya War (1994–1996), for instance, aptly demonstrates how quickly the advantage can be shifted away from a developed force.

OPERATIONAL CONSTRAINTS

For various legitimate reasons, populations from Western democracies have become adverse to their military forces sustaining casualties during peace support operations and limited wars. When each of the first Canadian soldiers was killed in the Afghanistan theatre of operations (including when casualties were sustained as a result of friendly fire), the news was reported nationally and preoccupied the Canadian population for several days.[13] Sustaining casualties does not only have a negative impact on public support, the effects can also be significant for the morale and esprit de corps within military forces. Indeed, it is well known that the Taliban in Afghanistan, aware of the politicians' precarious support, deliberately targeted the Canadians in the hopes that it would undermine support at home.

The law of armed conflict is not considered a constraint per se as it is a representation of the values Canada is respecting and projecting throughout the world. That said, the first and second rules of armed conflict are of particular importance for this project: "fight only enemy combatants and attack only military objectives" and "employ methods of attack which will achieve your objective with the least amount of incidental civilian damage." Both rules support the need to confirm the validity of an objective before conducting an attack, and in an urban setting, these rules can be particularly difficult to follow completely, as presently the only way to confirm what is in a building is to send soldiers in to have a look.

However, two of the emerging technologies in urban reconnaissance and surveillance, unmanned ground sensors (UGS) and through-wall radars (TWR), have also made strides in reducing the dangers to the soldier. On the surface, these technologies appear to have the potential of providing valuable information to commanders at critical moments in order to improve the timeliness and accuracy of decisions. From a testing perspective, there is a requirement to validate this assumption since these technologies can also have adverse effects, such as spoiling the element of surprise and slowing momentum. One of the goals of the experiment, therefore, was to provide insight on the performance improvements related to the use of UGS and TWR based on criteria such as loss exchange ratios and mission achievement.

THE TECHNOLOGY

Based on their recent experience in Iraq and Afghanistan, the United States (US) are, understandably, at the forefront of development in this field and can provide a wealth of technical data, lessons learned and user reports about their experiences using unmanned ground vehicles (UGV). As stated by Colonel Bruce Jette, the Director of the US robotics team in Afghanistan, the use of UGV to search caves prior to exposing soldiers to that environment is a leap forward from the days of tying a rope to a soldier, giving him a pistol and flashlight and sending him into the unknown.[14]

Situational awareness has been a concern of commanders at all levels ever since they first stood on a hill to survey the layout of both their forces and those of the enemy.[15] Key sensor and platform characteristics of emerging technologies that can improve situational awareness at the tactical level in

the urban environment, therefore, were a priority. However, when discussing the technological aspect of this project there were two main areas to consider. First, what sensors were available, and second, what platforms were available? While there are many aspects to both of these areas (such as miniaturization, power requirements and technological maturity),[16] the focus, and ultimately the purpose, of this project was immediate deployability. To test COTS and MOTS equipment currently available, an urban environment had to be created to ensure standardized testing.

WHICH SENSORS?

It is fair to say that digitization has become the most important advance in consumer electronics in the past twenty years.[17] The ability to convert traditional analog waves to digital information has fundamentally changed the way electronic devices are built as well as how they communicate and take images. The images stored on digital cameras can be quickly transmitted via wire or wireless means to a remote operator. Charge couple devices (CCD) and complimentary metal oxide semiconductors (CMOS) are the two most common sensors used in digital cameras today.

Night vision technology, however, is not new; the United States Army created and used active infrared (IR) night vision systems during World War II and the Korean War.[18] Night vision systems work by one of two methods:

- **Image Enhancement**. These systems amplify images by collecting all the available light, including light not visible to the human eye. Figure 2 depicts the process by which the objective lens captures the ambient and some near IR light, passes it along to an image-intensifier tube (which, in turn, uses a photocathode to convert the photons of light into electrons) and finally multiplies these electrons by adding electrons from atoms within the tube. Newer generations of this equipment are characterized by improvements to materials technology but work similarly as depicted in the figure.
- **Detect, Identify and Recognize.** The objective of these sensors is to detect, identify and/or recognize objects and potential targets in order to increase the section's/platoon's situational awareness. Johnson's criteria are a widely accepted method in determining an image intensification night vision device's performance.

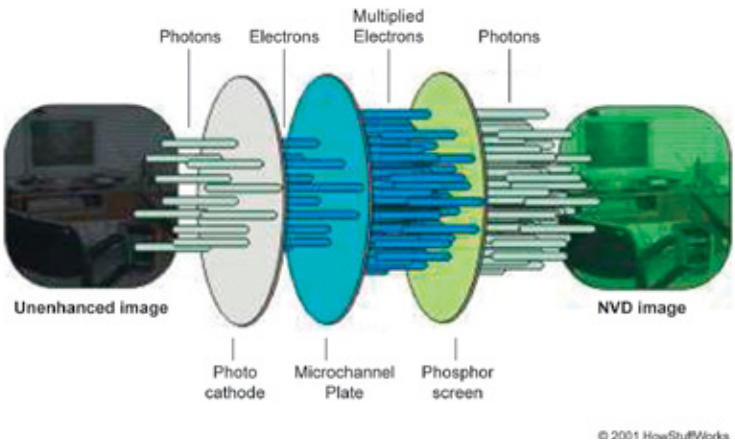


Figure 2: Image-Intensification Processes[19]

The following two images are examples of the resolution and performance of the image intensification sensors currently available on the UGVs discussed later in this article. Figure 3 is the image captured by a digital zoom camera equipped with an IR monocular. Figure 4 is the image captured by an IR illuminated camera. Both images are of a simulated pipe-bomb.

Figure 3: IR Monocular Attached to Zoom Camera[20]

Figure 4: IR Illuminated Camera[22]

Thermal imaging is based on the knowledge that heat emits energy in the upper portion of the IR light spectrum. These systems rely on a special lens that focuses the infrared light emitted by objects. A phased array of infrared detectors is then used to scan the light focused by the lens, producing a distinctive heat pattern, known as a thermogram. A signal-processing unit is then used to decipher the electrical impulses produced by the thermogram and, subsequently, to convert the data into an image on a display unit. Figure 5 depicts the thermal imager process.

Through-wall radar (TWR) is a relatively new technology that is advancing rapidly as a result of its military and law enforcement applications. The ability to know what is in a structure before entering it benefits both soldiers conducting a cordon and search as well as police conducting their daily operations. DRDC Ottawa has been actively investigating through-wall radar for the past few years.[21] Major G. J. Burton and Major G. P. Ohlke succinctly encapsulated the capabilities of this technology in their project's abstract. "Millimeter waves penetrate non-conductive walls and clothing, making through-wall surveillance possible. The human body emits millimeter waves that can be receivedby passive detectors. Active millimeter wave radar can detect human body surface motion, including heartbeat and respiration."

Figures 6 and 7 (provided by DRDC Ottawa) are samples of the capability enhancements provided by through-wall sensing. Figure 6 shows a moving object on the other side of a wall, but does not indicate any other structural information. Figure 7 illustrates the mapping capability of the through-wall sensing system. Both capabilities, in a military context, could significantly increase a soldier's situational awareness.

Cambridge Consultants have also produced their version of this technology with their PRISM (Portable Radar Interior Space Monitor) system. (See Figure 8.) Using ultra-wideband radar this system provides high-resolution, real-time images of through-wall targets.

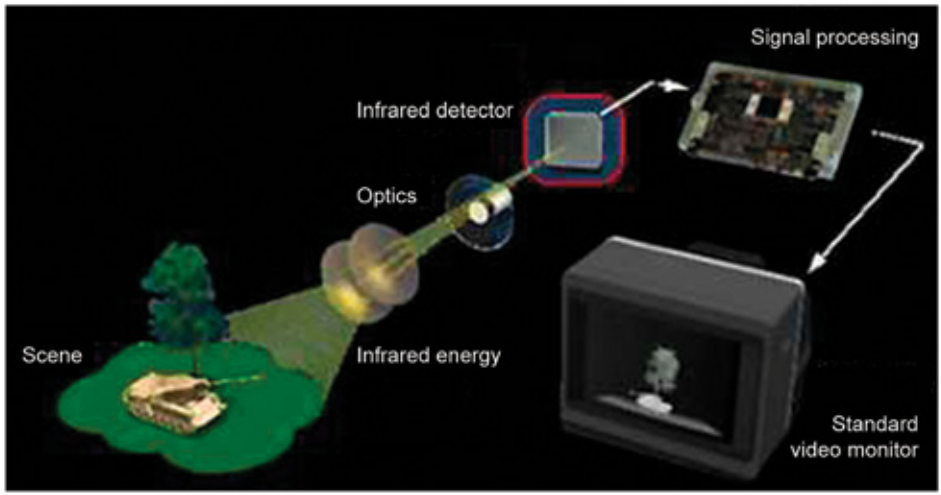


Figure 5: Thermal Imaging Process[23]

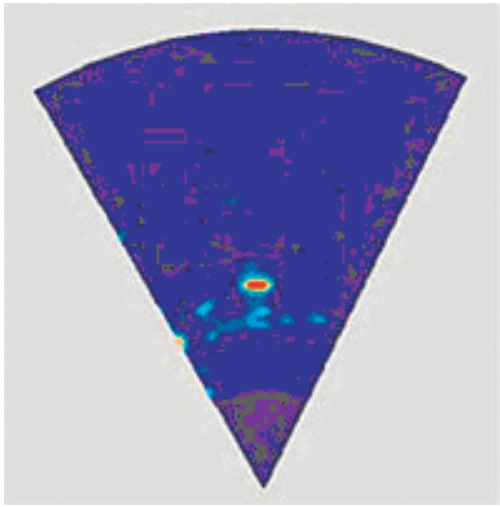


Figure 6: Through-wall Radar

Each of these sensors provides a unique capability; they also each come with their own unique power requirements. To mount these sensors on a platform, there must be an available power source.

WHICH PLATFORMS?

There are numerous types of platforms available for use in the urban battlespace, but it is the complexities of the urban battlespace that dictate the demands on platform performance requirements.

The United States Department of Defense (US DoD) has advanced projects for the development of UGV under the Joint Robotics Program (JRP). The JRP acknowledges the potential military applications of "detection, neutralization, and breaching of minefields and other obstacles; RSTA [reconnaissance, surveillance and target acquisition]; UXO [unexploded ordnance] clearance; EOD [explosive ordnance disposal]; physical security; logistics; fire-fighting; urban warfare; weapons employment; and operations in contaminated or other denied areas."[24] The Defense Advanced Research Projects Agency (DARPA), Tactical Mobile Robotics Project (TMR) provided the following two figures, which demonstrate the US vision for the use of unmanned vehicles (UxVs) in an urban environment.

Military applications of small and large radio-controlled (RC) ground vehicles have shown great potential in numerous areas (such as explosive ordnance detonation, surveillance and logistics). Of particular note are three systems: iRobot's PackBot, Foster-Miller's Talon and JPL's Urban II (Urbot).

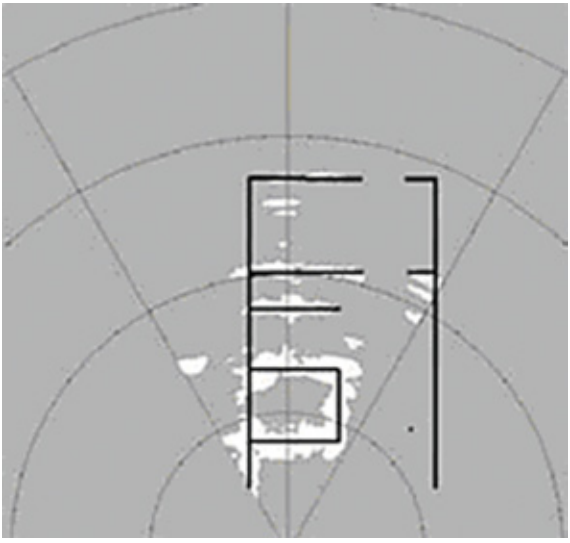


Figure 7: Through-wall Radar Mapping

Each of these systems has proven themselves operationally. The first two have seen service in Afghanistan and Iraq,[25] while both the Talon and Urban II were used for search and rescue operations during the aftermath of the September 11 bombings of the World Trade Centre towers.[26]

In addition to these systems, there are several variations of tracked UGVs currently available for use by military or civil authorities. The weight dispersion and flexibility of a tracked system make it one of the more popular variants in use. With the use of deployable "flippers" (which are employed by many of the variants), these vehicles are able to tackle stairs that have a slope up to 60%.

Figure 8: PRISM 200©[27]

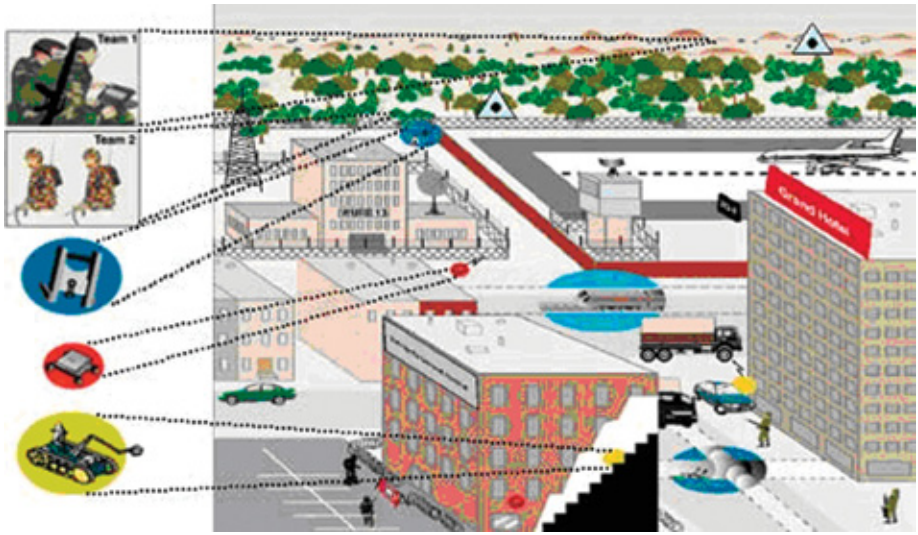


Figure 9: Tactical Mobile Robot (TMR) Team Concept[28]

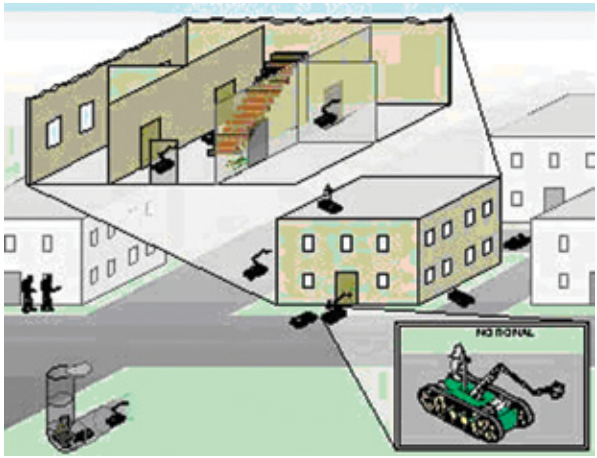


Figure 10: TMR Urban Concept[30]

iRobot's PackBot is an 18-kilogram, backpack-able system that employs the unique flipper system to enhance its mobility over rugged terrain, up and down stairs and to aid in "righting" itself. (See Figures 11 and 12) PackBot contains a GPS receiver, electronic compass as well as orientation and temperature sensors. The system's modular design allows for multiple payloads using USB and Ethernet connections or by being networked.[29]

The Talon is a much heavier system that weighs in at approximately 37 kilograms (82 pounds). Its design is also multipurpose and modular. (See Figures 13 and 14 for two of the models.) Whether being used for surveillance and reconnaissance, EOD tasks or as a remote weapons platform, Talon has been used in combat roles in Afghanistan and Iraq as well as search and rescue operations in the World Trade Centre aftermath.[31]

Dragon Runner is the US Marine Corps' answer to the requirement for increased situational awareness in the urban environment. Built by the US Naval Research Laboratory and Carnegie Mellon University's Robotics Institute, it is able to provide daytime and nighttime real-time imagery. The Dragon Runner is invertible, which means that no matter which way it lands, it always right side up. The rugged design of this system, and a weight of only 6.7 kilograms (about 15 pounds), allows for the unit to be thrown through windows, up or down stairs and over walls and fences.[32]

Figure 11: PackBot Backpack[33]

The variety of sensors and platforms that are available are all operation/task specific. Each has its own specific strengths and weaknesses. Modularity of platform design will allow quick changes of sensor packages to suit the task. The capacity of some of the systems to mount an IR illuminator would complement some of the devices purchased for the STANO project.

As illustrated in the AN/PVS-504 night vision analysis, modern electro optical cameras, image intensifiers and thermal imagers have the requisite performance specifications to not only detect and identify, but also to recognize objects and personnel within the reduced ranges in an urban environment.

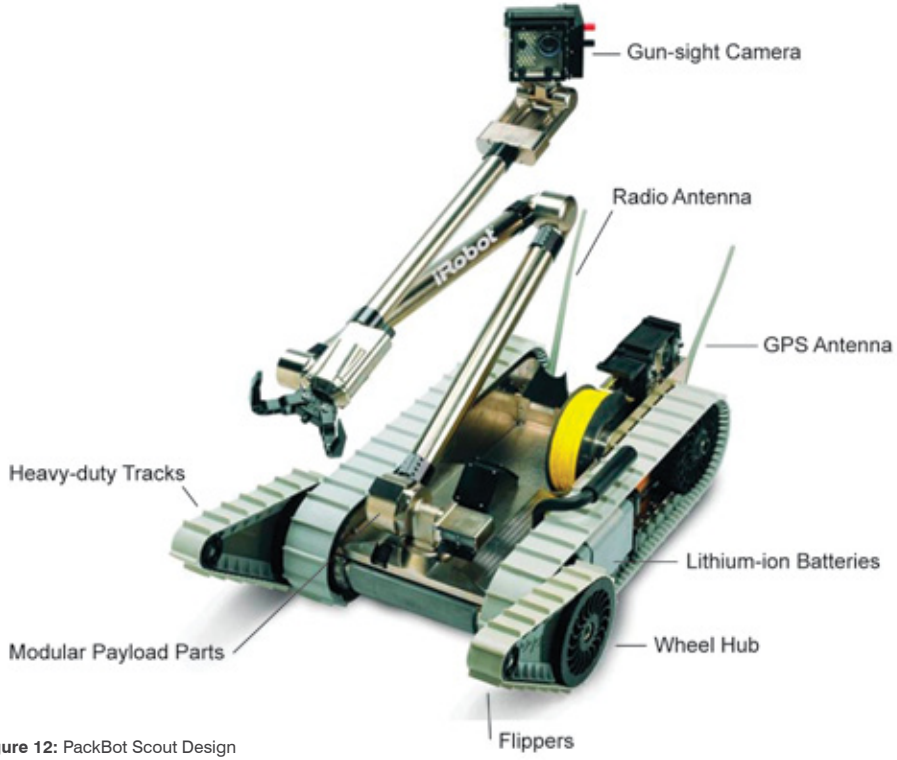


Figure 12: PackBot Scout Design

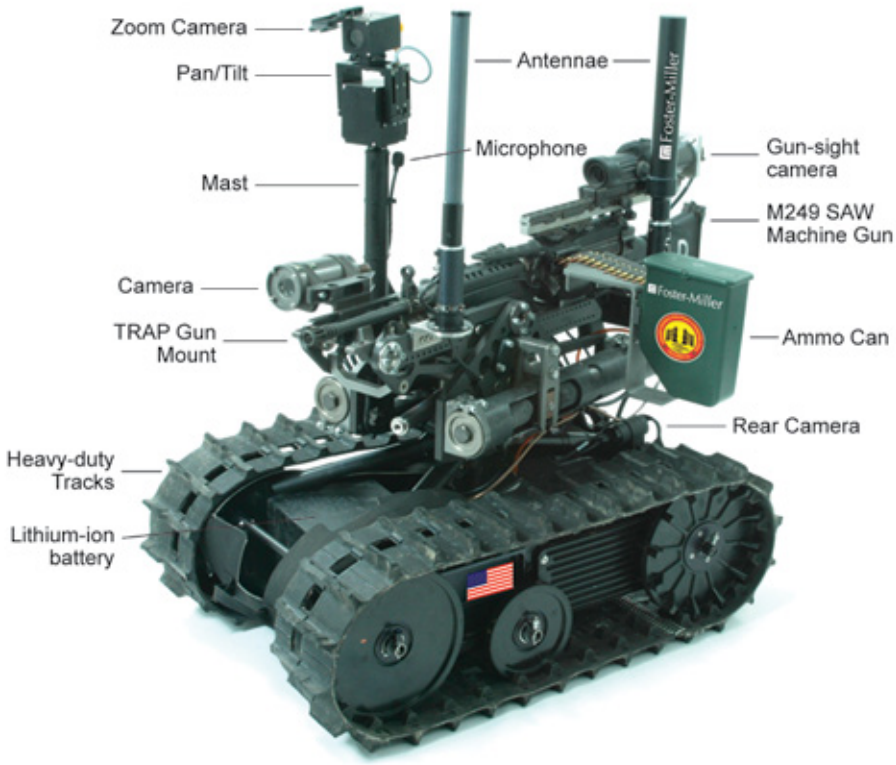


Figure 13: Talon SWORD[34]

Through-wall radar technology is developing rapidly as numerous research organizations and commercial companies try to exploit the capability offered by millimetre wave radar. While not necessarily a mature technology, this meets the Horizon 1 criteria.

Tracked UGVs have better mobility than wheeled ones, and tracked UGVs that have a flipper are capable of climbing stairs, a capability that will be essential if these systems are to be used inside a building.

Given the complexity and density of asymmetric threats, urban operations (UO) pose significant challenges in permitting our forces to effectively influence the urban battlespace. UGV platforms combined with various sensors, including newly evolved TWR capabilities, represent new potential in terms of tactical advantage. As these machines are available in many different shapes, sizes, types and a myriad of hybrid configurations, they need to be analyzed for possible CF applications. At issue, however, is current doctrine.

DOCTRINAL DEVELOPMENT

The latest *Urban Operations Tactical Guide*[35] represents a significant leap forward in Canadian Infantry doctrine and has evolved from many references. Drafted from excerpts of Canadian Fighting in Built-Up Areas (FIBUA) or Operations in Built-Up Areas (OBUA), current CF UO doctrinal basics have also been heavily influenced by our allies' experiences as documented in the US DoD *Military Operations on Urbanized Terrain*[36] and many other coalition sources. These sources have been made available through participation in Multinational Army Doctrinal Working Groups and the mutual exchange of numerous

Figure 14: Talon EOD[37]

"lessons learned" reports (e.g., UN/NATO experiences, US/Iraq War, Russian/Afghan War, United Kingdom, Australia and Germany).[38] The primary organizational responsibility for evolving Canadian Army doctrine rests with the Directorate Army Doctrine (DAD)—contributing input is actively sought from all available sources.

For purposes of evaluation, the future force light infantry company and platoon,[39] as depicted in Figures 17 and 18, were used to orient the current manning, command and control (C2) and weapons layout as these functions are the lowest common denominator in building clearance tasks.

In the new company organization it is noted that there is a limited number soldiers assigned to the ISTAR detachment. It is unclear if UGV/TWR equipment would best be assigned as an integral ISTAR asset to the infantry company, or if this type of equipment would be best assigned as a battle group ISTAR reconnaissance platoon asset and attached to an infantry company/ platoon for the duration of building clearance tasks.

Figure 15: Dragon Runner[41]

The *Urban Operations Tactical Guide*[40] provides a detailed description of the command, assault and support groups and their related responsibilities/ activities amongst the light infantry sections and subsections employed in numerous UO tasks. In summary, UO building clearance tasks emphasize surprise, speed, control and communications. Based upon

the future force section manning and as shown in Figure 19, assault and support teams are configured in subsections of four personnel. Generally well sized for generic room clearance tasks, multiple assault teams are required to clear an entire building. (The total number of personnel required depends upon building size, type, layout, number of floors, access points, threat, time of day, etc.) Often a single building can be a company task. One platoon provides all around security and cutoff to enemy reinforcement; the second platoon performs assault/support tasks; and the third platoon, held in reserve, may perform possible prisoner of war, detainee, non-combatant and casualty evacuation tasks.

Figure 16: Dragon Runner with Mounted Camera (Note: This variant is not invertible.)[42]

After gaining access, the assault is normally conducted one room at a time, preferably from top to bottom but this approach depends on the situation. While ensuring continual access security (e.g., point of entry, hallway, common-space), once a room is reported clear by an assault team, the next room is then assaulted until each floor has been cleared and secured against re-occupation. Assault teams normally work in multiples, with successive rooms being cleared by alternating assault teams employing covering and movement drills within the inherent limited fields of view and close quarters. Stairwells and obstacles pose additional and unique interior clearance challenges.

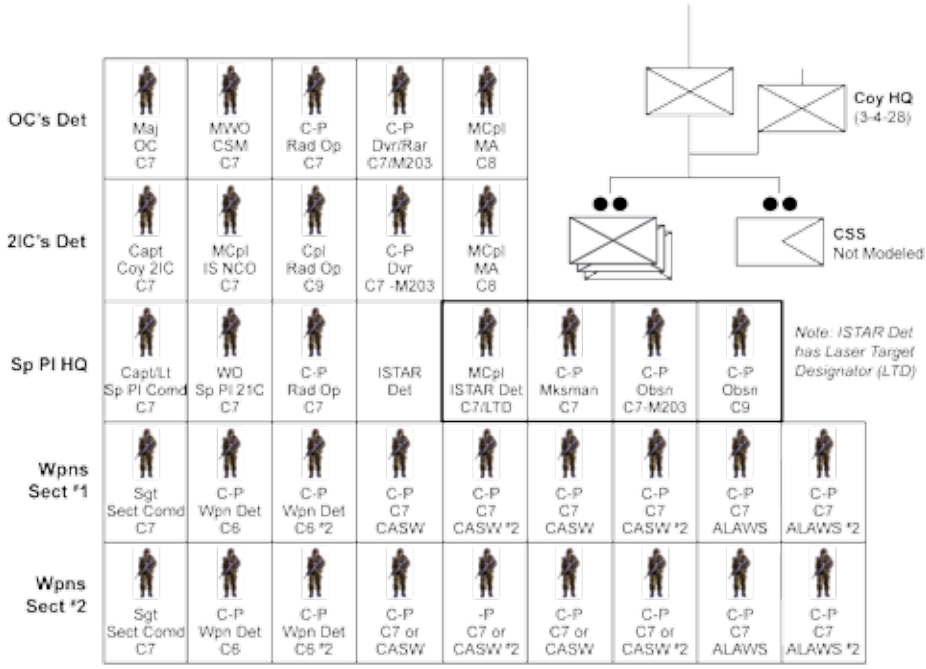


Figure 17: The Future Force Light Infantry Company[43]

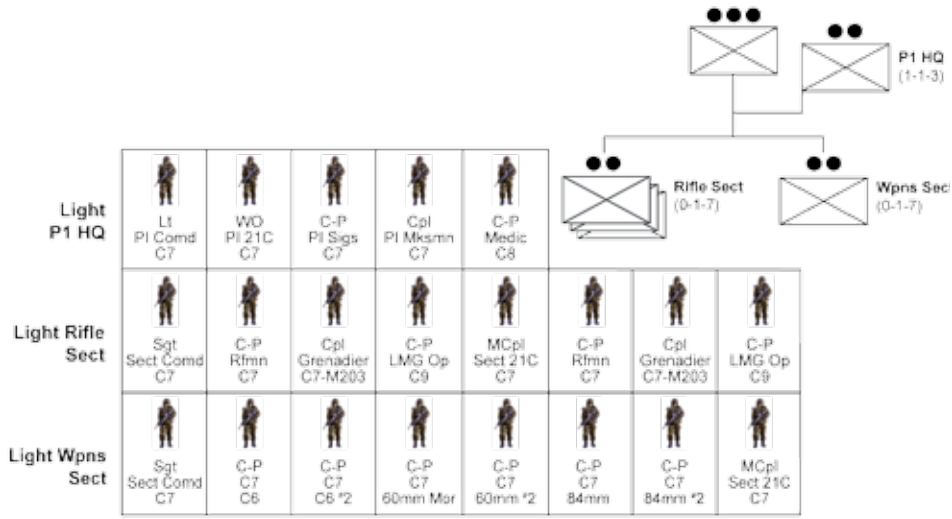


Figure 18: The Future Force Light Infantry Platoon

For effective building clearance, soldiers employ discrimination shooting[44] and other advanced shooting skills; they must also apply that area of operation's current rules of engagement to suit combatant/non-combatant contact. Strong emphasis is placed on pre-training the assault/support team members in room/building clearance procedures, including dynamic, stealth and transitional clearing force techniques as well as a host of related staging, clearance and support drills. Upon entering a building and before entering a room to clear it, assault teams will doctrinally form into one of two configurations either a "stack" (also know as "brick") or a "stagger." These configurations are defined by the manner in which personnel are aligned either to one side or on both sides of an entry door. Both stealth techniques and dynamic techniques that are combined with aggressive movement can also yield results. There is a great deal of flexibility in these techniques, and based upon the situation, these decisions are often left to the local tactical commander.

Figure 19: Building Clearance—Assault and Support Team Groupings

ISTAR

As shown in Figure 20, successive fusion and information distillation efforts on the raw data collected from sensors yield increasingly valuable components. Understanding is essential for timely and sound decision-making. As ISTAR devices are evaluated for mission fit based on function and capability, an assessment of their output products is needed to determine the potential value for upward fusion, collation and retention. At these early stages of Canadian UGV/TWR assessment, it was hypothesized that UGV/TWR output products would be of value to those immediate members of a dismounted light infantry section or subsection responsible for a building clearance, likely as a subcomponent of a company-sized cordon and search task. However, sensor product might be valuable for subsequent

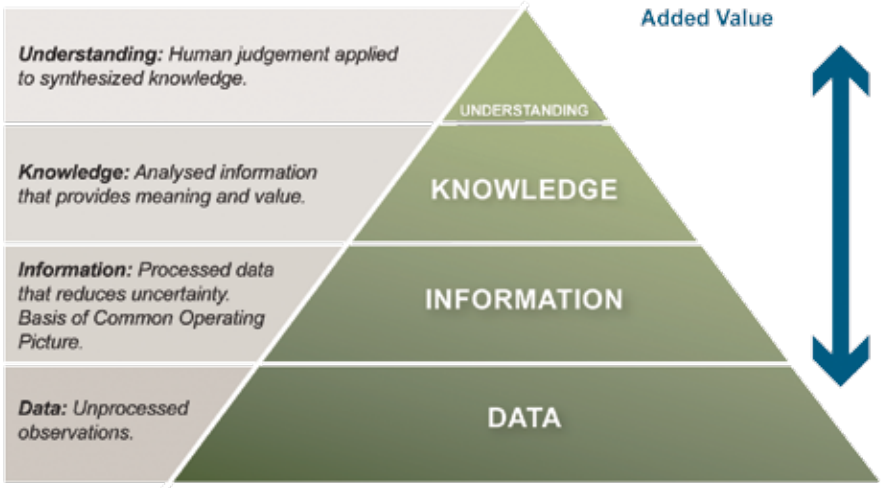


Figure 20: Classes of Information

improvised explosive device (IED) recognition and decommissioning; infrastructure engineering assessments; chemical, biological, radiological and nuclear assessments; automatic target recognition; and a host of other unidentified operational applications.

Urban operations impose high operational risks through a myriad of threats and terrain complexities, be they asymmetric or contiguous. Any tools that bring faster, or better, SA to our soldiers and leaders must be investigated, and the effective solutions should be adopted. Ideally, a UGV/TWR doctrine relevant to various sensor packages and operational applications should work to assist in diminishing potential troop losses and casualties, avoid collateral damage, improve precise operations and provide information dominance.

Within the analysis of UO doctrine and task organization, the use of UGV/TWR assigned to one of two organizational constructs appears most effective. Assigned as either an infantry company ISTAR detachment or a reconnaissance platoon asset, this equipment is anticipated to provide immediate SA benefit for assault teams assigned building clearance tasks.

DEVELOPING THE EXPERIMENT

Employment of the One Semi-Automated-Force Test Bed (OTB), a broadly used military simulation system using customized software, was considered and retained in the early stages of the experiment development. The system presented the following advantage: semi-automated forces that could be programmed to execute a task, but would use "some initiative", depending on the situation, casualties, etc., in order to accomplish the task. This was a significant advantage as it took the operator out of the loop and eliminated the learning curve phenomenon. Furthermore, since the scenarios could be programmed and executed in a relatively automated manner, the project personnel would be able to run the experiment, thus eliminating the requirement for operators. The system is capable of some automated data collection.

With this in mind, the experiment was designed to test whether the addition of unfielded sensors improves platoon performance by reducing the loss exchange ratio. Based on Canadian house-clearing doctrine, the experiment ran two groups of scenarios that were identical except for the enemy disposition within the house. Using the (OTB), the following scenarios were conducted: a baseline platoon assaults the building, a baseline platoon augmented by two UGVs assaults the building and a baseline platoon augmented by one TWR assaults the building.

CONDUCTING THE EXPERIMENT

The simulator offered a sufficient automation level to eliminate a potential learning effect and bias due to the involvement of the inter-actors with the project. To ensure statistical validity, each of the three blue force scenarios was conducted thirty times against the two enemy scenarios (E1 and E2). All of the 180 simulations were run to completion; that is to say, all enemy force members were considered casualties. While not accepted doctrine, this was the only way to record loss exchange ratios using OTB.

The experiment was laid out in the following manner:

- Two enemy scenarios (shown in Figures 21 and 22) were developed. They differed in dispersion of the forces but not in force ratio. Each enemy scenario consisted of five soldiers armed with AK-47s and one IED located in the building's entranceway.
- The baseline scenario of a platoon, without any supporting sensors, attacking an eight-room structure was created using the OTB software. Using Canadian doctrine for clearing a building, four-man "bricks" assaulted the building.
- The UGV scenario built on the baseline by adding two UGVs. The UGVs were "programmed" to enter the building and, subsequently, each room. Once in a room, the UGV would use its electro optical sensors to scan the room for entities and then would back out of the room to make way for the assaulting forces.
- The TWR scenario was also built on the baseline; it added one soldier equipped with a through-wall sensor into the formation. This soldier would check the interior of each room by placing the sensor against the wall prior to the assaulting force's entry into the room.
- For each scenario, the casualties were recorded and served as the principal source for the comparative analysis between the different blue force structures.

Models and simulations are an approximation of the real world they represent. When they are employed, it is necessary to ensure that they perform in a manner that is consistent with the system they represent.

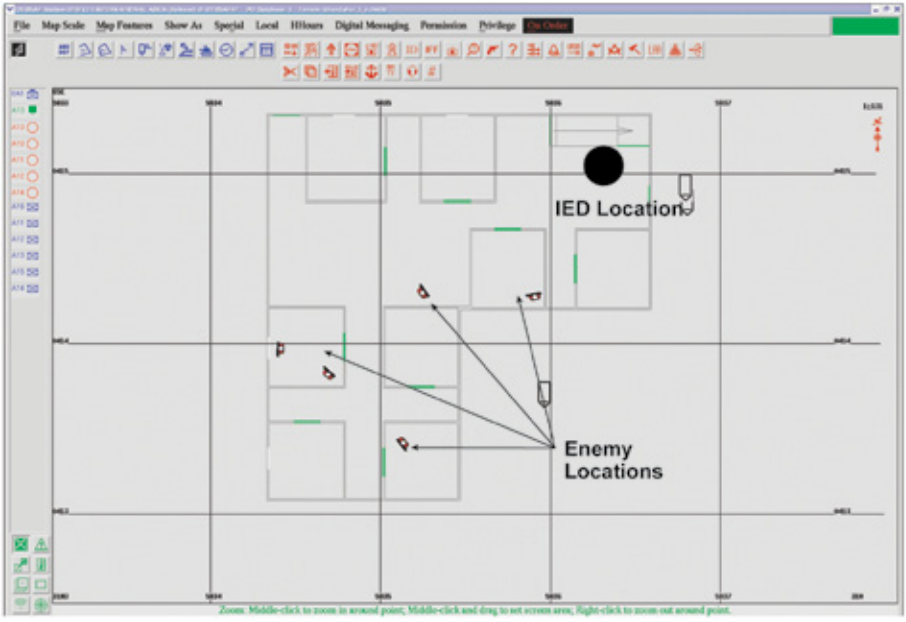


Figure 21: Enemy Scenario 1

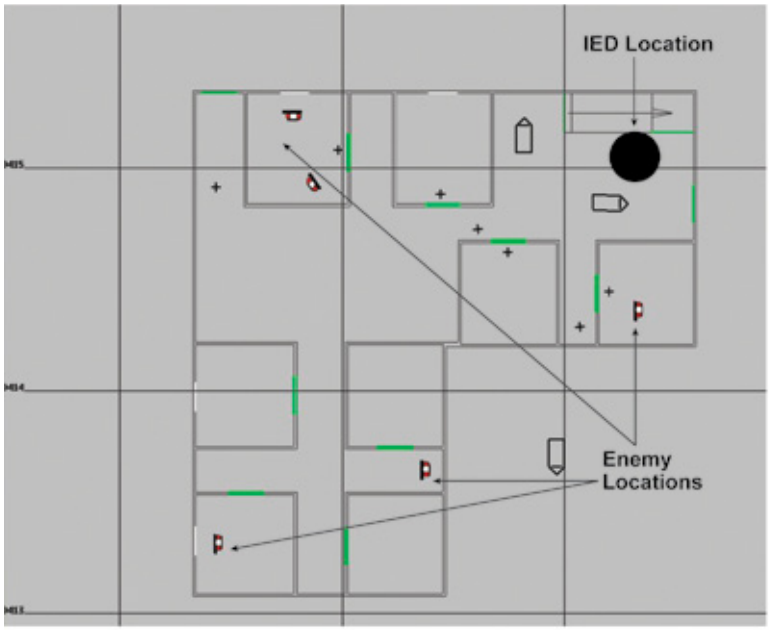


Figure 22: Enemy Scenario 2

Instead of using a formal verification, validation and accreditation process, the project team conducted a series of test iterations to determine if the entities behaved in a realistic manner. Although far from ideal, this validation process was the only means available to the team. Through the test iterations, it was observed that the entities were behaving in a realistic manner and that the procedures employed to clear rooms were consistent with established tactics, techniques and procedures (TTPs).

OBSERVATIONS

Despite the amount of control achievable with the simulation engine, getting the UGV to coordinate its actions with the action of the fire teams was an extremely complex task. The following points were noted during the setup and trial iterations of the experiment:

- The first UGV always (60 times in 60 iterations) triggered the IED and was rendered ineffective when entering the house. The second UGV was destroyed once it entered a room with an enemy force, as it was noticed and engaged before it could get out of the room.
- Coordinating the use of the TWR was much simpler and less space restrictive than the use of the UGV. Therefore, integrating the TWR into the existing doctrinal behaviours of the simulation was easily achieved.

During the course of the experiment the following findings were noted:

- **Baseline Platoon Scenario**. In all 60 of its iterations, the baseline platoon achieved mission success by eliminating the five enemy force personnel. During the baseline iterations the mean number of blue force casualties was five personnel, one to three of which were caused by the initial IED.
- **UGV Scenario**. All 60 iterations of this scenario achieved mission success by eliminating the five enemy force personnel. The detonation of the IED by the UGV prevented the previously mentioned one to three soldiers from becoming casualties. However, during the UGV scenario iterations, there seemed to be a trade-off of situational awareness and surprise. The UGVs initially provided increased situational awareness to the platoon. They also added security as the first UGV detonated the IED. Nevertheless, once the second UGV was noticed and engaged by the enemy, blue force losses tended

to increase. All the UGV scenarios achieved mission success by neutralizing the five enemy force personnel. During the UGV iterations the mean number of blue force casualties was five personnel, all due to engagements with enemy forces.

- **TWR Scenario**. In all 60 iterations, the TWR scenario achieved mission success by terminating the five enemy force personnel. During the TWR iterations the mean number of blue force casualties was two personnel. In each iteration, between one and three casualties resulted from the IED. *This shows a significant increase the platoon's performance, because the majority of blue force casualties were caused by the IED, not enemy fire.*

STATISTICAL ANALYSIS

Figure 23 presents the details, in box plot format, of blue force casualties for each of the scenarios as well as the total for all 180 iterations. The box plot format visually depicts the results for each of the scenarios. The boxes represent the middle 50% of the data points for each scenario as well as the total. In the box plot below, the E1 and E2 enemy scenarios are combined to provide 60 data points for each of the three blue force scenarios. Within each box there is a line and a cross; these represent the mean and median for each sample. The blue dots outside of the boxes and lines indicate "outliers." The box plots indicate that the UGV scenario had the greatest variability and that the TWR scenario had the fewest number of blue force casualties.

Based on the total number of casualties, due to IED and enemy fire, there is no statistical difference in the number of friendly casualties between the baseline and the UGV scenarios. A possible explanation for this result is that the UGV saves one to three soldiers from the IED but removes the blue force's element of surprise because it enters the rooms first. As shown in Figure 24, the casualty rate of the TWR scenario does not seem to be dependant on the enemy disposition, while the differences noted with the other sensor scenarios seem to indicate a dependency.

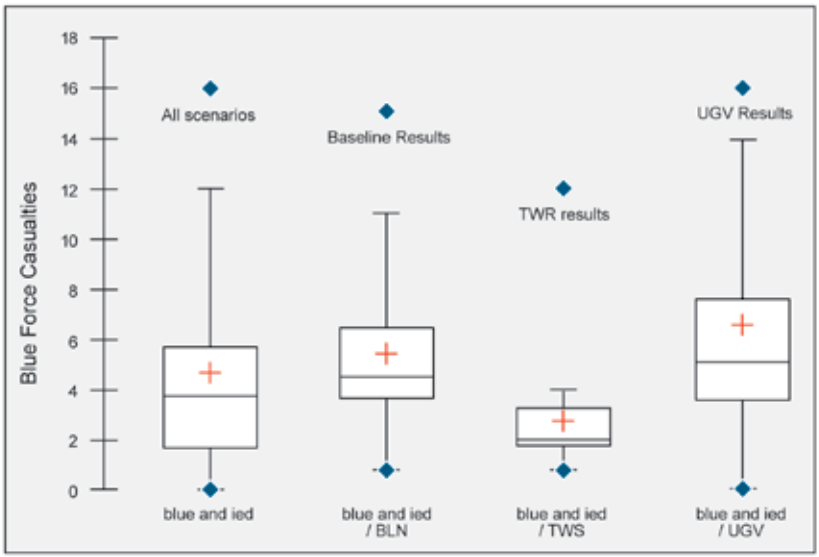


Figure 23: Box Plots of Blue Force Casualties

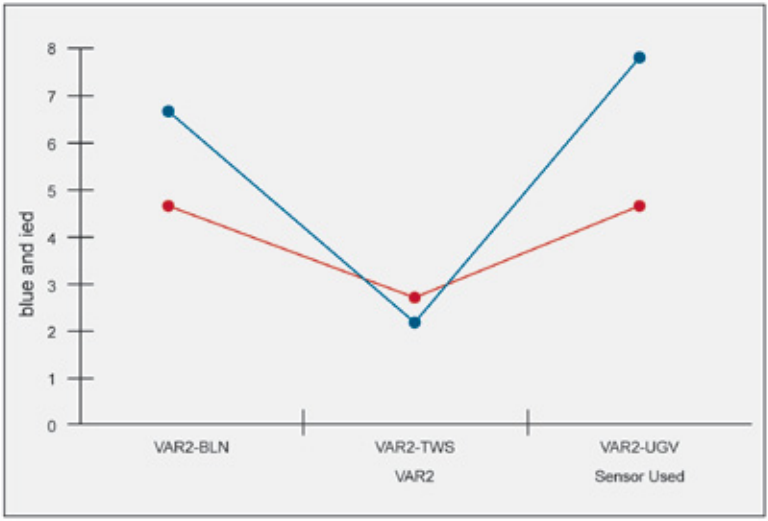


Figure 24: Blue Casualties versus Sensor Used

Based on the results, the project team cannot conclude that the UGV is useful in improving the platoon's performance in this task. The project team concluded that the TWR improves platoon performance. In this experiment, all of the UGVs were destroyed, 50% by the IED and the other 50% from enemy fire. In detonating the IED, the first UGV saved one to three soldiers that would have normally been injured by the IED blast (as seen in the other scenarios). It can be concluded that the UGV is a great IED "sniffer."[45] The second UGV did not seem to improve effectiveness at the platoon level in this task. The TWR improved the performance of the platoon in this house-clearing task, regardless of the enemy's disposition, which suggests an increase in SA. While only a model, the TWR was easily integrated into the existing doctrinal behaviours within the OTB software.

CONCLUSIONS

The new capabilities described in this article are compatible with the intent of increasing commanders' understanding in order to better utilize Act resources. The outlined Organization for Battle provided by DAD indicated that ISTAR personnel would be attributed to the company headquarters' support platoon. All battle groups are also planned to have reconnaissance platoons with personnel specializing in employing sense technologies. These elements lead to the deduction that the proposed organizations could support the sensors discussed in this experiment and that no major modifications to planned establishments would be required if they were to be acquired and distributed.

Current TTPs for clearing buildings do not make reference to the employment of sensors. As a result, some modifications to the TTPs would be required in order to incorporate the capabilities described in this report. It is predicted that these changes would be simpler for the TWR since the equipment is handled by a human and, therefore, is more flexible and responsive to any given situation. The changes to TTPs to incorporate the UGV would be more involved since it would be important to control the vehicle in a manner that would not interfere with the assaulters.

The UGV model selected for this experiment had to expose its body in order to observe a room. This fact, combined with the UGV's relatively slow responsiveness and size, made the vehicle an easy target for the enemy. As would reasonably occur in a real situation, the enemy engaged the UGVs when they entered the room, resulting in the loss of all vehicles that entered an occupied room. Because the enemy would normally disable the UGV with a firearm (and thus alert all the other enemies in the building to the assault), it is assessed that the use of the UGV compromises the element of surprise for the entire target building.

The modeled UGV was assessed to activate IEDs. For this reason, the UGVs always detonated the IED located in the entranceway of the building. The conclusion made from this observation is that UGVs appear to be appropriate IED triggering devices. Given the techniques used to camouflage IEDs, it is unlikely that Horizon 1 UGVs could detect IEDs prior to detonation. Although this use results in the loss of the UGV, this is a better solution than the loss of one or more soldiers. It must also be noted that this conclusion is only valid against mechanically triggered IEDs and not command detonated devices. No conclusions could be reached on a recommended number of UGVs to be deployed with an assaulting platoon.

The use of the TWR showed significant improvement in survivability of the blue forces regardless of the enemy disposition. It appears that the success of the blue force in the baseline and UGV scenarios depended on the enemy disposition. The analysis shows that in this situation the TWR is a better sensor than the UGV system and that it also presents a significant advantage when compared to the baseline. The TWR acquires information by scanning through the wall rather than exposing the sensor through an opening. It is assessed that this situation resulted in a better retention of the element of surprise.

A limitation of the TWR technology for the present systems is that it detects living beings by locating their heartbeat. As a result, it is not possible to distinguish between enemies and neutrals that are located in the same room. The TWR therefore provides a limited level of information in environments where the enemy is using neutral parties or hostages for protection.

The information gathered throughout this experiment suggests that a single TWR employed with the leading section of the assault platoon could be sufficient to provide a marked advantage. Should a platoon commit more than one section at once, one TWR would be required for each assault group.

Both systems studied in this project showed potential that cannot be ignored. Given the limited scope of the experiment, it would probably be premature to eliminate any system. As a result, the following recommendations are made and are appropriate for both the TWR and UGV systems.

- Acquire one TWR and one UGV through a "buy and try" program.
- Conduct a technical evaluation to determine the sensors' actual characteristics.
- Conduct an operational evaluation using a scenario similar to the one described in this report using of the Weapons Effects Simulator (WES).

Consistent with the rationale for the Canadian Army Unit STANO project, technologies that permit the exploitation of less capable belligerents and mitigate risks against more capable opponents should be considered for acquisition.[46] The UGV or TWR could be considered as additional STANO equipment under this project if further testing demonstrates that they provide a significant new capability to our deployed forces.

The reduction of casualties that could result from either the increased situational awareness provided by the TWR or the triggering of IEDs by a UGV is a significant improvement in operational effectiveness. Overall, the project indicated that the integration of sensors shows promise of increasing situational awareness of personnel at the tactical level.

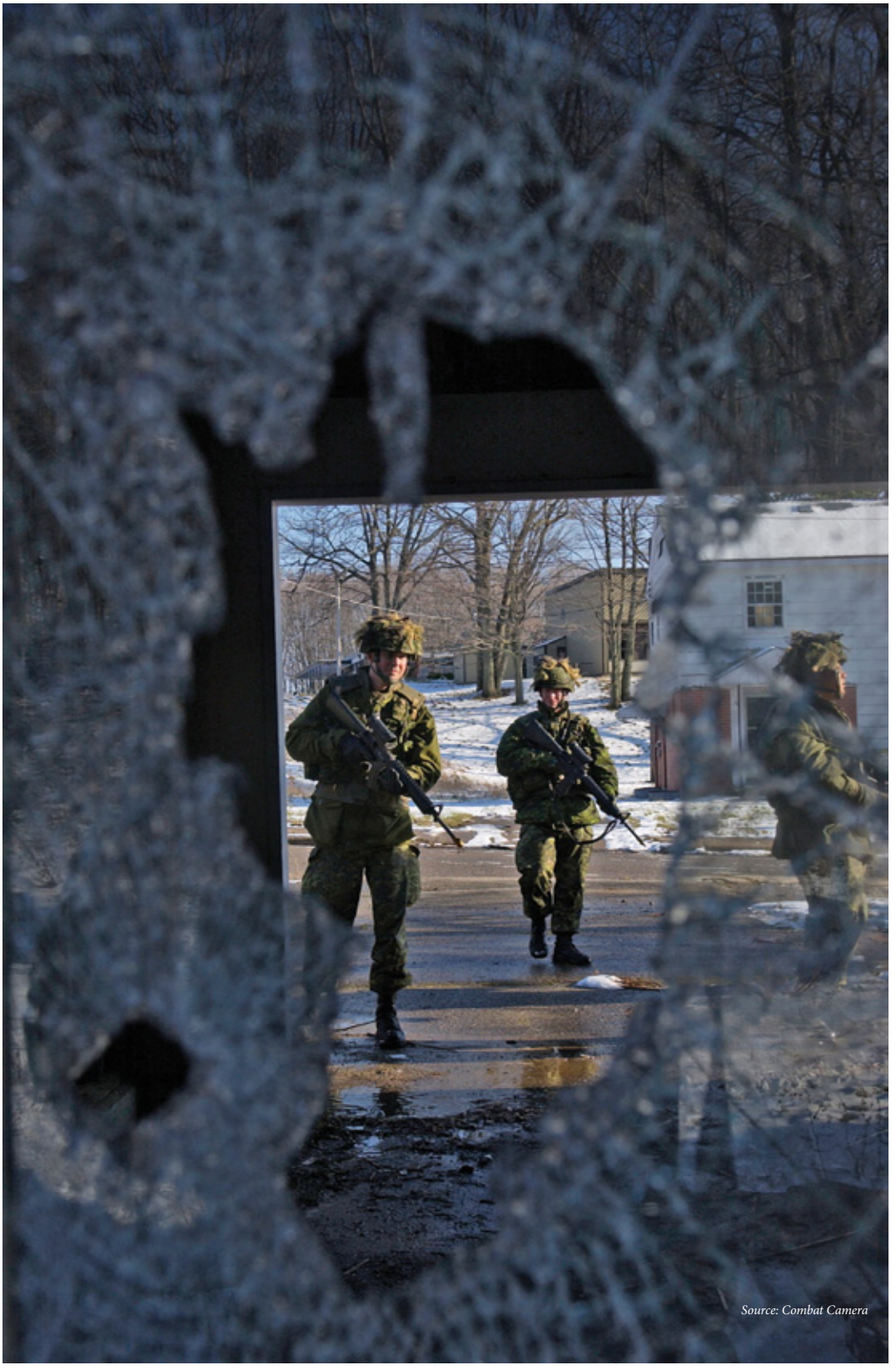
ABOUT THE AUTHORS...

At the time of the writing, Major D.L. Lynk, Major J.C.M Coulombe, and Major R.R. Kollman were students at the Land Force Technical Staff Program XI.

ENDNOTES

1. This article is based upon the paper entitled "The Urban Sensor Equipment" by Maj. D.L. Lynk, Maj. J.C.M Coulombe, and Maj. R.R. Kollman, written for the Land Force Technical Staff Program at Royal Military College.
2. Government of Canada, Department of National Defence, Land Force Command. *Advancing with Purpose—The Army Strategy* (Ottawa: Government of Canada, n.d.), p. 13.
3. Government of Canada, Department of National Defence, Land Force Command. *Purpose Defined—The Force Employment Concept for the Army* (Ottawa: Government of Canada, 2004), p. 4.
4. Sean Hoopey, "Unit STANO Project," Presentation to the Applied Military Science Department, Kingston, On, March 2006.
5. "Military Operations on Urban Terrain [MOUT]," GlobalSecurity.org, http://www.globalsecurity.org/military/ops/mout.htm (accessed April 10, 2006).
6. "World Population Trends," Population Resource Centre, p. 4, http://www.prcdc.org/summaries/world pop/worldpop.html (accessed October 2005).
7. *Ibid*.
8. "Kalashnikiv AK (AK-47) AKS, AKM and AKMS Assault Rifles (USSR)," Modern Firearms, http://world.guns.ru/assault/as01-e.htm (accessed April 25, 2006), and "RPG-7/RPG-7V/RPG-7VR Rocket Propelled Grenade Launcher (Multi Purpose Weapon)," *Defense Update—International Online Defense Magazine*, Year 2004, issue 1, http://www.defense-update.com/products/r/rpg.htm (accessed April 25, 2006).
9. "Weapon Summary Data Sheet—Armoured Personnel Carriers," Federation of American Scientist, http://www.fas.org/man/dud-101/sys/land/apc-ifv-frame.htm (accessed April 25, 2006).
10. *Protocol 1—Additional to the Geneva Convention—Part IV: Civilian Population*. 1977. http://www.unhcr.ch/html/menu3/6/93.htm. Article 48: Basic Rule.
11. Wikipedia contributors, "International Humanitarian Law," Wikipedia, The Free Encyclopedia, http://en.wikipedia.org/wiki/International_humanitarian_law (accessed April 26, 2006).
12. Government of the United States of America, Department of Defense, United States Joint Forces Command. *Urban Terrain, Joint Publication 3-06*, Government of the United States of America, September 2002.
13. "Canada's Casualties," CBC News Online, (accessed November 25, 2005).
14. Tanalee Smith, "Robots Draw Rough Duty as U.S. Combat-Tests Them In Afghanistan," Space.com, http://www.space.com/businesstechnology/technology/robot_wars_0301123.html (accessed October 11, 2005).
15. Michael Ryan, and Michael Frater, *Tactical Communications for the Battlefield*, (Norwood: Artech House, 2002).
16. Only representative sensors (UGV and TWR) that could be modeled in OTB were used for the experiment.
17. Jeff Tyson, "How Night Vision Works," HowStuffWorks.com, http://electronics.howstuffworks.com/gadgets/other-gadgets/nightvision.htm (accessed October 18, 2005).
18. *Ibid*.
19. Tyson, "How Night Vision Works," http://electronics.howstuffworks.com/gadgets/other-gadgets/nightvision3.htm (accessed October 18, 2005).
20. Tyson, "How Night Vision Works."
21. "Through-the-Wall Surveillance," Defence Research and Development Canada http://www.ottawa.drdc-rddc.gc.ca/html/rs_216_tws-eng.html (accessed September 29, 2005).
22. *Ibid*.
23. Tyson, "How Night Vision Works," http://electronics.howstuffworks.com/gadgets/other-gadgets/nightvision2.htm (accessed October 18, 2005).
24. "Military Robots / Unmanned Ground Vehicles (UGV)," GlobalSecurity.org http://www.globalsecurity.org/military/systems/ground/ugv.htm (accessed October 17, 2005).

25. Government of the United States of America, Department of Defense, "Robot Pool," *Joint Robotics Program* http://robot.spawar.navy.mil/ (accessed March 10, 2006).
26. Leander Kahney, "Robots Scour WTC Wreckage," Lycos, http://www.wired.com/news/technology/0,1282,46930,00.html (accessed March 21, 2006).
27. "Product Data Sheet—PRISM Portable Radar Interior Space Monitor," Cambridge Consultant, http://www.cambridgeconsultants.com/Downloads/Case_Studies/ImTrack-S-002%20v0.2.pdf (accessed March 20, 2006).
28. "Tactical Mobile Robotics," Defence Advanced Research Project Agency, http://www.darpa.mil/ato/programs/TMR/ (accessed March 20, 2006).
29. "PackBot Tactical Robot," Defense Update International, Online Defense Magazine, http://www.defense-update.com/products/p/pacbot.htm (accessed March 10, 2006).
30. *Ibid.*
31. "Product & Services TALON Family of Military, Tactical, EOD, MAARS, CBRNE, Hazmat, SWAT and Dragon Runner Robots," Foster-Miller, http://www.foster-miller.com/lemming.htm (accessed March 21, 2006).
32. David Crane, "US Marine Corps Experimenting with New Recon Robot for Urban Warfare Ops," Defense Review.com, http://www.defensereview.com/modules.php?name=News&file=article&sid=677 (accessed November 17, 2005) now available at http://www.defensereview.com/us-marine-corps-experimenting-with-new-recon-robot-for-urban-warfare-ops/ (accessed August 24, 2009).
33. *Ibid.*
34. *Ibid.*
35. Government of Canada, Department of National Defence, B-GL-322-008/FP-001, *Urban Operations Tactical Guide* (Ottawa: Government of Canada, 2006).
36. Government of the United States of America, Department of Defence, Department of the Navy. *MCWP 3-35.3 Military Operations on Urbanized Terrain* (Washington, 1998).
37. *Ibid.*
38. Telecon Infantry School, B Coy Urban Operations SME & DAD 4-3, Mar 06.
39. E. Kalantzis, and F. Cameron, "Force Employment Seminar Wargame 0402: The Interim Army in Warfighting Tasks," TR 2005-24, DRDC—Centre for Operational Research and Analysis (CORA), August 2005.
40. Government of Canada, Department of National Defence, B-GL-322-008/FP-001, *Urban Operations Tactical Guide* (Ottawa: Government of Canada, 2006).
41. *Ibid.*
42. *Ibid.*
43. It is to be noted that the current CF order of battle (ORBAT) does not include an ISTAR detachment as part of the light infantry company. The ORBAT used in this article is purely theoretical.
44. Government of Canada, Department of National Defence, Land Force Command, B-GL-382-001/FP-001 *Shoot to Live Program* (Ottawa: Government of Canada, 2006).
45. One of the limitations of OTB was that the UGV had to "trip" the IED to detect it. This may be avoidable in live simulation or reality.
46. Hoopey, "Unit STANO Project."



Source: Combat Camera

Source: Combat Camera

Courage Under Fire: Defining And Understanding The Act

T. Robert Fowler

At 7 a.m. on the morning of 19 August 1942, twenty six landing craft carrying men of Les Fusiliers Mont-Royal headed onto a beach obscured by the smoke of gunfire and burning ships. The regiment had been assigned as the floating reserve for the amphibious raid on Dieppe and had expected an easy landing after the first waves had secured their immediate objectives. However, as their flimsy boats came under heavy machine gun and mortar fire, they realized that something was wrong. On leaping out of their craft, they were greeted by sights that could have frozen many men—dead bodies awash at the waterline; landing craft beached and burning; eruptions of stone and sand from enemy shells seeking out groups of Canadian soldiers scattered over the beach. This was the hell of Dieppe early on the morning of 19 August 1942. In the next hour, the battalion's commanding officer, Lieutenant-Colonel Dollard Ménard, experienced all the emotions of combat and earned a decoration for courage as he led his men into that maelstrom. Later, he attempted to reflect on the experience and gain some insight about where he had found internal strength to carry out his duties in such a fearful situation.

Lieutenant-Colonel Ménard believed that four elements provided him with the courage he had needed. The first element was what he called "a sort of optimism or egoism. It brings you up to the action itself—sort of pays your busfare to the battlefield."[1] Like most young men going into battle for the first time, he could not imagine that he would be killed or wounded; others might be hit, but he would be all right. However, as Ménard raced up the beach and through the barbed wire, he was suddenly hit in the shoulder by shrapnel, leaving him stunned and unsure of what had happened.

The second element now came into play: "I think it was then that discipline and training proved strong enough to keep me going."[2] Ménard automatically applied a first aid dressing to his wound and then moved on, leading some of his men to outflank an enemy pillbox that was holding up the advance. While carrying out this manoeuvre under enemy fire, an officer with Ménard suddenly fell to the ground, mortally wounded. When Ménard realized that there was no hope that his friend would survive, he experienced the third element which intensified his resolve—blind anger. He recalled that "it seemed to push everything else out of my head. All I wanted was to kill and get even."[3] But he struggled with this emotion, reminding himself: "I had to direct my unit, so I had to control this rage. But it seemed to clear my head, to make me think harder and faster."[4]

Ménard now resumed his advance towards the pillbox. Again he was hit by enemy fire. This time the force of the bullet's impact threw him backwards onto a steel picket, injuring his back. Despite these wounds, he carried on, directing the men around him and they managed to capture their immediate objective. At this point, he was hit once more, this time by shrapnel in his right leg. With these injuries and loss of blood, he was unable to continue and passed out. When he later regained consciousness, he found himself being evacuated in a landing craft that was under attack by enemy aircraft. Noticing that he was lying on a crate of high explosions, he realized that "one bullet would blow the whole works sky high but, by then I didn't give a damn. I thought, 'What the hell, if they haven't got me by this time they're never going to get me.' That feeling, I think, is the fourth element in what they call bravery."[5]

In this incident in the Second World War, Dollard Ménard has given a rare description of what men under fire must face to overcome their own emotions and carry on doing their duty. In battle, ordinary men suddenly face great danger, beyond the scale they would ever experience in normal life. Because of this, courage of a special kind arises, thus deserving recognition in all its complexity. The Oxford Dictionary defines courage simply as "that quality of mind which shows itself in facing danger without fear or shirking."[6] Although this definition implies that the courageous person should feel no fear while carrying out his act, J.L. Gallagher, a Canadian infantry officer awarded the Military Cross in the Second World War has disagreed, arguing that "in my experience, every normal person experiences fear when exposed to the violence of battle; courage is the ability to function despite the fear."[7]

TRYING TO DEFINE COURAGE

What is courage? It is such a simple word yet has so many meanings. In the military arena, other words are often used to convey similar ideas—like "fighting spirit" or "morale"—words that are not exactly the same but closely overlap. In attempting to understand this quality, we are immediately faced with questions about when courage is shown. Can a person be fearful and yet courageous at the same time? When is the act "above the call of duty?" Does the motive of the actor change the degree of courage? Who decides whether an act is courageous? Is it courage or just recklessness when a person ignores the danger, acting either from naiveté or impulsiveness? While admired by all, a definition of courage may not be simple, caught up as it is in the whole arena of human behaviour. William Ian Miller, a law professor at the University of Michigan pondered this problem for some time and attempted to clarify the many facets of the dilemma:

Does true courage mean possessing a fearless character, being a person who "don't scare worth a damn," as one soldier said of Ulysses S. Grant; or does it require achieving a state of fearlessness by overcoming fear so as to send it packing by whatever feat of consciousness or narcotic that can do the trick? Or does overcoming fear mean never quite getting rid of it, but just putting it in its proper place so that it doesn't get in the way of duty? Or does it mean being gripped by fear, feeling its inescapable oppressiveness, its temptations for flight and surrender, yet still managing to perform well in spite of it?[8]

The difficulty in answering these questions has motivated thinkers to ponder the question of courage for many centuries. As far back as the 4th century BC, the Greek philosopher Aristotle debated the question and concluded that courage results when a man "acts to fulfil a noble end in the face of truly fearful danger, yet moderates his fear appropriately to the danger of the situation."[9] From Aristotle's point of view, to be courageous, a man must fully understand the risks involved and then calmly make a decision to take an action that may result in his death. The purpose of the act must be "noble" and the danger "fearful"that is, the hero is expected to experience fear.

LAC C-103529

Figure 1: Lieutenant-Colonel Dollard Ménard was recognized for his courage in a romantic depiction of valour on a poster produced by the Wartime Information Board in 1943, to help sustain civilian morale following the disastrous raid on Dieppe. He received the Distinguished Service Order and the Croix de Guerre avec Palme for his courage at Dieppe

In everyday language, "courage" can be used loosely and have many interpretations. For example, some dictionaries simply define it as the ability to disregard fear or claim that it is a synonym for "bravery." Other dictionaries, however, are more discriminating and help sharpen our understanding. "Courage" appears to have originated in the middle ages from the French *cœur* for "heart" as this organ was felt to be the seat of thought, mind, spirit and a person's nature.[10] Later definitions continue to emphasize that there is a mental aspect to courage, that it is not just a physical act. For example, the Encyclopaedic Dictionary describes courage as "the disposition of the mind" and uses this to make a distinction between it and a narrow use of the word "bravery":

__Bravery__ lies in the blood; __courage__ lies in the mind: the latter depends on the reason; the former on the physical temperament. . . . __Bravery__ seems to be something involuntary . . . __courage__ requires conviction, and gathers strength by delay . . . the __courageous__ man wants no other incentives than what his own mind suggests.[11]

REALITIES

Courage in battle is a result of men agreeing to risk their lives by going to war. Why do men go to war, exposing themselves to this seemingly unreasonable risk? Answers vary with the individual and over time, but certain motives appear to play a part consistently over the ages; and one of these is the image of achieving some kind of glory through courageous action. These motives have been summed up by Patrick Davis, who described his emotions on joining a Ghurkha Rifle regiment in the Second World War:

I believe that sometimes and especially while young, we need to point ourselves at the heroic. Life most often presents the squalid, the belittling, the prosaic. One's young self does not accept this and the image of the heroic is an anodyne. . . . There was a need to find out, to be probed and proved, to set oneself against the most real of realities, death . . . ."[12]

Unfortunately, the test of battle, when it comes, is often less glorious and far more trying than the young idealist has imagined. Combat is one of the most stressful experiences possible, with the constant threat of death or severe injury, heightened by extreme physical discomfort, deprivation of sleep, and sense of isolation and disorientation. As a result, many soldiers feel intense fear and anxiety at some time, with physical symptoms that could include violent pounding of the heart, shaking or trembling, and nausea.[13] Private Stanley Scislowski who fought in Italy with the Perth Regiment described his reactions prior to his first attack, where "bladders and bowels worked overtime. Every five minutes, or so it seemed, we had to empty them, which meant there was a steady procession of men hurrying off to the latrine. We learned for the first time the powerful diuretic and laxative effect pre-battle nerves can have on a man."

The Oxford Dictionary defines courage simply as "that quality of mind which shows itself in facing danger without fear or shirking."

To survive and succeed under such stress, soldiers must not only be trained in the use of their weapons, but be prepared psychologically to maintain control of their mental and physical faculties. For this purpose, armies have structured themselves in a hierarchical society of ranks and organizations, within a framework of traditions and symbols; all designed to create a sense of group-belonging to support soldiers facing their critical test in battle. Men in combat can then find the courage needed within themselves when they are so thoroughly trained in their weapons that they can act instinctively, following leaders who take the initiative under stress which could be immobilizing.

A military ethos has also developed to condition the professional soldier not to be overwhelmed, but to subordinate his emotions to his mission within the compact world of comrades, unit and country.[15] In Canada, the Canadian Forces have attempted to codify the military ethos as being "certain beliefs and expectations about military service that bind all members . . . all understand that the core military values—duty, loyalty, integrity and courage—are at the heart of the profession of arms. . . . To do one's duty means understanding and meeting all responsibilities with integrity and courage."[16]

FEAR AND WILLPOWER

One of the first to try seriously to understand courage in battle may have been the French military theorist Colonel Ardant du Picq who in the 19th century wrote that "absolute bravery, which does not refuse battle even on unequal terms, trusting only to God or to destiny, is not natural in man; it is the result of moral culture. . . . Courage, that is the temporary domination of will over instinct, brings about victory."[17] Later, during the First World War, Sir Charles Wilson was able to examine how courage worked more thoroughly when he was Medical Officer of the 1st Battalion, The Royal Fusiliers.

During four years of dreadful trench warfare, he kept a diary in an attempt to understand the effects of modern warfare on the men under his care. Some twenty years later, his thoughts turned back to this diary when he was appointed, as Lord Moran, to be personal physician to Winston Churchill. The result was a book which became a ground-breaking work on the psychological effects of war, *The Anatomy of Courage*.

Lord Moran's purpose was to "set out to find how courage is born and how it is sustained in a modern army of a free people." He concluded that "courage is a morale quality: it is not a chance gift like aptitude for games. It is a cold choice between two alternatives, the fixed resolve not to quit; an act of renunciation which must be made not once but many times by the power of the will. Courage is will power."[18] Furthermore, he felt soldiers could be divided into types classified by their response to fear:

- men who felt fear, showed it, and shirked;
- men who felt fear and showed it but did their job;
- men who felt fear but did not show it;
- men who did not feel fear.[19]

The question of fear is therefore inextricably linked to defining courage. Fear induced by either battle or the prospect of facing battle can be so powerful that some men will either refuse to face it or be unable to face it. If the fear cannot be overcome, then certainly a courageous act can never occur. Men who shirked—that is, made no attempt to carry on despite their fear—were looked on with disdain by their comrades and officers.

The source of fear felt by soldiers changed over the centuries as weapons evolved. In South Africa in 1900, the principal weapon to be feared was the Mauser rifle which, when used by the Boer marksmen, inflicted massive casualties on British infantry using obsolete tactics. Fifteen years later, artillery had been developed to become the greatest killer of men in battle. Industrialization of warfare continued in 1939–1945, enabling greater concentrations of firepower by even more deadly artillery pieces, mortars, machine guns, aircraft and tanks. Herb Peppard, who experienced fighting in Italy with the 1st Canadian Special Service Force, could not forget in particular the effect of being under enemy artillery fire: "Enduring an artillery barrage was an entirely different and utterly terrifying experience. . . . I felt exposed, helpless, vulnerable. There was no way to combat this terror. . . . There was no place to run, back or forth . . . ."[20] Considering the threats to life and the fears resulting from combat, historian John Keegan was amazed that men would voluntarily accept such risk. He could not help to be impressed by a quote, which he thought might have come from the 18th century philosopher Baron de Montesquieu, that "a rational army would run away" when faced with the likelihood of death that battle entailed.[21] Indeed, there have been many times in every war when units have run away, usually in panic, or at least refused to obey orders. The most notable of these is probably the French army mutinies of 1917.

Admission of fear in battle would not have been acceptable in past times. In the Middle Ages, the highest glory was to seek danger impulsively without any sign of flinching. As historian Philippe Contamine explained, the attitude in the 12th century was that "courage promotes both fearlessness and bravery in war; certainly the second quality is more alluring, but the first is superior."[22] Gerald Linderman traced this attitude into the 19th century, arguing that at the start of the American Civil War the leading politicians and generals believed the war would be fought as a conflict between honourable gentlemen. With such a prevailing romantic attitude, "courage had for Civil War soldiers a narrow, rigid and powerful meaning: heroic action undertaken without fear."[23] By the Second World War, however, fear had come to be accepted as natural. Geoffrey Picot, an officer in the 1st Hampshire Regiment in the Second World War, could accept courage and fear existing together, defining courage as "certainly not the absence of fear. It is more the doing of duty when you are terrified."[24] In the midst of the horrors of the battle for Okinawa in 1945, the American Marine Eugene Sledge confided to a respected officer that he was ashamed of being so afraid. The officer scoffed at his shame and told him everyone was terrified: "Courage," he explained to Sledge, "meant overcoming fear and doing one's duty in the presence of danger, not being unafraid."[25] The definition of courage has therefore swung to an opposite

extreme—from a quality once credited only to the aristocracy, but now recognized as possible by any person regardless of their rank in society. Now, all soldiers carrying out their duties, whether in the face of enemy direct fire or while suffering the implied threat of hidden improvised explosive devices, are exhibiting courage—the courage of the ordinary soldier in the age of democracy. General Sir Peter de la Billière, commander of British forces in the First Iraq War gave all his men credit when he recognized that not all men can act courageoulsy as easily as others; some have to push themselves hard to carry out their duties. He argued that such a man:

may not distinguish himself so much in the eyes of others but he will have sacrificed more and suffered greater demands than his more outwardly courageous companions. This is why I have always respected the courage of 'the hundred others' without whom no commander or leader can fight his ship, his aircraft, or his army divisions effectively.[26]

THE PRIMARY GROUP: DUTY AND HONOUR

If all men are fearful at some time in battle, how are they able to carry on with courage? The theme that arises from many studies is that loyalty to their primary group is one of the main sources. As Herb Peppard put it: "If we hadn't been buddies and comrades, we probably would have fled in panic. Each man depended on his buddy. . . . We depended on one another for our very survival, so we trusted one another. As comrades, we would never let each other down."[27] American military historian S.L.A. Marshall, in his book *Men Against Fire,* identified that solidarity with the group was one of the most important motivations for soldiers in battle: "I hold it to be one of the simplest truths of war that the thing which enables an infantry soldier to keep going with his weapons is the near presence or the presumed presence of a comrade." Indeed, loyalty to the primary group appears to be a core motivation that has existed all through the history of warfare. In the 19th century, the French military theorist Colonel Ardant du Picq had already identified the importance of the primary group when he wrote: "Four brave men who do not know each other will not dare to attack a lion. Four less brave, but knowing each other well, sure of their reliability and consequently of mutual aid, will attack resolutely. There is the science of the organization of armies in a nutshell."[28] And, in the 16th century, William Shakespeare has King Henry V remind his men of the importance of their comradeship before the battle of Agincourt:

> We few, we happy few, we band of brothers.
> For he today that sheds his blood with me
> Shall be my brother:[29]

LAC PA-002364

Figure 2: Major George Pearkes was awarded the Victoria Cross for his courage while leading an attack at Passchendaele in October 1917 during the First World War

A number of other factors also can be attributed to aiding a soldier to act courageously. At times it may simply be self-preservation; at other times, anger or revenge for the death of friends. Depending upon the individual and the circumstances, however, they seem to boil down to a small cluster of overlapping universal explanations—a sense of duty, belief in the overriding cause—and the strongest of all—personal honour. As a social animal, man requires the respect of his peers and without this his entire being is called into question. S.L.A. Marshall believed that, among combat soldiers, "Fear is general among men [but] men are commonly loath

that their fear will be expressed in specific acts which their comrades will recognize as cowardice. . . . Personal honour is the one thing valued more than life itself by the majority of men."[30]

Perhaps one of the best examples of courage motivated by duty and honour was that of Major George Pearkes who was awarded the Victoria Cross for his actions in October 1917. Leading a company of Canadian infantry in an attack on the outlying defences of Passchendaele, he was wounded in the thigh by a German counter-barrage. He briefly pondered whether he would go back to seek first aid. But, when he saw his men hesitating in their advance, the training that had been instilled in him when he was young in a public school in England came back to him: "I felt cold, muddy and dirty. . . . [But] you keep going because you feel it's your duty to keep going. You don't think about it. Your men are going on because *you* are."[31] He led his men forward over swampy ground, and although they received heavy casualties along the way, they fought their way to their final objective. By that time, Pearkes had only twenty men left with him. They were now a thousand metres from their start line and the battalions on either flank had been unable to advance, leaving the flanks of this small force unprotected. Despite his wound, Pearkes inspired his men to hang on and they fought off a series of German counter-attacks until reinforcements could reach them. By the end of the war, George Pearkes had been awarded the Victoria Cross, the Distinguished Service Order and the Military Cross. After 1918, he remained in the army, holding several command positions during the Second World War. In 1945, he was elected to be a Member of Parliament and in 1957 became Minister of National Defence. Following his death in 1984, the building which housed the National Defence Headquarters in Ottawa was named in his honour as the Major-General George R. Pearkes Building.

NUMBING OF EMOTIONS

Training and discipline also play a role, but in an unexpected way during sudden violent actions. Anecdotal evidence indicates that under severe stress of combat, soldiers experience a state of altered consciousness in which they can operate instinctively without emotion. Some compared this state of mind while in combat as being like a drug-induced trance. As far back as in the South African War, a British officer described his experience in combat as being "a state of complete detachment. . . . The braver a man is, the more surely some consciousness of that strange state clings to him. Call it selfish indifference or the numbness of fear . . . ."[32] In the First World War, the Austrian soldier and future violinist Fritz Kreisler described it as being a "strange, almost hypnotic state of mind."[33] Another veteran of the First World War, the French philosopher and priest Pierre Teilhard de Chardin wrote that men in battle seemed to become depersonalized and "when one is back again in the rest area, and one's early state of mind is restored, one seems to have been living in a half dream!"[34] Private Henry Russell, a British soldier who fought in the First World War, was surprised how he had been able to advance over bullet-swept no-man's land in the Battle of the Somme without fear. On later reflection, he thought he could not be called courageous: "in some extraordinary manner the chemistry of the body anaesthetizes it in such a way that even when fully conscious, fear does not enter into the matter."[35]

…philosopher and priest Pierre Teilhard de Chardin wrote that men in battle seemed to become depersonalized and "when one is back again in the rest area, and one's early state of mind is restored, one seems to have been living in a half dream!"

James Jones made a point of describing this psychological state of "numbness" as a survival mechanism that takes over the combat soldier when he is under fire: "He no longer cared at all . . . He still felt fear, but even that was so dulled by emotional apathy . . . that it was hardly more than vaguely unpleasant. He no longer cared much about anything. And instead of impairing his ability to function, it enhanced it, this sense of no longer feeling human."[36] J. Glenn Gray, an American veteran of the

Second World War observed that "in mortal danger, numerous soldiers enter into a dazed condition in which all sharpness of consciousness is lost. When in this state . . . they can function like cells in a military organization, doing what is expected of them because it has become automatic."[37] Thus, when the senses are submerged under a barrage of threats, noises and confusion, training and discipline take over to allow the soldier to continue fighting, and under the right circumstances, even carry out extraordinary actions.

THE QUESTION OF FEARLESSNESS

For most men, a number of factors come into play that allows soldiers to overcome fear in battle and to carry on courageously. How then do we consider that a small number of men who apparently seem fearless? These rare types upset the traditional view that courage can only be attributed to those who actually feel fear, but overcome it by some conscious resolve. This quality is highly regarded and recommendations for gallantry decorations are more likely to be approved when the wording of his recommendation indicated that the soldier acted "coolly and with no regard to his own safety." How could such types of men be explained?

Lord Moran, in *The Anatomy of Courage*, also recognized that, despite the fact that most men must deal with fear in battle, there are some men who feel no fear. He could not understand how this could be and could only speculate that "there are some men who are apparently fearless though their minds are active; these men—I can count on one hand those I have known—have in the jargon of my calling a higher threshold or are less sensitive to pain. But do they really feel less than we do or have they attained a peak of control which is beyond our reach?"[38] Glenn Gray, an American infantry officer who served in the France during the Second World War, recognized the fearless soldier when writing about his combat experiences. He felt he could categorize them into three types: those who had a taste for adventure so great that they accepted the possibility of death rather than experience boredom; those who, as truly professional soldiers, had accepted death as a possible outcome of their chosen profession; and some who felt a mysterious sense of destiny, allowing them to remain composed despite all danger around them.[39]

Studies after the Second World War indicated that a small number of men in fact felt no fear—some analysts speculated that such men perhaps could be "social misfits" or even psychotics from their absence of normal emotions.[40] This seems a bit harsh for some who, at least on the surface, showed no obvious fear or whose threshold for fear was far above others. For many of these latter types, battle was actually challenging and exciting. Lucien Dumais of Les Fusiliers Mont-Royal, who won a Military Medal at Dieppe and later operated an underground escape network in occupied France, admitted that "action and adventure has always appealed to me, and the tougher the better."[41] Philip Caputo, an American veteran of Vietnam, was honest in admitting, "the truth is, I felt happy [about going into combat]. The nervousness had left me the moment I got into the helicopter, and I felt happier than I ever had. I don't know why."[42]

This type of personality seems drawn to living life on the edge, getting satisfaction out of the thrill of playing with death. American psychologist Marvin Zuckerman has focused on studying people who he describes as "sensation-seeking," a group that includes a wide spectrum ranging from thrill-sport participants to volunteer firemen. He argues that these people need constant and stronger arousal than the general population to produce endorphins, an analgesic opioid that can reduce stress and provide a morphine-like high. Zuckerman claims that, in the military, people that need this high-risk stimulation are often the ones who volunteer for especially dangerous missions. For some of these high-risk takers, the mastery of fear becomes an addictive goal in itself. The noted medical researcher Hans Selye had come to conclude that some people could even become intoxicated with their own stress hormones similar to alcoholics.[43]

BATTLE FATIGUE / COMBAT EXHAUSTION

But can courage, even for the thrill-seeker, be sustained? All normal persons are subject to some degree of stress while under fire. As a soldier becomes more experienced, his fear during battle diminishes but his anxiety may increase before or after the battle. If, however, he remains involved in intense combat for a prolonged period, loses too many close friends, or has too many close calls, his self-confidence can crumble. As Patrick Davis cynically remarked, "anyone can be brave once."[44] In the Second World War, a number of studies tried to examine how long a man could remain in continuous combat and still sustain his courage. Depending upon the theatre of war and the types of fighting experienced, the results showed that a limit in combat efficiency was reached after being under fire for between 30 and 160 days. A more recent U.S. Army manual on combat stress control has now reduced that limit to "14 to 21 days of cumulative combat, or even after a few days of extremely heavy losses."[45] The veteran who suffers too much stress for too long can become mentally apathetic and slow to follow orders; the careful soldier can become reckless; while the fighter can become quiet and moody.[46] This mental state came to be called "battle fatigue" or "combat exhaustion."

LAC PA-128850

Figure 3: Private Heath Matthews of Charlie Company, 1st Battalion, The Royal Canadian Regiment, shows the effects of his wound and of battle stress following a company strength night raid in June 1952 during the Korean War

Lord Moran, after his experiences in the trenches of the First World War, was the first to realize that courage in a man was not a constant quality but could weaken:

courage is will-power, whereof no man has an unlimited stock; and when in war it is used up, he is finished. A man's courage is his capital and he is always spending.[47]

Lord Moran did argue that courage could be regenerated by success; but he was convinced that, if a soldier was called upon to give his all for too long a time, exhaustion of courage was inevitable: "If a soldier is always using up his capital he may from time to time add to it. There is a paying in as well as a paying out. . . . For achievement is a sharp tonic to morale. Again loyalty to a fine battalion may take hold of a man and stiffen his purpose; the confidence of the tried soldier replaces the old vague fear of the unknown. But in the main time is against the soldier. . . . Men wear out like clothes"[48]

Lieutenant-General William Slim, who defeated the Japanese in Burma, strongly agreed with Lord Moran:

All men have some degree of physical courage—it is surprising how much. Courage, you know, is like having money in the bank; we start with a certain capital of courage, some large, some small, and we proceed to draw on our balance, for, don't forget, courage is an expendable quality. We can use it up. If there are heavy and, what is more serious, if there are continuous calls on our courage, we begin to overdraw. If we go on overdrawing, we go bankrupt—we break down.[49]

While every soldier has some degree of courage to carry on in the face of danger, there are those who stand out as generally exhibiting a higher level of courage than others. During the latter decades of the 20th century, research was undertaken to identify if it was possible to increase courage and fighting spirit in combat soldiers. One study by Israeli military psychologist Reuven Gal in particular attempted to identify whether there were any common characteristics among men who had been awarded the highest decoration for valour in the Yom Kippur War. Despite using sophisticated statistical techniques, he could not find any commonality and had to conclude that men in combat are not born heroes, but become heroes when faced with a critical situation. Gal identified that the most common critical situations when soldiers were most commonly recognized for courage above the call of duty were: when the group was isolated and fighting for survival; when a subordinate took command after the leader in an attack became a casualty; and when an individual sacrificed himself to save the lives of others in the group.[50] In this sense, human nature and combat may not have changed much since 350 BC, when a Chinese philosopher wrote that "courage and cowardice depend on circumstances."[51]

Studies after the Second World War indicated that a small number of men in fact felt no fear—some analysts speculated that such men perhaps could be "social misfits" or even psychotics from their absence of normal emotions.

THE STUBBORN FIGHTER

Sir John Smyth, himself a winner of the Victoria Cross, tried to understand courage from the record of other Victoria Cross recipients. He was forced to admit that "courage is a queer thing and although many people have tried to analyse it, I myself think that it is without rhyme or reason." At the same time, he felt he had to admit there was one characteristic that seemed to be common amongst the men he studied: that was "a degree of obstinacy—a refusal to be beaten or pushed around."[52] Such men seem to be drawn more easily to combat than others. They are often more aggressive, have a higher threshold for fear, and to others, appear fearless. They can also have a stubbornness in which they refuse to give into the enemy.

The British military historian John Keegan has also become intrigued by the same type of personality, as seen in Polynesian warrior society. That is the "big man" who, by force of will, acquires wealth, wives and followers. Such men may be examples of Alfred Adler's concept that a deeply-rooted desire for dominance or superiority is a driving force in human behaviour, and this attitude may be the source of the courageous man's determination not to give into the enemy. Whatever the reason, there are men who are just tough, who have a lot of what we call "guts," and who refuse to give in when battle is at its wors.[53]

Military analyst Anthony Kellett has suggested that the combat effectiveness of men on the front line could be viewed as a continuum, with the aggressive and committed men at one end, the ineffective at the other end, and the majority somewhere in the middle.[54] After their first experience under fire, those in the middle would carry out their duties as efficiently as they could, but would concentrate on just staying alive. Under extreme circumstances, they could be inspired to act courageously either because of an immediate threat or by the actions of those who were more ready to take the initiative. After the campaign in Sicily in the Second World War, British Colonel Lionel Wigram had bluntly declared that the average twenty-man platoon typically had "six gutful men who will go anywhere and do anything, twelve 'sheep' who will follow a short distance behind if they are well led, and four to six who will run away."[55]

Robert Hepenstall argued that such "gutful men"—those at the most effective end of Kellett's continuum—formed the backbone of the Canadian Army Special Force [CASF] in the Korean War. He recognized them as the fighters, the soldiers of fortune, the "Happy Warriors." They had a natural talent for combat and wanted to be there. They even sought out distinction. On reflecting on their influence, Hepenstall felt "these were the people that carried the load, who put it all together and created order out of chaos. . . . They were the experienced, knowledgeable soldiers, and they wanted once again to pit this knowledge against other armed men."[56] Many of these men who volunteered to go over with the CASF stayed on and fought throughout the entire war with the 1st and even 3rd battalions in the following rotations.

When the peace talks began and the excitement of mobile war ended, some of these men even sought to go out on patrols, a task most would have liked to avoid. For them it was an ego trip, a chance to prove themselves and to obtain a reputation as a fighter.[57]

But can the gutful soldier, the courageous man, the hero, be identified in advance? Many times, appearances in rear areas proved to be false when the crunch of battle came. Colonel Strome Galloway, a veteran of the Second World War, recalled one officer who had been awarded a gallantry decoration during the battles in Italy in 1944, but who had the most unimpressive appearance: "He was a gangling kid, freckled-faced, bald-headed, had a B.Sc. degree, was most unsoldierly and played the piano well. . . . He was the most unlikely fellow; you would say, 'that man would never be a soldier,' . . . Then you'd get some great big thug and he just wilts."[58]

COURAGE AND STRESS IN THE 21ST CENTURY

What form will courage in battle take in the 21st century? Certainly the weapons that soldiers will have to face have become stunningly more powerful: the smooth bore musket of 1812 has now been replaced by the guided missile. A soldier no longer has to wait until he sees the whites of his enemy's eyes before firing; now the enemy can be completely obliterated when out of sight, thousands of metres away. Each Canadian infantry soldier in 2009 is equipped with the C7A1 personal weapon which has a rate of fire of 700–900 rounds per minute on full automatic—giving each soldier about the same firepower as an infantry section of 1944.

> *"War exacts a terrible cost in human emotions . . . a cost which every soldier will eventually pay if he is exposed long enough to the horrors of the battlefield. Weakness or cowardice has nothing to do with the probability that a soldier will collapse under the strain of battle. It is not man that is too weak; it is the conduct of war that imposes too great a strain for the sane to endure."*

While the development of weapons has continued unabated since the smooth-bore musket was done away with, *homo sapiens*—our species—has not changed to the same extent. As Freud argued, the basic primal instincts of men and women continue to drive behaviour as always. This has been demonstrated at the start of each war in which Canadians have been involved, as the same motivations lead eager young men to come forward to take up arms in the search for adventure. But, as British history writer Michael Howard has cautioned, "the young soldier in action for the first time may find it impossible to bridge the gap between war as it is painted and war as it really is; between the way in which his comrades or officers or subordinates—and in which he himself—should behave, and the way in which they actually do."[59] Richard Gabriel, a former U.S. Army intelligence officer and later combat psychiatrist has even argued that in this age of electronic warfare, generals find it too easy to send soldiers into battle under conditions in which it is man, not the machines, which set the limits on battle performance.[60]

Some have argued that soldiers of earlier eras were hardier and more courageous than those of today. Certainly the British soldier of 1812 was noted for coming from the worst levels of society—they had been brought up harshly, were uneducated and ignorant, responded only to severe discipline, but readily faced the armies of Napoleon. As societies became more educated and attained a higher standard of living, some military leaders were concerned that men who were to fill the ranks of their regiments would not have the courage (or dumb steadfastness) of past generations. In this regard, Lord Moran wrestled with his own hypothesis as to why some of the men in his regiment in the First World War had no fear. He could only guess that these men must have had no imagination and he called them "yokels." He surmised that the thing called natural courage in such warriors of past wars "seems to have had its roots in a vacant mind."[61]

The concern that men were becoming less courageous persisted through the latter decades of the 1900s. For example, recruits to the British Army in 1939 were found to be physically healthier than those of 1914, but were more ready to question orders that would lead to their own death. Sir Alan Brooke complained that "we are not anything like as tough as we were in the last war. There has been too much luxury, safety first . . . in this country. Our one idea is to look after our comforts and avoid being hurt in any way."[62] Richard Gabriel, however, looked at the question from a different angle—on how the wars of the 20th century had affected soldiers: "War exacts a terrible cost in human emotions . . . a cost which every soldier will eventually pay if he is exposed long enough to the horrors of the battlefield. Weakness or cowardice has nothing to do with the probability that a soldier will collapse under the strain of battle. It is not man that is too weak; it is the conduct of war that imposes too great a strain for the sane to endure."[63]

Since 1945, however, such fears of Gabriel and others have not come to pass to any great extent. Why is this? The main reason has been that the predominant type of military operation has been peacekeeping and counter-insurgency, often defined as low intensity conflicts. Such operations have been very different than the great conflicts of 1914–1918 and 1939–1945, and thus have not involved mass armies containing cross-sections of populations. Such conflicts have been characterized by being confined to specific geographical areas where intensive combat actions were short-lived, involved only limited use of heavy weapons, and were followed by periods during which some recovery could take place in a relatively secure area.

Although troops in low intensity conflicts do not have to endure days of constant bombardment and bitter full-scale attacks such as Canadians suffered in Normandy in 1944, they still are subjected to stress that can demoralize or psychologically damage some soldiers. Afghanistan is such a different type of war that it is hard to compare it to any of those in the 20th century. Courageous resolve can be worn down by the uncertain loyalties of local villagers and the constant threat of ambush. The inability to fight back against attacks by roadside bombs or suicide bombers can lead to operational stress injuries among survivors as surely as full-out assaults in the Second World War. An uncertain environment, with the constant threat of death while carrying out operations, is now the cause of a great strain on men. Indeed, Canadian soldiers involved in peacekeeping operations in the last decade of the 20th century are reported to have suffered operational stress injuries similar to early wars. A 1982 study of a U.S. battalion deployed in the Sinai in 1982 confirmed that the inability to fight back can make peacekeeping missions more stressful for even well-trained troops than active operations.[64]

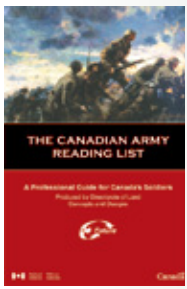
What would sustain courage in such conditions? The answer must lie in the factors which seem to have sustained fighting men throughout history—training and discipline, loyalty to their comrades, commitment to their unit, personal honour, a sense of duty, and most importantly a belief in the overriding cause, all applied both consciously and subconsciously by dogged willpower. In Afghanistan, Canadian soldiers have exhibited all these traits. It seems safe to assume that, from the historic record of Canadian soldiers under fire, there is a wellspring of courage within Canadian society that continues to exist as we enter the 21st century. Given confidence in their weapons and leaders, along with belief in their mission, that elusive quality that Sir John Smyth felt was "without rhyme or reason," will come forward when needed.

ENDNOTES

1. Dollard Ménard and C.B. Wall, "The Meaning of Bravery," *The Canadians at War 1939/1945*, Volume 1 (The Reader's Digest Association [Canada], 1969), 196
2. Ibid., 196.
3. Ibid., 197.
4. Ibid., 197.
5. Ibid., 197.
6. J.A. Simpson and E.S.C. Weiner, *The Oxford English Dictionary, Second Edition*, (London: Clarendon Press, 1989), 1051.
7. Correspondence with J.L. Gallagher, June 2005.

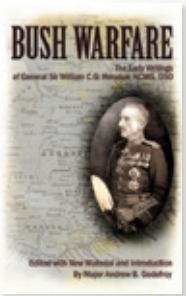
8. William Ian Miller, *The Mystery of Courage* (Cambridge, Mass.: Harvard University Press, 2000), 6.
9. Quoted in Douglas N. Walton, *Courage: A Philosophical Investigation* (Berkley: University of California Press, 1986), 60.
10. Adrian Room, *Dictionary of Changes in Meaning* (London: Routledge & Kegan Paul, 1986), 277.
11. *The Encyclopaedic Dictionary* (London, 1903), 532.
12. Patrick Davis, *A Child at Arms* (London: Buchan & Enright, 1985), 19.
13. Samuel A. Stouffer et al., *The American Soldier*, Volume II (Princeton: Princeton University Press, 1949), 76, 201.
14. Stanley Scislowski, *Not All of Us Were Brave* (Toronto: Dundurn Press, 1997), 115.
15. David Bercuson, *Significant Incident* (Toronto: McClelland and Stewart, 1996), 27.
16. Department of National Defence, Canadian Forces Leadership Institute, *Duty with Honour: The Profession of Arms in Canada* (Kingston: Canadian Defence Academy, 2003), 54.
17. Colonel Ardant du Picq, *Battle Studies* (Harrisburg: The Military Service Publishing Company, 1947), 94, 97.
18. Lord Moran, *Anatomy of Courage* (London: Constable and Company, 1945), 61.
19. Ibid., 3.
20. Herb Peppard, *The Lighthearted Soldier: A Canadian's Exploits with the Black Devils in WW II* (Halifax: Nimbus Publishing, 1994), l43.
21. John Keegan, "Towards a Theory of Combat Motivation," in *Time to Kill: The Soldiers' Experience of War in the West 1939–1945*, eds. Paul Addison and Angus Calder (London: Pimlico Books, 1997), 3.
22. Philippe Contamine, *War in the Middle Ages*, trans. Michael Jones (Oxford: Basil Blackwood, 1984), 251.
23. Gerald F. Linderman, *Embattled Courage: The Experience of Combat in the American Civil War* (New York: Free Press, 1987), 17.
24. Geoffrey Picot, *Accidental Warrior: In the Front Line from Normandy till Victory* (London: Penguin, 1994), 302.
25. E.B. Sledge, *With the Old Breed at Pelelieu and Okinawa* (Novato, California: Presidio Press, 1981), 93.
26. Tom Bower, *Heroes of World War II* (London: Boxtree, 1995), 6.
27. Peppard, 145.
28. Ardant du Picq, 110.
29. William Shakespeare, *Henry V*, 4.3, (Baltimore: Penguin, 1964), 95.
30. Quoted in Ben A. Shephard, *A War of Nerves* (Cambridge, Mass.: Harvard University Press, 2001), 236.
31. Bill McNeil, ed., *Voice of the Pioneer*, Vol. 2 (Toronto: Macmillan Publishers, 1984), 209.
32. Henry H. Pearse, *Lumsden's Horse* (London: Longmans, Green & Co., 1903), 144.
33. Quoted in Modris Eksteins, *Rites of Spring: The Great War and the Birth of the Modern Age* (Boston: Houghton Mifflin Company, 1989), 172.
34. Pierre Teilhard de Chardin, *The Making of a Mind: Letters from a Soldier-Priest 1914–1919* (London: Collins, 1965), 154.
35. Malcolm Brown, *Tommy Goes to War* (London: Dent, 1978), 168.
36. James Jones, *The Thin Red Line* (New York: Delta, 1998), 275.
37. J. Glenn Gray, *The Warriors: Reflections on Men in Battle* (Albany, New York: State University of New York Press, 1967), 102.
38. Moran, 7.
39. Gray, 122–129.
40. Miller, 129.
41. Lucien Dumais, *The Man Who Went Back* (London: Futura, 1975), 7.
42. Philip Caputo, *Rumour of War* (New York: Bantam, 1978), 76.
43. Ralph Keyes, *Chancing It: Why We Take Risks* (Toronto: Little, Brown and Company, 1985), 47, 128.
44. Patrick Davis, *A Child At Arms*, (London: Buchan & Enright, 1985), 253.
45. Stouffer, 288; Miller, 61; Richard Holmes, *Firing Line* (London: Pimlico Books / Random House, 1985), 214–16; Wendy Holden, *Shell-Shock: The Psychological Impact of War* (London: Channel Four Books, 1998), 101; Headquarters, U.S. Department of the Army, Field Manual 22–51, *Leader's Manual for Combat Stress Control*, Chapter 2, Section II, (Washington, D.C.: 29 September 1994), http://www.globalsecurity.org/military/library/policy/army/fm/22–51
46. Richard A. Gabriel, *No More Heroes: Madness in Psychiatry in War* (New York: Hill and Wang, 1987), 86; Shephard, 56.
47. Moran, xvi.
48. Moran, 64.

49. Sir William Slim, *Courage and Other Broadcasts* (London: Cassell and Company Ltd., 1957), 6–7.
50. Reuven Gal, "Courage Under Stress," in *Stress in Israel*, ed. S. Breznitz (New York: Van Nostrand Reinholt, 1983).
51. Quoted by Col. P. Abrams, in the Canadian Land Force Command and Staff Course, "Realities of Battle," Appendix E, 1.
52. Sir John Smyth, *The Story of the Victoria Cross 1956–1963* (London: Frederick Muller, 1963), 19.
53. Smyth, 19; Walton, 99; Addison, 8.
54. N.A. Kellett, *Motivational Implications of Infantry in the Defence*, DSEA Staff Note 14/85, 10, Kellett Papers, Directorate of History and Heritage, DND.
55. Quoted in Shephard, 237.
56. Robert Hepenstall, *Find the Dragon: The Canadian Army in Korea, 1950–1953* (Edmonton: Four Winds Publishing Company, 1995), 11, 173.
57. Ibid., 199.
58. Interview with Strome Galloway, 1 November 1998.
59. Quoted in Dr. W.J. McAndrew, "Stress Casualties in Italy 1943–45," *Canadian Defence Quarterly* (Winter 1988): 55.
60. Gabriel, 69.
61. Moran, 3–4. According to Aristotle's definition, action by such men would not qualify as truly courageous since they would not have taken into account the risks involved—a man acting without imagination would not be much different than one acting under the influence of drugs.
62. Arthur Bryant, *The Turn of the Tide* (London: Collins, 1958), 188.
63. Gabriel, 95.
64. Allan D. English, "Leadership and Operational Stress in the Canadian Forces," *Canadian Military Journal* (Autumn 2000): 33–38.



The Canadian Army Reading List

In September 2001, the Canadian Army produced its first *Canadian Army Reading List*. In the time since its publication many new books and articles of interest to the Canadian Army have appeared, prompting the need to revisit the list, and review and expand it. This new and revised *Canadian Army Reading List* retains most of the original publication, while adding a considerable amount of new material for soldiers to consider. The aim of the *Canadian Army Reading List* is to provide an instructive guide to soldiers to explore suitable literature on a wide range of subjects.



Bush Warfare

In the Victorian Era, many young talented Canadians graduating from the Royal Military college of Canada went on to serve in the British Army. William Charles Gifford Heneker, from Sherbrooke, Quebec, was one of them. Between 1896 and 1906 Heneker served in more than a dozen African campaigns ranging from peacetime military engagements to major combat operations. As a tactical commander, Henniker demonstrated considerable talent and skill, and in 1907, he preserved his strategic and tactical ideas on fighting small wars and counterinsurgency (Bush Wars) in this book for future commanders to consider.

Source: Combat Camera

Closing the Gap: Developing the Sharpshooter Capability in the CF

Sergeant K. Grant, CD

Effective soldiers "must master three skills. First you must be physically fit. Next you must be proficient with fieldcraft. And finally, you must be a marksman.[1]

For the Canadian Forces (CF), the last thirty years has been a journey of transition from attrition doctrine during the Cold War to manoeuvre doctrine through peacekeeping and peace support operations to adaptive dispersed operations (ADO). Each decade has witnessed the CF spending considerable time and effort to deal with the changing operating environment. With reference to the opening quote, inviolate; and, two lessons again learned from our experience in Afghanistan have been that to be effective on the battlefield the soldier must be physically fit and well practiced in fieldcraft. The CF has spent considerable time developing and implementing training and support around these two capabilities.

Today and in the future, ADO can best be characterized as asymmetric opponents in complex terrain amongst a dense civilian population. In this asymmetric battle space, these units will be faced with an enemy that can at best be engaged only fleetingly. To effectively neutralize this enemy, these units will require an embedded asset capable of engaging the enemy with precise direct fire, and who shares a common understanding of the concept of the operations, battle space, tactics, techniques, and rifle company procedures. At the root of this capability lie the individual soldier and the infantry section as the foundation of all operations.

But to further develop the sharpshooter concept two questions need examination. Does the current Operational Shooting Program (OSP) provide sufficient marksmanship training to prepare soldiers for ADO, or does it need to be revisited? And, are there gaps in the capabilities of the section? An examination of the lessons learned from Canada and abroad suggests that there are critical capabilities and training shortfalls at the section level; specifically, the ability to engage an enemy beyond 300 metres with a man-packable, precision fire weapon. The purpose of this paper is to review the current training system, identify the gaps and, with an eye to cost effectiveness and compatibility of training, recommend ways to address the shortfalls.

TRAINING

The aim of the Canadian Forces Operational Shooting Program (CFOSP), our current marksmanship program, is to develop, improve and/or maintain marksmanship proficiency. It facilitates marksmanship training at the unit level and provides a progressive approach in training CF members to use their assigned weapons with maximum effectiveness. Accordingly, the programme is designed to achieve the following objectives:

- to impart the knowledge and skill necessary for a firer to effectively engage a target at distances out to the maximum effective range of their weapon;
- to progressively and continuously train firers to maintain and improve their weapons handling and marksmanship skills; and
- in conjunction with CF small arms competition programmes, to develop expert marksmen and coaches who are able to mentor the next generation of firers.[2]

The program is based on a multi-layered, progressive learning model that integrates both indoor and outdoor components as part of the training plan. The indoor component uses the Small Arms Trainer (SAT), which was incorporated into the program as a means to confirm basic marksmanship skills prior to moving onto the live-fire range. While units have access to SAT trainers, few, if any, make regular use of them for marksmanship training purposes. Competing training requirements, lack of skilled operators, and broken equipment frequently keep the soldiers from making effective use of this training.

The outdoor, or live-fire component, is broken into four personal weapons tests (PWTs) and a large number of range practices. For the purposes of this paper, PWT Level 1 is the grouping and zeroing in various positions at 100 metres. PWT Level 2 is the applications shot from 200 metres with a night firing supplement, PWT Level 3 may be described as a confirmation of the firer's ability to engage the target while advancing from 400 to 25 metres. To attain the distinction of Marksman, the individual must achieve a score of 80% or better during PWT Level 2 and 3.[3]

Prior to deployments, infantry regiments engage in PWT Level 4 training which is a more robust application of shooting designed to increase a soldier's level of competency through the use of "Quick Aim Shooting"[4] and is sometimes generically referred to as the "Gunfighter" program. Quick aim shooting range practices are designed to confirm the firer's ability to engage an enemy at close range quickly and accurately with their personal weapon.[5]

In addition, supplementary range practices are designed to confirm the firer's ability to engage varying targets in low light conditions with specialized equipment. A firer must be current on the PWT Level 4, Parts 1 and 2, prior to advancing to any PWT Level 4 Supplement. In the case of current firers, the range practices leading up to the PWT Level 4 Supplement must be conducted live in order to practise and reinforce the shooting skills before attempting the test. An individual must first pass the PWT Level 4, Parts 1 and 2, and any supplement for PWT Level 4 before progressing to collective field firing with that weapon.[6]

Few would deny that the CFOSP program is a logical, effective means to train and test individual soldiers. But there is a difference between 'training philosophy' and its application. ***Marksmanship is a perishable skill, and it takes many hours of practice to maintain and/or improve ones shooting skills.*** Unlike special forces units, the regular army has endured constant budget cuts resulting in shortages of ammunition. With the ever-increasing list of 'mandatory' training, commanders have continued to reduce range time, relying on the annual PWT as an acceptable standard of marksmanship proficiency. The minimum has become the standard!

Coaching, too, has degenerated to the point where rather than spending additional time trying to correct a shooter, range staff either resort to blaming the weapon and replacing it, or issuing more rounds with little or no effective advice so the individual can reshoot that phase of the PWT. So dire is the situation that few in the ranks have engaged targets beyond the 300 metre point, can spot or read swirl, or have ever shot at snap or moving targets. Indeed, there is a declining number of soldiers who have, or know how to, effectively engage the target using iron sights. It has been postulated by some that the CF writ large has lost the critical mass of marksmen capable of passing along the skill. This is no more in evidence than by the need for the 2007, 2008, and 2009 CF International Combat Shooting Teams to hire civilian coaches.

IDENTIFYING THE GAP

Ballistics. On the surface the CFOSP appears to cover all aspects of marksmanship up to and including 300 metres, the furthest range fired during the training. Ballisticly, the Canadian 5.56 mm C7A2 fixed with the standard issue C79A2-1 scope is capable of *engaging* targets out to 600 metres. Indeed, the C79 scope is calibrated out to 800 metres, though at that distance the round becomes sub-sonic.

Intelligent Enemy. However, anecdotal evidence suggests that an intelligent enemy, such as the Taliban, realize this limit and have, with increasing frequency, engaged Canadian and British patrols purposefully from distances greater than 300 metres. Even if the patrol can see the target there is a limited ability to effectively engage it with precise fire at those distances. The American experience in Afghanistan bears this out as SSG John Hawes of C-Trp., 3-71 RSTA, 10th Mountain Division describes:

A lot of engagements took place on our re-supply convoy/vehicle patrols. The enemy in these cases always had the high ground because all roads in my AO[R] were in river valleys and followed the ground. With the enemies high ground advantage it was like they were shooting fish in a barrel. They only had to spend a quick second exposing themselves to dump a magazine of AK ammo down in our general direction before dropping behind cover … rifle and crew served weapons were of little effect on them in most cases. I attribute this to three reasons: lack of marksmanship ability past 300m for which our standard weapons are zeroed; lack of knowledge on how to engage or lead a moving or pop-up target; and angle firing.[7]

Granted, the American training system and standards are not the same as the Canadian, and their standard operating procedures (SOPs) are not the same as ours. But the experience in the Afghan environment is. Unfortunately there has been nothing written, nor any studies conducted, within the CF to record the types and distances involved in various kinetic contacts with the enemy.[8] By comparison, the example does illustrate the need for the ability to engage targets beyond the limit of our training. Indeed, both the United States (in 1992) and New Zealand (in 2009) have conducted studies identifying this critical shortfall.

PRECISION VS. SUPPRESSION

The Need. Historically, suppression effects were often of greater import than precision effects. One reason they were readily employed was because of lower population densities. During inter-state conflicts, people tended to "clear the area" when an army was coming in their direction and, there was a greater acceptance of civilian casualties in a war zone. As well, the relatively higher density of combatants made suppression weapons more effective. However, with the shift from inter-state to intra-state conflicts and the increase in ADO, population densities have correspondingly increased, resulting in, for legal and ethical reasons, the imperative shifting from neutralizing the enemy to minimizing civilian casualties. Indeed, with the proliferation of near-instantaneous satellite-enabled media, the "CNN effect"[9] has become a major consideration for commanders at all levels to reduce the likelihood of civilian casualties in the battle space.

The complex urban terrain also means that insurgents will be hiding within the civilian population and they will use other asymmetric tactics will be to mask themselves from Western forces. Any tactical advantage gained in air superiority and massed joint fire will be effectively neutralized by the urban battle space and the need to minimize collateral damage. As a result, engagements are expected to take place at increasingly short ranges—within the section's reach—but will likely be against fleeting, partially exposed, partially protected and shielded targets. The imperative then is to achieve maximum effect with minimal expenditure of force and logistical effort during ADO. As current operations only serve to remind us, our key vulnerability is the perception of the local, world, and most importantly, Canadian population on which rests our claims for legitimate use of force.

Capability. The list of suppression weapons available to the section on the battlefield is numerous. At the lowest (man-packable) level there are hand grenades, the C7, M203 grenade launchers, and the C9 light machinegun. One level up there is the C6 GPMG, 60 mm mortar and the Close Area Suppression Weapon (CASW). On the LAVs [mobile] there are turret mounted General Purpose Machine Guns (GPMGs), .50 calibre machine guns and the 25 mm Bushmaster. And finally in support there is the artillery, with 81 mm mortars, and 105 mm and 155 mm Howitzers.

By comparison there are relatively few 'precision' man-packable weapons. Apart from the C14 medium range sniper weapon and the C15 long range sniper weapon, there is only the C7-C8, and the 9 mm pistol. This then highlights the need for the infantry corps, specifically the light infantry, to bring man-portable, as opposed to vehicle-mounted, precise fire to bear when on dismounted operations and separated from their vehicles (by minutes, hours, or days). Or when the tactical situation requires that precision effects are required due to the proximity of civilian or friendly forces, as illustrated in the American example.

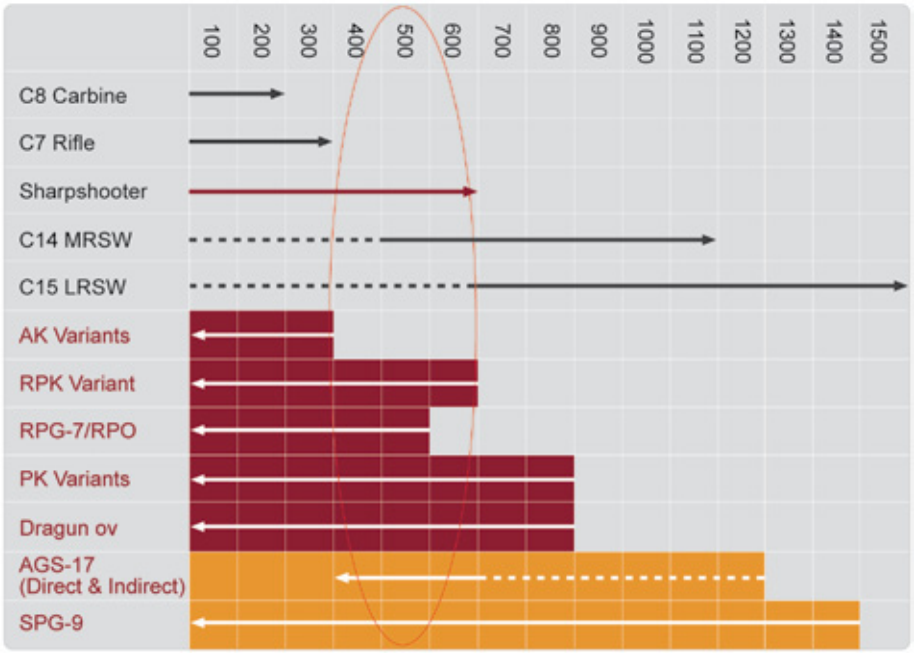


Figure 1: Capability Gap—Man-portable Precision Weapons[10]

The Gap. Given that engagements will occur beyond the limit of training, a gap exists between the training and the equipment. What is required is an ability to engage moving, partially-exposed and/or fleeting targets with precise fire. Simply put, additional training embedded in the CFOSP would largely cover this gap. The question is, if the skill were embedded, is the service rifle capable of delivering the punch required or even hitting the target at longer distances? This question is asked partly because within the infantry there remains a pall of suspicion surrounding the inherent inaccuracy of the C7. Before moving on, it is important to understand this issue and discuss whether a new weapon should be considered as part of any new approach to the section's capabilities on ADO.

THE C7 SERVICE RIFLE

When evaluating the capabilities of the weapon it must first be broken down into its component parts. Therefore we will focus on the weapons, the sights, the weapon and the specific target.

The Weapon. As weapons platforms, the C7 and variants of the M16,[11] are universally recognized as an extremely capable, and versatile weapons family. However, when discussing the capabilities gap it is important to understand the ballistic limitations of the 5.56 mm round. Realistically, the 5.56 mm round using the C77 bullet assembly is limited to 400 metres. Beyond 400 metres it begins to loose too much power (read velocity). That is not to say that it is not accurate, merely that the 'punch', or ability to defeat the objective (read body armour, protective surrounding etc), is considerably reduced. A larger calibre—like the 7.62 x 51 currently being proposed for the sniper portion of the Small Arms Replacement Project (SARP) II—has by contrast greater range and greater penetration ability.

When considering the calibre of the weapon careful consideration must be given to how the target is to be engaged. How is the target protected? Is the enemy wearing body armour, or is the individual hiding behind a wall? How far away is it? And what effect is desired? Is there a need for a "one shot one kill" capability at 600 metres? And finally, if desired effect does not fall within the capabilities of the service rifle, does it fall under another of the section's organic weapons?

The capabilities gap analysis has answered some of these questions. For instance, the distance to the target is between 300 metres and 600 metres. We are interested in accurate fire versus suppressive fire, and the desired effect is to eliminate the threat with minimal rounds.

This leaves the issue of how is the target protected which, ballistically, is an issue of penetration. Enhanced accuracy can be achieved with the 5.56 mm round. The number of competitive shooters using accurized M16 variants (heavy barrels, match triggers, floated barrels, bipods, enhanced sights and match rounds) capable of sub 1 minute of angle (MOA) groupings is ample proof that it can be done—at minimal cost. But a change in bullet to a heavier match grade round, while increasing accuracy, will reduce penetration. As well, the lessons learned from other countries that have used this combination is that a heavy barrel needed for a sharpshooter weapon must be limited to semi-automatic fire lest the barrel be burned out. The direct implication here is that you will be limiting the close quarter capability of the soldier who carries this weapon as his primary. If 5.56 is selected, then it reasonable to expect that at 600 metres more than one round will be required to neutralize the target. This then suggests a heavier calibre.

Changing to a larger calibre, while increasing penetration, in effect orphans the sharpshooter within the section. Interchangeability of magazines between section members caught in a fire fight is a serious, though not limiting, consideration. As well, resupply and life cycle management costs of introducing another calibre are an issue. If the weapon were the same as the one currently being proposed for the short range sniper rifle (SRSW) as part of SARP II, then these life cycle costs could be mitigated.

If the sharpshooter were placed in the section and the sharpshooter rifle was not carried as a primary weapon, instead as a secondary, is it tactically sound to have a section member carrying two weapons, given that the current battle load is around 80 lbs? Would placing the weapon in the LAV for all to access be a better solution (in which case it wouldn't always be accessible)? If carried as a primary, extra ammo could be distributed throughout the section as is currently done with other weapons systems.

The Sight. The stated effective range of the C7A1 and C7A2 is 400 metres with the C79A2-1 optical sight attached. First generation C79 scopes fitted to the C7 in the 1990s after protracted use became sufficiently inaccurate as to loose the soldier's confidence in its ability to hit the target. The issue was never the scope itself but rather the scope base, or mount. At the root of the problem was the tendency of the scope to "jump", or change elevation after several shots, only to return to zero for several more. In addition, if the scope were knocked on the side the zero could be thrown off by as much as 18 inches at 100 metres. Various solutions were attempted to fix the jump issue, including the use of elastic bands across the top of the scope,[12] wrapping the post threads with Teflon tape, and adding spring washers to the top of the elevation post to increase tension. The newly issued second generation C79A1/2 scope and mount has addressed a significant portion of the above-mentioned problems. Indeed, the third (and final) generation improvements[13] to the mount—at this writing the first 2500 modified scope bases have been released to depot—will deal with almost all deficiencies inherent with earlier variants. Any improvements to the base will not enter service in the short to medium term to sufficiently alter the soldier's confidence in his weapon beyond the close quarter engagement.

The lack of confidence in the scope by some has led to an uncontrolled attempt by some to find a new, more reliable, sight. Iron sights were purchased but not generally issued unless specifically requested. Some units purchased specialty sights for general issue only to discover they malfunction in the tough Afghan climate.

By the end of the 1990s it was becoming clear throughout the CF that fighting in built-up areas (FIBUA) was going to be the way of the future.[14] Units began purchasing and trialling the holographic EOTech sights for use in urban environments. While EOTech scopes are particularly effective in Close Quarter Battle (CQB) scenarios, this (holographic) type of sight has limited value for the long range (beyond 200 metres) engagements where the red indicator dot becomes too large and begins to obscure the target. As well, this type of sight is subject to 'sway'[15] thus requiring a greater degree of concentration to make the shot.

Laser designators, used in conjunction with the standard issue night vision goggles (NVGs), were designed to be used in night time CQB engagements. In both cases soldiers have attempted to engage targets at greater distances using these sights and have met with limited (or sometimes no) success, thus at longer ranges reducing the C7 to an area weapon. Critically, both of these sights are power dependant. At present, each soldier requires 22 AA batteries per day. Going to a power dependant scope would only increase that number.

Whichever sight is chosen, it must be capable of consistent, repeatable adjustments to elevation and windage.

As a final note, it is recognized that sighting systems are currently being built with micro computers incorporating bullet drop compensators and laser range finders that tell you where to aim for any given shot. But production is a long way off and that doesn't help the soldier today or in the foreseeable future, thus we return to the basics of marksmanship.

Ammunition. At present, the average C7 rifle—off the rack with standard issue ammunition—is capable of a 3 minute of angle (MOA) grouping. At 600 yards this translates into 18 inches or the width of a figure 11/59 man sized target. However, tests show that with other than standard ammunition (i.e. hand loads or match ammunition), the average weapon is capable of better than 2" MOA, which makes the C7 a very accurate general service weapon on par with the Australian Steyr AUG and the British SA-80.[16]

The SS109 5.56x45mm NATO cartridge was originally designed by Fabrique Nationale (FN) in Belgium for the Small Arms Trials held by NATO in the 1970's. The American ammunition, which uses the M855 bullet assembly, is a cartridge developed in the United States and originally chambered in the M16 rifle. Under STANAG 4172, it is the standard cartridge used for NATO forces. The Canadian ammunition uses the C77 bullet assembly.

The specifications as stated in the Manual of Proof and Inspection (MOPI) and on the bullet assembly drawings for manufacture of the C77 bullet, allow for significant variances in tolerances.[17] Variances in bullet weight coupled with variances in primers, powder weights, and casings (all caused by tool wear during assembly) lead to considerable variances in the flight path of the bullet.

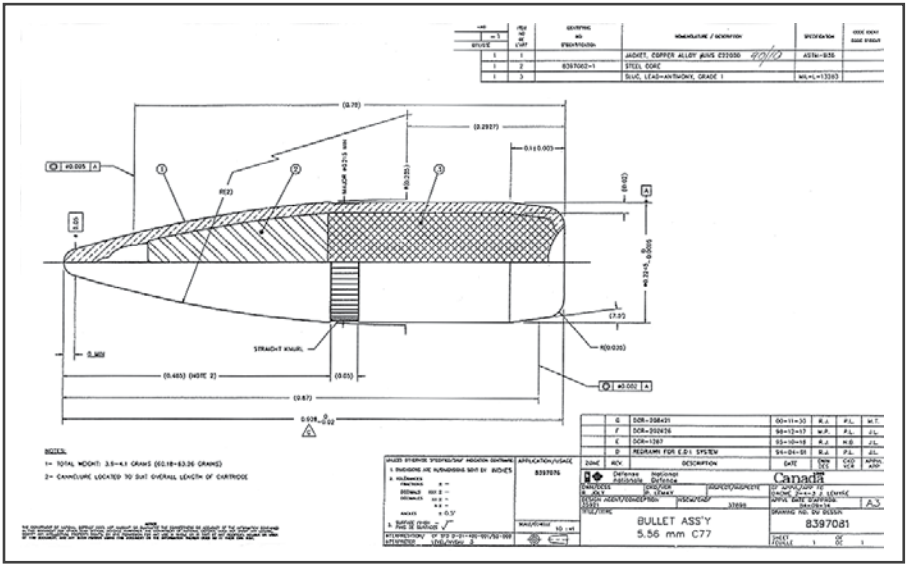


Figure 2: Bullet Assembly Drawing for the 5.56 mm C77 Bullet

This translates into an acceptable MOPI standard of 3 MOA groupings at 100 yards. Realistically, this may be an acceptable standard for machinegun ammunition, but in light of the higher demands being placed on the soldier in an urban environment we must ask if this is an acceptable standard for rifle ammunition?

Apart from grouping size, there is the critical issue of terminal effect at distance. Terminal effect distance is defined as the distance at which the bullet will perform as designed and yaw after entering tissue and fragment causing a rapid transfer of energy which can result in massive wounding and hydrostatic shock effects. At velocities below 2500 fps, the bullet typically fails to yaw and as a result 'punches through' the target.[18] There is some anecdotal evidence to suggest that individuals have been hit (as witnessed by the spotter) several times by standard issue 5.56 rounds at distances up to 600 metres and not gone down. This suggests that while the rifle/sight/ammunition combination in use is accurate enough to hit the target, there is a lack of impact power at greater distances to be effective.

From the above discussion it is clear that neither the scope nor the rifle are the root of the problem for the soldier, but rather the ammunition. Even if the target could be engaged beyond 300 metre, group size and terminal effect have now become the major issue. When discussing the capabilities gap and weapons selection, serious consideration must be given to calibre (is it tactically sound to ask an infanteer to carry a second weapon?), and desired effect.

OPTIONS

Let us assume for the moment that weapon and ammunition are not an issue. Recognizing that soldiers are vulnerable when engaged from beyond the 300 metre point, what then are the options available to address the need to bring precise fire on a target within the gap? There are three options discussed below including: more snipers; sharpshooters organic to sections or platoons; and improving marksmanship for all.

SNIPERS

The simple solution to addressing the equipment and trained personnel to deal with the ranges past 300 metres is the employment of snipers.

To be clear, a sniper, as defined by the CF, is "a highly skilled infantryman who can select and occupy an advantageous position, stay there for extended periods of time under difficult conditions, and kill selected enemy or destroy critical equipment at long ranges with rifle fire."[19] Their value in based not only on the ability to deliver long-range precision fire, but also to observe and report. In this capacity, British snipers have been employed as ISTAR assets since 2002.[20] Being seen as an ISTAR asset can lead to a blurring of the roles of the sniper, as snipers see themselves as shooters while commanders employ them for their ISTAR capability.

Indeed, the sniper's *primary* mission in combat is to support combat operations by delivering precise long-range fire on selected targets. By this, the sniper creates casualties among enemy troops, slows enemy movement, frightens enemy soldiers, lowers morale, and adds confusion to their operations. The *secondary* mission of the sniper is to collect and report battlefield information. A well-trained sniper is a versatile supporting arm available to an infantry commander. The importance of the sniper cannot be measured simply by the number of casualties inflicted upon the enemy. In part due to the populist image of the sniper, realization of the sniper's presence instils fear in the enemy and influences their decisions and actions. The sniper's role, however, is unique in that it is the sole means by which a unit within its boundaries can engage point targets at distances beyond the effective range of the C7[21] rifle. This role becomes more significant when the target is entrenched or positioned among civilians, or during crowd confrontation operations.

But snipers are limited in number, consisting only of a single platoon of 18 individuals, or 9 teams of two.[22] As such, their assignments are strictly controlled and are generally assigned suitable targets such as selected enemy leaders, key individuals, specialists, enemy snipers, and key enemy equipment and vehicles. These personnel and equipment will be found in target areas.[23]

Because of their exceptionally high level of training, sniper tasks during offensive operations are limited to those that assist the commander in fulfilling subsidiary requirements such as gaining information, depriving the enemy of resources, assisting in deceiving or diverting the enemy from the main effort, assisting in fixing the enemy to prevent regrouping or repositioning, pre-empting the enemy from gaining the initiative, and disrupting enemy offensive action.[24]

An example of this is the Canadian deployment of 2 RCR elements to Haiti in 2003 in which snipers were attached at company level. They were routinely used in covert observation posts in the heart of urban areas. They provided over-watch for cordon and search operations, and were often inserted 12 to 24 hrs in advance to provide situational updates. Additionally, they were used in the sensor-to-shooter link, in that from covert observation posts, they could trigger QRF or other elements to react to fleeting opportunities and emerging threats.[25]

In light of their capabilities and usage, snipers are rarely—if ever—tasked to support company sub-units (section and platoon level) during patrols and thus offer no support to this type of combat operation. Snipers are highly skilled individuals who would be inappropriately used if assigned to support the average section-sized foot patrol in a dispersed environment.

As well, it takes several years to bring an individual up to the level of a sniper; hence there is a lengthy training requirement for this specialty occupation. Since the training bill is high the result is that few are qualified. With few snipers available for tasking, the resource has a limited deployability window. Also, snipers' weapons, digital cameras and recording equipment are very expensive, and thus not economical to have widely distributed.

When coupled with their inherent limitations and the cost associated with growing a cadre of highly trained snipers, this would seem justification enough to warrant further investigation of the sharpshooter concept. But if creating more snipers is not the answer, how then can the ADO requirement to both deliver accurate fire on a target, and the psychological impact of the sniper by reaching out beyond the 300 metre point, be created? Another way is required.

SHARPSHOOTERS

A second option is the specialist approach to marksmanship. In the United States, for instance, which employed this approach in both the Army and the Marine Corps, this model recognizes that American soldiers receives 12 days of basic rifle marksmanship instruction with the standard M-16/M-4 weapons system. Like the C7A1 and A2, the M-16 is capable of hitting targets out to 600 metres, but soldiers do not receive instruction on how to engage targets at longer distances. Since rifle squads in the field often lack the support of long range sniper teams, they choose to fill the gap by creating squad level Designated Marksmen (DM). These shooters engage targets of opportunity, particularly those at distances which the regular soldier with iron sights and the standard weapon would have difficulty with. Their job is to bring a high degree of marksmanship ability to a situation thus presenting the commander with additional tactical options. The resource bill here is economical in that training can be kept short compared to that of a sniper, the infrastructure of ranges and Area Training Centres (ATCs) is in place, and developing course curricula can be relatively quickly achieved using the sniper marksmanship P.O.s as a model.

On the surface the concept of a sharpshooter is one that appears to be well understood by those in the infantry. Indeed, the term can trace its lineage back to the Peninsular War against Napoleon, when Rifle companies began being used as skirmishers in advance of the line infantry and for specialist marksmanship tasks. Over the years however, the term *sniper*, which originated in the First World War, is most often used to describe someone with the ability to engage a target at greater than average distances with higher than average success. The use of this term in this context, however, is inaccurate.

It is important to understand that the term *Marksman* refers to a generic CF skill, not a specific, precision capability. A marksman is defined in the CFOSP as "a firer who is highly skilled in shooting". A sharpshooter, by contrast, and for the purposes of this paper, is defined as an infantryman with specific additional training and a specialized rifle, with the task of providing fire of increased precision out to 600 metres in support of operations.

Combat Camera IMG 2082

This idea has not only been employed by the American Army and Marine Corps, but also by the Israelis, the British,[26] New Zealand[27], and most Eastern Block countries. Indeed, there is clear indication that employing the skilled sharpshooter, like the sniper, "allows the squad to [bring] precise fire on an individual. For example, if people are hiding behind civilians…. you've got one guy back there who can pick out somebody in the crowd and knock him down, and not hit the innocent people."[28] The sharpshooter, in effect, becomes a force multiplier for whoever employs them.

To further illustrate this point, we see in an example from Farah province, Afghanistan, in the town of Shewan, where an American Marine platoon patrol encountered overwhelming 10-to-1 odds and "during the battle the designated marksman single-handedly thwarted a company-sized enemy RPG and machine gun ambush by reportedly killing 20 enemy fighters with his devastatingly accurate fire…. What made his actions even more impressive was the fact that he didn't miss any shots, despite the enemies' rounds impacting within a foot of his firing position…[29]

Apart from this American example, historically there is precedent for the use of sharpshooters by the CF. During their deployment to Yugoslavia in the early days of Operation HARMONY, the PPCLI employed sharpshooters in lieu of snipers. In an after-action report, then Lieutenant-Colonel, now Brigadier-General (retired) Nordick clearly identified the need for marksmen versus snipers and wrote:

The requirement to provide for physical security at either a point location or on an area basis was a constant and often short notice task. In addition to being effective, UN rules dictated that this security be highly visible. This UN presence was often found to provide both a deterrent for some and a sense of security for others. While high visibility may help develop a secure atmosphere, presence alone will not ensure security. Most often we employed a mix of dismounted patrols for close in coverage and mounted patrols increasing our area coverage further out. The mounted patrols also provided the ability to quickly concentrate

a force in a specific location as a rapid reaction element. The static OPs were usually interlocked and sniper positions sited in conjunction with them, these sniper positions were part of the static security plan and were normally platoon marksman rather than snipers in purest form. Indeed, a sniper in the UN context was most often not required or at least not to that high a skill level. The term marksman (or sharpshooter) is more appropriate and accurate. These marksmen were employed often enough to warrant permanent establishment and designation within the company organization.[30]

Nordick went on to recommend that "they should be established on a scale of one per rifle section and one per each platoon HQ. Company HQ should have two designated marksmen and one actual sniper, preferably a qualified Sr. NCO, to provide continuous refresher training and advice. These marksmen should be identified early in the workup training phase and given additional marksmanship training. All platoon personnel should be trained in the techniques of spotting for the marksman."[31]

Since then, the use of sharpshooters and their training has fallen on the shoulders of individual commanders to initiate. Some have taken up the challenge, made special purchases and employed sharpshooters from within the ranks. Task Force 1-06, for instance, deployed with AR-10Ts at the company level. Task Force 3-06 deployed with C3 sniper rifles at the platoon level. And there have been other rotations to Afghanistan that deployed with C7-CTs on the commander's initiative. Indeed, to address the shortfall in training in 2009 the R22eR sent its "designated marksmen" to the Canadian Forces Skill at Arms Concentration (CFSAC) in Ottawa for training prior to deployment.

As we can see, sharpshooters have been deployed in sufficient numbers to warrant permanent establishment as a capability. This then leaves the question of training.

TRAINING REQUIREMENTS

Clearly, in application the sharpshooters are effective. But with 51 reserve infantry regiments, nine regular force regiments, four area training centres, two CANSOF units and one infantry school, developing a training syllabus that is both cost effective and easy to implement will be a challenge. Still, a course curriculum based on a two-week model with the following subjects would need to be developed:

- Weapons safety
- Fitting, cleaning and maintenance of the rifle
- Scope theory and maintenance
- Fundamentals of marksmanship
- Shooting at moving targets
- Shooting at short exposure targets (less than 3 sec)
- Ballistics
- Wind reading
- The effects of weather
- Range estimation
- Zeroing theory, cold bore theory
- Observation techniques, spotting swirl
- Low light / no light engagements
- The use of NVGs and kite sights
- Coaching

While this by no means is a comprehensive list, it does begin to define the left and right of arc. Also, by using portions of the Canadian Sniper Course as a start point, the Sharpshooter Course would ensure interoperability, and a potential means to identify future snipers. Critical to the success of the course however, would be the daily application of fire to build up the sharpshooter's inventory of experience

in various weather conditions. As a minimum, each student should fire 1000 rounds in each five-day period at various distances in addition to their regular studies and classroom work.[32] Time spent on the range helps build muscle memory and an innate understanding of the "feel" of a good shot. Without this muscle memory, the chances of engaging the target successfully with the first round drop considerably.

To illustrate the point experience makes, one need only attend the annual CFSAC rifle competition in Ottawa. During Stage I of the Queen's Medal for Champion Shot, the number of first round hits on the Figure 12 target at 500 metres is less than 50%. This is in part due to the spectrum of experienced shooters on the line at the time, and in part due to the conditions. Stage II, however, reveals a different story. Here, after four days of shooting the top 60 shooters from across the CF and the international teams are on the line, and the results show: the number of first round hits jumps to over 80%.[33]

WHERE AND WHO?

The logical location for this course would be at the Sniper Cell in CFB Gagetown, collocated with and under the supervision of, the Infantry School. The expertise, ranges, and training facilities already exist to implement such a course; however a case can be made for additional schools in the four Combat Training Centers located across Canada. Ranges such as Connaught, Ontario, or Dundurn, Saskatchewan, would need to be used during training. The reason for these locations is due to the wind factor. Traditional gallery ranges within the CF tend to be cut from the bush in long narrow slots. Shooting at distance on these ranges is not overly challenging since that wind rarely plays a major factor. Given that estimating wind is such a critical skill, locations should be chosen where the facilities offer a wide range of opportunities to experience a range of wind conditions. Connaught for instance was, up until the recent installation of berms, the widest range in the Commonwealth and considered by many to be the toughest to shoot precisely because of the wind. Also, Connaught is 1000 yards (900 metres) long and offers the opportunity to expose the shooter to longer ranges as part of the training curriculum. Dundurn ranges in Saskatchewan offer the same challenges.

Combat Camera AS2008-0084a

EMPLOYMENT

Ideally, the best candidate for the sharpshooter position would be the private trained / corporal within the infantry environment, a soldier who has completed basic trades courses and is available for the next level of training. Critically, however, is the recognition that the pool of soldiers from which all courses draw remains the same. The key deduction (constraint) is that there will be an offset for any rifle company personnel from the remainder of the infantry battalion. Any solution must be Person Year (PY) neutral. Another course would merely increase the pressure on the soldier and training system and again create institutional pressure. One option could be to turn the capability over to the reserves to force generate prior to deployment.

At the section level the sharpshooter could be employed in one of the two available riflemen positions.[34] In keeping with the CF practice of training 2.5 personnel[35] for every position, the two riflemen positions could be trained as sharpshooters. By placing the sharpshooter within the section, the tactical advantage is now driven down to the lowest level. In a situation where a foot patrol encounters enemy contact the ability to bring precise fire on the target is greatly enhanced.

Within the standard infantry section, of the eight available positions, two are given to command roles, two to C9 support weapons, and two to M203 weapons. This leaves two positions available as riflemen. This ratio does not change when a Mechanized Infantry section is employed wherein a section consists of 10 positions. However it is recognized that of the ten positions only seven will dismount, and, assuming someone is left for local security, only six will advance on the target. The two extra positions are allocated to the driver and the gunner who remains with the vehicle at all times. The section commander stays back as well to fight the vehicle. But now that we've begun turning out individuals capable of a higher degree of accurate fire, the question then becomes: where in the organizational structure would it be best to employ them? Immediately, two options present themselves: at the section level, and at the platoon level.

The second option is to locate the sharpshooter within the weapons detachment at the platoon level. Armed with a larger calibre capable of longer range and greater impact (of which 7.62 is a candidate), the sharpshooter could engage targets with terminal effect out to 800 metres. The primary advantage here is that the shooter is co-located with the platoon warrant who can act as spotter. Also, the weapons detachment is generally located in such a way as to provide support fire from a distance; in a multi-target environment the sharpshooter could engage peripheral targets. Also, in a situation where a single enemy combatant has engaged the platoon, it would make tactical sense to engage him with a sharpshooter rather than bringing all weapons to bear and thus expending limited ammunition supplies.

STAYING FRESH

Now trained, we must address the issue of remaining current. As mentioned, marksmanship is a perishable skill, and it takes many hours of practice to maintain and improve one's shooting skills. One need only look at the ammunition budgets for the JTF, Special Forces, or the SAS to realize that they have not gone down but rather have increased annually in an effort to maintain proficiency.

Skills half-learned in training will crumble under the pressure of combat and, the farther the shooter is from primary or refresher training, the greater the likelihood that their skills will fade. What is required is an annual period of intense refresher training in the form of gun camps, followed by twice annual testing, supported by monthly range time.

To support this approach, promote marksmanship as an elemental skill, and test that skill under near battle conditions, sharpshooters should be required to participate in provincial and national level marksmanship competitions such as the Operational Shooting Association (OSA), the Ontario Rifle Association (ORA), and CFSAC service rifle matches.

Small arms ammunition is relatively inexpensive and shooting training and competitions enhance many desirable qualities at the critical "small unit" level. Most competitions are held on weekends during the summer, while effective use of the SAT trainer to hash out the basics can be made during off hours or down time during training throughout the year at limited cost and training impact. As unit training gears down in the spring, training during off peak hours on live ranges outside the training schedule, exposes the shooter to changing conditions, building a base of experience the shooter can use on operations. In striving for the top, shooters progressively learn the skill in all its intricacies.

But soldiers need not limit themselves to rifle shooting or competing in long range competitions. International Practical Shooting Confederation (IPSC) and International Defensive Pistol Association (IDPA) pistol matches are held in clubs across the country to encourage pistol marksmanship, handling drills—including transitions between weapons—and add variety to the training.

Combat Camera KN2009-616-0364

RAISING THE STANDARD

This third option is the 'generalist' approach in which the overall level of marksmanship within the army is raised so that anyone carrying a personal weapon would be capable of engaging distant targets. Undeniably, marksmanship is critical to the function of the infantry. So much so that since 1854 the British Army has had in existence the Small Arms School Corps (SASC) (originally known as the School of Musketry) to develop and teach marksmanship doctrine, test, develop and improve rifles, and serve as a corps of experts for the Army.

The importance of marksmanship is demonstrated by the fact that in the British Army it has now supplanted physical fitness as the single most important skill the basic infanteer must master. Today, individuals can graduate from basic training as long as they have passed their personal weapons tests, even if they have not passed the battle fitness test. Conversely, they cannot graduate unless they pass their personal weapons test, even if all other phases of training have been successfully completed.

Increasing the focus on marksmanship throughout the system supports the CF approach to create highly trained soldiers with a range of skills, vice generalist soldiers with single skills. Also, it would eliminate the need to create a course and, with every soldier a marksman, the ability to effectively engage the enemy with accurate fire would be greatly enhanced. The only drawback, and it could be seen as a serious one, is that without a change in the ammunition standards terminal effect is still limited to 200 metres and reliably hitting a target at 600 metres is an issue. If this were seen as a show-stopper, then realistically a new calibre of weapon must be considered for the line infantry.

To raise the level of marksmanship ability across the CF would require substantial additional training. Some of the cost of this training could be defrayed by centering the initial training around the Small Arms Trainer (SAT); however for this approach to be effective, a software upgrade to the SAT would be required.[36] It would require a logical, stepped approach, the cornerstone of which would be the reinstitution of the Small Arms Coaches Course (SAC) as a stand-alone course.

Reinstituting the SAC course could be viewed as one way to provide the solider with a concentrated learning environment and an early step on the leadership ladder. Having taken the SAC course the soldier will have had exposure to small party tasks and the responsibility of leadership and thus are better prepared for the PLQ phase of training. Indeed, a SAC qualification, coupled with a PLQ qualification could be viewed as necessary for promotion to master corporal, just as the Small Arms Qualification DP3A / DP3B are necessary to achieve promotion to warrant officer.

Taken a step further, a marksmanship qualification above the level of PWT 3, should be made mandatory prior to promotion to master corporal. Justification would be found in the immutable fact that to be effective soldiers we need to be physically fit, proficient in fieldcraft, and marksmen. As well, junior leaders must be able to coach and lead their sections, and how better than to become masters of (or at least better trained on) their primary weapons?

Marksmanship training progress demonstrates the classic series of steps upward interspersed with plateaus; marksmanship improves with intelligent practice and, once attained, can be maintained without great difficulty or cost. As in the sharpshooter model, to remain proficient, an annual period of intense training would occur in the form of gun camps, only now it would be conducted on a company level—one week set aside each year in which the company goes to the range for five to seven days and does nothing but shoot. The benefits of this approach can be seen following the PWT 4 training conducted prior to deployment. The level of marksmanship across the board jumps markedly after the intense training.

Combat Camera VL2007-1011-02a

To support this approach there would be a need for a cadre of trainers pre-situated at each ATC. Equipped with a training syllabus their purpose would be to cycle each company through the week-long training. As well, upgrades would be required to the current SAT systems to ensure skills learned on the range are not lost.

Clearly the resource bill for ammunition alone for a CF-wide improvement in marksmanship skills would be prohibitive. Training time and resources are limited, and setting aside time to deploy a company at a time to a range once a year for intensive training is counter-intuitive to the current training model; and, this approach still does not address the issue of the capability gap.

However, resources could be concentrated within the infantry branch to maximize marksmanship training locally while limiting the budgetary requirements. The reality is that unless the standard of marksmanship training is raised (through mandated and funded additional range time), the recruiting base from which the sharpshooter program will draw will be limited and quickly depleted. Additional marksmanship training then is seen as a critical first step in building any new capability.

RECOMMENDATIONS AND CONCLUSION

Emerging from the dust of operations is the realization that there exists a critical capabilities gap at the section level that hinders the ability to engage the enemy with precise fire (marksmanship) within the 300 to 600 metre envelope (equipment). In examining this capability shortage, this paper has asked a number of questions and presented a number of options, each with advantages and disadvantages.

We began by asking the question of whether the PWT training system was appropriate to prepare soldiers for ADO. It's clear that the practice of marksmanship varies greatly from the theory to the application of training, and, that the PWT, once designed as the minimum, has come to be adopted as the standard for marksmanship. Few units have the training time or ammunition resources to continue to foster advanced marksmanship training at the unit level. SAT trainers installed with the intent of providing an inexpensive and effective means of improving marksmanship sit idle in wait of parts, knowledgeable operators, or students. That said, the PWT system up to level 4 does provide the solider with necessary level of training for close quarter engagements and a solid base upon which to build more advanced marksmanship skills. What is required is more training in the form of range time.

The paper also asked if there were gaps in the capabilities of the section, and clearly there are. The need to bring precise fire on the target beyond the 300 metre limit of training has been identified in a number of post deployment reports. Indeed, Canada is not the only country to identify this need as illustrated by the number of countries who have adopted the sharpshooter, or designated marksman, concept.

Finally, a comparative review of the options to address this shortfall shows that growing and deploying a larger cadre of snipers is not a cost effective option. Neither is raising the standard of marksmanship across the CF; this then brings us to the sharpshooter capability. Having reviewed the material and seen that their use is widespread by both Eastern and Western block countries, and that the CF has already begun to employ them, this paper, now makes the following recommendations:

MARKSMANSHIP

- As a minimum, the infantry branch **must** enhance its current level of marksmanship training and practice above that required to achieve PWT 3. Failure to do so will have a direct impact upon any proposed sharpshooter program.
- That the MOPI be rewritten to tighten the ammunition standards to sub 2 MOA using the C77 bullet assembly.

The cost-effective solution to addressing the capabilities gap involves managing expectations. Therefore recommendations are based the following assumptions: that the sharpshooter will be placed within the section structure; that the sharpshooter weapon will be the shooter's primary weapon; that cost of implementation is a consideration; and, that commonality of calibre between section members is paramount.

WEAPON

- The weapon must be capable of semi-automatic fire.
- The weapon must be capable of sub 1 MOA groupings with match ammo to ensure greatest likelihood of shot placement.
- The weapon be the same as the short range sniper weapon (SRSW) currently being proposed for SARP II.

AMMUNITION

- The ammunition used in the sharpshooter rifle must be of match grade and capable of sub 1 MOA groupings.

SCOPE

- The scope must allow for *quick, consistent, and repeatable* adjustments to windage and elevation.

TRAINING

- The Sharpshooter Course be developed by the Sniper Cell in Gagetown, administered by the Infantry School, and taught at the four ATCs nation wide.
- That the course be two weeks in duration with a minimum of 2000 rounds allocated per student.
- That bi-annual testing, coupled with annual intensive refresher training and participation in local and/or national marksmanship competition be used to retain the skills necessary to be employed as a sharpshooter.

SHARPSHOOTER

- The sharpshooter must still be capable of operating within the section in the normal role of a rifleman.
- That one sharpshooter be placed in each section, but that the training standard of 2.5 personnel per position be maintained.

The creation of a sharpshooter program is an achievable goal in terms of manpower, infrastructure, and money. The CF already has the essential components in place in the form of institutions, conventional ranges, and basic training to support the initiative.

Success of the sharpshooter program demands that the CF place greater emphasis on marksmanship training at the unit level. A broad base of shooting skills embedded in the ranks is essential before the selection process can begin otherwise the program won't be sustainable as the recruiting base will quickly be depleted. *Marksmanship is a perishable skill that needs to be taught, nurtured and tested as often as possible lest it be lost.* **Unless the bedrock of marksmanship training within the ranks is substantially enhanced, the sharpshooter program will be unsustainable and ultimately fail.**

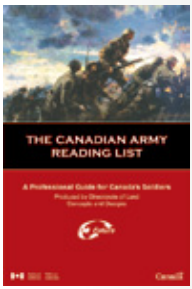
ENDNOTES

1. In 2002, as commander of Land Forces Central Area (LFCA) BGen Leslie addressed the assembled competitors at CFSAC and made the address quoted. The following year CFSAC was cancelled for four years. The author was in attendance at the time.
2. CFOSP-B-GL-382-001-FP-001, p. 25.
3. It should be pointed out that the term "marksman," as applied here, is only an achievement and not a skill.
4. CFOSP-B-GL-382-001-FP-001, p. 26.
5. CFOSP-B-GL-382-001-FP-001, p. 40.
6. CFOSP-B-GL-382-001-FP-001, p. 40.

7. Hawes, John, SSG, C Trp, 3-71 RSTA, 10th Mountain Division, Quote from Article entitled The Designated Marksman Equation (Material x Training/Tactics = Mission Success), posted at Designatedmarksman.com, accessed 10 Feb 2010.
8. The author is aware of a "Significant Incident" database being used in Kandahar to record this, and other, information for each contact made. Unfortunately it is impossible to mine that database from this side of the pond.
9. The CNN effect is a theory that postulates that the TV channel Cable News Network (CNN) had major impact on the US foreign policy. The term is generally refers to a broad range of real time modern media, and speaks to the impact modern media can have on decision makers.
10. Rating effective ranges for former Soviet Union (FSU) weapons is difficult (eg. the AK-74 is rated from 200–500 metres but is arguably less accurate than a C7A2 Rifle). The ranges portrayed come from a variety of sources and should only be treated as indicative only. Crew-served weapons (in orange) and other suppression weapons are included as the enemy does not necessarily suffer the same constraints with regard to precision.
11. The M16 is the most commonly manufactured 5.56x45mm rifle in the world. Currently the M16 (or variants thereof) is in use by 15 NATO countries and more than 80 countries world wide. Wikipedia website: M16 Rifle http://en.wikipedia.org/wiki/M16_rifle accessed 19 Feb 2010.
12. It is interesting to note that 4000 miles away in Ireland, the Irish army devised a similar solution in that they took a piece of rubber inner tube and fixed it to one side of the scope mount, ran it over the top of the back of the scope and tied it to the other side of the mount. The purpose was to ensure the scope returned to 'battery' following each shot.
13. EO Tech Update #2, C79A2-1 Modification—Zero Dial, 1 Feb 2010.
14. This assertion is supported in the CF publication *Land Operations 2021: Adaptive Dispersed Operations, The Force Employment Concept for Canada's Army of Tomorrow* which describes the future operational environment as asymmetric opponents in complex terrain amongst a dense civilian population.
15. Sway, as used in this context, refers to the impression the shooter gets that the aiming dot is moving. This can be created when the eye-to-sight alignment moves for whatever reason. Heartbeat, an unstable position, variable eye relief, and breathing that moves the body position all have the effect of moving the rifle, altering the image, and creating the impression that the sighting dot is 'swaying' back and forth across the target.
16. CFCST 2009 After-Action Report titled, Equipment Problems CF Combat Shooting Team 2009 Bisley. This report claims that the Steyr AUG is capable of groups as small as .75 MOA and the SA-80 of 1.5 MOA. This author has been unable to find any information to support these claims.
17. Drawing number s 8397081, bullet assembly 5.56 mm C77 and 8397082 Core. Both of these drawings show that there can be as much as .6 grains variance for the mild steel core and .6 grains for the lead core. All total there is an allowance of 3.08 grains for the entire bullet assembly. Given that 1 grain is equal to .067 grams, therefore the variance in a single bullet core can be as much as .205 grams. Ammunition of this quality cannot—under any circumstances—be expected to produce match results.
18. Technical specifications for the SS109 round state that average muzzle velocity is to b e 2985 ft/sec or 910 m/cm2. Given that the average bullet looses 300 ft/sec / 100 m, at slightly less than 200 m the bullet no longer performs as designed. At a distance of 600 m the bullet is traveling at around 1200 ft/sec. It is important to note that below 2500 fps the bullet will still yaw on impact, it just doesn't fragment which means that it still punches a hole, just a little bigger one than if it doesn't yaw. It is also important to understand that does it state that the bullet should fragment. It was never designed to do that, it just does.
19. B-GL-392-005/FP-001, *SNIPING*, Para 6, p. 1.
20 British Government, Operational Insights: Company Level Tactics in Helmand, Dec 2008, p. 56. "Spotters and a signaller are often grouped with the snipers to gain the most from this asset. The provision of the spotter and comms in particular, make the sniper team more than just a firepower asset but as an ISTAR tool." FACs and FOOs recognize that snipers tend to find places where they can see great distances and thus try to co-locate with them whenever possible.
21 This observation refers to man-packable small arms weaponry. It is acknowledged that the 25 mm bushmaster can place a round in a window at 2 km, but you can't carry it up a flight of stairs.
22 The group is organized into two sections of eight snipers each, with the Unit Master Sniper and his driver for a total of 18. Each section is divided into two detachments of four snipers, one led by a sergeant and the other by a master corporal. Each detachment has the further flexibility to be divided into teams of two. Additions may be made to the sniper group depending upon the unit's role, the operational deployment and the tactical situation. If the sniper group is mounted in light vehicles, the group may be assigned additional drivers (up to one per four man detachment) so that when dismounted, the entire detachment may leave the vehicle. A storeman may also be allocated to the group. B-GL-392-005/FP-001, *SNIPING*, Para 19, p. 6.
23. B-GL-392-005/FP-001, *SNIPING*, Paras 2 and 5, pp. 10–11.
24. B-GL-392-005/FP-001, *SNIPING*, Para 22, p. 14.
25. B-GL-392-005/FP-001, *SNIPING*, p. 10.

26. On 18 January 2010, the British announce that 'a new rifle has been bought for troops in Afghanistan that will improve the long-range firepower available on the front line. More than 400 L129A1 Sharpshooter rifles will be distributed and will fire a 7.62 mm round to enhance accuracy at the section level of engagement during long-range firefights with the Taliban. Ministry of Defence website, http://www.mod.uk/DefenceInternet/Defence News, accessed 24 Feb 2010.
27. In 2009 the New Zealand Ministry of Defence Small Arms Replacement Program conducted a study into the section need for range, overmatch and capabilities with a view to the light support weapon (LSW) the individual weapon (IW) and the designated marksman weapon (DMW). At this writing the report has been requested but not yet released.
28. C. Mark Brinkley, *Top Shots For Every Squad*, Marine Crops Times, 29 July, 2002
29. Mercure, Cpl. James M., Marine Corps News, article Marines Make Insurgents Pay the Price, posted on line at Military.com at www.military.com/news/article/marine-corps-news/marine-makes-insurgents-pay-the-price.html, accessed 4 Dec 2009.
30. Capturing Lessons Learned From United Nations Operations—3 PPCLI, Part Two—Operations in Theatre, para 9. Accessed from the web at http://kms.kingston.mil.ca/kms/fileview.aspx? on 21 Jan 2010.
31. Capturing Lessons Learned From United Nations Operations—3 PPCLI, Part Two—Operations in Theatre, para 9. Accessed from the web at http://kms.kingston.mil.ca/kms/fileview.aspx? on 21 Jan 2010,
32. Standard coaching theory for high performance shooters, such as Olympic level airgun and .22 cal shooting, involves starting the season, and the new shooter, off with high volumes of rounds. The objective is to help the shooter settle into the position and develop the feel for the 'good shot'. The objective here is to ensure that sharpshooters gain a higher than average comfort with their rifles and the ability to read recoil—a critical skill in shot placement.
33. These figures are based on observations conducted by the author over a number of years, and are, of course, dependant upon conditions.
34. Within the standard infantry section, of the eight available positions, two are given to command roles, two to C9 support weapons, and two to M203 weapons. This leaves two positions available as riflemen. This ratio does not change when a mechanized infantry section is employed wherein a section consists of 10 positions. However it is recognized that of the ten positions only seven will dismount, and, assuming someone is left for local security, only six will advance on the target. The two extra positions are allocated to the driver and the gunner who remains with the vehicle at all times. The crew commander stays back as well to fight the vehicle.
35. 2.5 personnel per position is a CF wide accepted standard. There is no empirical evidence or studies available to support this number.
36. The SAT trainers currently in use are using processors and software that has not been updated in some cases since initial installation. Given how quickly software turns over (improves), huge improvements in image quality, and processor speed can be achieved for minimal costs.

Combat Camera AS2007-0480a

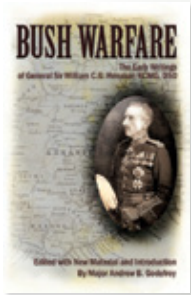


The Canadian Army Reading List

In September 2001, the Canadian Army produced its first *Canadian Army Reading List*. In the time since its publication many new books and articles of interest to the Canadian Army have appeared, prompting the need to revisit the list, and review and expand it. This new and revised *Canadian Army Reading List* retains most of the original publication, while adding a considerable amount of new material for soldiers to consider. The aim of the *Canadian Army Reading List* is to provide an instructive guide to soldiers to explore suitable literature on a wide range of subjects.

Land Operations 2021

As the 21st Century unfolds, Canada's Armed Forces must be ready to operate in within an international security arena marked by uncertainty, volatility and risk in order to meet national security needs and expectations. This book outlines an employment concept that is ambitious and forward thinking, but at the same time well grounded in the lessons that we have captured from today's operations. In essence, it is a conceptual guide, from which force generation must evolve, acknowledging where we are, what we have achieved, and what we must do to ensure continued success in the future.



Bush Warfare

In the Victorian Era, many young talented Canadians graduating from the Royal Military college of Canada went on to serve in the British Army. William Charles Gifford Heneker, from Sherbrooke, Quebec, was one of them. Between 1896 and 1906 Heneker served in more than a dozen African campaigns ranging from peacetime military engagements to major combat operations. As a tactical commander, Henniker demonstrated considerable talent and skill, and in 1907, he preserved his strategic and tactical ideas on fighting small wars and counterinsurgency (Bush Wars) in this book for future commanders to consider.

Toward Land Operations 2021

To mitigate the unpredictability of future conflict and prepare itself for the challenges it will face in the years ahead, the Army has recently published *Land Operations 2021: The Force Employment Concept for Canada's Army of Tomorrow,* to serve as a guide for land force development through the year 2021. *Toward Land Operations 2021* is the foundation document, developed from a series of operating, functional and enabling concepts that collectively describe an approach to future land operations characterized by the deliberate dispersion and aggregation of adaptive forces in order to create and sustain tactical advantage over adept, adaptive adversaries.

Source: Combat Camera

Red, White, or Pink SA? Understanding the Need for a Holistic Approach to Culture in Military Intelligence

Master Corporal A.J.D. Gavriel, BA

SCENARIO

*(**UNCLAS**) At 1400hrs in X District, KANDAHAR, INS drove a vehicle into the district ANP detachment (GR 1111 0000) and conducted an SVBIED attack resulting in four ANP officers VSA and six additional non-lethal casualties. Single source reporting has indicated that the target of the attack was the district ANP chief Hamid BARAKZAI.*

***(UNCLAS) ASSESSMENT**: INS activity in X District has continued to increase with four separate attacks against this ANP station over the past three-weeks. Anti-GOA INS in X District likely seek to dispel ANP elements in their area in order to remove any GOA elements disrupting their operations and to assert further control over the LN population.*[1]

INTRODUCTION

Situations such as the one above are commonplace in Afghanistan—a land we have come to know historically to be a focal point of foreign conquest and clashes between great civilizations and ideologies since the time of Alexander in 300 BC. Two centuries prior to Alexander's conquest, since the time of Herodotus and his studies of the adversaries of Hellas during the Persian Wars, the importance of culture in conflict was recognized and utilized in later conflicts such as the Peloponnesian War between the Athenians and the Spartans. The integral importance of the role of culture in conflicts has since been a lesson forgotten and relearned throughout history.

Conflict in rural Afghanistan is characterized by "inter-clan rivalries over status and political patronage; water resources in irrigation systems; [and], Tarburwali—the endemic conflict among cousins" which begs the questions if many of these issue are really as 'Red' and 'White' as they seem.[2] This article will define the utility of the academic field of anthropology in guiding the Military Intelligence function through Afghanistan's complex cultural landscape to procure an accurate and holistic perspective crucial to informing commanders what is really going on in their AOR. After all, "you cannot win a game without first mastering its rules."[3]

CHANGING ADVERSARIES AND OPERATING ENVIRONMENTS HAVE MADE CULTURE MATTER

In the traditional symmetric "'red' versus 'blue'" threat environment, conflict took place between two opposing forces of similar composition seeking to take and hold ground, or **physical terrain**, and therefore deny it to the opposition. In this environment, the Military Intelligence function was prepared with detailed information requirements on the composition of the adversary and the geography of the battlefield including its natural features, lanes, obstacles, canalizing ground, avenues of approach, key terrain and vital ground. The fulfillment of these information requirements by intelligence collection assets would provide intelligence staffs sufficient information to determine the adversary's intent, potential courses of action, centres of gravity and subsequently allow a clear picture of the battlefield to be built for the commander.

In the contemporary asymmetric threat environment, adversaries of essentially opposite composition attempt to exploit each other's weaknesses in order to achieve their desired end-state. In counter-insurgency, the population, or **human terrain**, is the vital ground which must be won by the victor and denied to the adversary. The geographical terrain, in this new environment, has a simple effect on operations which remains constant, unchanging, and is no longer the decisive terrain as, in order to be successful in counter-insurgency, one must be perceived as a legitimate authority by the local population.

In theatres of operation such as Afghanistan, conflict takes place in complex societies of which the military has little understanding. In this setting, the Military Intelligence function is not prepared with defined information requirements to direct collectors to procure information that would produce a clear picture of the operating environment. Here exists the weakness of the strong—a large void of understanding of the socio-cultural issues which inevitably impact our operations and efforts to counter the Taliban-led insurgency. The resulting failures of misunderstanding the routine values and behaviours, or culture, which characterize the human terrain our forces operate amongst vary from intelligence assessments afflicted with ethnocentric bias which do not accurately reflect how our adversary would perceive and respond to our actions to a complete lack of understanding of how local dynamics fuel elements of the conflict. In contrast, the Taliban hold a distinct advantage over Western forces in that they have an intimate understanding of the local population and are able to use this knowledge against us.

These contemporary theatres of operation, such as the one we are presently engaged in Afghanistan, have delineated the requirement for a reformation in intelligence focus that incorporates socio-cultural knowledge to meet the challenges presented by changing adversaries and operating environments. In short, they have made us remember that culture matters.

ANTHROPOLOGY 101: WHAT IS CULTURE?

Analysis in Military Intelligence tends to adhere to Western economic and political science theories of culture and 'the rational man'. Where we get our foundation from inevitably biases how analysts interpret premises and build assessments. When dealing with non-Western societies, it is imperative that we exercise operationalism by defining the terms and methods of measurements we use in order to ensure that we remove our Western bias from our analysis. Otherwise, our assessments will not be of what an Afghan insurgent, with his values and perceptions, would do in a given situation, but rather what a Western 'rational man' would do given the same circumstances. Anthropology, the academic discipline devoted to the holistic study of humanity, is unique in that it is the only discipline which focuses on the non-Western world and is subsequently the most suited authority to provide intelligence analysts with a proper definition of culture.[4]

Socio-cultural anthropology is "the field within general anthropology that focuses on the study of contemporary human culture, or patterned and learned ways of behaving and thinking."[5] Theory in socio-cultural anthropology is shaped by core concepts including: the concept of culture; ethnocentrism and cultural relativism; and, holism. Anthropologists use ethnographical and ethnological practices to collect, analyse, and interpret cultural data in the production of cultural knowledge.

Culture, in anthropology, is defined as the socially inherited system of values, ideas, expectations, and practices shared by members of a society. A society is a group of people who share a common culture. If humans can be viewed in the context of computer hardware, culture would be the software which they are programmed with and allows them to operate. Much like computers, there are different forms of operating systems, and although they allow all computers to perform virtually the same purpose, each has distinct processes and operating principles which guide how they function.

Culture is not something that a person is born with. Instead, it is **learned** through enculturation or socialization which is a process of indoctrinating an individual with the values, ideas and customs of a particular society. Culture is **shared** by members of a society. It is **patterned**, meaning that people in a society live and think in ways which form defined and repeating patterns. Culture is symbolic as

all cultures use symbols to organize their relationship with the natural world. Culture is also **changing** and **adaptive** in that it may be influenced by internal changes in ideas or contact with the practices and ideas of other cultures and that it strives to improve the chances that members within the society will survive. It is **integrated**, meaning that it is interconnected with all aspects, and is also **internalized** in the sense that it is habitual and perceived as natural by members in the society. Finally, culture can also be considered as being **arbitrary** as it may not necessarily be based on reason. These universal characteristics form the postulates of culture—*culture is learned, shared, patterned, symbolic, changing, adaptive, integrated, internalized and can be arbitrary*.

Ethnocentrism is the belief that one's own culture is superior to another. Ethnocentric bias occurs when a culture is judged by the standard of one's own culture rather than by the standards of that particular culture. **Cultural Relativism** is the idea that in order to understand other people one must view their culture through their eyes. Cultural relativism overcomes ethnocentric bias through seeking to "understand a society or culture without judgement and argues that a culture must be understood according to the values and ideas of that culture."[6] This approach does not assert that other cultures can not be judged, but rather that judgements must be based on a complete understanding of the ideas and practices of other cultures, and not off of the standards of the values and beliefs existent in our own society.

The concept of **holism** is an integral concept in anthropology which asserts "the idea that cultures are best viewed as integrated systems."[7] Holism in anthropology views culture as a complex system which can not be understood without also understanding its components. It seeks to understand these components individually and comprehend how all of the components are interconnected.

ETHNOGRAPHIC INTELLIGENCE: PRODUCING CULTURAL KNOWLEDGE

Ethnographic Intelligence (ETHINT)—*"an intelligence collection discipline which produces socio-cultural knowledge through the use of specialized ethnographic collection methodologies and analytical processes that are guided by anthropological concepts."*[8]

Socio-cultural knowledge is shared baseline information on a social group's values and beliefs, economy and environment, social and political organization and ethnicity and language—all of which are categories of knowledge often taken for-granted by members of a community.[9]

A common misconception is that an anthropologist is an expert on all cultures of the world—this is not the case. In reality, an anthropologist is an expert on the concept of culture and a producer of cultural knowledge. Anthropologists approach the holistic study of culture using through the process of **ethnography** which is "a first hand account of the day to day lives and social organization of a living cultural group based on personal observation over an extended period of time."[10] Ethnographic research is characterized by certain fundamental elements which include "basic anthropological concepts, data collection methods and techniques, and analysis."[11] An anthropologist engaged in an ethnographic study, referred to as an ethnographer, is "interested in understanding and describing the cultural scene from an **emic**, that is, insider's, perspective."[12] The core difference between ethnographic and journalistic writing is that, whereas a journalist seeks out the event or the unusual, the ethnographer is interested in capturing the routine.

Ethnography requires intrusion into the daily lives of the community members under study as these members are the ultimate source of socio-cultural knowledge. Ethnographers use a number of methodologies and collection techniques to conduct fieldwork, the main tenant of which is **participant observation**. Participant observation involves the total immersion in the culture under study in order to allow the researcher to be re-socialized with the values of that particular community and to become intimately familiar with their day-to-day life. Other collection methodologies used are qualitative and quantitative in nature and include, but are not limited to, formal and informal interviewing as well as surveying and sampling. As all information derived from a human collection instrument has a high risk

margin of error, ethnography has specific collection methodologies and concepts which not only serve to minimize the margin of risk associated with collector error, but also to minimize the effects of partial, incomplete, or non-contextualized cultural data.

Just as in the case of military intelligence, ethnographic information does not become intelligence until it is processed. Ethnographic information refers specifically to information which has been collected through ethnographic collection methodologies. After collection, the data is processed to ensure its validity and that it is free from bias contamination, meaning that it remains sterile of the collector's own cultural biases and does not simply reinforce preconceived stereotypes. Ethnographic information which is valid is holistic in scope, contextualized, triangulated with other data and integrated to form definite patterns. This process is what transforms ethnographic information into Ethnographic Intelligence and is the fundamental difference that uniquely separates ETHINT from other intelligence collection disciplines.

Other intelligence collection disciplines, such as HUMINT and IMINT, require and train specialized operators and/or analysts to collect and interpret information for the production of intelligence. Similar to how HUMINT requires personnel specially trained in interrogation and source handling operations, ETHINT requires specialist personnel trained in ethnographic collection to produce cultural knowledge. This measure is not only to ensure capability of the collection asset but also to ensure that the asset is suitable to safeguard against data corruption. Whereas HUMINT is concerned with falling victim to the adversary's deception plan, ETHINT is concerned with falling victim to "ethnocentric behaviour—the imposition of ones cultural values and standards, with the assumption that one is superior to the other—[which] is a fatal error in ethnography."[13]

Ethnographic methodology, as "an approach to learning about the social and cultural life of communities," is considered to be both an art and a science.[14] It is scientific in that it uses proven collection techniques and systematic observation over time which can produce an accurate reflection of the perspectives and behaviours of the social group under study at a particular point in time and space. There are, however, scientific limitations to the data as socio-cultural knowledge is not an absolute or universal truth. There is no single Afghan point-of-view. Attitudes will likely vary by region or by ethnic group and perceptions will inevitably reflect the bias of its holders. For example, "Nuristanis see Pashtuns as generally bad [while] Pashtuns see Nuristanis as lowly and dirty wild animals."[15] This conflict does not invalidate the data but rather requires the data to be understood as existing in context. Although ethnography does not produce an absolute scientific truth it does, however, produce sufficient knowledge to develop a level of cultural predictability by capturing the patterned behaviours and ideas which are shared by the community.

CULTURAL INTELLIGENCE: INCORPORATING CULTURAL KNOWLEDGE

Cultural Intelligence (CULINT)*—an intelligence discipline which analyses cultural knowledge to assess or interpret how it impacts, influences, and affects the operating environment, adversary, and operational planning considerations.*[16]

In the movie "The Beast", the main character, a Soviet soldier named Constantine Koverchenko, takes a personal interest in the local Afghan culture. Fellow soldier Samad, an Afghan serving in the Soviet Army, explains to Koverchenko the Afghan Pashtun people's code of honour. This code, known as Pashtunwali, is explained as having three main obligations: Melmastia—to show hospitality to visitors; Badal—to seek justice and revenge; and, Nanawateh—to provide asylum or sanctuary to anyone who asks, even if they are an enemy. Later in the movie, Koverchenko is captured by the Mujahideen who intend to kill him in keeping with Badal for the destruction the Soviets had caused to their village. However, when Koverchenko utters the word "Nanawateh", the Mujahideen are forced to stop and provide him with sanctuary.

Intelligence Type:	Cultural Intelligence (CULINT)	Ethnographic Intelligence (ETHINT)
Intelligence Function:	Focus Discipline	Collection Discipline
Definition:	"an intelligence discipline which analyses cultural knowledge to assess or interpret how it impacts, influences, adversary, and operational planning considerations."	"an intelligence collection discipline which produces socio-cultural knowledge throught the use of specialized ethnographic collection methodologies and analytical processes that are guided by anthropological concepts."
Collection Source:	Ethnographic Information	Ethnographic Collection Methodologies
Analytical Focus:	How does the social group's culture affect the operating environment?	What is going on in the social group?

This example illustrates the largest misconception of Cultural Intelligence—that Cultural Intelligence is the uncovering of a hidden or secret code of a foreign society and that the mastering of this code allows unrestricted control over a population. This misconception often originates from further misconceptions that view culture as a natural law that all members of a particular social group must unfailingly abide by.

Culture consists of shared patterns of ideas and behaviours; however variation exists in any group. Understanding a social group's culture allows an understanding of why members act in the manner that they do and how they think and perceive the world around them. "Culture might also be considered as an operational code that is valid for an entire group of people. Culture conditions the individual's range of action and ideas, including what to do and not to do, how to do or not do it, and whom to do it with or not do it with. Culture also includes under what circumstances the rules shift or change. Culture influences how people make judgements about what is right and wrong, assesses what is important and unimportant, categorizes things, and deals with things that do not fit into existing categories. Cultural rules are flexible in practice. For example, the kinship system of a certain Amazonian Indian tribe requires that individuals marry a cousin. However, the definition of cousin is often changed to make people eligible for marriage."[17]

Cultural Intelligence is an intelligence discipline which analyses cultural knowledge to assess or interpret how it impacts, influences and affects the operating environment, adversary and operational planning considerations. CULINT does not produce cultural knowledge but rather seeks to understand the effects of culture and the human terrain.

Cultural knowledge has specific utility to the Military Intelligence function as it can be used to assess the effectiveness of adversary and coalition information operations, gauge local reaction or potential fallout from coalition potential courses of action, understand how local social organization can impact operations, how local dynamics may fuel conflict, or even how local values and perceptions shape the local nationals' view of coalition forces and operations.

Cultural knowledge is additionally useful at all levels of operation from the strategic level in the "formation of policy and military plans at national and international levels" to the planning and conduct of campaigns and operations at the operational and tactical levels.[18] Strategic intelligence can be supported through the development of a comprehensive understanding of the social structures and ideologies insurgents use to organize their networks and mobilize segments of the population. Effective Cultural Intelligence Preparation of the Operating Environment could aide operational intelligence in understanding the various factions and groups which occupy the commander's area of responsibility and additionally what social factors may be fuelling elements of the conflict.

Organizations such as Civil-Military Co-operation (CIMIC) can benefit from an understanding of how indigenous values are represented in dispute resolution. Psychological Operations (PSYOPS) units could also benefit from cultural knowledge in the development of information operation campaigns that would speak to locals in a manner they would be receptive to. Indoctrinating soldiers with cultural knowledge during pre-deployment training can benefit operations at a tactical level by making soldiers more interculturally effective in conveying proper respect to indigenous customs; thus, minimizing the possibility of turning potential friends into enemies through cultural insensitivity.

USE OF UNOBTRUSIVE MEASURES AND ISR CAPABILITIES TO COLLECT ETHNOGRAPHIC INFORMATION

Whereas primary sources of ethnographic information require intrusion into the daily lives of individuals, there are also a variety of other **unobtrusive measures**, or secondary sources, which are available to supplement interactive methods of data collection and analysis. In addition to the traditional sources of information used by ethnographers to conduct unobtrusive research, military ISR capabilities, which include strategic collection platforms, can increase an ethnographer's ability to utilize unobtrusive measures. These capabilities additionally allow a researcher to observe and extract cultural data from restrictive communities and groups, such as insurgent or adversarial networks, of which a researcher would not typically be able to gain access or intrusion.

Ethnographers conduct content analysis on secondary text sources, often referred to as **Open Source Intelligence (OSINT)**, in order elicit themes or content from written data (or verbal data in the case of non-literate societies). A society's literature, including folktales, poetry, and cultural narratives, is often expressive about the underlying values which drive behaviour. It is important to both literate and non-**literate** societies as it is often used to transmit critical cultural values from one generation to the next. "A cultural narrative is a story recounted in the form of a casually linked set of events that explains an event in a group's history that expresses the values, character, or self-identity of the group. Narratives are means through which ideologies are expressed and absorbed by members of a society".[19] Examining the literature of a society can help identify a society's core values, how their perceptions organize and interpret events, and also how the group could be mobilized using culturally defining narratives.

A social group's **historical information** is useful for more than simply producing a literature review on a group's origin. While understanding the origin of Afghanistan's Pashtun people is a useful contribution to basic intelligence and general situational analysis, historical analysis of the Pashtuns during Soviet occupation can yield information about the underlying tribal conflicts that were exacerbated during this era. Similar is true about the Former Yugoslavia. Researching the historical origins of Serbs, Croatians, and Bosnians is an effective contribution to understanding what makes each social group unique from one another. Analysing the role of each of these groups during the Second World War when their differences were exacerbated, however, would have provided insightful information in regards to the nature of the conflict and the degree of hatred it was fuelled by.

Imagery Intelligence (IMINT) is "intelligence derived from imagery acquired by photographic, radar, electro-optical, infra-red, thermal, and multi-spectral sensors, which can be ground based, sea borne, or carried by overhead platforms". [20]The bulk of IMINT is "derived from sources such as satellites, aircraft, and UAVs" (unmanned aerial vehicles), some of which can provide real-time video surveillance of targets of interest.[21] IMINT provides a level of non-participant observation unavailable in orthodox ethnographic practices. IMINT analytical techniques such as 'pattern of life' can provide invaluable ethnographic data about the routine of a community under study. Understanding the routine pattern of life of a group of Baluchi nomads in the Southern Reg desert in Afghanistan is key to understanding the difference between one of these groups and a group of traffickers or smugglers. Traditional IMINT analysis can provide basic information on the locations and use of buildings and even about the community's economy and different modes of production. Proxemics can also be studied via IMINT down to the level of social interaction between individuals especially in rural societies, such as in Afghanistan, where a lot of social action takes place outside. IMINT has the capability to observe an outdoor shura being conducted by village elders. This level of collection ability can be used to study the routine conduct of a shura or even the socially defined space and seating arrangements of the

participants. IMINT provides the most valuable non-participant observation tool which would not traditionally be available to an ethnographic researcher. The power of this tool in ethnographic research is vastly under explored. IMINT for ethnographic purposes can easily be developed as a key tool to uncovering information about communities and social groups from across the globe and can effectively prepare an ethnographer with sufficient preliminary information about a community before even physically stepping foot within it.

Communications Intelligence (COMINT) is defined as "intelligence derived from electromagnetic communications and communications systems by those who are not the intended recipients of the information".[22] COMINT obtains information "through the interception of communications and data links. Such information may be collected in verbal form by the recipient of broadcast radio messages [or] by the interception of point-to-point communications such as telephones".[23] Information obtained through COMINT provides unobtrusive observation and a form of one-sided interaction with members of a social group. This type of data would be more difficult, and likely far more time consuming, to use for research as the researcher can not participate to elicit further information or clarification from the intercepted social group members communicating with each other. It is, however, advantageous in that it eliminates a key issue in ethnographic research that the observer only ever sees the social group 'with the ethnographer present' and not in a completely natural setting. Although the limitation of the researcher not being able to participate would undoubtedly require a lengthy duration of study, this type of information is an excellent source of data on what people say and how they express their ideas and concerns. A non-participant observer in this case would be able to see, for example, how group members adjudicate disputes within the group or what causes the conflict. Something as simple as gossip about other group members or leaders could be evident of how the group attributes respect to certain personal characteristics of various individuals. Written and electronic communications are also used in traditional ethnographic research. For example, in the study of a corporate organization or an office, "mission statements and annual reports provide the organization's purpose or stated purpose and indicate the image that the organization wishes to present to the outside world. Internal evaluation reports indicate areas of concern. Budgets tell a great deal about organizational values".[24] In addition, "electronic mail is often less inhibited than general correspondence and thus quite revealing about office interrelationships, turf, and various power struggles".[25]

Human Intelligence (HUMINT), a "category of intelligence derived from information collected and provided by human sources", involves a range of operations which include: debriefings of friendly forces; source operations, and interrogation operations.[26] HUMINT sources, which include informants in adversarial networks and captured enemy personnel (detainees), can also be valuable sources to an ethnographer researching adversarial culture. HUMINT sources offer interaction, but not intrusion, with members of a restricted community that an ethnographer would not likely have access to. It does not allow intrusion based on the fact that the sources can not be observed in their natural setting. Due to this limitation, there is a higher likelihood that cultural information obtained from informants or detainees would be idealized. This representation of the cultural data—idealized descriptions or life histories—can still provide a basis for further analysis of the value informed behaviour and perceptions of group members. Adversarial group members who defect or seek amnesty and reconciliation can also serve as key actors. These individuals would likely serve as cultural brokers as they would understand adversarial ideology but also the competing ideas which made them defect from the group.

In contrast, an absence of this knowledge can have grievous consequences as, noted by Human Terrain System Senior Social Scientist Dr. Montgomery McFate, "misunderstanding culture at a strategic level can produce policies that exacerbate an insurgency; a lack of cultural knowledge at an operational level can lead to negative public opinion; and ignorance of the culture at a tactical level endangers both civilians and troops."[27]

A level of sufficient knowledge about a social group's culture to support Cultural Intelligence analysis, such as cultural relativism, is not something that can be developed overnight. Cultural knowledge initially establishes a level of basic intelligence which can be used to "set the scene at the outset of operations and to meet intelligence requirements dealing with unchanging facts" of the operating environment.[28]

CULTURAL KNOWLEDGE	**Cultural Intelligence**	So What? How does this shape: Operating Environment? Planning? Operations?
	Cultrual Understanding	Why? Perceptions? Attitudes? Beliefs?
	Cultrual Awareness	What? Religion? Language? Do's and Don'ts

There are three levels of cultural knowledge: cultural awareness, cultural understanding and, finally, cultural intelligence.[29] A level of **cultural awareness** is achieved when the "what" can be answered about what makes the social group's culture different from our own. This incorporates a very basic understanding of the social group's religion, language, history, economy, and a basic customary understanding of the necessary "do's and don'ts". This level of cultural knowledge would be typical of any tourist visiting a foreign country. A level of **cultural understanding** is achieved when the "why" can be answered. Cultural understanding involves understanding a social group's perceptions, attitudes, mindset, and beliefs which stem from the groups values and behaviours. Whereas a level of cultural awareness allows recognition of a group's religion, a level of cultural understanding provides comprehension of the embeddedness of religion in everyday life and to what extent religion shapes the values, perceptions, and actions of group members. A level of **cultural intelligence** is achieved when this understanding can be comprehended to answer the "so what" of how cultural aspects shape the operating environment and affect or impact operations, the adversary or planning considerations. At this level, cultural knowledge provides not only basic intelligence but also current and estimative intelligence. A sufficient level of cultural knowledge also has the potential to further contribute to target and warning intelligence.

Cultural information is available from a vast variety of open sources however the source of information used to feed into CULINT should be none other than ETHINT. Just as in the collection of HUMINT, a journalistic news report would not be considered a valid source of HUMINT data as the HUMINT collector has no ability to assess the source's credibility or reliability. Correspondingly, non-ethnographic cultural information available from open sources does not allow any assessment of the credibility or reliability of the information. Intelligence collection requires specialized assets, whether human or technical, to obtain and process data into an intelligible form where it can be used by all-source intelligence analysts. Capability is the primary factor considered in the selection of a source or agency to procure certain types of data and, in the case of cultural information, ETHINT is the only source which "[has] the appropriate sensor system or processing capability" to collect and produce socio-cultural knowledge.[30]

DEFEATING ETHNOCENTRIC BIAS IN INTELLIGENCE ANALYSIS THROUGH CULTURAL RELATIVISM

Perspective, or the requirement to "think like the adversary," is the first principle of US Joint Intelligence.[31] Perspective requires intelligence analysts to seek to understand an adversary's thought process and continuously develop and refine their ability to think like the adversary. Joint Intelligence doctrine directly states that the Joint Force Commander (JFC) should direct the J2 intelligence staff to assess all proposed actions from the perspective of how an adversary will likely perceive these actions

JOINT INTELLIGENCE PROCESS		
Planning and Direction		Intelligence and information requirements are defined by the commander and intelligence staffs.
Collection	**ETHINT**	Ethnographic collection methodologies are utilized to cultivate ethnographic information.
Processing and Exploitation		Ethnographnic information is processed into an inteligble form, cultural knowledge, for use by intelligence analysts.
Analysis and Production	**CULINT**	Socio-cultural knowledge is analyzed, integrated with other intelligence, and produced into products to support the commander's mission.
Dissemination and Integration		Intelligence is delivered to and used by consumer.
Evaluation and Feedback		Intelligence personnel at all levels assess how well each of the various types of intelligence operations are being performed.

and what the adversary's probable responses would be. "Understanding how an adversary will adapt to the environment, conceptualize the situation, consider options, and react to our actions" are all integral intelligence requirements that are inhibited by ethnocentrism if intelligence staffs do not possess enough knowledge about a culture to understand the world from the adversary's perspective.[32]

Virtually all intelligence assessments are made from an ethnocentric viewpoint as the assessed courses of action of adversarial forces are based on our own beliefs of how these forces might act. These beliefs stem from our own logic, values, ideas—our cultural programming—and are in fact an assessment of what our course of action would be given the same circumstance. All of our assessments have an ethnocentric bias as we do not understand the values and beliefs of the cultures we operate amongst and therefore base our assessments off of the standard of another culture, in this case our own. An ethnocentric bias can, however, be overcome through cultural relativism.

A level of cultural relativism, or understanding a culture in terms of its own values and beliefs, must be achieved in order to overcome ethnocentric bias in intelligence analysis and provide intelligence staffs with the necessary perspective outlined by US Joint Intelligence doctrine. "The ability to think like an adversary is predicated on a detailed understanding of the adversary's goals, motivations, objectives, strategy, intentions, capabilities, methods of operation, vulnerabilities, and sense of value and loss", most of which is further predicated on a detailed understanding of an adversary's culture.[33]

This comprehensive level of understanding, available only through a culturally relative, non-ethnocentric, perspective, is outlined in Joint Intelligence doctrine as being "essential to: recognizing challenges to our national security interests; establishing security policy; when appropriate, formulating clear, relevant, and attainable military objectives and strategy; determining, planning, and conducting operations that will help attain [national] policy objectives; and identifying the adversary's strategic and operations COGs [centres of gravity]."[34]

THE NEED FOR A HOLISTIC APPROACH TO CULTURE

The Intelligence Colour Spectrum consists of three main situational awareness (SA), focus areas which include 'Red', the enemy, 'Brown', the geographical terrain, and 'White', the local population. Although the colour spectrum is not recognized doctrinally, it is represented organizationally in the structure of Joint Task Force Afghanistan (JTF-A) with the All Source Intelligence Centre (ASIC) focusing on 'Red' and 'Brown' issues and a separate cell within JTF-A HQ focusing on 'White'. Some issues, however, are not as 'Red' and 'White' as they seem and officials have began to coin yet another term, 'Pink SA', to refer to these issues which do not fit within the specified confines of the colour spectrum.

The Intelligence Colour Spectrum contradicts the anthropological concept of culture which asserts that cultures are holistic and best viewed as integrated systems. As such, these complex systems can not be understood without also understanding their components and comprehending how all of these components are interconnected. The peril of dividing intelligence focus between Red and White is that it contradicts this holistic approach. Red and White SA seek to oversimplify issues which need to be understood in their complexity. Without a holistic understanding, the intelligence apparatus can not issue the commander an accurate picture of what is going on in the AOR resulting in the commander's inability to design an effective campaign plan to address the local conflict.

To provide an example, refer back to the scenario at the beginning of this article of the SVBIED attack against the ANP detachment in X District. The assessment of the event logically comes to the conclusion that insurgent activity against the ANP station in X District has increased because the ANP are disrupting their operations and their ability to exert control over the local population. The assessment also, perhaps unwittingly, implies several assumptions: the wrong-doers are insurgents; the insurgents are anti-GOA; the insurgents do not like the ANP because they are effective. The problem with this assessment is that it is linear in scope and lacks context. As demonstrated in the following atmospherics report, it becomes apparent how a holistic perspective and local context can provide a completely different explanation for the increase in conflict in X District.

(UNCLAS) ATMOSPHERICS REPORT—X DISTRICT[35]

(UNCLAS) *X District, KANDAHAR, is dominated by a Pashtun sub-tribal lineage known as the Zakarai. The Zakarai in X District are a self-sufficient pastoral community in a resource rich valley which has long since been the envy of rivalling neighbours. Over the years, the Zakarai have had to assert their autonomy over X District by taking up arms against neighbouring groups with competing claims against their land. The Zakarai do not have direct access to water, because the upstream community in Y District, the Barakzai, claim ownership over the water resources. The Barakzai have often threatened to redirect the river away from X District if the Zakarai do not pay a hefty tax for its usage. The Zakarai agreed to pay the tax as long as the Barakzai agreed to recognize their sovereignty over X District and not lay additional claim to their land.*

(UNCLAS) *Several months ago, Hamid BARAKZAI was appointed as the ANP commander over X District. Since BARAKZAI's appointment, he has began to favour individuals from the Barakzai and Popolzai sub-tribal lineages by allowing them to settle in some of the best agricultural land within X District. The ANP District commander has begun to recruit only other Barakzai into the ANP and will not grant any Zakarai with permits to sell their produce at the market. The neighbouring Barakzai in Y District have taken advantage of this situation by nearly doubling the tax to use the river. When the Zakarai in X District refused, they were strong-armed by local ANP officers who are also all of the Barakzai sub-tribe as the result of the ANP commander's new hiring policies.*

(UNCLAS) *With an influx of outsiders from a competing group now forcefully settling in their community and enjoying privileged positions and employment, the disenfranchised locals decided to enlist the support of the insurgents to help them rid of the police chief and regain autonomy over their district. The Zakarai themselves are not insurgents nor are they anti-GOA, however, they lack a political voice. Without any other recourse to deal with their issue they decided to attack Hamid BARAKZAI in order to ensure the survivability of their group.*

As in the scenario above, there are too many situations which blur the lines of what is enemy and what is local. An arduous attribution of all conflict in the AOR to enemy action is a conventional warfare perspective which is in no way relevant to counter-insurgency. This scenario helps demonstrate how the various elements in the AOR are interconnected. Reading between the lines, it also demonstrates how dangerous an inaccurate intelligence assessment can be. This situation, understood in its complexity, could be dealt with by simply replacing the ANP commander. The preliminary assessment, however, can cause the commander to react in a way which creates more enemies for GOA/ISAF by further isolating, or even persecuting, an already disenfranchised population.

Cultural Intelligence and Ethnographic Intelligence, which both adhere to an anthropological definition of culture, are not new concepts but rather intelligence disciplines forgotten over forty years of cold war with a known, symmetric, and predictable adversary. Their reintegration, however, requires a paradigm shift on the part of Joint Intelligence doctrine which presently focuses too much on the adversary and pays little attention to other elements of the operating environment which affect the commander's mission. "Intelligence doctrine must stress that knowledge of all foreign peoples in a joint operations area is a fundamental of joint warfare; it is not limited to 'knowledge of the enemy.'"[36]

E TENEBRIS LUX, BUT WHAT KIND OF *LUX*?

The Intelligence Branch motto, *E Tenebris Lux*, translates from Latin into English as "From Darkness, Light". For all of us have who have checked our map during a night recce patrol, using a red-filtered flashlight and not being able to see the marks we made with a red Staedtler marker, we have learned that the lens we use to view an object will not always show us what we need to see.

In operating environments with such complex human terrain as Afghanistan, there is no doubt that the large role culture plays in this society has an impact on ongoing counter-insurgency operations. Given this situation, only one thing is certain—focusing solely on the adversary and only paying culture lip service will never allow us to conceptualize the real issues affecting our AO and consequently negate our ability to design effective solutions.

As stated by Prof. Thomas Barfield, an anthropologist with over thirty years of experience in Afghanistan, "implementing policies or seeking allies without a good grounding in the local context is similar to striking a match for light when repairing a fuel line."[37] This statement symbolically underscores the double-edged nature of intelligence; good, or accurate and holistically focused, intelligence facilitates effective operational planning while bad, or inaccurate and partial, intelligence impedes it.

Kandahar is a province filled with conflict. Of course this conflict is not all related to insurgents trying to defeat ISAF—much as the Americans found out in Iraq that their removal of the government and de-Bathifaction policies fuelled a civil conflict between competing tribal groups. If we do not understand the local dynamics how can we understand if an attack against a police station is motivated by Taliban or Al Qaeda elements attempting to overthrow the GOA or if it is simply a dispute between tribal groups in which one fears it is losing influence to another. The intricacies of this conflict can simply not be understood through a division of Red and White SA and without a proper understanding we inevitably attribute all combatants in the AO as insurgents and our enemies, have no understanding of the local dynamics which fuel or could be used to slow conflict and, for intelligence staffs, can not accurately advise commanders on what is really going on and the best potential courses of action.

The solution however, which has been relearned throughout history, is within our grasp. Unlike earlier scholar-warriors such as Tacitus who pioneered in the field of Cultural Intelligence in his work "Germania"—a cultural account and tribal mapping of the barbarous threat to Rome—we are fortunate that the study of culture and production of cultural knowledge has been refined in disciplines such as ETHINT and CULINT. Together, these disciplines provide the proper lens and holistic approach required to effectively navigate the complex human terrain our forces encounter in the contemporary counter-insurgency environment.

ABOUT THE AUTHOR…

Master Corporal Alexei Gavriel, of 6 Intelligence Company, is a graduate student of anthropology at Boston University conducting research on the integration of socio-cultural knowledge into contemporary military operational planning and intelligence. He has operated as an applied-anthropologist conducting ethnographic research in a variety of remote locations amongst indigenous reindeer herders in the Russian tundra, Roma-Gypsy ghetto dwellers in Eastern Slovakia, and nationalist-separatists in the Former Yugoslavia. MCpl Gavriel deployed to Kandahar, Afghanistan, in 2008 with the TF1-08 ASIC where he served as an intelligence analyst. For further information and publications on this topic please visit www.cultural-intelligence.net.

WORKS CITED

Barfield, Thomas
2009 "Presentation—Indigenous Knowledge and Analysis". Edmonton: 1CMBG Counter-insurgency Professional Development Conference.

Coles, John P.
2006 "Incorporating Cultural Intelligence Into Joint Doctrine". Joint Information Operations Centre: 7–13.

Department of National Defence (DND)
2003 "Joint Intelligence Doctrine (B-GL-005-200/FP-000)". Ottawa: Government of Canada.

Department of Defense (DOD)
2007 "Joint Publication 2–0: Joint Intelligence". Washington: Joint Chiefs of Staff—Government of the United States of America.

2006 "Field Manual 3–24: Counter-insurgency". Washington: Headquarters Department of the Army—Government of the United States of America.

Fetterman, David M.
1998 "Ethnography: Step by Step Second Edition". Thousand Oaks: Sage Publications.

Gavriel, Alexei J.D.
N.d "Incorporating Culture into Joint Intelligence: Cultural Intelligence and Ethnographic Intelligence Theory". Unpublished, Program for Culture and Conflict Studies, Naval Postgraduate School.

Gwynne, Margaret A.
2003 "Applied Anthropology: A Career Oriented Approach". Boston: A B Longmen Publishing.

LeCompte, Margaret, and Jean Schensul
1999 "Ethnographer's Toolkit 1: Designing and Conducting Ethnographic Research". Lanham: AltaMira Press.

Marine Corps Intelligence Activity (MCIA)
2007 "Cultural Intelligence: Global Scope, Operationally Focused". Quantico: Marine Corps Intelligence Activity.

McFate, Montgomery
2005a "Anthropology and Counter-insurgency: The Strange Story of their Curious Relationship". Military Review March-April 2005: 24–38.

2005b "Does Culture Matter? The Military Utility of Cultural Knowledge". Joint Forces Quarterly, 38, 2005: 42–48.

Miller, Barbara
2006 "Vangonotes for Cultural Anthropology: Third U.S. Edition". New Jersey: Pearson Publishing.

Miller, Barbara, with Penny Van Esterik and John Van Esterik
2004 "Cultural Anthropology: Second Canadian Edition". New Jersey: Pearson Publishing.

North Atlantic Treaty Organization (NATO)
2008 "AAP-6: NATO Glossary of Terms and Definitions". Brussels: NATO Standardization Agency.

ENDNOTES

1. Note: The scenario used in this article, while very similar to many events that occur in Afghanistan, is a construct which is not based on an actual event.
2. Barfield 2009: np.
3. Barfield 2009: np.
4. Note: Other social sciences may examine foreign societies however they do so using a lens biased by Western theories whereas anthropology seeks to understand these societies through their own eyes.
5. Miller 2004: 27.

6. Miller 2006: Episode 1.
7. Gwynne 2003: 333.
8. Gavriel N.d.
9. Barfield 2009: np.
10. Miller 2006: Episode 1.
11. Fetterman 1998: 2.
12. Fetterman 1998: 2.
13. Fetterman 1998: 23.
14. LeCompte 1999: 1.
15. Barfield 2009: np.
16. Gavriel N.d.
17. DOD FM 3-24 2006: 3–7.
18. DND B-GL-005-200/FP-000 2003: 2–1.
19. DOD FM 3-24 2006: 3–8.
20. DND B-GL-005-200/FP-000 2003: 2–16.
21. DND B-GL-005-200/FP-000 2003: 2–16.
22. NATO AAP-6 2008: 2-C-11.
23. DND B-GL-005-200/FP-000 2003: 2–16.
24. Fetterman 1998: 58.
25. Fetterman 1998: 59.
26. NATO AAP-6 2008: 2-H-4.
27. McFate 2005b: 43.
28. NATO APP-6 2008: 2-B-2.
29. MCIA 2007: np.
30. DND B-GL-005-200/FP-000 2003: 2–7.
31. DOD JP 2-0 2007: II–1.
32. DOD JP 2-0 2007: II–2.
33. DOD JP 2-0 2007: II–2.
34. DOD JP 2-0 2007: II–2.
35. The scenario used in this article, while very similar to many events that occur in Afghanistan, is a construct which is not based on an actual event.
36. Coles 2006: 10.
37. Barfield 2009: np.

Source: Combat Camera

Training Resilient Soldiers—Looking for Solutions to Operational Stress

Lieutenant-Colonel R. Cossar

*Man never made any material as resilient as the human spirit—**Bern Williams***

Much is made about the impact operational stress has on soldiers who are engaged in combat operations around the world. Our citizens, who voluntarily join the military, have made a choice to be employed in the business of war for reasons that range from an altruistic wish to provide assistance to others through to a need to seek thrills in an environment of high stakes. Accepting the role as a combat soldier is to risk life, limb and mind. In other words, our soldiers' sacrifices might be their own death, physical injury, or the collapse of mental faculties that may be manifested as anxiety, depression or Post-Traumatic Stress Disorder (PTSD). As a country that has decided to be involved in global security, in part through the provision of our military, we surely have to manage its resources, including soldiers, to our best advantage. This includes careful planning to minimize the occurrence of death, wounds and mental trauma. While much of the military's training is designed to achieve this aim, it is this author's opinion that more training can be implemented to limit the impact of operational stress. This paper examines the concept of resilience in soldiers and various methods of coping, and it discusses training resilience as a means for reducing the current levels of operational stress within military units.

The variables that influence the onset of operational stress responses, such as PTSD, are too many to list, because they include pre-trauma stressors, such as varied dysfunctional life experiences, the events surrounding the actual experiences of the operational environment as well as post-trauma actions, such as an individual's methods of coping and the availability of community support.[1] Despite the public's perception that most people exposed to a traumatic event will suffer from PTSD, relatively few people actually develop a disorder as a result of their experiences.[2] People have a 1% life time chance of experiencing PTSD, while certain sub-populations, such as military personnel, can expect much higher stress casualty rates.[3] Although it is now accepted that the vast majority of people who are exposed to a threatening, violent experience will fully recover there will be approximately 5% of the population for whom complete recovery will not happen.[4]

With terms such as "soldier's heart" and "battle shock" being used to describe those who had been rendered incapable of fighting for psychiatric reasons, British military records indicate that over 40,000 World War I pensioners (representing 20% of their total army at that time) struggled with operational stress.[5] By 1927, Canadian reports indicate that 9,000 veterans were receiving pensions for "shell shock and neurosis" and that thousands of others who had applied for help were either awaiting review or had been turned down.[6] Considering a few wars of the last century, American psychiatric casualty figures for World War II are around 20%, Korean War figures are lower at 7%, but some studies put the extent of operational stress responses in Vietnam War veterans as high as 30%. Other American studies indicate that air units in the 1990 Gulf War had PTSD rates of 7% and that of the soldiers currently deployed to Iraq and Afghanistan, approximately 12% are being afflicted.[7]

It is important to recognize that not all military demographics are the same. Many deployed military personnel never leave the relative safety of a base camp where they are employed in logistical support, while other combat support soldiers regularly experience the hardship of the combat area even though their primary role does not include engagement with the enemy. So while it may be accepted that 10–15% of deployed military forces will become stress casualties, it is probable that the numbers within the combat units are actually higher, skewing the results for the entire group.

Extrapolation of these numbers suggests that operational stress casualties within a combat unit engaged in fighting may be in the range of 30%. Unfortunately, the Canadian Forces (CF) statistics on Operational Stress Injuries (OSI) are hard to obtain. Reporting to a parliamentary review on the need to hire hundreds of mental health workers, the CF Surgeon General stated that PTSD prevalence within CF members was "very, very serious."[8] Interestingly, The Department of National Defence (DND) website states that a 2008 CF study found that 5.9% of over 8,000 participants who had served in Afghanistan had experienced symptoms of PTSD or depression.[9] It must be noted, however, that there is a difference between experiencing *some symptoms* of PTSD and having the *chronic symptoms required for a diagnosis* of PTSD. As it is recognized that reliable data enables the delivery of effective health care, the lack of accurate CF OSI statistics is an issue of significant concern that has been highlighted across three CF Ombudsman reports within the last seven years. It is hoped that the expected Canadian Forces Health Information System will provide the means of capturing accurate information about OSI within the CF community.[10]

Psychologically traumatic events are varied and can range from one-on-one scenarios of interpersonal violence, through to accidents, terrorism and even natural disasters that affect millions of people.[11] Despite this spectrum of causes, the assessment of trauma is a subjective issue. People who are maladjusted before the trauma are not likely to change as a result of their new experiences, while for other normally adjusted people, smaller post-event stressors may compound into significant hurdles. Again, most people will demonstrate resilience and move on with their lives while a few will develop recognizable illnesses such as Acute Stress Disorder (ASD) and some will even fall into PTSD.[12] Whatever the longer outcomes are, most people who have experienced something traumatic will display a spike in responses that will return to normal over the following days and weeks. The responses that are generally experienced are physical, behavioural, emotional and cognitive in nature.[13] Physical responses can include bodily temperature changes, dizziness, fainting, nausea and intestinal distress. Behavioural responses include changing sleep patterns, hyper-vigilance, irritability, withdrawal and increased substance abuse. Emotional responses may include feelings of helplessness, fear, grief and vulnerability; while cognitive responses may include flashbacks, poor concentration, disorientation and questions about one's spiritual beliefs. These brief lists do not, by any means, include all of the responses that a traumatized person may experience, but the important part to remember is that the traumatized person may be unfocused or less effective for a while and that some form of assistance will generally be appreciated.

Within the research to determine how assistance for trauma-exposed persons should be affected, is the question of why 70–90% of soldiers do not develop PTSD or other stress-related symptoms when they too have been exposed to stressful events. In other words, we need to understand why some people are more resilient in the face of trauma than others.

UNDERSTANDING RESILIENCE

Rather than looking only to those who are at risk, we also need to look at those who are less prone to stress illnesses, since most people commonly just take life events in stride and some even get a thrill from life on the edge of danger.[14] It appears that these people are capable of withstanding trauma, adjusting their cognitive schema for the world and getting on with their lives. Resilience is a natural human process of positive action during stressful times.[15] Some researchers argue that since most empirical knowledge about the human condition after trauma has been gathered through observation of people in treatment, it has been assumed that all people will respond in similar manner.[16] Contrary to some literature that suggests that the absence of psychological disturbances is itself pathological, research now suggests that a person's resilience is actually a healthy adjustment that should not be equated with heroism.[17] The majority of people rebound from stress and some people even thrive in stressful situations.[18] Simply put, *resilience* is a person's ability to maintain a state of psychological equilibrium with few mental problems despite exposure to highly disruptive or life-threatening events.[19] This is not to say that a generally resilient person subjected to some form of trauma will not be affected by the event at all. Even the resilient can expect to be off-balance for a little while, but it is safe to say that their lives will not be ruled by the event and that they will remain cognitively in control of their behaviours and

thoughts.[20] In other words, the majority of people are resilient beings who will move beyond the effects of trauma within days or weeks of the event.

Having attended the aftermath of Hurricane Katrina a week after the storm to offer psychological assistance, Levy found that most people were already involved in clearing out debris and rebuilding their lives.[21] Although he knew the people were hurting inside and he was keenly aware that they were already recovering from their tragedy. Only a very few asked for psychological assistance and he was impressed with their overall resilience. The real story, however, is that most people are not dramatically affected by the traumas that they have experienced. True understanding of the dysfunctions that people may experience will only come if we also learn why so many other people are seemingly able to shake off the effects of stress and move forward. With essentially no negative psychological symptoms, people with resilient dispositions are able to respond to stressful situations in a manner that allows them to get on with helping themselves and others as they either get back on track or embrace new tasks.[22]

Combat Camera IS2007-7264

Such resilience allows exposure to war and tragedy to actually become life-enhancing.[23] Disaster and trauma can act as the impetus for positive change in people's lives. For instance, the majority of Norwegian soldiers who deployed into Lebanon during the mid-1980s found that they benefited through enhanced self-confidence and increased stress-tolerance levels, while a sizable minority of American combat veterans of World War II reported greater intellectualism, independence and resilience in the face of stressful events. Grossman states that the benefits of military involvement can be seen in the manner that many WWII veterans tackled life through business and leadership to create the progressive society that emerged in the second half of the last century.[24] Similarly, research on a sample of more than 1200 soldiers found that they reported more desirable effects from their service than negative ones, and that even the forty percent who were combat veterans felt that they had gained a sense of self-mastery, self-esteem and an ability to cope easily with life's stressors.[25] Perhaps what is more interesting is that these outcomes proved to be linear, in that those who had experienced more combat felt that they had benefited the most. Longitudinal studies of American WWII veterans who indicated that their war experiences might never be forgotten, also point out that many combat veterans became higher achievers in their subsequent civilian lives than their non-combat veteran peers. Veterans from some elite British

Army units actually indicated that their experience in the Gulf War created a slight improvement in their mental health. Also, the Finnish WWII veterans who were fighting to defend their homeland seem to have come through their combat experience, in which one in seven was killed, relatively unscathed by PTSD. The PTSD rate of about 5 % for Finnish veterans is low in comparison to the rate of approximately 20% for Vietnam veterans.[26] Fighting for one's national life may also explain lower rates of PTSD experienced by Israeli soldiers during the Yom Kippur war, when Israel was truly threatened, than rates measured during more recent wars in which the threat to Israel was less extreme.[27] While part of this demonstrated resilience can be explained by self-selection into the elite fighting forces, it is a reasonable argument, especially due to the relatively low numbers of PTSD victims found in some military units, that experiencing combat trauma and living to tell about it can solidify personal character.

Taking this idea a step further, the theory of *adversarial growth* has been posited by a number of people.[28] The theory involves the concept that change is an inevitable result of experience. Being able to accept and use the change to one's advantage goes beyond mere resilience, but is a truly adaptive function.[29] Some researchers now talk about using adversity as a springboard for personal growth.[30] They argue that psychological study should also be examining how people experience "optimal growth" as a result of their stressful experiences. A grounded theory researcher on resilience had a number of her interviewees talk of the "impetus for positive change" that was enabled by the stress they had endured.[31] While adversarial growth is closely linked to resilience, it may well be a separate phenomenon. For this particular paper, it is acknowledged as a part of the resilience phenomenon.

Combat Camera AR2007-S001-0012

In an effort to understand resilience in soldiers, a study helped to validate measurement scales that were completed by veterans of Operation Iraqi Freedom between 2003 and 2006.[32] The Deployment Risk and Resilience Inventory (DRRI) went beyond similar measures in its inclusion of both pre- and post-operational information. The main scales found within the DRRI include questions about prior stressors, preparedness for the mission, family concerns, perceived threats, combat, chemical exposures, post-deployment social support and other post-deployment stressors. While the researchers conclude that the DRRI is a quantitatively useful measure for understanding a soldier's mental health, the important result of the study for soldiers themselves, is the recognition that issues of both operational stress and resilience are made from whole life experiences that may or may not be in the individual's direct sphere

of influence. It is, rather, in how a soldier handles these influences that will lead to either a resilient rebound or pathology. As a construct, resilience has been shown to have a number of pathways to other considerations including, hardiness, self-efficacy, an internal locus of control and community support. This suggests that we should study the combination of traits and community that form the resiliency that allows effectiveness during traumatic and stressful times.

HARDINESS

Hardiness has been shown to protect people from the effects of extreme stress and has been associated with better task performance, higher morale expectations, physical stamina and better overall health.[33] It is accepted that hardiness is a reasonably consistent personality trait that consists of the three main dimensions of commitment, control and challenge.[34] To expand these, *commitment* (versus alienation) is about dedication to finding meaning and purpose in life that for the soldier enables personal belief in the mission and the work that they are doing. The dimension of *control* within a military context suggests the ability to, at least partially, influence the life around oneself by one's own specific actions. Rather than being led by fate, soldiers in control takes action to shape the events around themselves. The third dimension, *challenge*, is about openness to change and the ability to find meaning in these changes. Accepting that chaos and upheaval are often the norm, the soldier often seeks out stressful events to enable personal growth.[35] Such meaning impacts a soldier's identity, his or her perception of work and degree of engagement in implementing solutions. These three facets of hardiness allow the stressful aspects of life to be viewed both as part of a normal existence and, because the challenges are viewed as something that can be overcome, as experiences that make life worthwhile.[36] Hardiness is also associated with existentialism, in that hardiness causes people to structure their own worlds in a manner that embraces the future in the search for a vibrant life.[37] For the hardy person, stressful events are experienced as opportunities to shape the future, and the action of shaping diminishes the effects that stress may have. Hardiness enables effective problem solving and positive interactions with others that, in turn, enhance a person's resiliency in the face of hardships.

SELF-EFFICACY

Related to hardiness, and therefore, to resilience, is the notion of *self-efficacy*. Self-efficacy is about a person's confidence in his or her ability to act appropriately when pursuing a desired outcome. It is an extension of Bandura's social cognitive theory, which assumes people capably self-reflect, self-regulate and actively work to shape their experiences.[38] For soldiers, this means that they can believe that they will do the right thing at the right time to successfully meet the challenge. Self-efficacy is associated with motivational focuses, such as increased efforts, selection of more challenging goals and perseverance in the face of stressors. People who are rated as being high in self-efficacy are more likely to adopt problem-focused coping strategies as they accept the challenge and develop solutions that will shape the outcome.

Collective-efficacy is an extension of this construct that enables groups to have similar confidence in their abilities to succeed.[39] This becomes especially important for a group of soldiers who need to work closely as a team to effect a positive outcome for all members. Taken together, these two aspects of efficacy can have a very positive effect on how people handle challenge.[40] Reaching one's goals generally leads to enhanced feelings about the self and positive moods protect against operational stress reactions.[41] By extension, improving collective-efficacy improves resilience by enabling more effective soldiers and a better fighting force overall.

LOCUS OF CONTROL

Deemed to be either internal or external, *locus of control* follows indicates that individuals either attribute the events in their environment to themselves or to other factors over which they have no influence.[42] By allowing a person to influence the outcome, he or she is afforded greater autonomy, which enables proactive coping that is goal focused. It has been found that autonomy moderated the relationship

between stress and psychological health within a group of soldiers who deployed to Kosovo for peace-keeping duties.[43] Although the stressors were more about the daily repetition of long working hours and the separation from home than they were about combat, being able to influence their work environment nonetheless reduced the apparent threats to these soldiers. This ability to influence has been labelled as *self-determination* and described as the sense that one is authoring one's own life.[44] Although the military is often perceived to be an institution based on following strict orders, there is within the philosophy of mission command, great opportunity for individual soldiers to influence the events around themselves. Through understanding the commander's intent for the mission, soldiers have the opportunity to exercise the self-determination, autonomy and internal locus of control that, taken together, form a greater sense of resilience.

COMMUNITY SUPPORT

It is the influence of both good and evil within our social relations that causes the most impact on the psyche.[45] While the theory that PTSD develops from exposure to a traumatic event remains central to our current understanding of the condition, the measure of the severity of such an event remains in the personal perception of the patient. Current research clearly demonstrates that human-induced traumas are twice as likely to cause PTSD as natural disasters are. Primarily, this is thought to be because the human bonds are destroyed.[46] People need the experience of empathy and physical closeness, preferably with their peers, in order to stabilize their trust in others.[47]

One of the most destructive aspects of western PTSD treatment today is the exclusion of community involvement in the creation of overall health. This is a failing because the sense of support from society plays a large part in the overall healing process and may, in fact, help prevent PTSD.[48] Consider that American WWII veterans have fared better with regards to their mental health than Korean War veterans, and they in turn, have fared better than Vietnam War veterans. Each war was less popular than the previous war, when viewed from the home front, and societal attitudes played a part in the mental health of the returning soldiers. Rather than avoiding the post-war experience, it seems that societies that embrace military accomplishment into their culture can give meaning and significance to their veterans. Finnish culture still refers to the Spirit of the Winter War when they remember the fight to maintain solidarity against Russian and German forces in WWII. This social recognition has meant a life time of honouring its veterans as heroes who took up arms on behalf of the country. Significantly, Finnish recognition has been less about parades and more about medical health care for life with trauma recovery facilitated by active, helpful social supports.[49] Spiritual and physical care has been part of the lives of Finnish veterans since the end of the war and has resulted in a veterans' cohort PTSD rate of fewer than five percent. Even with relatively high rates of physical disability that resulted from one in three soldiers sustaining injuries, their overall negative mental health rates remain quite low. These veterans were able to connect experiences of lasting integrity along with their war experiences as a result of the country's attitudes to their sacrifice.

The same cultural shift required to move the focus of medical care from treating illness to promoting health is required to get a society behind the destigmatization that will allow reintegration of mental health issues such as PTSD into the forefront of community healing. The failed link between community support and the individuals that make up this community creates an atmosphere in which victims are blamed for their own problems, even though these problems may have resulted from events that were originally caused at the level of their community, but that had impact at the level of the individual.[50] Resilience is enhanced by non-stigmatizing support for the victim, which enables most people to balance against both the immediate acute responses to the event and the possibility of long term mental repercussions.

Research states that it is the perception of social support that is important as it creates a positive influence on a person's mental health.[51] Studies conducted with American Vietnam veterans who had been prisoners of war, found that even the community bond that they had created by tapping out messages through the cell walls enabled resilience.[52] Similarly, Levy wrote after his visit into Mississippi as a Red Cross worker following Hurricane Katrina, "I am much more attuned to the importance of

community and a person's social connectedness, both in terms of what a person receives from the community and the potential benefits that can be obtained by giving to the community.[53] Further, social life involves commitment and "committed people involve themselves in work, family, interpersonal relationships and social institutions." In this way, social connectedness encourages people to take action in their own lives and to be involved in their own solutions. Invariably, this fosters a community where people are not only receiving support but giving to others as well. Levy's experiences post-Hurricane Katrina was of a community that at its fundamental level was helping itself.

THE MILITARY COMMUNITY

Within the military there exists a community that is both horizontal and hierarchal in nature. Caring peer support is often influenced by methods of leadership and the goals of the institution itself. Western militaries, including the CF, have implemented *quality of life* programs that enhance a soldier's ability to have well rounded community support in order to increase the effectiveness of the soldier deployed on operations.[54]

While people's perceptions of an event will always differ, the support and understanding that is available from within a soldier's section or platoon is enhanced by their common experiences.[55] This social bond that is created in adverse times, assists to maintain resilience after the hardships, but can only be truly effective when the group is still together. Directly linked to this community support, Blustein discusses the role that meaningful work plays in reducing mental illnesses.[56] Active involvement in a meaningful task leads to a sense of self-determination or the knowledge that one is authoring one's own life. Keeping soldiers who are struggling with operational stressors working on meaningful tasks in a location that is close to their peers is particularly important. It is imperative that leaders maintain the social supports, particularly in the immediate aftermath. As this relationship has become more accepted, militaries are moving back to full unit rotations and away from the Vietnam era of individual augmentation when soldiers had no pre or post connections to their combat units.[57] The challenge that militaries need to manage carefully involves the provision of leave to soldiers that inevitably takes them away from their peers on a schedule that may not mesh with their recent combat experiences.

An Israeli study discovered that the importance of the military community becomes even more pronounced when it is accepted that operational stress affects both the individual and the organization as a whole. The military's ability to deploy or conduct missions is degraded if the individual members are themselves combat ineffective. A soldier's effective commitment, sense of daily strain and job satisfaction could be predicted by his or her perceptions of organizational support. In other words, the member's sense that the organization leadership was supportive, respectful and caring of the individual directly influenced his or her level of functioning. This study of Israeli soldiers concluded that the lack of a social network is, in fact, itself a significant stressor. Knowing that a soldier may exhibit both courage and debilitating fear within the same day allows the leader to apply the correct psychological solutions when they are required.[58]

Further organizational tensions can develop on redeployment when soldiers are assigned to units where other members, who may have dissimilar experiences, are unaware of the impacts that stress may have had on the newly returned soldier, or are just too busy to effectively deal with reintegration issues. These combinations of interpersonal and organizational conflict can have a direct impact on the development of operational stress issues such as PTSD, even years after the fact.[59] Effective social networks throughout life increase an individual's resilience to hardships and reduce the onset of post-operational stresses.

METHODS OF COPING

Two important themes to remember are that people use coping skills for a variety of stressors and that operational stress is not just a reaction to a traumatic event brought on by involvement in combat. Not all military activities involve life-threatening situations, and one popular adage suggests that overseas deployment is 99% boredom with 1% of sheer terror. While one soldier's boredom or terror

may be another's excitement, the fact remains that much of military life is routine 24 hours a day, 7 days a week. Such routine often involves a lack of basic comforts associated with home and family—requiring separations, problematic communication, sleep deprivation, disease, environmental changes and other challenges that require some level of adaptation.[60]

To cope with severe hardships or trauma, most people will pass through two of the following three post-incident stages. The first is the *immediate response*, which often includes adrenalin surges and physiological states that assist the body during the dramatic period. Interestingly while 25% of people become really calm during heightened arousal, most people will simply accomplish whatever is required despite their anxiety or fear induced physiological reactions. This *response phase* may last for hours or days and entering into the second stage may be delayed if basic survival needs persist. While the second stage for most people is complete recovery, a small percentage of the population will also go into an *adaptation phase* where operational stress issues surface. If a person lacks resilience they will slowly withdraw physically and mentally. Once the need to adapt one's life to handle the residual effects of the trauma has set in, afflicted people will either seek help, find methods of self-coping that often include drugs or slowly spiral to suicide.[61] The good news is that most people who present themselves for help are successfully moved into the recovery stage with treatment.

Combat Camera IS2007-7327

THE DICHOTOMIES OF COPING

Coping with trauma or other stressors can be viewed as being either behaviourally adaptive or maladaptive in the effort to bridge one's personal resources with the current situational demands.[62] The first of two main approaches to this divide is one of focusing on the problem or focusing on the emotions. *Problem-focused coping* involves seeking information about the stressor and taking an action to reduce or remove the threat, while *emotion-focused coping* looks to reduce the emotional distress through choosing other emotions, seeking emotional support or generally venting emotions to others.[63] A second perception of this basic dichotomy has been described as one of approach versus avoidance. Approach strategies focus on the problem and the individual's reactions to it in an adaptive manner, while avoidance is decidedly maladaptive, as a person withdraws from others and denies existence of the stressor. Active problem solving is more closely associated to better adjustment than is mere emotional venting.[64]

Research has found that while people generally apply adaptive styles of coping in lower stress environments, they tend to use more repressive or avoidant coping styles when things became too tough to handle.[65] A study of Israeli veterans of the 1982 Lebanese war found that some people reached a tipping point where they switched from adaptive approaches to avoidant strategies. The problem then compounded itself into a vicious downward spiral where adaptive responses became fewer and fewer even outside of their military experiences. As a result, these soldiers' combat stress reactions were more likely to manifest themselves in deeper operational stress issues such as PTSD. Resilient individuals are more likely to adopt approach type non-avoidant, problem focused strategies in an effort to overcome their hardships.

THE IMPORTANCE OF ASSIGNING MEANING TO STRESSFUL EVENTS

Essentially, adaptive responses include cognitive rather than emotional appraisals. Such appraisal allows the identification of meaning, that in turn, enables self-mastery and if required, the restoration of self-esteem.[66] The provision of cognitive and emotional information to traumatized people is effective in reducing over-all anxiety levels. Knowledge is power and knowing about emotional, behavioural and physiological responses allows people to normalize the experience with which they are dealing.[67] Having appropriate information allows effective processing of the events and permits people to accept situational changes.[68] With such knowledge, self-efficacy is extended and people's beliefs that they can prevail through the adversity is enhanced.[69] Much of the provision of information is simply about instilling the positive expectancy that motivates daily action and the development of meaning for the individual.

It is imperative that military leadership do all that it can to facilitate adaptive coping styles through the provision of information. As Noy concluded in his research with the Israeli Defence Force, the passage of information to the soldiers enhances their cognitive appraisals of the situation, reduces the rumours that are rife with emotion and enriches their coping resources.[70] All people need to receive information about their current adverse events, the ongoing responses and the probable outcomes, from people who can be trusted.[71] Although many have reported that their experiences led to some negative effects in their lives after war, about 70% of veterans have identified a greater ability to cope as a result of increased self-discipline, greater independence and a broader understanding of life. Another study reports that soldiers who went outside of the base camps during a deployment in Bosnia found more meaning in their work simply because of the exposure to others' pain and suffering that had been created by previous fighting.[72] Interestingly, soldiers exposed to more combat violence, while not symptom-free, in terms of operational stress, perceived more personal benefits due to changed values that they held for human life.[73] It seems that exposure to combat stress inoculates against future stress by developing an attitude that nothing else in life could be as tough to handle.[74]

Knowledge, therefore, allows people to normalize experiences. Having appropriate information allows effective processing of the events and permits people to accept the changes they need to make.[75] A U.S. National Research Council report states that "stress is reduced by giving an individual as much knowledge and understanding as possible regarding future events."[76] With such knowledge, self-efficacy is extended and people's beliefs that they can prevail through the adversity is enhanced.[77] Much of the provision of information is simply about instilling the positive expectancy of events that will motivate action.

EMOTIONAL REPRESSION AS PART OF ADAPTIVE COPING

Over the last few decades, there has been a steady increase in the use of psychological debriefing (PD) sessions to assist people dealing with trauma in the immediate aftermath of an event. The common scenario involves the flooding of psychologists into an area where they can help everyone talk their way through their emotions. Although in some cases the victims will have narrowly escaped with their lives, most situations will only involve an abrupt change of perception by the victims with regards to how they will cope with daily life. Either way, the trauma is assumed to have disrupted their cognitive schema and

some form of PD is made available. Described as "emotional first-aid," the term "PD" is often applied to any brief intervention that causes people to express their emotional reactions to a horrific event and ideally protect the individual from long term pathological stress. The CF implemented this program in the early 1990's and trained peer teams within the platoons of units that were deploying into the Balkans. Although it seems that such forms of PD are being practiced more often, the lack of empirical support for their effectiveness has caused the psychological community and institutions like the CF to search for more effective strategies.[78]

Combat Camera AS2006-0872a

It is entirely plausible that memory reconstruction during the "facts" phase of a PD session may unduly reconnect the person to emotions that they have not sufficiently distanced themselves from.[79] Rather than being cathartic in nature, this reimaging for the purpose of sharing within the group may stall or reverse the individual's process for handling the situation. An actual compounding of the experience may be happening as people relive their own circumstances and add the negativity of other's experiences to their own cognitive model. Alternatively, subjective feelings may be invalidated when one person compares their experiences to another's.[80]

Prompted by the group leader, who may or may not be a psychologist, to express their emotions at the time of the trauma, a person may mentally end up back in the heat of the action when distancing or repression is really required. In addition, there is a danger that the therapist may actually prime the participants into believing that they have pathological issues. The persistent and persuasive wording of a therapist may actually cement an otherwise softly molded schema of the experience into one that effectively traps the participant into the world of doom and woe.[81] Despite the variations of such processes, it is now suggested that the blanket application of PD processes may actually impede natural recovery and inhibit those who are generally resilient against the pathologies that may extend from operational stress.[82]

The methods that people use to cope will probably be dependant on the situation regardless of their resilient abilities. Clearly, however, people's ability to remain adaptive to the changes presented will allow them to reach a sense of homeostasis or the new normal, sooner. Hardiness, self-efficacy, an internal locus of control and a supportive community are all associated in enabling a person's effective coping during hardship. With such a clear connection to resilience and overall positive mental health, it behooves us, as a military community that can expect to see trauma, to do what we can to enhance our soldiers' resiliency.

TRAINING RESILIENCE TO REDUCE OPERATIONAL STRESS

Modern armies are very good at training a wide array of skills that enable general soldier survival and success on the battlefield. Soldiers are taught how to use their weapons effectively, how to maintain their equipment, how to work as a team, how to attack and defend and how to survive injury. In fact, a well trained army receives training in an almost endless list of skills that is designed to secure success in battle if and when it occurs. Inherent within this training, as there is in so much of life, are multiple crossover relations where training for one skill actually positively influences others.

While certain types of training will naturally produce some amount of hardiness and self-efficacy, the next steps in training need to include more about the psychological workings of the mind and how these impact a soldier's actions during periods of operational stress. Although most humans are resilient, it is safe to say that everyone lies at a different point along the resilience continuum, shown in Figure 1, and that they will, as a result, be able to handle differing levels of stress. The challenge for training resilience is to move all soldiers, regardless of their current resiliency, farther to the right.

Figure 1: The Resilience Continuum. Being farther to the right is negatively associated with operational stress injuries such as anxiety or PTSD

To know how to lay an ambush means that the soldier can do so in a time of need, and to have had ethical discussions in the classroom increases the likelihood that ethical decisions will be made on the battlefield. Knowledge prepares the soldier for the task. Similarly, knowing the emotional response cycle that they are likely to take when they kill another person frees soldiers to stay task-orientated rather than focusing on the elation or guilt that naturally occurs after such an action.[83] Knowing that resilience is actually the normal course of action for people experiencing trauma will counteract the messages in the media that may lead us to think that every combat veteran is destined for a life of mental disorders.[84] Rather than just assisting soldiers who are burdened by operational stress after the fact, today's military organizations would do well to proactively train positive mental health skills such as resilience.[85] Doing so will increase the effectiveness of the individual and the military organization alike.

Knowing that knowledge about stress serves to reduce stress, the American Psychological Association (APA) has responded to the call for resilience training with an initiative designed for the American public.[86] The APA states that the behaviours and traits associated with resilience are common within most people and that most anyone can learn more about them. Like many skill-building programs, there will be common elements that are personally internalized in a variety of ways. The APA program is being filtered throughout the United States by community psychologists who provide information and training to concerned citizens. This program has expanded with a second program aimed at increasing public resilience in times of war. A series of brochures designed for varied audiences reminds people of the issues and offers suggestions to lessen the negative impact that times of war may have on them. While the APA's initiative is helping people, one group at a time, to increase their ability to live effectively in this world, it is concurrently enabling a healthier community-orientated population. If such a program can be applied with some success to an entire nation, imagine how effectively it could be taught to the finite numbers of people within a military organization.

In an effort to increase hardiness in the management work force, one study showed that a hardiness-trained group reacted more effectively to a stressful situation than did a relaxation/meditation group or a social support group.[87] The hardiness training program promotes cognition, emotion and action to cope with stress while using after-action discussion periods to enhance the participant's outlook on

Combat Camera IS2007-1001

commitment, control and challenge. Conceptually, prolonged stress, like that often seen on military operations, may create physical and/or mental illnesses. Signs of such stress may be manifested in a loss of social connectivity and decreased job satisfaction. Effective coping requires a broad understanding of the situation and decisive actions to reduce the stressor. This hardiness training program focuses on coping, social support, relaxation, nutrition and physical fitness. Conducted over 15 weekly sessions, it enables adaptive coping and increases participants' motivation to use these skills. The program does this by increasing knowledge of stressors, focusing on participants' personal responses to stress and by building acceptance that an unchangeable situation does not mean defeat. By making commitments to their community, exercising control where they can and accepting challenges, the hardiness-trained participants were better prepared to live a meaningful and rewarding life. Programs such as this hardiness training have been effective in a variety of workplace situations and may well be employable in a military program to enhance soldier resilience.

Other traits within the resilience family may also be enhanced through training. An internal locus of control and a sense of autonomy result when people's abilities to reach their goals are increased.[88] One of the problems many people have in attaining their goals is that they set unrealistic goals rather than subdividing their goals into clearly defined, attainable chunks. Without clearly defined pursuits, self-monitoring and the ability to focus beyond obstacles, people are bound to fail. As autonomous motivation increases, the desire to understand the stressors and be more resilient in the face of hardships also increases. The key here is developing self-regulatory strength that will provide the mental stamina required to pursue an individual's goals. Military instructional methods and course timetables are also important to ensure that trainees are being challenged with clear attainable goals. Because autonomous goals are derived from personal interest in success, it has been found that adopting the group's goals as one's own will bring greater results. Therefore training together, and working as a team to develop a collective efficacy is all related to increasing a soldier's resilience.

A soldier's confidence in his or her skill set is important and military forces achieve this through repetitive training that allows automatic responses when soldiers encounter threatening situations. More commonly known as "over-learning," the aim of repetitive training is to remove the thought process from the simpler tasks, such as weapon handling. The soldier can then focus on the important decisions that will counter the threats in their environment. While this type of training does much to automate responses with muscle memory, its use is limited where a soldier is learning to apply cognitive skills for situations that will always be different.[89] The danger of over-learning a cognitive response process is that it may limit a soldier's response when a new situation is encountered. Learning about Rules of Engagement (ROE) is one area where knowledge of the material is required to respond appropriately in an infinite number of possible scenarios. Still, such skill training through repetitive exposures increases the soldier's sense of self-efficacy, which will in turn, enhance motivation and goal perseverance.

A more appropriate method of learning that will increase a soldier's capability to think on the battlefield involves a phased system of intensifying experiences. Through increases of skill training and stress training, a soldier can be inoculated against both freezing up during a traumatic event and from undesirable mental health responses afterward.[90] Through the provision of credible information, soldiers can be taken through steps of task acquisition, stress exposure and rehearsals during stressful situations.[91] While this sort of training is most often done with a hands-on skill such as weapons firing, it should be equally applicable to training that involves cognitive experience while under fire or some other significant stressor. In a study that followed military officers through a nine-week training program, it was found that graduated skills training needs to be combined with increased stress scenarios but only after success has been met at each level.[92] Challenging, successful and rewarding experiences are required to increase a skill. No matter the skill, when we train, we need to train people for success and this includes preparing them mentally to do the job.

Acknowledging the need to increase soldier resilience, a study was conducted to a look at a program known as the Adversity Quotient (AQ) to see if it could be applied to training within the CF.[93] The main aims would be to benefit leadership training, assist those suffering from operational stresses and,

hopefully, to prevent future cases of PTSD. Designed as a preventative program, AQ training would enhance resiliency before the opportunity for damage from operational stress has occurred. Developed within the constructs of hardiness and internal locus of control, the underlying theme was the need for attribution of meaning that was previously discussed. While the prominent concern about this program was the lack of empirical evidence for its effectiveness, the most important aspect is that others are pursuing the issues of resilience for military training.

A Military Resiliency Training Program (MRTP) that has been developed by Land Force Quebec Area (LFQA) is being unrolled this year specifically for the units in pre-deployment training.[94] As a whole, this program is equally aimed at the individual soldier, the chain of command and the families who provide the members' social support. It aims to develop resiliency within the individual and the organization during the pre- and post-deployment cycles as well as in regular garrison life. Designed to fit into existing training schedules, the MRTP enhances the four key areas that researchers have identified in the search to understand resiliency. First is the biological pillar that promotes appropriate muscular and nervous system fitness; second is the development of psychological strategies to properly handle adverse situations when they occur; third involves the enhancement of the social support systems a soldier builds with peers, family and the military organization as a whole; and fourth is the spiritual link that allows people to find their own senses of meaning within their experiences. While the program's validity is still being ascertained, the extensive multi-disciplinary effort to development it suggests that the right program may finally be available.

Regardless of what training programs are eventually adopted, the delivery methods also need to be addressed. The military needs to train both physical and cognitive skills in its pursuit of an effective fighting force. Training is about skill acquisition and stress training is about being able to use those skills in adverse situations. Training resilience is about giving soldiers the capabilities of hardiness, self-efficacy and autonomy in a manner that they can be exercised effectively in highly stressful situations. The same principles of battle inoculation can be accomplished with training resilience through the manipulation of noise, light, smell, taste and touch. It is not supposed to be about desensitization as much as it is supposed to sensitize the warriors to their surroundings and allow them to continue with the task at hand.[95] Like the after action review that discusses tactics, resilience training should be discussed in a manner that allows sharing and learning among the members.[96] While effective training of the myriad of military skills is by its nature an underlying part of resilience training, finding ways to focus directly on the enhancement of resilience should be a cost-effective way to manage military personnel resources.

The U.S. Department of Defense Task Force on Mental Health acknowledges increased psychological troubles within veterans of early 21st century warfare and while the issues have been manifested in a number of ways, one particular indication has been a spike in suicides. While Canadian military statistics on member suicide have not been collected, in 2005 alone, approximately seventeen U.S. military veterans committed suicide each day.[97] As a part of the response, the Psychological Kevlar Act of 2007 was created to find solutions and reduce the vulnerability that soldiers are feeling towards their combat stressors. The most disturbing area of this research includes the use of the drug Propranalol as a means of reducing the effect that extreme stress has on the brain. Taken after a traumatic event, this drug is designed to reduce the memory and leave it emotionally powerless. While there is little doubt that such an application could be used for positive benefit, there is great potential to create a new breed of monster soldiers who are indifferent to violence because of a medicated consciousness. Despite the increases in post-trauma care, preparing for the stressors ahead of time will ultimately make a soldier more effective. Part of this preparation requires knowing what is right and applying proper values to our actions. As Grossman states, the surest method to experience PTSD is to violate one's personal morals.[98] With this in mind, the Canadian Army has implemented a program to develop "ethical warriors," who will know the values expected of them and will be empowered to take the correct ethical action in all situations. By teaching about loyalty, duty, integrity and courage within the context of ethical decision making, the army is investing heavily in the social capital that it is comprised of. Although this is just one more step of army training, it is a positive move to increase resilience in soldiers.

Training soldiers in resilience is equivalent to training them how to fire their rifle or lead a fighting patrol. Giving them exposure to knowledge of a situation or probability of outcomes forewarns and forearms them for action. Knowing the probable emotional and physiological responses that soldiers may encounter reduces their anxiety when they are encountered. While experience is one manner to gain knowledge, responses may be different each time. It is; therefore, better to receive instruction prior to a traumatic event so that cognitive attribution can lay the stress to rest. In other words, a soldier should not have to rely on personal experiences as the only means of learning. For this reason, training Canada's military forces in resilience is an important step within the leadership function of preparing our soldiers for all operations.

ABOUT THE AUTHOR …

Lieutenant-Colonel Ross Cossar has been an active member of the Primary Reserve with the Hastings and Prince Edward Regiment since 1987. Following a tour to Afghanistan with TF3-06, he transferred credits earned through part-time studies at Royal Military College of Canada to Trent University in Peterborough where he is now a full time psychology student. Military psychology has become his primary interest.

ENDNOTES

1. Charuvastra, A. & Cloitre, M. (2008). Social bonds and post traumatic stress disorder. *Annual Review of Psychology*, 59, 301–328; McKeever, V.M., & Huff, M.E. (2003). A diathesis-stress model of posttraumatic stress disorder: Ecological, biological and residual stress pathways. *Review of General Psychology*, 7, 3, 237–250; Morris, A.S. (2008). Making it through a traumatic life experience: Applications for teaching, research and personal adjustment. *Training and Education in Professional Psychology*, 2, 2, 89–95; and O'Brien, Stephen L. (1998). *Traumatic events and mental health*. Cambridge University Press, Cambridge
2. Grossman, D. (2004). *On Combat. The Psychology and Physiology of Deadly Conflict in War and Peace*. PPCT Research Publications and Stam, R. (2007). PTSD and stress sensitization: A tale of brain and body. Part one: Human studies. *Neuroscience and Behaviour Reviews*, 31, 530–557
3. Charuvastra, A. & Cloitre, M. (2008). Social bonds and post traumatic stress disorder. *Annual Review of Psychology*, 59, 301–328
4. McKeever, V.M., & Huff, M.E. (2003). A diathesis-stress model of posttraumatic stress disorder: Ecological, biological and residual stress pathways. *Review of General Psychology*, 7, 3, 237–250
5. O'Brien, Stephen L. (1998). *Traumatic events and mental health*. Cambridge University Press, Cambridge
6. Marin, A. (2002). Report to the Minister of National Defence. Special Report. Systematic treatment of CF Members with PTSD. Citing Neary and Granatstein, The Veterans Charter and Post WWII Canada (1998)
7. Bartone, P.T. (1999). Hardiness protects against war-related stress in army reserve forces. *Consulting Psychology Journal: Practice and Research*, 51, 2, 72–81; and Grieger, T.A., Cozza, S.J., Ursanso, R.J., Hoge, C., Martinez, P.E., Engel, C.C., & Wain, H.J. (2006). Posttraumatic stress Disorder and depression in battle injured soldiers. *American Journal of Psychiatry*, 163, 1777–1783
8. CTV News, Thurs March 6, 2008. Military Recruiting Hundreds to Combat PTSD recovered from http://www.ctv.ca/servlet/Article News/Story/CTVNews/20080306/PTSD_Military
9. National Defence Backgrounder, Operational Stress Feb 19th 2009. recovered from http://www.forces .gc.ca/site/news-nouvelles/view-news-afficher-nouvelles-eng.asp?id=2871
10. McFayden, M. (2008). Special Report to the Minister of National Defence. A Long Road to Recovery: Battling Operational Stress Injuries
11. O'Brien, Stephen L. (1998). *Traumatic events and mental health*. Cambridge University Press, Cambridge and Grossman, D. (2004). *On Combat. The Psychology and Physiology of Deadly Conflict in War and Peace*. PPCT Research Publications
12. O'Brien, Stephen L. (1998). *Traumatic events and mental health*. Cambridge University Press, Cambridge, and Bonanno, G.A. (2005). Resilience in the face of potential trauma. *Current Directions in Psychological Science*, 14, 135–138
13. Daniels, J.A., Bradley, M.C. & Hayes, M. (2007). The impact of school violence on school personnel: Implications for psychologists. *Professional Psychology, Research and Practice*, 38, 6, 652–659
14. Bonanno, G.A. (2004). Loss, trauma and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist*, 59, 1, 20–28; Stein, D.J., Seedat, S., Iverson, A., & Wessely, S. (2007). Post-traumatic stress disorder: medicine and politics. *Lancet*, 369, pp 139–144

15. Devilly, G.J., Gist, R., and Cotton, P. (2006). Ready! Fire! Aim! The status of psychological debriefing and therapeutic interventions: In the work place and after disasters. *Review of General Psychology*, 10, 4, 318–345

16. Bonanno, G.A. (2004). Loss, trauma and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist*, 59, 1, 20–28

17. Bonanno, G.A. (2004). Loss, trauma and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist*, 59, 1, 20–28; Seery, M.D., Silver, R.C., Holman, E.A., Ence, W.A., & Chu, T.Q. (2008). Expressing thoughts and feelings following a collective trauma: Immediate responses to 9/11 predict negative outcomes in a national sample. *Journal of Consulting and Clinical Psychology*, 76, 4, 657–667; Wortman, C.B., & Silver, R.C. (1989). The myths of coping with stress. *Journal of Consulting and Clinical Psychology*, 57, 349–357

18. McKeever, V.M., & Huff, M.E. (2003). A diathesis-stress model of posttraumatic stress disorder: Ecological, biological and residual stress pathways. *Review of General Psychology*, 7, 3, 237–250; O'Brien, Stephen L. (1998). *Traumatic events and mental health*. Cambridge University Press, Cambridge; Bonanno, G.A., Galea, S., Bucciarelli, A., & Vlahov, D. (2007). What predicts psychological resilience after disaster? The role of demographics, resources and life stress. *Journal of Consulting and Clinical Psychology*, 75, 5, 671–682; Devilly, G.D., & Cotton, P. (2003) Psychological debriefing and the workplace. Defining a concept, controversies and guidelines for interventions. *Australian Psychologist*, 38, 144–150

19. Bonanno, G.A. (2004). Loss, trauma and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist*, 59, 1, 20–28; Waugh, C.E., Frederickson, B.L., & Taylor, S.F. (2008). Adapting to life's slings and arrows: Individual differences in resilience when recovering from an anticipated threat. *Journal of Research in Personality*, 42, 1031–1046

20. Bonanno, G.A. (2004). Loss, trauma and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist*, 59, 1, 20–28

21. Levy, M.S. (2008). The impact of Katrina: Shedding light on things forgotten. *Professional Psychology, Research and Practice*, 39, 1, 31–36

22. Bonanno, G.A., Galea, S., Bucciarelli, A., & Vlahov, D. (2007). What predicts psychological resilience after disaster? The role of demographics, resources and life stress. *Journal of Consulting and Clinical Psychology*, 75, 5, 671–682

23. Brit, T.W., Adler, A.B., & Bartone, P.T. (2001) Deriving benefits from stressful events: The role of engagement in meaningful work and hardiness. *Journal of Occupational Health Psychology*, 6, 1, 53–63

24. Grossman, D. (2004). *On Combat. The Psychology and Physiology of Deadly Conflict in War and Peace*. PPCT Research Publications

25. Aldwin, C.M., Levenson, M.R., & Spiro, A. (1994). Vulnerability and resilience to combat exposure: Can stress have life long effects. *Psychology and Aging*. 9, 1, 34–44

26. O'Brien, Stephen L. (1998). *Traumatic events and mental health*. Cambridge University Press, Cambridge; Hautamaki, A., & Coleman, P.G. (2001). Explanation for low prevalence of PTSD among older Finnish war veterans: social solidarity and continued significance given to wartime sufferings. *Ageing and Mental Health*, 5 (2) pp 165–174

27. Solomon, Z., Mikulincer, M., & Avitzur, E. (1988). Coping, locus of control, social support and combat related posttraumatic stress disorder: A prospective study. *Journal of Personality and Social Behaviour*, 55, 2, 279–285

28. Linley, P.A., & Joseph, S. (2005). The human capacity for growth through adversity. *American Psychologist*, 60, 3, 262–264

29. O'Brien, Stephen L. (1998). *Traumatic events and mental health*. Cambridge University Press, Cambridge

30. Linley, P.A., & Joseph, S. (2005). The human capacity for growth through adversity. *American Psychologist*, 60, 3, 262–264

31. Vliet, K.J. van (2008). Shame and resilience in adulthood: A grounded theory study. *Journal of Counselling Psychology*, 55, 2, 233–245

32. Vogt, D.S., Proctor, S.P., King, D.W., King, L.A., & Vasterling, J.J. (2008). Validation of scales from the deployment risk and resilience inventory in a sample of operation Iraqi freedom veterans. Assessment, 15, 4, 391–403

33. Maddi, S.R. (1999). The personality construct of hardiness: I. Effects on experiencing, coping and strain. *Consulting Psychology Journal: Practice and Research*, 51, 2, 83–94

34. Maddi, S.R. (1999). The personality construct of hardiness: I. Effects on experiencing, coping and strain. *Consulting Psychology Journal: Practice and Research*, 51, 2, 83–94; Maddi, S.R. (2005). On hardiness and other pathways to resilience. *American Psychologist*, 60, 3, 261–262; Bartone, P.T. (1999). Hardiness protects against war-related stress in army reserve forces. *Consulting Psychology Journal: Practice and Research*, 51, 2, 72–81; Bonanno, G.A. (2004). Loss, trauma and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist*, 59, 1, 20–28

35. Maddi, S.R. (1999). The personality construct of hardiness: I. Effects on experiencing, coping and strain. *Consulting Psychology Journal: Practice and Research*, 51, 2, 83–94; Brit, T.W., Adler, A.B., & Bartone, P.T. (2001) Deriving benefits from stressful events: The role of engagement in meaningful work and hardiness. *Journal of Occupational Health Psychology*, 6, 1, 53–63; and Hall, W.H. (1986). Health and personality among army officers. 1st Australian Psychological Research Unit, ISSN 0156-8825

36. Bartone, P.T. (1999). Hardiness protects against war-related stress in army reserve forces. *Consulting Psychology Journal: Practice and Research*, 51, 2, 72–81

37. Maddi, S.R. (2005). On hardiness and other pathways to resilience. American Psychologist, 60, 3, 261–262

38. Bandura, A. (1997). Self-efficacy: The exercise of control. New York, Freemam

39. Bandura, A. (1997). Self-efficacy: The exercise of control. New York, Freemam

40. Stajkovic, A.D. (2006). Development of a core confidence higher-order construct. *Journal of Applied Psychology*, 91, 6, 1208–1224

41. Stajkovic, A.D. (2006). Development of a core confidence higher-order construct. *Journal of Applied Psychology*, 91, 6, 1208–1224; Jex, S.M., & Bliese, P.D. (1999). Efficacy beliefs as a moderator of the impact of work related stressors: A multi-level study. *Journal of Applied Psychology*, 84, 3,349–361; Bonanno, G.A. (2004). Loss, trauma and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? American Psychologist, 59, 1, 20–28

42. Rotter, J. (1966). General expectancies for internal verses external control of reinforcements. Psychological Monographs, 80, Whole No. 609; Solomon, Z., Mikulincer, M., & Flume, H. (1988). Negative life events, coping responses and combat related psychopathology: A prospective study. *Journal of Abnormal Psychology*, 97, 3, 302–307

43. Bonanno, G.A. (2005). Resilience in the face of potential trauma. *Current Directions in Psychological Science*, 14, 135–138

44. Blustein, D.L. (2008). The role of work in psychological health and well being: A conceptual, historical and public policy perspective. *American Psychologist*, 63

45. O'Brien, Stephen L. (1998). *Traumatic events and mental health*. Cambridge University Press, Cambridge; Grossman, D. (2004). On Combat. *The Psychology and Physiology of Deadly Conflict in War and Peace*. PPCT Research Publications; Charuvastra, A. & Cloitre, M. (2008). Social bonds and post traumatic stress disorder. Annual Review of Psychology, 59, 301–328

46. Charuvastra, A. & Cloitre, M. (2008). Social bonds and post traumatic stress disorder. *Annual Review of Psychology*, 59, 301–328; Grossman, D. (2004). *On Combat. The Psychology and Physiology of Deadly Conflict in War and Peace*. PPCT Research Publications

47. Devilly, G.D., & Cotton, P. (2003) Psychological debriefing and the workplace. Defining a concept, controversies and guidelines for interventions. *Australian Psychologist*, 38, 144–150

48. O'Brien, Stephen L. (1998). *Traumatic events and mental health*. Cambridge University Press, Cambridge

49. Hautamaki, A., & Coleman, P.G. (2001). Explanation for low prevalence of PTSD among older Finnish war veterans: social solidarity and continued significance given to wartime sufferings. *Ageing and Mental Health*, 5 (2) pp 165–174

50. Charuvastra, A. & Cloitre, M. (2008). Social bonds and post traumatic stress disorder. Annual Review of Psychology, 59, 301–328

51. Solomon, Z., Mikulincer, M., & Avitzur, E. (1988). Coping, locus of control, social support and combat related posttraumatic stress disorder: A prospective study. *Journal of Personality and Social Behaviour*, 55, 2, 279–285; Solomon, Z., Mikulincer, M., & Flume, H. (1988). Negative life events, coping responses and combat related psychopathology: A prospective study. *Journal of Abnormal Psychology*, 97, 3, 302–307

52. Sussman, N. (2006). In session with Dennis S. Charney, MD: Resilience to Stress. *Primary Psychiatry*, 13, 8, 39–41

53. Levy, M.S. (2008). The impact of Katrina: Shedding light on things forgotten. *Professional Psychology, Research and Practice*, 39, 1, 31–36

54. Rostker, B.D. (2006). Steady under fire: All-volunteer force proves its resilience, so far. *Rand Review*, Fall 2006

55. Noy, S. (1991). Combat Stress Reactions. In David A. Mangelsdorf and Reuvan Gal (Eds.). *Handbook of Military Psychology*. P 507–530. London. John Wiley

56. Blustein, D.L. (2008). The role of work in psychological health and well being: A conceptual, historical and public policy perspective. *American Psychologist*, 63

57. Noy, S. (1991). Combat Stress Reactions. In David A. Mangelsdorf and Reuvan Gal (Eds.). *Handbook of Military Psychology*. P 507–530. London. John Wiley

58. Daddis, G.A. (2004). Understanding Fear's Effect on Unit Effectiveness. *Military Review*, July/August, 22–27

59. O'Brien, Stephen L. (1998). *Traumatic events and mental health*. Cambridge University Press, Cambridge

60. Ippolito, J., Adler, A.B., Thomas, J.l., Litz, B.T., & Holzl, R. (2005). Extending and applying the demand-control model: The role of soldiers coping on a peacekeeping deployment. *Journal of Occupational Health Psychology*, 10, 4, 452–464

61. O'Brien, Stephen L. (1998). *Traumatic events and mental health*. Cambridge University Press, Cambridge

62. Zach, S., Raviv, S., & Inbar, R. (2007). The benefits of a graduated training program for security officers on physical performance in stressful situations. *International Journal of Stress Management*, 14, 4, 350–369

63. Solomon, Z., Mikulincer, M., & Flume, H. (1988). Negative life events, coping responses and combat related psychopathology: A prospective study. *Journal of Abnormal Psychology*, 97, 3, 302–307

64. Morris, A.S. (2008). Making it through a traumatic life experience: Applications for teaching, research and personal adjustment. *Training and Education in Professional Psychology*, 2, 2, 89–95

65. Solomon, Z., Mikulincer, M., & Flume, H. (1988). Negative life events, coping responses and combat related psychopathology: A prospective study. *Journal of Abnormal Psychology*, 97, 3, 302–307

66. Taylor, S.E. (1983). Adjustment to threatening events: A theory of cognitive adaptation. *American Psychologist*, November, 1161–1173

67. U.S. Department of Health and Human Services. (2004). *Mental Health Response to Mass Violence and Terrorism: A Training Manual*. Rockville MD

68. Morris, A.S. (2008). Making it through a traumatic life experience: Applications for teaching, research and personal adjustment. *Training and Education in Professional Psychology*, 2, 2, 89–95

69. Daniels, J.A., Bradley, M.C. & Hayes, M. (2007). The impact of school violence on school personnel: Implications for psychologists. *Professional Psychology, Research and Practice*, 38, 6, 652–659; Benight, C.C., & Harper, M.L. (2002). Coping with self efficacy perceptions as a mediator between acute stress response and long term distress following natural disasters. *Journal of Traumatic Stress*, 15, 177–186

70. Noy, S. (1991). Combat Stress Reactions. In David A. Mangelsdorf and Reuvan Gal (Eds.). *Handbook of Military Psychology*. P 507–530. London. John Wiley

71. Schok, M.L., Kleber, R.J., Elands, M. and Weerts, J.M.P. (2008). Meaning as a mission: A review of empirical studies on appraisals of war and peacekeeping experiences. *Clinical Psychology Review*, 28, 357–365; Devilly, G.D., & Cotton, P. (2003) Psychological debriefing and the workplace. Defining a concept, controversies and guidelines for interventions. *Australian Psychologist*, 38, 144–150

72. Brit, T.W., Adler, A.B., & Bartone, P.T. (2001) Deriving benefits from stressful events: The role of engagement in meaningful work and hardiness. *Journal of Occupational Health Psychology*, 6, 1, 53–63

73. Aldwin, C.M., Levenson, M.R., & Spiro, A. (1994). Vulnerability and resilience to combat exposure: Can stress have life long effects. *Psychology and Aging*. 9, 1, 34–44; Schok, M.L., Kleber, R.J., Elands, M. and Weerts, J.M.P. (2008). Meaning as a mission: A review of empirical studies on appraisals of war and peacekeeping experiences. *Clinical Psychology Review*, 28, 357–365

74. Grossman, D. (2004). *On Combat. The Psychology and Physiology of Deadly Conflict in War and Peace*. PPCT Research Publications; Aldwin, C.M., Levenson, M.R., & Spiro, A. (1994). Vulnerability and resilience to combat exposure: Can stress have life long effects. *Psychology and Aging*. 9, 1, 34–44

75. Morris, A.S. (2008). Making it through a traumatic life experience: Applications for teaching, research and personal adjustment. *Training and Education in Professional Psychology*, 2, 2, 89–95

76. Driskell, J.E. & Johnston, J.H. (1998). Stress exposure training. In J.A. Cannon-Bowers & E. Salas, (Eds.), *Making Decisions under Stress: Implications for Individual and Team Training*, 191–217. Washington DC, American Psychological Association

77. Benight, C.C., & Harper, M.L. (2002). Coping with self efficacy perceptions as a mediator between acute stress response and long term distress following natural disasters. *Journal of Traumatic Stress*, 15, 177-186; Daniels, J.A., Bradley, M.C. & Hayes, M. (2007). The impact of school violence on school personnel: Implications for psychologists. *Professional Psychology, Research and Practice*, 38, 6, 652–659

78. Daniels, J.A., Bradley, M.C. & Hayes, M. (2007). The impact of school violence on school personnel: Implications for psychologists. *Professional Psychology, Research and Practice*, 38, 6, 652–659; Devilly, G.D., & Cotton, P. (2003) Psychological debriefing and the workplace. Defining a concept, controversies and guidelines for interventions. *Australian Psychologist*, 38, 144–150; Foy, D.W., Erikson, C.B. & Trice, G.A. (2001). Introduction to group interventions for trauma survivors. *Group Dynamics, Theory, Research and Practice*, 5, 4, 246–251; Lewis, S.J. (2003). Do one shot preventative interventions for PTSD work? A systematic research synthesis of psychological debriefings. *Aggression and Violent Behaviour*, 8, 329–343

79. Devilly, G.D., & Cotton, P. (2003) Psychological debriefing and the workplace. Defining a concept, controversies and guidelines for interventions. *Australian Psychologist*, 38, 144–150

80. Daniels, J.A., Bradley, M.C. & Hayes, M. (2007). The impact of school violence on school personnel: Implications for psychologists. *Professional Psychology, Research and Practice*, 38, 6, 652–659

81. Devilly, G.D., & Cotton, P. (2003) Psychological debriefing and the workplace. Defining a concept, controversies and guidelines for interventions. *Australian Psychologist*, 38, 144–150

82. Bonanno, G.A., Galea, S., Bucciarelli, A., & Vlahov, D. (2007). What predicts psychological resilience after disaster? The role of demographics, resources and life stress. *Journal of Consulting and Clinical Psychology*, 75, 5, 671–682; Seery, M.D., Silver, R.C., Holman, E.A., Ence, W.A., & Chu, T.Q. (2008). Expressing thoughts and feelings following a collective trauma: Immediate responses to 9/11 predict negative outcomes in a national sample. *Journal of Consulting and Clinical Psychology*, 76, 4, 657–667

83. Grossman, D. (1996). *On Killing: The Psychological Cost of Learning to Kill in War and Society*. New York, Bay Back Books

84. Grossman, D. (2004). *On Combat. The Psychology and Physiology of Deadly Conflict in War and Peace*. PPCT Research Publications

85. Angelopoulos, P.A., Houde, S., Thompson, M.M., McCreary, D.R., Blais, A., Pasto, L. (2002). Canadian Forces training and mental preparation for adversity. *Defence R&D Canada*, 2002–147

86. Bartone, P.T, Adler, A.B., & Viatkus, M.A. (1998). Dimensions of psychological stress in peacekeeping operations. *Military Medicine*, 163, 587–593; Newman, R. (2005). APA's resilience initiative. *Professional Psychology: Research and Practice*, 36, 3, 227–229

87. Maddi, S.R. (1999). The personality construct of hardiness: I. Effects on experiencing, coping and strain. *Consulting Psychology Journal: Practice and Research*, 51, 2, 83–94

88. Koestner, R. (2008). Reaching ones personal goals: A motivational perspective focused on autonomy. Canadian Psychology, 49, 1, 60–67

89. Keinan, G. (1996). Training effective performance under stress: Queries, dilemmas and possible solutions. In J.E. Driskell, & E. Salas (Eds.). *Stress and Human Performance*, 257–277. Mahwah NJ, Lawrence Erlbaum Associates Inc.

90. Grossman, D. (2004). *On Combat. The Psychology and Physiology of Deadly Conflict in War and Peace*. PPCT Research Publications

91. Keinan, G. (1996). Training effective performance under stress: Queries, dilemmas and possible solutions. In J.E. Driskell, & E. Salas (Eds.). *Stress and Human Performance*, 257–277. Mahwah NJ, Lawrence Erlbaum Associates Inc.; Driskell, J.E. & Johnston, J.H. (1998). Stress exposure training. In J.A. Cannon-Bowers & E. Salas, (Eds.), *Making Decisions under Stress: Implications for Individual and Team Training*, 191–217. Washington DC, American Psychological Association

92. Zach, S., Raviv, S., & Inbar, R. (2007). The benefits of a graduated training program for security officers on physical performance in stressful situations. *International Journal of Stress Management*, 14, 4, 350–369

93. Angelopoulos, P.A., Houde, S., Thompson, M.M., McCreary, D.R., Blais, A., Pasto, L. (2002). Canadian Forces training and mental preparation for adversity. *Defence R&D Canada*, 2002–147

94. Information from Mrs. Christiane Routhier Ph.D. Design Coordinator

95. Daddis, G.A. (2004). Understanding Fear's Effect on Unit Effectiveness. *Military Review*, July/August, 22–27

96. Noy, S. (1991). Combat Stress Reactions. In David A. Mangelsdorf and Reuvan Gal (Eds.). *Handbook of Military Psychology*. P 507–530. London. John Wiley

97. McFayden, M. (2008). Special Report to the Minister of National Defence. A Long Road to Recovery: Battling Operational Stress Injuries. Coleman, P. (2008). Pentagon, big pharma: Drug troops to numb them to horrors of war. *Alternet*

98. Grossman, D. (2004). *On Combat. The Psychology and Physiology of Deadly Conflict in War and Peace*. PPCT Research Publications

Combat Camera AS2006-0894a

Source: Combat Camera

Optimizing Canada's Commitment to Police Reform in Afghanistan

Major N. Flight

As part of its commitment to the Government of Afghanistan, Canada has invested significant resources towards the betterment of the Afghan Police Institution. Several years on, it is prudent to evaluate whether the money has been well spent and the resources properly allocated. At the root of the issues are several questions: Is the present mentoring model effective? Is it having the desired stabilizing influence? And, is the Canadian model adapting to the changing circumstances effectively or quickly enough? To evaluate the issues, it is helpful to look at the body of lessons provided by other police forces involved in security sector reform (SSR) reaching back a half century. Even a cursory review of these missions reveals that advancement of police reform in failed states is not an easy task. When juxtaposed against Canada's Afghan mission, the evidence suggests that our current approach is good but is not as flexible, or as far reaching, as it potentially could be. What is required is a new "optimized" Canadian Forces / CIVPOL integration model that emphasizes a transitional[1] approach to mentoring the initiation and reinforcement as well as the eventual weaning of a professionalized indigenous police force.

In light of this evidence, and using Afghanistan as a model, the intent of this article is to present a strategy for the phased integration, influence, and evolution of Canadian police mentoring and to suggest a model that could potentially serve as a template for future conflicts.

DSCF0954 Taken by: Cpl Bucci, 2MPU

Figure 1: A truly diverse team, Cpl Osellame (MP) and Pte Kirkwood (1 RCR) return from an arduous patrol in Pashmul South with their assigned Afghan police

RESURRECTING FAILED STATES

Since the fall of the Iron Curtain, there has been an escalating interest in the "failed-state" phenomena, which has generated much critical thought concerning appropriate intervention models. Indeed, it has been suggested that, "Insecurity in the 21st century appears to come less from the collisions of powerful states than from the debris of imploding ones."[2] Research bodies such as the RAND Corporation, the Organization of Economic Cooperation and Development (OECD), and the Centre for Global Development, among others, have placed increased resources into the analysis of failed states, and for good reason. A recent study by the Centre for Strategic and International Studies summarizes an argument which has been widely adopted by the international community, that is, "One of the principal lessons of the events of September 11th is that failed states matter—not just for humanitarian reasons but for national security as well. If left unattended, such states can become sanctuaries for terrorist networks with a global reach . . . who exploit the dysfunctional environment."[3]

In a similar vein, Mark Turner and Martin Wolf, writers for the *Financial Times*, reinforce the immediacy of the matter by arguing that, "failed or failing states are among the great challenges of our age . . . . They spread chaos to their neighbours and beyond. They are actual or potential sources of terrorism, organized crime, drugs, disease, and refugees . . . . Something needs to be done. Yet nobody knows quite what."[4] The answer to the question "What to do?" is the subject of much comprehensive study. At the risk of oversimplifying the matter, published authors tend to render common conclusions regarding the way forward. Foremost among these recommendations are the requirements for security system reform, governance reform (to include rule of law and democratization), development (essential public services, health, water, and utilities), and the fostering of legitimate trade. But if success in reform is to be expected, the first, and most critical, step must begin with the issue of security. Without it, all other changes run the risk of being overtaken by forces beyond the control of the legitimate government in power. To help understand what is meant by SSR, we turn to the Organization for Economic Co-Operation and Development (OECD)[5] who define SSR as:

. . . the overall objective of SSR is to create a secure environment that is conducive to development, poverty reduction and democracy. This secure environment rests upon two essential pillars: i) the ability of the state to generate conditions that mitigate vulnerabilities to which its people are exposed; and ii) the ability of the state to use the range of policy instruments at its disposal to prevent or address security threats that affect society's well-being.[6]

In Afghanistan, security is a policing issue; therefore, in this case, it is presumed that the Afghan police *institution* will be **the** frontline tool employed to mitigate the immediate security vulnerabilities of the Afghan people.

> *" . . . failed or failing states are among the great challenges of our age . . . . They spread chaos to their neighbours and beyond. They are actual or potential sources of terrorism, organized crime, drugs, disease, and refugees . . . . Something needs to be done. Yet nobody knows quite what."*

SUCCESSES AND STRUGGLES: POLICE REFORM IN FAILED STATES

Fortunately, many good international case studies pertaining to successes and struggles in police reform exist. Indeed, the International Peace Academy concludes that the rising number of organizations carrying out police reform is evidence of the increasing importance attached to it.[7] We are cautioned, however, that this endeavour is not for the weak-willed, as emerging police forces are oftentimes cut off from the populations they are meant to serve and protect, with many acting and operating more like military contingents than public security officers. This is presently the case in most of Afghanistan.

Notwithstanding the preceding caution, there exists a body of lessons that aid in the formulation of best practices. From the British experience in Malaya (1948–60), we learn that training strong indigenous police leadership, supported by sustained mentorship, should have top priority. After this, schooling in the field of criminal intelligence received praise, as did the steady transition to a "Malayanization" of the security force,[8] and the weeding out of corrupt police officers. In the Cyprus campaign (1955–59) similar themes surfaced, particularly the need for professional indigenous police leadership, education, and human intelligence. In tandem, these case studies conclude that, "because of the small unit nature of the conflicts, the frontline counterinsurgency force was the police . . . effective counterinsurgency campaigns rely on good human intelligence, and no military unit can match a good police unit in developing an accurate human intelligence picture of their area of operations."[9]

Alice Hills, in her analysis of police reform in sub-Sahara Africa, sees it a different way. She concludes that training and resources are insufficient in the absence of appropriate political direction or sanction.[10] The corollary is that a clear and consistent police mandate, combined with a governmental commitment to change, is the starting point for effective reform.

DSCF0767 Taken by: Sgt McGougan, 2 MPU

Figure 2: A POMLT on foot patrol in South Pashmul. Human intelligence and gaining respect are fundamental tenants of lasting stability efforts

In looking at the American experience in Iraq, the main effort has been focused on combating corruption and abuse among the police force. Indeed, a 2006 report from northeast of Baghdad found that 75 percent of Iraqis did not trust the police enough to tip them off to insurgent activity.[11] In response, successful reform strategies include exposing police to positive models of behaviour, standardizing mentoring across all sectors, establishing a Ministry of the Interior Ethics Centre, and recommending the creation of an Internal Affairs and Inspector General capability.

What is clear from all available evidence is that brief, ad hoc, training programs are doomed to failure. Similarly, to pursue strategies that run counter to the positive lessons learned from international missions is to accept a suboptimal outcome. So what then is the best approach for Afghanistan?

. . . to pursue strategies that run counter to the positive lessons learned from international missions is to accept a suboptimal outcome. So what then is the best approach for Afghanistan?

BUILDING POLICING IN AFGHANISTAN: 101

Like Iraq, the situation in Afghanistan is not a good one. To reach the level of policing professionalism found in first world countries, ingrained institutional and cultural practices must be overcome. The Afghanistan Research and Evaluation Unit and The Center for Strategic and International Studies join in their bleak assessment of the current state of Afghan policing and reform. Specifically, it is believed that many Afghans still perceive the Afghan National Police (ANP) to be part of the security problem rather than part of the solution.[12] Chief among these concerns are examples of widespread corruption, local-level extortion, illiteracy, a propensity to not respect international norms regarding human rights, and general unprofessionalism. Add to this drug use, juvenile members, the omnipresent

temptation to dabble in drug trafficking, patrimony, lack of pay (or pilfering of pay by provincial or district leadership), and it becomes clear that truth is stranger than fiction.

Finally, and unfortunately for the cadre of ANP actually committed to change, the Afghan insurgency appears to be acutely aware of ANP vulnerabilities, both individually and collectively. To that end, the ANP have become the primary target of insurgents; for example, in 2006 alone, 627 ANP were killed. And the trend continues. Despite this despondent backdrop, however, certain recommendations have emerged. These include calling for a shared vision and strategy for the ANP, developing a comprehensive rule of law strategy, making donor assistance conditional on Ministry of the Interior reform, prioritizing quality of ANP over quantity, and prioritizing fiscal sustainability of the security sector.[13]

CANADIAN MENTORING CAPABILITIES

Although Canada has had an active combat role in Afghanistan since 2002, the Canadian emphasis on police capacity building is relatively new. The introduction of a Canadian whole-of-government approach in the fall of 2007 coincided with NATO's International Security Assistance Force (ISAF) vision of empowering Afghan institutions to stand on their own through focused professionalization and mentoring. As evidence of this, the Manley Report recommended to Parliament that, "Canada should continue with its responsibility for security in Kandahar beyond February 2009 . . . but with increasing emphasis on training the Afghan National Security Forces (ANSF) expeditiously [army and police] . . . as the ANSF gain capability, Canada's combat role should be significantly reduced."[14]

In its initial follow-up to the Manley Report, the Interdepartmental Task Force highlighted six policy priorities for the region, the first of which is enabling the ANSF to sustain a more secure environment and to promote law and order. Specific to police development, the stated Canadian objective for 2011 is to expect that the ANP will demonstrate an increased capacity to promote law and order in key districts of Kandahar, supported by justice-sector and corrections capabilities.[15] At present, more than 600 ANP members have been trained in activities supported by Canadian CIVPOL (led by RCMP), while a police operational mentoring and liaison team (POMLT), led by the Canadian Forces, have improved the ANP's ability to survive and begin nascent security activities in two outlying districts.

The current Canadian CIVPOL effort is based on an RCMP management structure, collocated with the Canadian Provincial Reconstruction Team. The lead CIVPOL advisor answers directly to the Representative of Canada in Kandahar, more commonly referred to as the RoCK. The CIVPOL main effort has been shared between assistance to regional training centres (RTC) in the delivery of a basic police course (10 weeks), as well as focussed mentoring of ANP within Kandahar City proper. The small headquarters is responsible for allocating resources and initiating/tracking significant ($4M+) projects aimed at supporting the emerging police force. This ranges from equipment acquisition and infrastructure improvements to general policing advice at the provincial level. The CIVPOL organization has also placed a number of personnel forward in smaller operating bases with a view to mentoring district-level leadership and investigative capability. CIVPOL are predominantly led by the RCMP and are supported by additional Canadian civilian police officers. It goes without saying that these are professional peace officers, bringing a variety of police and investigative experiences to the mentor team. Their primary constraint, however, is that they do not enjoy complete freedom of movement in less permissive districts due to national caveats concerning the security of their persons, and the consequent liability.

The POMLT is a composite Canadian Forces subunit, comprised of approximately an equal number of military police and infantry personnel. These mentors are deployed to the outermost sub-district police stations (SDPS), where they are embedded with groups of ANP ranging in number from 8 and 30. Their primary tasks are to mentor assigned ANP in survivability, policing, logistics as well as command and control. It should be noted that, unlike the better-known American model, the preponderance of Canadian Military Police are badge-carrying police officers, representing the ideal hybrid of soldier / peace officer to be employed in this environment. The current composition is approximately 2/3 Regular Force (badge-carrying peace officers) and 1/3 Reserve Force (not all badge-carrying).

Of interest is the number of Reserve MP who are CIVPOL in their daily professions in Canada. What primarily differentiates MP from CIVPOL are enhanced training in small-unit leadership and combat skills (weapons, communications, medical, navigation, manoeuvres, and detention ops) as well as the CF tenant that they are employed under an unlimited liability clause, as are all Canadian Forces soldiers.

DSC03883 Taken by: MCpl Gary Obrien, 3 MPU

Figure 3: 77 Bravo, a POMLT in Pashmul, Zharey, poses with their assigned Afghan police detachment. The team spent six months embedded with their Afghan colleagues

A third element that differentiates MP from CIVPOL, which is not police specific, is a generic force protection (FORCEPRO) organization. Such a capability is presently employed in support of the Canadian Provincial Reconstruction Team; it enables mobility and provides protection to a host of civil-military actors, as well as other government department partners in and about Kandahar City. These include DFAIT, CIDA, RCMP, Corrections Canada, etc. The FORCEPRO organization is typically based on a mechanized (armoured) infantry subunit, whose size is dictated by the extent of the protection task. As a combat arms subunit, they are inherently tactically mobile, self-protecting, and self-sufficient . . . as are the POMLT.

TOWARDS AN OPTIMAL SOLUTION

It is clear that certain activities are key to the development and sustainment of a credible and capable indigenous police force. These include (in no order of precedence) focussed efforts to develop indigenous leadership, instruction on the collection and synthesis of human intelligence, mentorship by good example, and literacy training. In order to best influence leadership development there should be a host nation government-supported effort to talent spot young(er) leadership candidates and provide them with education and dedicated mentoring. This does not exist presently in Afghanistan. According to authors Dobbins and Crane, "selecting, training, and mentoring such individuals will shape the resultant force decisively; it cannot be started too early."[16] Finally, there is a need for the host nation to be forthcoming in describing the intended end state for its national police force. Indeed, this remains a subject of much debate and is summarized by Wilder as the primary inhibitor to institution growth in Afghanistan. Specifically, "the most fundamental issue that must be resolved for police reform efforts to succeed in Afghanistan is the need for a shared vision of the role of the ANP . . . the lack of a common strategy, five years after police reform began, is seriously undermining reform efforts and complicating the task of coordination among actors in the sector."[17]

Most observers agree that the initiation of an interdepartmental task force for Afghanistan ought to be the "flagship" for a renewed standard in Canadian whole-of-government cooperation. Indeed, the successes already achieved by the coordination of departments through Privy Council Office as well as Task Force Afghanistan are evidence of this positive synergy. An opportunity for significant improvement in the realm of police capacity building has yet to be exploited, however. Such transformation would entail the forging of more direct relationships between the office of the Canadian Forces Provost Marshal (the senior Military Police Commander and advisor to the Chief of the Defence Staff) and the Executive Branch of the RCMP on the subject of deployed operations generally, and interoperability specifically.

At a minimum, there is scope to share a better awareness of each organization's inherent capabilities and capacities and to develop standardized Canadian mentoring and assessment concepts for application to failed-state tasks. Should these recommendations be adopted, there will be gains in interagency

communication, distribution of tasks, and ease of integration into Canadian Forces Task Forces-led operations due to the inherent familiarity of the military police organization, and the Army, with this operating environment. Furthermore, military police organizations, as part of the Army's force generation effort, could potentially deliver the mandatory pre-deployment training to CIVPOL, through regional mounting hubs on a mission-by-mission basis. In short, there are many economies to be gained by harmonizing the collective Canadian approach to police capacity building in failed states. Finally, whenever CIVPOL and CF police mentors find themselves in the same operational space, it should be mandated that their headquarters be collocated to ensure timely passage of information, to enable task de-confliction, and to promote informal interagency learning.

OPTIMIZING THE CANADIAN MODEL

With an understanding of the players and opportunities, the task turns to developing a Canadian police-mentoring model for failed states that is relative, responsive, and progressive. Based on the broad range of international missions, the leading assumption is that building police capacity is a long-term effort. It follows then, that a realistic model must be able to adjust as the situation changes. In considering this reality, there are five main criteria that define the mentor-space. These are:

- the nature of the police task;
- the relative maturity or existence of systems such as judicial and corrections;
- the physical threat;
- the degree of integration required by mentoring teams; and
- the assessed state of the indigenous police leadership.

How then do these criteria apply to Afghanistan? Simply put, policing in Kandahar Province is not policing in downtown Fredericton, or in any other North American city for that matter. Police tasks in a counterinsurgency (COIN) environment are more security-oriented and less focussed on rule of law. Tonita Murray writes that, ". . . while state security is generally protected by military forces and intelligence agencies, civil security is the preservation of civilian police. While there is some blurring at the line of demarcation, as a general principle, police do not fight wars."[18] This is one conundrum posed by present-day Afghanistan. More often than not, the ANP are positioned to fight the insurgency, requiring a rethink of the mentoring methodology. A hasty transition to a rule of law paradigm is also impeded by illiteracy, a low educational baseline, and public confidence. Although the following list is not exhaustive, police tasks in COIN tend to revolve around the following activities:[19] improvised explosives awareness, combat first aid, small unit tactics (fire and movement), cordons and searches of persons, vehicles, compounds, community patrols and information gathering, detainee operations, close protection, and counterterrorism. It is readily apparent that these tasks are not standard roles attributed to police in a Western model. Rather, it is only after the environment has been made sufficiently permissive, that rule of law policing tasks emerge as relevant and attainable. These types of police activities include criminal investigations, preparation of testimony, observance of rules of evidence, forensics, and the conduct of grassroots community policing.

In its 2007 report, the Afghanistan Research and Evaluation Unit (AREU) concluded that "a civilian police force, no matter how well trained and equipped, will have little ability to uphold and promote rule of law in the absence of a functioning judicial system."[20] It further concluded that the failure to adopt a more integrated approach to police and justice sectors at the onset, has led to a disparity in vision and incongruent delivery of resources and observable outcomes. This is certainly the case today in Afghanistan where it is of little value to shore-up evidence for a tribunal which most ANP and citizenry know will not occur. Similarly, although much emphasis has been placed on professionalizing corrections institutions in and about Kandahar City, the progress is slow and not paralleled by neighbouring precincts. Consequently, personnel arrested under suspicion of committing criminal acts are routinely released back into the community (by Afghan police / security agencies) as there is little "systems" capacity to process alleged offenders.

DSCF1101 Taken by: Cpl Bucci, 2 MPU

Figure 4: Cpl Martin (MP) oversees range activity and marksmanship training

One has but to scan the world media to view a well-documented account of the present threat in Afghanistan, particularly the southern region that encompasses the Province of Kandahar. Indeed, by mid-January 2010, Canada has given 139 sons and daughters to the Afghan cause. Threat, more than any other factor, influences actions or initiatives in this type of failed state. Mobility is impaired. Forces, both military and humanitarian, require "hardening" by way of armour, ordinance, or the engagement of private security companies. The simple act of transiting a district by vehicle becomes the subject of much preparation and great diligence. Communities and interpreters are threatened for supporting the "infidel"[21] from outside (coalition) and within (ANSF). As such, the change in prevailing threat conditions is one of the primary criteria that should be considered when deciding the most appropriate mentoring mix for emerging police forces.

There is a continuum of mentoring integration from embedded mentors on the left of the scale to the less-intimate mobile mentoring and site inspection visits on the right. For most practical purposes, the current need in emerging districts is the embedded approach. At the risk of trivializing other nations' mentoring contributions, I will stay clear of direct examples. Suffice to say, however, the only mentoring model that has yielded substantial results in dangerous regions such as Kandahar Province is the direct and affiliated embedded approach. This model is most successful for a variety of reasons: namely, the provision of enhanced protection and motivation, the provision of visible role models, and ever-present oversight to ensure human rights are respected and corruption is not permitted to flourish. There is also a greater sentiment of commitment to outcomes that permeates a cohabitant relationship. As capabilities grow in concert with their own leadership and initiative, indigenous forces can be weaned from such integral mentorship, provided that logistical or tactical dependencies have not been permitted to take root. At end state, the requirement for routine site inspections should be all that is required to ensure compliance with established policies and practices, as is the case with nearly all accredited police forces worldwide.

The leading lesson to be drawn from the writings on police reform in Malaya, Cyprus, Africa, Kosovo, and Iraq is the absolute requirement to encourage and enable solid indigenous leadership. As long as there is not a purpose-built leadership-training program for the ANP, the prevailing cycle of nepotism and poor leadership will never be broken. Also key in the early stage of nation building is the ability for third-party neutrals (in this case, Canadian police mentors) to be able to talent spot young men and women who show potential to become educated and otherwise lead and take care of the ANP assigned to their charge. Ideally, these candidates could be fed into a training system that would prepare them for increasing degrees of responsibility from the initial requirement to lead 8–12 ANP, up to provincial command, or beyond. In order to accomplish this, though, the age-old practice of appointing friends and relatives to positions has to be ended by government leadership. A recent lesson is the positive response by certain ANP in Panjwayi District to basic literacy training provided by the local Mula (facilitated by POMLT). Even if wholesale change is untenable, the training of leaders (whoever they may be) represents the next and perhaps first quantum leap in Afghan police reform.

CANADIAN OPTIONS—SITUATION DEPENDENT

The optimized model proposes three combinations of mentor assets, each recommended for a specific "stage" or set of environmental conditions, based on the five criteria (police task, systems, threat, integration, and leadership). These stages are as follows:

- **Stage 1: CF Lead / CIVPOL in Secondary Roles**. During this stage of nation building, the Canadian main effort for police mentoring would reside with CF elements, as would the planning and coordination of mentor plans and activities. The CIVPOL role would be restricted to permissive or secure zones within the operating environment; it would maximize their skill sets in roles such as instructing at training centres as well as coordinating diplomatic and development efforts through DFAIT and governance staff.
- **Stage 2: CIVPOL Lead—Supported by FORCEPRO / CF Retains Non-Permissive Areas**. During this stage, CIVPOL assumes the primary responsibility for the mentoring agenda in the tactical environment. Due to the fact that there will always be a degree of residual threat, there will be a requirement for mobility and protection support provided by a FORCEPRO element. It is envisioned that CIVPOL would set mentoring and visit itinerary priorities and FORCEPRO would be responsive to these requirements, in order to ensure these objectives are met. The CF would continue embedded mentoring in areas that remain less permissive or along critical approaches to secure centres.
- **Stage 3: CIVPOL Operates Independently**. As the threat dissipates and the capacity and initiative of the indigenous force have been proven, the mission may transition to a model that requires no Canadian Forces support to police mentoring. At this stage, there would no longer be a requirement for embedded mentoring, which is an extremely manpower intensive endeavour. This state can be maintained for as long as the Canadian Government wishes to contribute or until such point that the security situation takes a turn for the worse.

The following table demonstrates the applicability of the three-stage model, assessed against the five criteria:

Criteria	Stage 1: CF Lead / CIVPOL Supporting	Stage 2: CIVPOL Lead / CF Supporting	Stage 3: CIVPOL Independent
Nature of the Police Task	COIN—Security	Rule of Law	Rule of Law
Systems Capacity (Judicial/Corrections)	Nascent	Emerging	Proven
Threat	High	Medium—Variable	Low
Degree of Mentor Integration	Embedded	Mobile—Affiliated Mentors	Mobile—Site Inspections
State of Indigenous Leadership	Poor	Emerging	Strong

In general terms, it can be said that Canada, in taking an interagency (CIVPOL/CF) approach, has fielded its police mentoring assets in a reasonable manner. Many of the tactical synergies that have been achieved, however, have come about as a result of relationships and coordination on the ground, and not by operational design. It stands to reason that the present model can be shaped to yield even greater efficiencies in the current conflict and can be used as a baseline to formulate an intervention and mentoring model for future conflicts. As suggested in the foregoing recommendations, the need for such transformation, however, must be recognized and initiated at the departmental level.

Only then will the institutional change bear the maximum return on police capacity investment, both in terms of personnel and resources. To emphasize:

- Institutionalize the direct liaison and partnered planning by DND (CFPM and Army) and RCMP.
- Co-develop a Canadian multi-agency mentoring concept for failed states.
- Exploit opportunities to share operational lessons and to cross-train members (CIVPOL and DND) on operational skills.
- Exploit opportunities to cross-train CIVPOL and DND junior and senior leaders on each other's command, staffing, and planning processes.
- Train (in Canada) and deploy joint or affiliated police headquarters.

In the end, the international experience in the 20th century has made it clear that the task of nation building is not for the weak-willed. Likewise, the creation or retooling of indigenous police forces in support of the national security sector has proven to be a complex and demanding problem into which Canada has sent its uniformed sons and daughters. Indeed, it is not unreasonable to expect that a republic such as Afghanistan will remain in "stage 1" for a generation or beyond. The critical policy path, then, is to harmonize political understanding and partner expectations regarding the pace of

Combat Camera IS2009-3062-03

Figure 5: Civilian-Military Cooperation (CIMIC) Officer, Captain Eric Butts, greets the Malik of Sheykh Mehdi during a presence patrol in the Dand District

police reform in such environments. Only then will donor contributions remain relevant, responsive, and effective. The present Canadian approach to police mentoring in Afghanistan is on the right track, provided that the expected outcomes remain realistic. Of greater benefit, however, is the opportunity presented by the current situation to become surgically introspective in assessing our collective efficiency in the police reform endeavour. The ultimate proof of progress will be the emergence of a sound and formalized Canadian police-mentoring model, supported by institutional change at home.

ENDNOTES

1. Transitional in the sense that force composition (CF and CIVPOL) will vary depending upon the permissive/non-permissive nature of the physical security environment. It also refers to the spectrum of conflict from high to low intensity, and variations thereof. In essence, as the security situation becomes more permissive, and the whole of Canadian Government influence grows in a theatre, the requirement for a preponderance of military mentors diminishes. In like manner, as the indigenous police capacity matures the requirement for CIVPOL influence diminishes over time.
2. M. C. Haims, D. C. Gompert, G. F. Treverton, and B. K. Stearns, *Breaking the Failed-State Cycle*, An Occasional Paper, RAND Corporation, 2008, p. xi.
3. K. Menkhaus, "Quasi-States, Nation-Building, and Terrorist Safe Havens," *The Journal of Conflict Studies* (2003), p. 10.
4. Mark Turner and Martin Wolf, "The Dilemma of Fragile States," *Financial Times*, February 18, 2005 taken from S. Patrick, *Weak States and Global Threats: Assessing Evidence of "Spillovers,"* Working Paper Number 73, Center for Global Development, 2006, p. 3.
5. The mission statement of the Organization for Economic Co-operation and Development is to "bring together the governments of countries committed to democracy and the market economy from around the world to support sustainable economic growth, boost employment, raise living standards, maintain financial stability, assist other countries' economic development and contribute to growth in world trade. The Organization provides a setting where governments compare policy experiences, seek answers to common problems, identify good practices and coordinate domestic and internationals policies." Taken from OECD website 20 Jan 2010, at http://www.oecd.org/pages/0,3417,en_36734052_36734103_1_1_1_1_1,00.html
6. D. Hendrickson, N. Ball and L. Williams, OECD: *Security System Reform and Governance* (OECD Publishing, 2005), p. 16.
7. W. G. O'Neill, *Police Reform in Post-Conflict Societies: What We Know and What We Still Need to Know*, The Security-Development Nexus Program (New York: International Peace Academy, 2005), p. 1.
8. J. S. Corum, *Training Indigenous Forces in Counterinsurgency: A Tale of Two Insurgencies*, The Strategic Studies Institute, US Army War College External Research Associates Program, 2006, pp. 19 & 23.
9. Ibid., p. 36.
10. Alice Hills, *Police Reform in Post-Colonial States*, Joint Services Command and Staff College, UK, Geneva Centre for the Democratic Control of Armed Forces, 2001, p. 4.
11. T. Pfaff, *Development and Reform of the Iraqi Police Forces*, The Strategic Studies Institute, US Army War College External Research Associates Program, 2008, p. 8.
12. A. Wilder, *Cops or Robbers? The Struggle to Reform the Afghan National Police* (Afghanistan Research and Evaluation Unit, 2007), p. xii.
13. Ibid., pp. 43–59.
14. Report to Parliament, *Independent Panel on Canada's Future Role in Afghanistan* (Her Majesty the Queen in Right of Canada, 2008), p. 37.
15. Report to Parliament, *Canada's Engagement in Afghanistan: Setting a Course to 2011* (Her Majesty the Queen in Right of Canada, 2008), p. 10.
16. J. Dobbins, S. G. Jones, K. Crane and B. C. DeGrasse, *The Beginner's Guide to Nation-Building*, Prepared for the Smith Richardson Foundation, RAND National Security Research Foundation, 2007, p. 59.
17. Wilder, p. 43.
18. Tonita Murray, "Police-Building in Afghanistan: A Case Study for Civil Security Reform," *International Peacekeeping* 14, 1 (2007), p. 108.
19. G. Barrie, An ANP *Assessment Tool—Information Analysis*, Operations Analysis Report, Defence Research and Development Corporation, 2008, p. 4.
20. Wilder, p. x.
21. Author's conversation with an ANP interpreter, Zharey District, 15 November 2008. Name withheld for security reasons.

Source: Combat Camera

Source: Combat Camera

Optimizing Deadly Persistence in Kandahar: Armed UAV Integration in the Joint Tactical Fight

Colonel L.S. Turner III, USAF, Lieutenant-Colonel D. Corbould, 2 PPCLI, Major J.T. Adair, 2 PPCLI, Major L. Hamel, Canadian Air Force

This a reprint of an article originally published in Colloquium, 2009, vol. 2, no. 2. It is reprinted with the permission of the US Army and Marine Corps Counterinsurgency Center.

INTRODUCTION

Lethal unmanned aerial vehicle (UAV) strikes represent the culminating point of a rigorous, multi-disciplined (intelligence, operations, information operations) process and cumulative understanding of a counterinsurgency (COIN) environment. For the 2nd Battalion Princess Patricia's Canadian Light Infantry Battle Group (2 PPCLI BG) and their brothers from the Afghan National Army (ANA) during the spring and summer of 2008, lethal UAV strikes reduced risk to friendly forces, minimized collateral damage and dislocated the enemy, reducing his freedom of action and marginalizing his strength in the eyes of the population—the key terrain. The 2 PPCLI BG's experience in controlling UAVs provides lessons for those who will be involved in these types of operations in the future.

29-35 LTC Leslie Pratt USAF

Figure 1: A MQ-9 Reaper from the 451st Air Expeditionary Group flys over the Registan Desert in Southern Afghanistan

A LABORATORY FOR ARMED UAV AND GROUND FORCE INTEGRATION

The 2 PPCLI BG was deployed to Kandahar province between February and October 2008 as part of Operation ATHENA, Rotation (Roto) 5. The BG's predecessors, the 3 R22eR BG had been developing a relationship with the United States Air Force 451st Air Expeditionary Group (AEG), which operated MQ-9 and MQ-1 UAV assets in Afghanistan. The 451st AEG had begun pushing its mission beyond air base defense around Kandahar airfield and into the Task Force Kandahar (TFK) area of operations. As a result, during its deployment the BG orchestrated a disproportionate number of strikes from its Tactical

Operations Centre (TOC). These engagements incurred minimal collateral damage, significantly reduced insurgents' freedom of movement, and drove a wedge between the insurgents and the population. This success was based on three realities: an understanding of the UAVs' capabilities, strong relationships between the BG and the 451st AEG and ensuring that UAV assets were in the hands of the right people at the right time. As a result, the use of armed UAVs was a combat multiplier during Operation ATHENA, Roto 5.

The insurgency in Kandahar in the spring and summer of 2008 was similar to those in other provinces in Afghanistan: it was dynamic and consisted of a number of nuanced layers that were connected to the social, economic and cultural fabric of Afghan society.[1] This environment was very difficult to understand and more difficult to predict. Although the TFK was gaining an increased understanding of the environment, it remained, to a large extent, "an army of strangers in the midst of strangers."[2]

29-75 LTC Leslie Pratt USAF

Figure 2: The payload of the MQ-9 Reaper varies based on the mission but often consists of GBU-12 laser guided bombs and AGM 114 Hellfire missiles

One constant that emerged from this environment was insurgents' guerrilla tactics. The enemy relied on concealment and mobility within the population to operate with relative impunity, only massing immediately prior to an attack, thereby creating fleeting opportunities for engagement. These attacks, often using a combination of large improvised explosive devices (IEDs) and small arms ambushes were aimed at marginalizing our strengths in the eyes of the population while also attempting to deny us physical access to the citizenry. Further, the enemy employed disciplined communications security, further inhibiting our ability to monitor their activities. Indeed, for the BG, in terms of attacking the enemy, the greatest challenge was identifying insurgents with enough certainty that they could be engaged. This reality amplified the effect that intelligence can have on the COIN fight.

During the early part of 2008, the TFK focused on consolidating the gains that had been made during the previous rotation and deepening the Afghan Development Zones, focused in the districts of Zharey and Panjwayi. When considered within the generic stages of a COIN campaign (i.e., clear-hold-build), the TFK mainly conducted clearing operations.[3] In practice, this translated into a series disruption operations to prevent or minimize enemy influence on clusters of the population that were supportive or ambivalent (fence-sitters). In areas where the BG or the ANSF did not have a physical presence and where the enemy overtly compromised the legitimacy of the government, disruption operations aimed to deny the enemy traditional safe havens or prevent them from emplacing IEDs on lines of communication. In summary, the vast majority of operations were aimed at improving security by disrupting insurgent influence and operations.

THE ROLE OF THE BATTLE GROUP IN THE FIGHT

Prior to deployment, the BG expended significant effort in determining its role relative to the other friendly or neutral organizations within the battlespace. The BG framed its role in terms of enabling success vice *winning*. Only the Afghans could define winning and ultimately achieve "the win," while the BG was the primary conventional force responsible for maintaining and improving security. The key challenge was the promotion of governance by non-violent means, which could not occur without maintaining and improving security. Ultimately, our role was to "[shape] the battlespace through lethal and non-lethal action in order to set the conditions and enable successful ANSF action, development and governance initiatives." This role was broken down into three key tasks: influence (using means across the spectrum of force) those who needed to be influenced to achieve disproportionate intended effects, partner with and mentor the ANSF at every opportunity, and protect the population from the insurgency. This mixture of operations, enabled by focused information engagement, was designed to accentuate government legitimacy and undermine insurgent credibility. Although achieving these objectives is clearly a human, face-to-face endeavor, airpower played a significant role in the BG's objective of influencing Afghans.

AIRPOWER IN COUNTERINSURGENCY (COIN)

There is ample guidance on the generic role of airpower in COIN but a notable absence of tactical doctrine and TTPs. Recently published Canadian COIN doctrine clearly highlights the relationships between the air and land component:"[T]he predominant service in counter insurgency is the land force, although air elements often play a strong supporting role."[4] Particularly relevant is that Canadian COIN doctrine also specifically addresses the utility of UAVs during COIN operations:

The use of the air component during various COIN ... has clearly demonstrated the potential of advanced technology for surveillance, target acquisition, reconnaissance and attack of targets. These capabilities have been expanded upon through the use of unmanned aerial vehicles (UAVs) and have become a significant enabler of land operations. The use of air support in a COIN campaign has been able to be expanded and enhanced through precision weapons that have made improvements in reducing casualties and collateral damage to infrastructure near the target area.[5]

Although this doctrine was published after the BG's re-deployment, our experience with UAVs in a precision strike role emphasizes that it is an enabler of land operations. The air/land integration model that the BG developed could, in the short term, continue to have a significant impact on the manner in which the lethal fight is prosecuted in Afghanistan. In the longer term, UAV employment may be considered in terms of procurement and organization and also play a role in shaping joint counterinsurgency doctrine.

ARMED UAVS IN SUPPORT OF THE FIGHT

Before deployment, we did not expect to have armed UAVs in support of our operations. However, armed UAVs provided a capability that proved to be particularly suited to the COIN fight in Kandahar. The mission sets in which armed UAVs supported BG operations spanned the intelligence, surveillance and reconnaissance (ISR) and attack roles and could be characterized as: intelligence preparation of the battlespace, target reconnaissance and acquisition and close air support (CAS), including full motion video (FMV) support, air strike coordination, direct fire support, and dynamic targeting (hunter-killer).

Both MQ 1 Predator and MQ 9 Reaper UAVs provided a silent, low-visibility, long-duration, persistent ISR capability coupled with a self-contained strike capability—"deadly persistence." Real-time FMV could be watched from the BG TOC using the ROVER or fiber, both of which linked to the aircraft's targeting pod. This "feed" effectively enabled command and commanders, understanding the acute benefits and risks when considering a strike, to reduce the "fog of war" and observe targets, thus gaining an understanding of the potential effects of kinetic options versus the value of intelligence gained in observing the enemy. Ultimately, this allowed commanders to discriminate between suitable and unsuitable targets in a timely manner. The Predator usually carried one AGM-114 Hellfire missile, while

the Reaper was capable of carrying four Hellfire missiles and two GBU-12 laser-guided bombs. The BG used effective weaponeering to reduce the collateral damage caused by these precision munitions. Lastly, the use of these assets significantly reduced risks to our forces by providing forewarning of emerging threats.

The benefits of using armed UAVs were extraordinary. They allowed us to stay in contact with the enemy virtually and maintain a high tempo of operations through surveillance and strikes in selected areas of the battlespace. This allowed ground elements to remain focused on interacting with the population. Furthermore, their use also allowed the BG to strike in areas that it could not operate in without significant ground combat power. The effect that these kinetic events had on the enemy was significant, as the engagements came without prior warning into areas where insurgents enjoyed freedom of action on the ground. The strikes created fear and uncertainty, forcing the enemy to expend resources on concealment that marginalized their effectiveness amidst a population that was at least ambivalent to their presence. There are a number of reasons for this success.

DEVELOPING AND MAINTAINING KEY RELATIONSHIPS

A key product of the LOS capability in Kandahar was the personal and almost daily interaction that it allowed between members of the BG and UAV operators. Ironically, we ensured that the most important part of the unmanned aerial vehicle was the "man"—the people involved in operating and controlling it. Together, the BG and the 451st AEG embraced the capability provided by air and ground maneuver and developed strong personal relationships with the pilots and sensor operators (SOs) who flew missions in support of the BG. This constant interaction, coupled with the conduct of operations in a relatively small geographic area, was critical to ensuring an acute awareness and common understanding of the battlespace. The BG and the 451st AEG shared information on a number of issues and conducted joint targeting, planning and debriefing. This climate built habitual interpersonal relationships that compressed kill-chains and produced intelligence of greater value. In particular, two of our Joint Terminal Attack Controllers (JTACs) within the Tactical Air Control Party (TACP) were Fighter Pilots, which bred common understanding with their counterparts flying UAVs. Likewise, sensor operators developed strong relationships with our intelligence cell, which improved our common understanding of the environment.

UNDERSTANDING UAV CAPABILITIES

It was essential that as many staff and commanders as possible understand the capabilities provided by the MQ 1 Predator and MQ 9 Reaper, in particular the intricacies between remote split operations (RSO) and LOS operations. An understanding of ROVER capabilities was also necessary. As important as it was for the pilot to have a "ground perspective," it was also important for the soldiers on the ground to understand what air assets saw. Not only does common understanding breed mutual confidence, it provides context for operations in which air and ground maneuver are linked. It is worth noting that the MQ 9 Reaper is classified as a CAS asset but its capabilities are quite dissimilar from conventional CAS. In some cases, conventional CAS, due to its noise signature, could not provide the support that we required. In this context, the Joint Tactical Air Request (JTAR) had to be carefully worded to include requirements such as FMV, long dwell, low-yield weapons and low-audible signature.

CONTROLLING ARMED UAVS AT THE APPROPRIATE HEADQUARTERS

In most cases, the BG HQ controlled armed UAV assets. This proved effective, as it unified intelligence, information collection and lethal operations under the BG CO. Surrounded by a functional command support infrastructure, this was the optimal echelon to ensure that relevant information and intelligence were passed to commanders. This permitted timely decisions and actions. Control of the asset from the BG TOC allowed dynamic re-tasking for higher priority missions or fleeting opportunities. The BG remained acutely aware of the requirement to push the asset to a subordinate ground commander particularly if a "danger close situation" developed. That said, employing the UAV as essentially another maneuver element enabled dismounted forces to avoid such situations, setting the conditions for the BG

to pounce on opportunities created by ground maneuver or other dynamics. Initially, the decision to maintain control at the BG HQ caused some friction between the BG and subordinate units, but it soon became apparent at all levels that the optimal use of the asset would be derived from BG control.

29-98 LTC Leslie Pratt USAF

Figure 3: A MQ-9 Reaper, armed with two AGM 114 Hellfire missiles prowls over Kandahar province in search of an active and elusive foe

SYNCHRONIZING GROUND AND AIR MANEUVER

The endurance, persistence and lethality of armed UAVs coupled with aggressive ground maneuver forced the enemy to make mistakes and resulted in a number of engagements. We referred to this as the "tactical deep fight" and it proved to be an effective battlespace framework. Air maneuver always gathered intelligence when properly synchronized with ground operations and often struck targets that presented themselves. There are no specific recipes for success in synchronizing ground and air maneuver and our imagination was our only constraint. Often, we had a pretty good idea of what the enemy's reaction to our ground maneuver would be and from where it would originate. We would then focus a Reaper or Predator on the area from which we expected a response and strike targets as they presented themselves. During times and in areas in which ground maneuver was not achievable we were successful in synchronizing various types of aircraft to dislocate and strike the enemy. The enemy feared aircraft and there were times, usually in response to "troops in contact" (TIC), when we would send a jet or aviation assets to respond. The enemy could easily see and/or hear these assets and usually withdrew and sought concealment. Subsequently, a Reaper or Predator would replace the "show of force" aircraft. Often, the enemy, thinking the air threat had subsided, would expose themselves, creating an opportunity for engagement. This proved to be a successful tactic.

ESTABLISHING AN ACCURATE PICTURE OF FRIENDLY FORCES

Our greatest challenge in compressing the kill-chain was establishing an accurate picture of friendly forces—blue positional awareness. Our procedural controls evolved quickly and became based on standing control measures and simple reporting methods. Reports such as, "All friendly forces are WEST of Route SUMMIT in compounds," provided a clear picture of friendly force action and increased the responsiveness of airpower.

Particularly challenging was determining the locations of Afghan National Security Forces (ANSF). Their locations had to be checked repeatedly. OMLT mentors were critical in maintaining control of the ANSF. Their use of standing control measures proved to be the most efficient method of reporting. Our underlying principle in terms of striking was, "you only have to be wrong once." Fratricide avoidance was always in the forefront of our minds and we would let the enemy live to fight another day if there was any doubt about the location of friendly forces.

Combat Camera AR2008-k073-98

Figure 4: Canadian soldiers from the 2 PPCLI BG conduct operations in Kandahar province during the summer of 2008

ESTABLISHING A COMMON SIGHT PICTURE ON THE APPLICATION OF ROE

Rules of engagement (ROE) were not constraints but rather the manner in which we applied force. Our adherence to ROE fundamentally distinguished us from our enemy. Outside of self-defense, there were specific authorization levels associated with various ROEs that needed to be considered in the employment of weapons. Intimate knowledge and a shared interpretation amongst the entire team were critical. This was achieved through de-briefs after strikes and, more importantly, when the decision was made not to strike. In fact, the Commander of the 451st AEG required that his crews conduct a face-to-face de-brief with the BG JTACs following a mission. In addition, the BG Commander had numerous discussions surrounding ROE and there was common understanding and trust on this topic. This common understanding resulted in timely, proportional and successful strikes.

ACCEPTING THAT POSITIVE IDENTIFICATION (PID) EVOLVES

We were fighting an extremely adaptive foe. We found that, to be effective, and to capitalize on the short engagement windows offered by the enemy, perspectives surrounding what constituted PID needed to evolve. The UAV's "unblinking eye" facilitated the evolution of PID and provided an opportunity for observers to develop an uncanny understanding of the environment and detect contrast. Within the context of a common understanding of pattern of life in various areas in Zharey and Panjwayi, members of the TACP, S2 cell, ASIC, ISTAR cell, Imagery Analysts and Pilots/SOs became very proficient at detecting high-confidence indicators. These indicators were briefed to commanders and the concept of weapons signatures evolved. This led to an understanding of enemy PID that extended beyond the

identification of traditional weapons. Also, having the ASIC imagery analyst (IA) sitting next to the JTAC or next to the pilot in the Ground Control Station facilitated cross-talk and aided in establishing confidence amongst the team as the establishment of PID evolved.

EMPLOYING AN EFFECTIVE TARGETING METHODOLOGY

Targeting was not something that the BG exercised prior to deployment, and we quickly determined it to be essential to achieve the Commanding Officer's objectives. The absence of a targeting plan made the employment of UAV assets "reactionary," which was not optimal.

To ensure discipline in our targeting methodology we adopted the F3EAD targeting framework: Find, Fix, Finish, Exploit, Analyze and Disseminate. We often used this framework for targeting individuals, but we found it to be extremely useful in targeting enemy networks in our AO. Specifically, we often used the activities and locations of Medium Value Targets (MVTs), the enemy's tactical commanders, "as the center of mass" to effectively find and target determined enemy fighters. Finding was the most difficult step in the F3EAD process and we conducted detailed analyses of MVTs and areas to increase the probability of gathering critical information and/or striking the enemy. UAVs, crossed-cued with other forms of intelligence collection, were extremely effective in this role. The "unblinking eye" provided by the UAV has a very narrow field of view, often equated to "looking through a straw," and had to be cross-cued. The strike-capable UAV was also effective in fixing the enemy, especially when combined with ground and other aerial maneuver. We always had contingency plans to fix the enemy using a combination of all available assets (aviation, other air, and artillery). Finishing the enemy occurred in a number of ways once the target was successfully fixed, but the low contrast enemy was often best finished by a precision strike from an aerial platform.

Department of Defense

Figure 5: US Secretary of Defense Robert Gates tours the UAV ramp at the Kandahar Airfield in December 2008

The foundation of the process was the exploit—analyze—disseminate component. This occurred at key points during the mission, through a quick huddle in the TOC to reset priorities and ensure focus, but it also occurred after the mission was over and with detailed analysis from a number of intelligence specialists. The results often formed the foundation for further targeting.

When time and personnel permitted, second phase analysis included recorded FMV. It was during second phase analysis that we received additional insights into enemy TTPs. Exploitation and analysis were critical to our success, and the ability of the targeting team to speak to those who operated the aircraft was critical in maintaining overall momentum.

MCpl Jason Bickerton, Canadian Army

Figure 6: Members of the 451st Air Expeditionary Group and the 2 PPCLI BG stand together on the UAV ramp at the Kandahar Airfield

BUILDING AND SHARING A DETAILED INTELLIGENCE PICTURE

Intelligence was operations in the BG fight in Kandahar, and this reality was prevalent in all staff processes, especially targeting. The enemy was often so well hidden that it took multiple sources to locate him. Persistent aerial ISR platforms were usually cross-cued based on information from other collection sources and their use allowed us to gain and maintain contact with the enemy and develop an intimate knowledge of the environment in which our ground forces operated. Successive, focused missions, combined with other actionable intelligence, created an unprecedented understanding of the environment. Key to successful intelligence gathering was the clear articulation of priorities, coordination with other assets and timely cross-cueing. There was a natural tendency to equate success with the number and nature of strikes. However, while strikes against insurgents produced enemy reactions that provided valuable intelligence, there were also a number of occasions in which not striking increased the value of the information that was gained, subsequently leading to higher pay-off strikes.

ENSURING JTACS AND AN S2 REPRESENTATIVE WERE ON DUTY IN THE BG TOC

Striking or gathering intelligence with UAVs was not glamorous work. It was tedious and required patience on the part of JTACs and others tasked with watching the "feed." Three qualified JTACs were required to sustain operations within the TOC over the duration of a typical deployment. These JTACs worked from the TACP desk in BG TOC. The traditional role of the TFK TACP evolved beyond merely liaison and coordination and became entrenched in operations. We developed a culture that optimized the use of UAVs. Our JTACs aggressively sought opportunities to control and task aircraft and this generated more intelligence, force protection and strike opportunities. Furthermore, we embedded an imagery analyst to assist in real-time analysis.

CONCLUSION

Lethal action alone did not ensure success in Kandahar, but it did suppress the insurgency for short periods of time and sent a message to those who witnessed precise strikes against insurgents. As General Curtis Lemay warned:

In this type of war you cannot—you must not—measure the effectiveness of the effort by the number of bridges destroyed, buildings damaged, vehicles burned, or any of the other standards that have been used for regular warfare. The task is to destroy the effectiveness of the insurgent's efforts and his ability to use the population for his own ends.[6]

Working as a joint team, the 451st AEG and the 2 PPCLI BG used armed UAVs to generate capabilities that far exceeded the individual strengths of the respective organizations. This perspective has been validated by at least one enemy fighter, who stated, "We pray to Allah we have American soldiers to kill," but added, "These bombs from the sky we cannot fight."[7]

Armed UAVs achieved success when integrated with the 2 PPCLI BG because we understood their capabilities, maintained strong relationships with the Airmen who operated them and ensured they were in the hands of the right people at the right time to achieve the desired effects. Armed UAVs were not a substitute for "boots on the ground," but were a force multiplier and a lethal and discriminating extension of ground forces. With them, we were able to extend our reach into high threat enemy sanctuaries that otherwise would not have been possible without the massing of considerable additional combat power on the ground. Alternatively, by keeping our footprint relatively low and pushing the armed UAV into these sanctuaries, we were able to achieve most of our influence objectives with a less threatening posture in the eyes of the population yet still maintain an "unblinking eye" where required, drive battlespace awareness and "finish" targets as they presented themselves. As Anthony Cordesman notes " [M]uch of the reporting on the Iraqi and Afghan wars focuses on the ground dimension …. The fact remains, however, that Iraq and Afghanistan are air wars as well, and wars where airpower has played a critical role in combat. "[8] From a tactical perspective during the spring and summer of 2008, airpower was a force multiplier.

ENDNOTES

1. International Crisis Group (ICG), "Countering Afghanistan's Insurgency: No Quick Fixes" (November 2, 2006) http://www.crisisgroup.org/home/index.cfm?id=4485,3.
2. TRADOC Culture Center, "TRADOC Culture Center", http://www.dtic.mil/doctrine/education/dlcc0407_lc_army.ppt This is a phrase commonly used by US Army Lieutenant-General David H. Petraeus.
3. US Army FM 3–24, *Counterinsurgency*, December 2006, p. 5–19.
4. B-GL-323-004/FP-003 *Counter-Insurgency*, p. 5–34.
5. Ibid.
6. United States Air Force Document 2–3, Irregular Warfare, p. vi.
7. Barry Bearak, "A Nation Challenged: Death on the Ground", *The New York Times*, 13 October 2001, B01.
8. Anthony H. Cordesman, "Air Combat Trends in the Afghan and Iraq Wars," Center for Strategic and International Studies, 11 March 2008, http://www.csis.org/media/csis/pubs/080318_afgh-iraqairbrief.pdf.

Combat Camera AR2006-H018-0004

Source: Combat Camera

Army Biography: Sir Samuel Benfield Steele, CB, KCMG, MVO

Sergeant K. Grant, CD

Of the many exceptional individuals to emerge from Canada's past, one of the most extraordinary has to be Sam Steele. He was, as one author put it, "the quintessential Canadian man of action in the Victorian era. Physically strong and courageous, he personified the heroic qualities of the early North-West Mounted Police. He even looked the part to perfection: tall, barrel-chested, and handsome, inspiring confidence in men and admiration in women."[1] A real life "Harry Flashman,"[2] Steele spent as much time in the army as he did in red serge, but more importantly, he spent his entire life in the service of his country and emerged from the Canadian west a genuine legend.

Samuel Benfield Steele was born in Medonte Township, Upper Canada, on January 5, 1849. The son of a former naval officer and a Member of the Legislative Assembly, he was educated at Purbrook, the family home in Medonte. Later the family would settle in Orillia, and it was here that Sam attended a private school while in his spare time learning the skills of woodsman, fishing, tracking and shooting that would serve him well in the years to come.

After the death of his father in 1865, he lived for a time with his eldest half-brother, John Coucher Steele. It was he who had the greatest influence on the young Steele and from whom he developed his strong sense of loyalty and devotion to duty.

The Steele family had a strong military tradition and the Fenian troubles of 1866 drew Sam into the militia, where he quickly discovered his true vocation. Serving with the 35th (Simcoe) Battalion of Infantry, he deployed to the field but saw no action. When the troubles were over, he moved to Clarksburg (near Collingwood) to work as a clerk. In his spare time he raised and trained a company for the 31st (Grey) Battalion of Infantry. At sixteen, he was offered command of the company by the town fathers, but Steele declined, saying that he was too young for the responsibility and that they should appoint a captain who was a prominent member of the community. Nonetheless, he retained his commission and continued to serve with the unit.

In 1870, when a British-Canadian expedition was formed under Colonel Garnet Joseph Wolseley (to maintain order at Red River, Manitoba), Steele quickly volunteered and on May 1, 1870 joined the 1st (Ontario) Battalion of Rifles at Barrie. Although he had held a commission in the 35th, when offered the opportunity to serve as an officer, he declined, choosing instead to serve as a private. "As far as experience went," he would later write in his autobiography, "I was better off without chevrons and learned how to appreciate the trials of other men to an extent that I should never have been able to do had I been promoted."[3]

The strenuous overland journey from the Lakehead to Red River was the kind of challenge that enabled Steele to demonstrate his exceptional strength and endurance. His talents did not go unnoticed; shortly after the expedition settled at Upper Fort Garry (now Winnipeg), he was promoted corporal. The battalion overwintered in the Red River area; while Steele enjoyed his time on the frontier, he was not tempted to stay when the battalion was disbanded in 1871. Instead, having made the decision to make soldiering a career, he returned to Kingston, Ontario where the Artillery School of the Canadian Permanent Force had been established. He took the year-long course and then was assigned to Toronto to reorganize the battery there. After a year in Toronto, he returned to Kingston where he became an instructor at the school.

In 1873, word circulated about the forming of a mounted force to establish a permanent armed presence in western Canada. By this time, Steele had developed a reputation as a good administrator and an excellent soldier. He applied to his commander, Lieutenant-Colonel George Arthur French, for permission to join and received it. This was not a surprising outcome since French knew that he was to command the new force and wanted Steele with him.

Originally called the North-West Mounted Rifles, the name was changed by Sir John A. Macdonald when US papers published alarmist reports that Canada was arming its border. Instead, the North-West Mounted Police (NWMP) received royal assent on May 23, 1873, but it was not until August 30 of that year that the final details were approved by Order in Council. Broadly, the legislation called for the formation of a body of not more than three hundred healthy men of good character between the ages of eighteen and forty, able to ride and to read and write English or French (married men need not apply). Sam was the third officer sworn into the new force and, based on his military experience, was given the rank of staff constable (the equivalent of divisional sergeant-major).

On October 22, 1873, the first contingent of the NWMP, accompanied by the last group of settlers to travel west that year, arrived in Lower Fort Garry. The winter would be a long one, and here Steele set about the task of preparing his troops. He drove the troops hard but himself harder. He saved the breaking of the hardest mounts for himself, and when the day was done, he would spend hours doing administration. As one recruit wrote "Drill, drill, drill. Foot drill, rifle practice, guard mount, horseback . . . . Breaking in my new mount isn't my idea of fun. Especially with Steele drilling! The man has no feelings . . . ."[4] Throughout the winter his reputation as a tough sergeant-major grew, but it was all for a purpose. The prospect of policing a vast, wild, unmapped wilderness full of whisky traders and Indian war parties better armed then they were meant that to be effective at their jobs the men of the NWMP had to be as fit and as well trained as physically possible and had to be able to ride as well as the Indians; their lives depended on it.

THE LONG MARCH

The winter was long, but by the time the floods had abated in the spring the contingent had become a finely honed machine. In June, Steele and the contingent moved south to Pembina North Dakota, where it linked up with the newly recruited second contingent. From there he was given the responsibility to move the entire force to Dufferin Manitoba in preparation for their march across the prairies to the Rocky Mountains. The plan was to take with them all the provisions and equipment needed to establish posts on the prairies, including livestock to setup food-producing farms. "The Long March," as it has become known, has subsequently gone down in history as one of the toughest forced marches on record.

> *"I thought I'd have an easy ride to the Rockies, with a fine horse carrying me. Instead I'm having a tough walk to Edmonton with me carrying the horse."*

On the morning of July 8, 1874, 343 mounted policemen set off at the head of a two and a half-mile long column on their journey west to the Rockies. It has been suggested that the real march didn't begin until two days later when the Métis ox drivers had sobered up enough to make real progress. And too, because the first two days were essential for figuring out what was required and what was extra baggage. Yet as magnificent as they looked in their scarlet coats, white helmets and gauntlets, the force quickly ran into shortages of feed for their horses and cattle. On the second night out, a violent thunderstorm sent the corralled horses stampeding, and Steele and others wasted precious hours in the dark trying to round them up. Many of the horses brought from Ontario with the second contingent were unaccustomed to the hardships of the prairies and quickly began to break down. The situation became so serious that a part of the force, which included Steele, had to be detached with the weakest animals and sent north along the Carlton Trail to the Hudson's Bay Company's Fort Edmonton.

Getting the ailing livestock to Fort Edmonton before winter was a gruelling job. The distance to the fort—some 1410 kilometres—was almost double the distance to the Rockies, and it had to be covered on an unpredictable trail with no grain and failing horses that had never been fed on grass before. It was a perilous route as well. Sioux and other tribal war parties paralleled their track the whole way, and oral history suggests that fierce betting ensued between the groups as to whether the motley crew would make it. Horses became so weak that they had to be changed twice a day, and the cattle so footsore that they lay down every few yards. On the first of November the party covered the last 20 kilometres into Fort Edmonton. Steele was the last man into the stockade, holding one end of a pole supporting the hind end of a thoroughbred horse. Cpl Ted Carr, the man on the other end of the pole supporting the horse, was overheard to say "I thought I'd have an easy ride to the Rockies, with a fine horse carrying me. Instead I'm having a tough walk to Edmonton with me carrying the horse."[5] The commanding officer, Inspector William Jarvis, noted in his report in November that Steele had done the "manual labour of at least two men" on the journey. At the time, Steele was earning $1.20 per day.

With the rest of A Division, Steele spent the winter at Fort Edmonton, making occasional journeys outward to gather information and to clear the area of whisky traders. When spring came the police moved down river and built their own post, Fort Saskatchewan. In July 1875, the steamer Northcote brought orders promoting Steele to chief constable (regimental sergeant-major), effective in August, and transferring him to headquarters at Swan River Barracks at Livingstone, Saskatchewan. The following summer he was put in charge of moving the headquarters to Fort Macleod, Alberta and, along the way, making arrangements for the large police contingent at the Treaty No. 6 negotiations with the Cree at Forts Carlton and Pitt in Saskatchewan.

Figure 1: Military movements during the 1885 Northwest Rebellion

At Fort Macleod, Steele continued his administrative duties, trained horses and acted as clerk for the busy criminal sessions conducted by the officers in their capacity as justices of the peace. In October 1877, he was one of the party of commissioner J. F. Macleod that went to Fort Walsh, Saskatchewan to conduct negotiations between Sitting Bull and General A. H. Terry of the United States army. When the talks failed and Sitting Bull and his warriors remained in Canada, Steele returned to Fort Macleod. The following year, 1878, the headquarters was moved again, this time to Fort Walsh and Steele was promoted sub-inspector. He remained there until 1880, when he was made an inspector and assigned to his first independent command, Fort Qu'Appelle, Saskatchewan.

Up to this point, the duties of the NWMP had focused largely on Indian skirmishes and whisky traders. But that quickly changed with the coming of the Canadian Pacific Railway (CPR). The main line of the CPR bisected Steele's district, and he found himself occupied with disputes generated by settlement and construction. As the railway advanced west in the summer of '82, he was put in charge of policing the line. Moving west with the construction camps, he laid out the NWMP post at Regina, to which the force's main headquarters was transferred in December. Most of his work was in his capacity as a magistrate, but it was no easy task to maintain law and order. When construction reached Fort Calgary in the fall of 1883, he stayed on there as commanding officer.

Autobiography: Forty Years in Canada

Sir Samuel Benfield Steele, 1849–1919

In April 1884, Steele was assigned to accompany the CPR into British Columbia where he continued his work throughout the summer and into the winter. The following spring in the town of Beavermouth a serious labour dispute developed over non-payment of wages by subcontractors. At the time Steele was gravely ill with fever, yet he rose from his bed and donned his scarlet tunic. Winchester rifle in one hand and the Riot Act in the other, he faced down the crowd and declared that if he saw more than a dozen gathered together he would open fire on them. Given Steele's imposing size, booming voice and fierce determination, nobody in the crowd felt inclined to challenge him and so dispersed. The action was pure Steele of course; indeed, legend has it that at times he was prone to make new laws as he went along just to resolve conflicts. But settling labour disputes and keeping gamblers and whisky sellers within limits was just the kind of job for which Steele's forceful personality, sense of humour and boundless energy were perfectly suited.

By 1885, the force had developed a solid reputation and Steele had worked hard in numerous areas throughout the west to build it. 1885 also brought the North West Rebellion, and Steele was appointed to command the mounted troops and scouts of Major-General Thomas Bland Strange's Alberta Field Force. Consisting of some 110 ranchers and cowboys and 25 NWMP, Steele led the force north to Edmonton and then down the North Saskatchewan River in pursuit of Cree chief Big Bear. Two weeks after the battle of Frenchman's Bute, where Big Bear's warriors defeated the Canadian forces under General Strange, Steele's field force defeated Big Bear's warriors at Loon Lake, the last battle ever fought on Canadian soil.

Returning to Alberta, Steele was one of the few senior NWMP officers to come out of the North-West Rebellion with their reputation enhanced. He had led his scouts with imagination and aggressiveness, and his small force was the only one capable of keeping up with Big Bear before his surrender in July 1885. Strange recommended him for a CMG,[6] but this was ignored, instead in August he was promoted to superintendent. That fall he returned to law enforcement along the CPR in British Columbia and was present at the driving of the last spike at Craigellachie in November.

Steele was then posted to Battleford, Saskatchewan to command D Division. There he spent most of his time training the recruits who had come in with the doubling in size of the NWMP in 1885. In September 1886, his division was sent to Fort Macleod, and early in 1887 it moved again, this time to Lethbridge, the new headquarters for southern Alberta.

More tasks followed in the next two years including establishing a NWMP station in the town of Galbraiths Ferry, which was later named Fort Steele after he solved a murder in the town. Steele moved between British Columbia and Saskatchewan before he settled in Fort Macleod to take command of the largest post with the most policemen west of Regina. For the next ten years Steele presided over an expanding prairie population, and it was here in 1889 that he would meet, court and eventually marry his wife Marie Harwood with whom he would have three children.

In 1892, when the assistant commissioner's job became vacant, Steele was the most experienced superintendent and had the most distinguished record in the Force. He lobbied for the job and did not hesitate to use the political connections of his wife's family. But the position went to Superintendent John Henry McIllree, a less assertive officer who was not expected to clash with the abrasive commissioner, Herchmer.

GOLD

The period of routine administration in southern Alberta ended abruptly when gold was discovered in the Yukon in 1897. When it became apparent that a major rush would develop, the police force there was strengthened. In January 1898, Steele was ordered north to establish and then take command of the customs posts at the height of the White and Chilkoot passes and at Bennett Lake, the headwater of the Yukon River and the main staging area of the rush. When Steele arrived the following month, there were only a few policemen in the Yukon; by the time he left a year and a half later almost a third of the NWMP would be under his command. The minister in charge of the Yukon in the federal Liberal government, Clifford Sifton, had arranged for the police there to report directly to Ottawa, bypassing Regina, so that the contingent was virtually a separate force.

Nothing could have suited Steele better. Not only could he run the police as he saw fit, but the isolation of the Yukon allowed him to make up laws and regulations as necessary. The most famous example of this unilateral authority occurred at Bennett during the spring break-up of 1898, when Steele dictated that all prospective miners register their boats and adhere to strict rules for navigation when heading down river. Later in the year, he refused to allow anyone into the territory without a minimum quantity of food and money. These actions were blatantly illegal, as Steel freely admitted, but they so obviously saved lives that both the miners and Ottawa accepted them.

In July 1898, Steele assumed command of all the NWMP in the Yukon and became a member of the newly formed territorial Council; from that point on he could exercise his legislative talents legally. In Dawson, Steele concentrated on keeping order. Gambling, bawdy houses and saloons were tolerated but strictly controlled; observers reported that Sundays were as quiet as those in Toronto. Steele put minor offenders to work cutting firewood for police headquarters while dubious characters were shipped out on the first available boat. The miners, mostly Americans, might have been expected to chafe under this stern regime, but that seems not to have been the case.

Under his command Steel built a police force that in his words: "built cabins with their own hands; carried vast sums of gold over the lonely trails and even to the banks of Seattle without losing or misappropriating an ounce. They nursed the sick and injured they found in lonely cabins in the wilds, they helped the paupers who were streaming out of the Yukon after their dreams of gold had exploded, they took into protective custody the many madmen that the shattered dreams, the hardship, and the isolation had produced. Along with their comrades of the Yukon Field Force, they fought fires twice saving Dawson from destruction, they assessed and collected mining taxes; they sorted and delivered the mail. They went out on epic patrols into the wilderness to look for missing persons and they buried the dead,"[7] and they did all this for $1.25 per day.

When Steele was transferred out of Dawson in September 1899, reputedly for resisting the partisan system of patronage sanctioned by Sifton, such was his reputation that virtually the entire population of the area turned out to cheer him and the present him with a bag of gold dust.

BOER WAR

Before Steele could be assigned to new duties, the South African War broke out, and Steele immediately volunteered. In short order he was offered the position of second in command of the Royal Canadian Dragoons, which he rejected because he felt that not enough mounted policemen were being allowed to volunteer. He then accepted an offer to command a regiment to be formed in western Canada (the 1st Canadian Mounted Rifles), but he agreed to step down to second-in-command when Commissioner Herchmer decided he wanted the position. He had just started recruiting men and buying horses when, in January 1900, he was offered command of a British army unit to be recruited in Canada and sponsored by Lord Strathcona.

Although the NWMP had been picked over by the earlier contingents, Steele managed to get enough officers and NCOs that he trusted to provide the backbone for the newly formed regiment, and as soon as they were assembled, he began a rigorous training program. On the journey across the Atlantic, he organized every day, thus preventing the deterioration of morale that plagued other Canadian units. Once in South Africa, Steele used all his skills, together with the substantial influence of Strathcona's name, to ensure that his unit was not dispersed or given routine assignments.

By the time the unit was ready to take the field in May 1900 however, the conventional phase of the conflict was over and guerrilla warfare had begun. After taking part in an abortive scheme to blow up a railway bridge on the border of Portuguese East Africa (Mozambique), the regiment spent the next seven months scouting for the columns pursuing the elusive Boer commandos. The pursuit was usually too cautious and ponderous to suit Steele, but his unit performed well—one of its sergeants, Arthur Herbert Lindsay Richardson, won Canada's first Victoria Cross of the war—and it drew praise from the British high command. By the time the Strathcona's were ready to return to Canada in January 1901, Steele's leadership had attracted the attention of Major-General Robert Stephenson Smyth Baden-Powell, who offered him a divisional command in the South African Constabulary (SAC) he was organizing. Awarded an MVO[8] in England, on the Strathcona's trip home, Steele was made a CB[9] during his brief sojourn in Canada. In June, he was back in South Africa with the SAC.

The last year of the war was spent pacifying the countryside by pursuing the remaining Boer commandos. Even before hostilities formally ended in May 1902, Steele had begun the process of converting his unit to civilian duty. He knew from his Canadian experience that no police force could function effectively without public cooperation. To Steele this meant winning the confidence of the Boer farmers by supplying practical services. In addition to providing security, the SAC acted as game wardens, veterinarians, census takers and license issuers. As soon as the war ended, he stepped up the transition, encouraging his men to learn Afrikaans, pushing the authorities to allow the Boers to have their rifles back and persuading the government to appoint senior officers as magistrates.

As a transitional institution, the SAC was a success; though, for Steele the experience was a frustrating one. By 1906 the force was being cut severely, and Steele, who had officially retired from the NWMP in 1903, was making plans to leave. After eight months in England as adjutant to Baden-Powell, then inspector general of cavalry, Steele returned with his family to Canada, where in 1907 he was appointed commanding officer of Military District No. 13 (Alberta and the District of Mackenzie). In 1910 he was transferred to command the more important Military District No. 10, based in Winnipeg. There, among other things, he worked on reconstituting Lord Strathcona's Horse as a Canadian cavalry unit and on preparing his memoirs.

WORLD WAR ONE

The outbreak of World War I in August 1914 postponed the release of Steele's memoirs, then ready for publication, and removed any thoughts of civilian life from his mind. Although he was 63, Steele hoped to command the 1st Canadian Division, but the minister of militia and defence, Sam Hughes, rejected him on the grounds of age. Within a few months it became apparent that the war would last for some

time and would require more military effort. In December 1914, Hughes promoted Steele to Major-General and put him in charge of training in western Canada. When formation of the 2nd Canadian Division was announced early in 1915, Steele was offered command, and he accepted.

At the British War Office, Lord Kitchener vetoed the appointment because he believed Steele was too old for an active combat command. Infuriated and pressured by western Tories, Hughes now insisted that Steele be given the post, even though he still thought him to be overage and inexperienced with large military formations. A compromise was reached under which Steele would head the 2nd until it was sent to France. After assuming command on May 25, 1915, he handled its organization in Canada and training in England until he was replaced by Major-General R.E.W. Turner in August.

One of the legacies of Steele's service in South Africa was that his British Army commission. Kitchener was thus able to offer him an administrative post as commanding officer of the Southeastern District of England, which included the principal Canadian training camp at Shorncliffe. Steele, who took up this command on 5 August, might have served out the war in useful semi-obscurity if it had not been for Hughes' genius for administrative muddle. Hughes had decided that, in addition to his British appointment, Steele should have command of all Canadian troops in England, effective 3 August. This step inevitably brought about conflict with Brigadier-General J.W. Carson, special representative of the minister of militia, and Brigadier-General J.C. MacDougall, general officer commanding Canadian troops in the United Kingdom, both of whom thought they were in overall command.

The situation remained unresolved until Hughes fell from power in November 1916. The newly appointed minister of overseas forces, Sir George Perley, moved quickly to sort out the mess. After Steele refused to return to western Canada as a recruiter, he was relieved of his Canadian command. But that wasn't enough.
Even though he was officially a British officer, the Canadian Overseas Ministry was doing all it could to get rid of him. For the next year and a half Steele remained in England with the support of the War Office and retained his British command. The Canadians, however, continued to treat him badly at every opportunity. When the King's honours list was drawn up for 1918, Steele was overlooked. It fell to the War Office to put his name forward for the KCMG.[10] In the end, rather than displease an ally, the British finally gave in and removed him from command in March 1918 and on July 1, 1918, placed him on the retired list.

DEATH

Being forced out of something you love is a bitter pill for any man to swallow, and Steele was full of bitterness at the way he had been treated by his own country. Now forcibly retired, he moved his family from Folkstone to a quiet private home in the London suburb of Putney where the giant of a man who so often endured appalling hardships had difficulty shaking off a cold. But soon his spirits rallied, the war was over and he began making plans to return to western Canada with his family. For the time being however, he would have to wait, as all available space shipboard was being filled by returning frontline troops. Besides, he was still unable to shake the flu that had been confining him to bed for the past several months. In the early hours of January 30, 1919, Sam Steele quietly died in his sleep, one of the many victims of the Spanish influenza epidemic of 1918–19. He had just turned 70.

Two days later his funeral procession wound its way through the streets of London. His body lay in a coffin draped with the Union Jack and rode on a horse-drawn gun carriage. Behind it came a troop of red-coated mounted policemen from the contingent of the force that had served at the front. They were followed by a troop of the Lord Strathcona's Horse dressed in khaki uniforms and flat-brimmed Stetson hats; they in turn were followed by files and files of men from the 2nd Canadian Division, the division he'd help train.

Steele had left a request to be buried in Winnipeg, and in July that request was granted. It seems somehow appropriate that even in death, Steele, who devoted his life to keeping the peace, should have an effect in death. When his body was returned to Winnipeg for final burial, it was in the midst of the great 1919 Winnipeg riots. The day before, strikers had pelted the RCMP and militia with bottles and loose debris, even dragging several RMCP officers off their horses and beating them up amidst the commotion. Yet with the strike still in progress, the largest funeral western Canada had ever seen was held. Throughout the city there was a lull in the ongoing violence as rioters lined the streets to witness the passing of Steele's cortège, escorted by mounted RCMP riding behind the riderless black horse with Steele's boots reversed in the stirrups. The strikers who had battled these men in hatred the day before did not so much as raise a voice against them.

SOURCES

Macleod, Roderick Charles. "Steele, Sir Samuel Benfield." Dictionary of Canadian Biography Online. http://www.biographica/009004-119.01-e.php?&id_nbr=7722&&PHPSESSID=58g2sm08dvhrrht780hbn3qgm7 (accessed December 1, 2009).

"Sam Steele." Wikipedia. http://en.wikipedia.org/wiki/Sam_Steele (accessed January 10, 2010).

Stewart, Robert. *Sam Steele: Lion of the Frontier*. 2nd ed. Regina: Centax Books / Publishing Solutions / PrintWest Group, 1999.

"The Sir Samuel Steele Collection." University of Alberta Libraries. http://steele.library.ualberta.ca/ (accessed January 15, 2010).

"'Without Fear, Favour or Affection' The Men of the North West Mounted Police." Library and Archives Canada. http://www.collectionscanada.gc.ca/nwmp-pcno/025003-1203-e/ (accessed January 15, 2010).

ADDITIONAL READING

Ouan, Holly. Sam Steele: The Wild West Adventures of Canada's Most Famous Mountie.

ENDNOTES

1. Macleod, Roderich Charles, "Steele, Sir Samuel Benfield," Dictionary of Canadian Biography Online, http://www.biographi.ca/009004-119.01-e.php?&id_nbr=7722&&PHPSESSID=58g2sm08dvhrrht780hbn3qgm7 (accessed December 1, 2009).
2. Brigadier-General Sir Harry Paget Flashman, VC KBC, KCIE (1822–1915) was a fictional character created by George MacDonald Fraser (1925–2008); he was based on the character "Flashman" in *Tom Brown's Schooldays*, a semi-autobiographical work by Thomas Hughes (1822–1896). In a series of books written by MacDonald, Flashman fights in nearly every battle involving the British Empire between 1822 and 1900 and became an urban legend as a man who "went everywhere and did everything."
3. Robert Stewart, Sam Steele: Lion of the Frontier, 2nd ed. (Regina: Centax Books / Publishing Solutions / PrintWest Group), 1999, p. 22. The quote refers to Steele's own writings in S. B. Steele, *Forty Years in Canada* (New York: Dodd, Mead & Company), 1915.
4. Stewart, p. 40.
5. Ibid., p. 52.
6. CMG—Companion of the Most Distinguished Order of Saint Michael and St George
7. Stewart, p. 234.
8. MVO—Member of the Victorian Order
9. CB—Companion of the Order of the Bath
10. KCMG—Knight Commander of the Most Distinguished Order of Saint Michael and Saint George

Source: Combat Camera

Source: Combat Camera

The King is Dead, Long Live the King: The Creation of the US Army Maneuver Center of Excellence

Major C.J. Young, CD, MA

BACKGROUND

The elements of combat power consist of six warfighting functions tied together by leadership and enhanced by information. Army forces apply combat power most effectively through combined arms. Combined arms generate more combat power than employing arms individually.

FM 3–0, Operations (US Army: February 2008)

Periodically, the US Congress undertakes a review of the US Army's base realignment and closure process to "assess whether the DoD (Department of Defense) recommendations substantially deviated from the Congressional criteria used to evaluate each military base." The 2005 Congressional Commission, known as the Base Realignment and Closure Commission, or BRAC, was directed by law to provide "an objective, non-partisan, and independent review and analysis of the list of military installation recommendations issued by the DoD on May 13, 2005."

Using a "fair, open and equitable process," the 2005 BRAC provided a number of recommendations that took into account the Army's needs, while balancing them against not only the human impact of base closures, but also the economic, environmental, and other effects on the surrounding communities.[1] Included in those recommendations were some substantive changes to the makeup of the US Army and in particular, Training and Doctrine Command (TRADOC), which is similar in function to our own Land Force Doctrine and Training System (LFDTS).[2]

The 2005 BRAC recommendations became law once they were accepted by Congress and signed into effect by the President. The major changes identified under the BRAC involved a number of significant moves of functions and consolidations of various commands (US Army Accessions Command[3] in particular); as well as the creation of a number of Centers of Excellence. In addition to the Fires Center at Fort Sill, which combines the Air Defence Artillery and Field Artillery centers and schools; and the Combat Service Support Center at Fort Lee, VA, which will combine the Combined Arms Support Command, the Quartermaster Center & School, and the Army Logistic Management College from Fort Lee (plus the Missile and Munitions Center from the Redstone Arsenal, AL), the BRAC Commission also directed the creation of a Maneuver Center of Excellence (MCOE) at Fort Benning, GA, which will combine the Infantry and Armor Centers & Schools. Under the BRAC law, all BRAC moves must be completed by 30 September 2011, at which time the various Centers of Excellence are to be fully operational.

CREATION OF THE MANEUVER CENTER OF EXCELLENCE (MCOE)

Culturally, I wasn't ready to accept that because this [Fort Benning, Georgia] has always been the home of the infantry. Then you start thinking about it logically and it makes perfect sense to do this. We bring together the two principal maneuver arms of our Army ... It's a very powerful opportunity.

General Carter Ham, U.S. Army Europe and 7th Army Commander, speaking at the 20 Aug 2009 US Combat Leader Speaker Forum about the BRAC-directed move of the US Army Armor Center to Fort Benning, GA.

The structure of the various Centers of Excellence is based upon a core model developed within TRADOC HQ, with the branch schools being retained within the model as distinct entities:

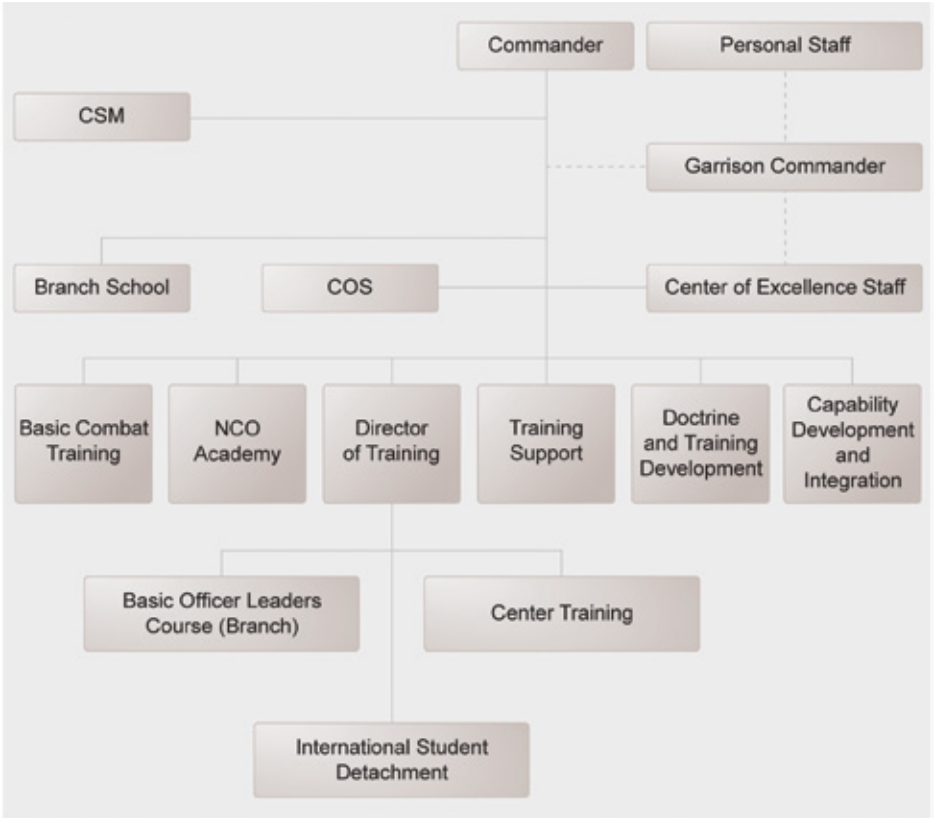


Figure 1: Training and Doctrine Command Center of Excellence Core Model

A TRADOC Center of Excellence was defined as a "designated installation, centered on TRADOC core functions, that improves combined arms solutions for joint operations, fosters DOTMLPF integration, accelerates the development process, and unites all aspects of institutional training to develop Soldiers, leaders, and civilians who embody Army values." Integral to that definition is the objective of maximum consolidation with the aim of being able to leverage "commonness."

For the US Army Armor branch, BRAC has been somewhat disquieting, creating some apprehension over how to maintain the armor branch in the future MCOE[5]. In an interview given on 29 September 2005, on the eve of his departure from command of the Armor Center, then-Commanding General Terry Tucker stated that "the decision to move the Armor Center to Fort Benning …was certainly unexpected … I would like to have figured out what the Maneuver Center of Excellence at Fort Benning will look like before I left."[6]

That desire to maintain separate and distinct armor and infantry branches can be seen in the MCOE two-school organizational model above. Both the Armor and Infantry schools within the current MCOE model have maintained complete control over both the Initial Entry and Branch specific training—the Initial Entry/One Station Unit Training (IET/OSUT) for the soldiers; and the Basic Officer Leader Course (BOLC) program for officers.[7] While there are maneuver courses, they are currently restricted to advanced courses (more below).

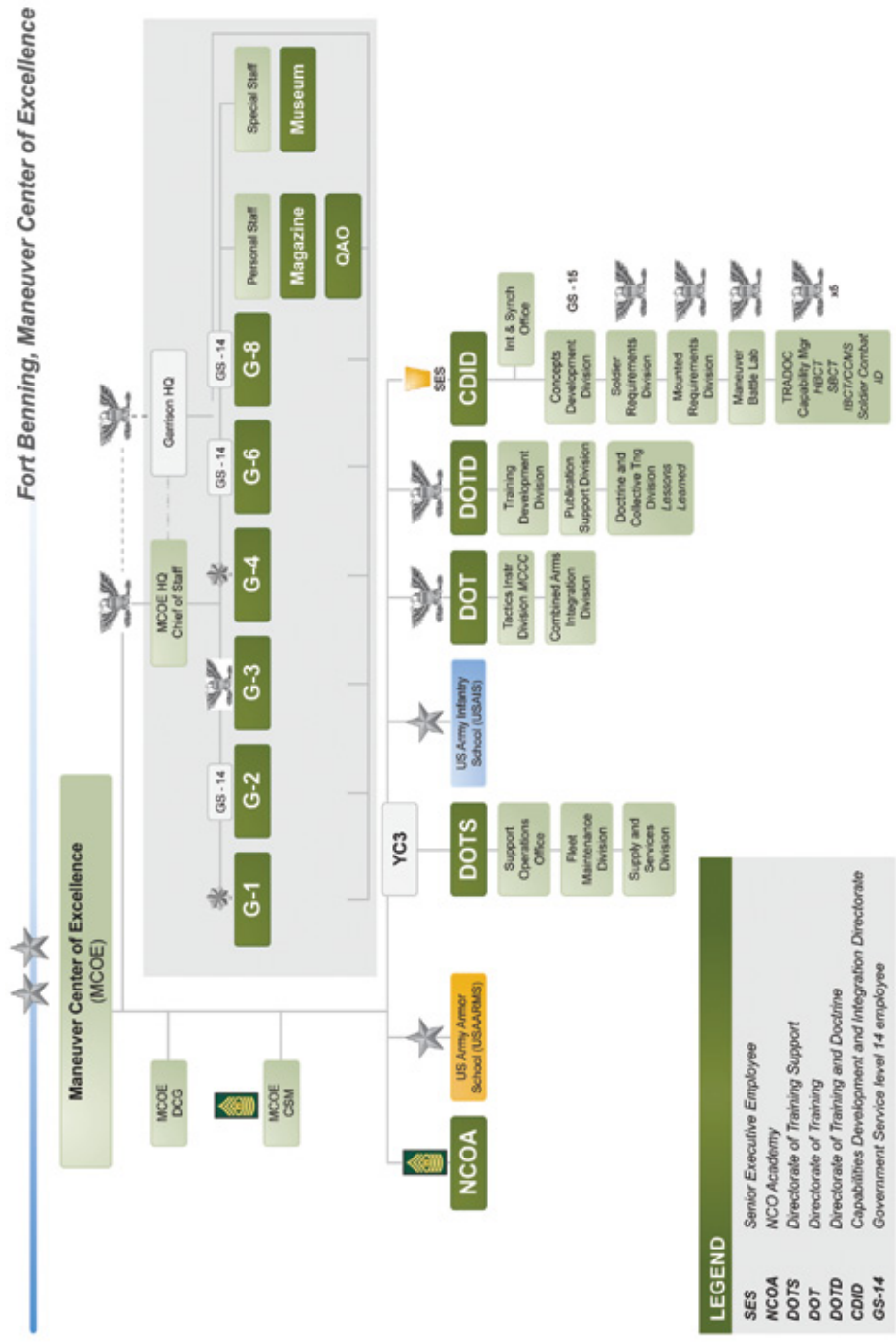


Figure 2: Maneuver Center of Excellence Task Organization

Integration within the current MCOE model occurs ***outside*** the two schools:

- The NCO Academy (NCOA) is fully integrated and runs 'maneuver' courses. While the Basic NCO Course (BNCOC) remains branch specific, the Warrior Leader (WLC) and Advanced NCO (ANCOC) courses are both maneuver courses.
- The Directorate of Training (DOT) will oversee the other two maneuver courses: the Maneuver Captains Career Course (MCCC—the US Army's equivalent of the CLFCSC Army Operations Course (AOC); and the Pre-Command Course (PCC—similar to our Commanding Officer Course, but aimed at Bn/Bde command). The DOT will primarily be a resource manager organization, looking after scheduling and resource allocation for all MCOE courses run outside the schoolhouses.
- The Capabilities Development and Integration Directorate (CDID) has three main functional areas of concentration: concept development; requirements determination; and experimentation. The CDID also ensures horizontal integration of all MCOE systems across the entire DOTMLPF domain. CDID will also become the parent Directorate to the various TRADOC Capabilities Managers (TCMs) within the MCOE, including TCM HBCT.[8]
- The Directorate of Training and Doctrine (DOTD) will combine doctrine development, and training methodologies for both collective and individual courses. Additionally, DOTD will integrate lessons learned, and be the proponent for new equipment training and fielding within the MCOE.
- On the support side of the house, the Directorate of Training Support (DOTS)[9] has an integrated maintenance, supply and support divisions. The maintenance division is operated by Army Material Command (AMC); the Supply and Service Division performing the Arm, Fuel and Move functions is operated by TRADOC; and the Support Ops Division officer provides the interface through a Support Operations office within both the Infantry and Armor Schools.

Contrast that exterior integration with this early (and eventually discarded) course of action (COA) for the development of the MCOE which was quite radical in the direction it took vis-à-vis integration. COA 3 (see Figure 3 below) outlined a MCOE based upon two integrated schools. However, rather than a school split based upon branch, this COA envisioned the split being based upon career/training progression. One of the schools was to have been responsible for overseeing IET/OSUT; while the other was to be responsible for both Intermediate Military Training (IMT) and Professional Military Education (PME), as well as for those functional aspects of branch training (airborne, RSTA training as examples).[10] It is quite clear that this COA was intended to create a *de facto* maneuver branch. Why this option was discarded is not known to the author, but it has been suggested by a number of sources that this COA was seen as too threatening from a heritage and tradition point of view, and moving far too fast for either Branch's interest.

TWO PORCUPINES MATING…

Put a tanker and a light infantryman together and their attempt to synchronize operations will resemble two porcupines mating. Effective synchronization can be done, it can be effective and satisfying to both partners, but it is slow and takes an extraordinary amount of effort and caution—Col Timothy Reese & Mr. Aubrey Henley, A Modest Proposal to Do Away With the Armor Branch, (Armor Magazine: Sep–Oct 2005).

The key question that has been raised with the creation of the new MCOE is what is it about the armor and infantry branches that is unique and requires their preservation as separate entities. In other words, are there specific and unique core competencies that require the preservation of a separate Infantry and Armor Branch? Or is a Maneuver Branch inevitable?

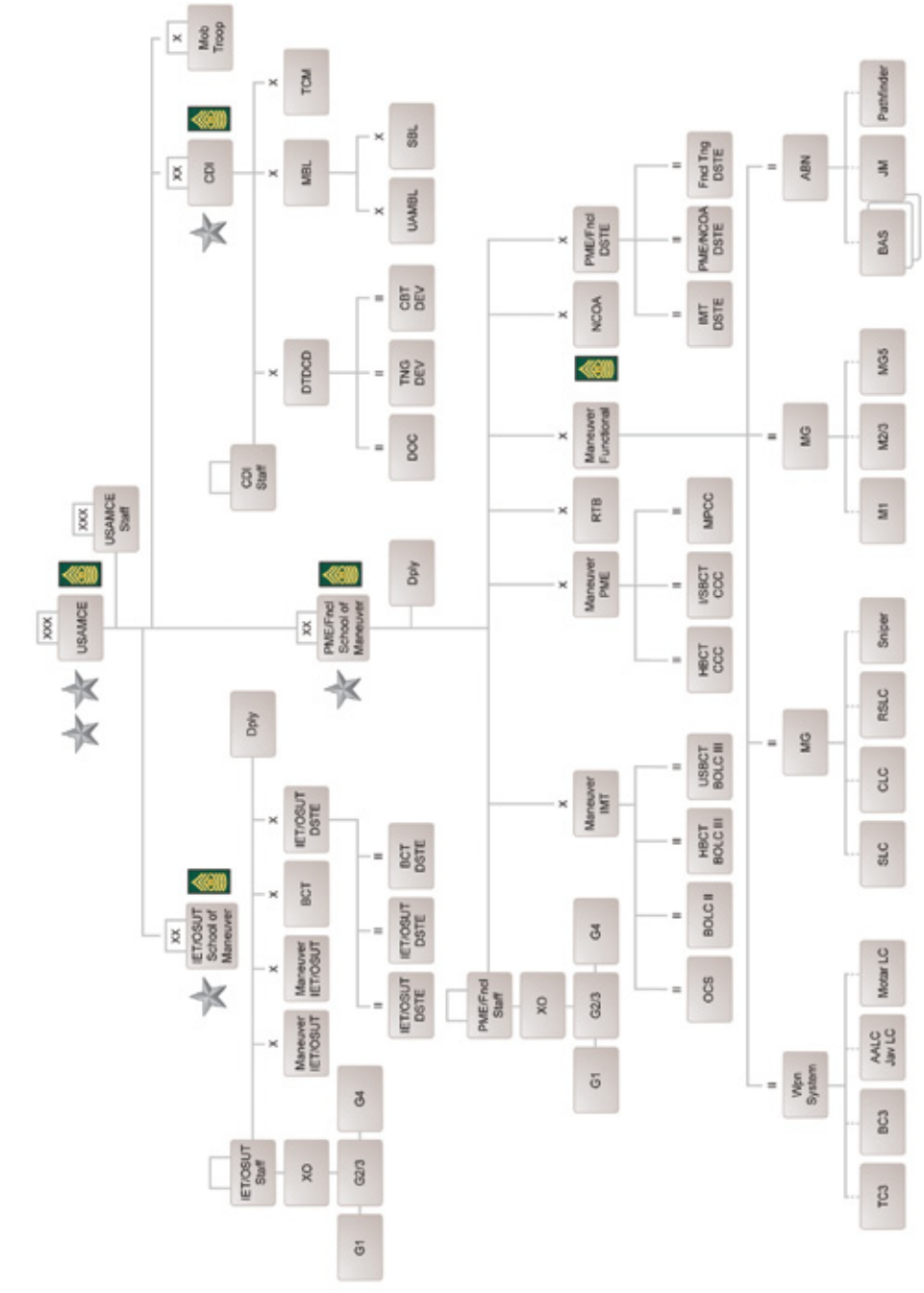


Figure 3: USAMCE Course of Action 3 (eventually discarded)

A core competency is defined by the US Army as "an essential and enduring capability."[11] In a 2008 article in the *Armor* magazine, then-CG USAARC BGen Donald Campbell Jr. identified the Armor Branch core competencies as including "operations, such as long-range precision gunnery; platoon, company, and battalion maneuver; logistics operations; maintenance, and command and supply discipline."[12] Those capabilities, which he termed unique, were backstopped by a broad range of core competencies that included "command and control, gunnery, maintenance/combat service support, and maneuver."

The US Infantry Branch at one time stated its core competency to be "derived from the harsh realities of Infantry combat, which are close, personal, and brutal … all infantrymen are linked through the core competency to close with and destroy the enemy in ground combat."[13] An updated version of DA PAM 600-3 now states that the "unique purpose of the Infantry Branch is the combat arms branch [charged] with the mission to close with and destroy the enemy by means of fire and movement to defeat or capture him/her, or repel his/her assault by fire, close combat, and counterattack."[14]

At the same time, DA PAM 600-3 states that "while the focus of the Infantry Branch has always been the development of combined arms warriors, the Army's ongoing transformation institutionalizes this concept through the transition to combined arms formations. This will drive an increased focus on maneuver operations for company grade officers, transitioning to a combined and Joint operational focus for field grade officers." This latter statement is echoed in the section discussing the unique features of the Armor Branch. It also echoes long held sentiments such as those made in 1947, by then-Maj Hastings, an instructor at the Armor School who wrote that "whenever possible, it was found best to join same tank and infantry units together in training and combat. Not only would staff sections function better but lower unit commanders and individual tank crews and infantry squads became acquainted and gained confidence in each other. Units gained objectives as a team and not as individual arms."[15]

This viewpoint echoed the conclusions put forward in an earlier paper co-written by Col Timothy Reese, former Director of the Cavalry and Armor Proponency Office and Mr. Aubrey Henley, the Director of the Office of the Chief of Armor (OCOA).[16] The paper argued that "experiences during peace and war times have shown that armor and mech infantry units train and fight more like one another than do mechanized and light infantry units." The two also share a common role—"to close with and destroy the enemy using firepower, maneuver, and shock effect delivered from mobile, protected platforms"—and a "common thread [of] speed, protection, and firepower provided by armored vehicles." Further, the paper argues that the design of the modular Army with its Heavy, Stryker and Light BCTs "argues for dismounted and mounted combat arms branches" as leaders in the various BCTs become specialized in either light or heavy operations, as opposed to the old division of either infantry- or armor-centric operations.

THE NEXT STEP: CREATING A MANEUVER BRANCH?

The Infantry culture is the basis for the Army's Warrior Ethos.
US DA PAM 600-3

Speed, long-range fires, and the unique ability to cross the beaten zone, coupled with the Warrior Ethos that our Armor Soldiers and Cavalry Troopers have always displayed, make our branch unique and exceptional.[17]

—MGen Robert Williams, former-Commanding General, US Army Armor Center (CG USAARC)

In a 2005 paper, then-LCol Robert Valdivia, a student at the US Army War College, argued that allowing officers to identify with just one branch is "far too parochial and immediately puts limits on the roles and missions" that will be performed by the new Brigade Combat Teams leaders. "Recruiting officers to the calling to serve in a Maneuver branch and training them to be dismounted maneuver leaders, mounted maneuver leaders and then training a select number of those maneuver leaders to specialize in the fires aspect of maneuver will better prepare leaders to be flexible and adaptable to better serve in the FCS equipped [BCTs]."[18]

What is significant about Col Valdivia's paper was that he eventually went on to serve as the Director Training, Doctrine and Combat Development within the US Army Armor Center and was thus able to influence the direction of the Armor Center as it moved towards eventual integration into the Maneuver Center of Excellence model. He argued that under the Current Operating Environment, there is a demand for the mastery of combined arms at the platoon and company level, and that accordingly, the institutional Army must "prepare leaders for this essential requirement from the time officers enter the Basic Officer Leader Course system and not at Combat Training Center (CTC) or Mission Rehearsal Exercises (MRE) prior to a combat deployment, or on the job training in a combat zone."[19]

In an excellent monograph entitled *Toward Army Maneuver Transformation*, Major Charles O'Brien argues that "the institutional Armor [Branch] considers the platform as central to achieving its purpose, and in fact, in determining the purpose … whereas the institutional Infantry [Branch] considers the platform as merely a means of delivery to the battlefield—critical for tactical mobility or movement, but not in its employment to achieve the stated purpose."[20] Other than that difference in philosophy—if I can use that word—Maj O'Brien argues that "the great similarities between Armor and Infantry suggest that the two branches have a very similar function—maneuver, and that only differences in tactical mobility … and employment separate the two …"[21]

CLOSING THOUGHTS

A common center bringing together the branches and forces is a great step toward achieving tailorable units, as well as tailored leadership … The time to begin the education and development of maneuver expertise should be from the very beginning—we cannot afford to remain in a branch stovepipe into our most formative years, and we must have the synergies that can be created by bringing together the various forces into a common Army Maneuver Center

—Maj Charles B O'Brien, Toward Army Maneuver Transformation

What we want is a modern, fast rifle unit with a lot of firepower, and which is specially trained, equipped and organized to work together with the tanks

—General der Panzertruppe Heinz Guderian, Achtung-Panzer

The MCOE was activated on 01 October 2009 and Major General Michael Ferriter, formerly the US Army infantry Center Commanding General, has become the first CG of the MCOE.[22] With the creation of the various 2005 BRAC mandated Centers of Excellence along functional lines, the US Army has begun a transformation away from traditional Branch distinctions. The new MCOE can be viewed as the premiere example of this transformation and representative of the understanding that combined arms training must begin well before an operational deployment. The MCOE represents a closer integration of the two branches, both by virtue of their new proximity and through the new maneuver courses, and provides young leaders of both branches with a much earlier opportunity to achieve more complete understanding of their confreres.

A key obstacle to any further integration and indeed to any possible maneuver branch, is overcoming the bureaucracy currently in place within all branches. As Col Valdivia points out in his paper, the current stove-piped branches need to be convinced of the wisdom of becoming more and better integrated. Formalization of the Army warfighting functions into the operational process will go a long way to resolving this issue. Clearly, the BCT concept and the various roles and missions that BCT leaders can be called upon to perform requires a movement away from branch identification as being too specific and limiting, and more towards the identification as a maneuver leader whose expertise is more general and hence more flexible in terms of employment. The net result would clearly become a branch of leaders who would be better able to respond to changes within the current operating environment and potential evolutionary/revolutionary design changes within the realm of combat development.

Figure 4: Approved insignia of the US Army Maneuver Center of Excellence (first introduced February 2008)

Maj O'Brien wrote that "the evolution of the Armor and infantry branches into a single functional branch is occurring due to several factors—business efficiencies, tactical integration of movement, maneuver, fires and engagement on the GWOT battlefields, formalization of the Army warfighting functions into the operations process, concept development and the need for the Army integration with the Joint Force Application function, and the need for adaptive and tailorable formations in the present and future security environment."[23] It is the last factor—the need for adaptive and tailorable leaders to man those adaptive and tailorable formations—that should drive any further integration.

Final word comes from Professor R.M. Ogorkiewicz, who wrote in his seminal work, *Armour*, that "infantry and its relationship to tanks has been one of the thorniest aspects of the evolution of mechanized forces … arguments and counter-arguments about the superiority of infantry over tanks, or vice versa, are essentially futile for the two arms are complementary and the real problem is not to decide between them but to effectively combine them together."[24] Clearly, any movement towards an increased emphasis on combined arms in both training, design and process can only enhance the US Army's capabilities.

ENDNOTES

1. The 2005 BRAC recommendations, according to then-Defence Secretary Rumsfeld, were intended to reduce excess military infrastructure between 5 percent and 11 percent and save $48.8 billion over 20 years.
2. From the TRADOC website (www.tradoc.army.mil), "TRADOC recruits, trains and educates the Army's Soldiers; develops leaders; supports training in units; develops doctrine; establishes standards; and builds the future Army. TRADOC is the architect of the Army and 'thinks for the Army' to meet the demands of a nation at war while simultaneously anticipating solutions to the challenges of tomorrow."
3. US Army Accessions Command (USAAC) is a subordinate command of TRADOC and is responsible for the recruiting and initial military training of all Army officer and NCOs, including warrant officers. More information on Accessions Command mission and role can be found on their website: http://www.usaac.army.mil/ The key subordinate formations within USAAC includes the US Army Recruiting Command (USAREC—responsible for all Army recruiting), and the US Army Cadet Command, both now located at Fort Knox, KY.
4. DOTMLPF is an acronym for Doctrine, Organization, Training, Materiel, Leadership and education, Personnel and Facilities. Military staff planners makes use of the acronym as a reminder to consider all the issues prior to making any assessment.
5. The Armor Branch specific concerns usually centre on how to maintain the heritage and traditions of the branch, within the new MCOE structure. Clearly, these concerns are also reflected within the US Army Infantry community.
6. 29 Sep 05 interview conducted by Specialist Boudreau for the Fort Knox newspaper, The Turret. Interview can be found online at http://smokinnews.blogspot.com/2005/10/tucker-reflects-on-accomplishments-at.html
7. IET is intended to turn a civilian into a basic soldier. IET also included the One-Station Unit Training (OSUT) portion of the basic training curriculum. PME or Professional Military Training continues the process and turns the basic soldier into a branch-qualified warrior/leader. BOLC for officers consists of BOLC I & II, which are basic training intended to provide a grounding in small unit tactics, and BOLC III which is considered specific to branch and/or trade.
8. TCM HBCT (Heavy Brigade Combat Team) is the US Army's proponent for heavy forces with responsibility for the future development of the Abrams tank and Bradley Fighting Vehicle in particular.
9. DOTS was formerly configured as the Training Support Brigade (TSB). The key difference was that the TSB was a decentralized organization with a separate wing in each school commanded by branch ordnance officers. The TSB provides the two schools with maintenance and logistical support, including acting as the booking agent for training resources, training areas and ranges. The move to the DOTS configuration re-centralizes those functions.
10. PME = Professional Military Education. RSTA = Reconnaissance, Security, Target Acquisition
11. United States Field Manual (FM) 1, The Army
12. BG Donald Campbell, *Counterinsurgency and Core Competencies*. Armor: Sep–Oct 2008.
13. US Department of the Army (DA) Pamphlet 600–3, *Commissioned Officer Development and Career Management* (Headquarter, DA, 28 December 2005), p. 52.
14. Ibid, p. 50.
15. Hastings, Major Henry S, *Employment of Armored Infantry*. The Armored School: 1947.

16. Both Directorates were/are located within the Armor Center. The Cavalry and Armor Proponency Office eventually morphed into the reconstructed Director of Armor School (DAS), while OCOA has remained essentially the same throughout this period.
17. MG Robert Williams, *Maintaining Armor Core Competencies*. Armor: Jan–Feb 2007.
18. LTC R Valdivia, *Maneuver Branch: A Vision for the Future*. US Army War College, 18 March 2005, p. 9.
19. Valdivia, p. 10.
20. Maj Charles B O'Brien, *Toward Army Maneuver Transformation*, (School of Advanced Military Studies, Leavenworth, Kansas), 25 May 2006.
21. O'Brien, p. 21.
22. MG Ferriter's biography can be found online at https://www.benning.army.mil/Infantry/leaders/cg.htm
23. O'Brien, p. 59.
24. Ogorkiewicz, p. 385.

Combat Camera LK2006-0126-017d

Colonel Louis Keene

CWM 19710261-0316
Beaverbrook Collection of War Art

For reproductions of Canadian War Museum images, or for more information, contact:

Canadian War Museum
Image Reproduction Services
1 Vimy Place, Ottawa, Ontario, K1A 0M8
Fax: 1-819-776-8623
Email: imageservices@warmuseum.ca

Canadian Siberian Expedition

1917 was a year of both pessimism and crisis for the First World War Allied Forces. Under the Romanov leadership Mother Russia had been a strong Allied supporter. But in the spring of 1917, the first Russian revolution successfully ousted the Romanov dynasty only to replace it with a weak provisional government. While still loyal to the Allies, the summer that followed was fraught with confusion and set the conditions for the Bolshevik revolution. By the end of November, the Bolsheviks had seized power and were suing for peace with Germany.

Canada and the Allies had refused to recognize the new Bolshevik government and understood that the loss of Russia as an ally against Germany would be a serious blow to the war effort. In light of the number of setbacks encountered on the European front that year, intervention was considered a strategic "necessity" to counteract the German advance through allegiance with the Bolsheviks.

In Vladivostok, on the far eastern shores of Russia, 650,000 tons of Allied war materials were stockpiled on the wharves, stranded there by supply problems along the Trans-Siberian Railroad. When Bolshevik rebels moved to seize control of the city, the Allies grew concerned. Vladivostok relied heavily on the Trans-Siberian Railway as a vital link to European Russia, and without it she, and the war stocks, would be lost.

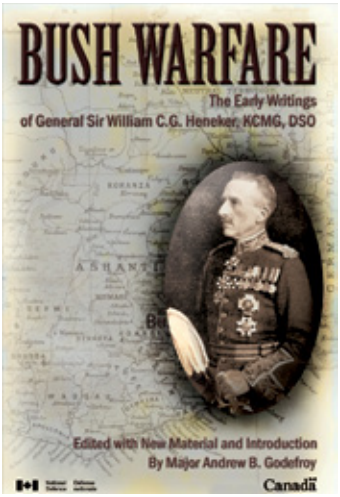
In a curious twist of fate, 66,000 former Czecho-Slovak prisoners of war, now marooned by the revolutionary activities, began to clash with the Red Army. They managed to seize a 6,000 km stretch of railroad, and by June, they had seized the city, in effect becoming the advanced party for the Allied mission.

Next to arrive were the Japanese, thus far untouched by the Great War. They were followed closely by the British from the garrison stationed in Hong Kong. In total, Canada and twelve Allied Armies would send troops to counter the Bolshevik revolution.

The Canadian Siberian Expedition Force (CSEF) was formed on August 12, 1918 and consisted of 4,000 volunteer troops in two infantry battalions (the 259th and 260th), a machine-gun company, a mounted squadron from the Royal North West Mounted Police (RNWMP) and supporting units. The command was given to Major General James H. Elmsley, who was also assigned command of the 1,500-man British contingent. With the expedition force gathered in Vancouver, the advanced party sailed for Russia on the 11th of October.

However, with the war in Europe over, the Canadian government became nervous when dissention between the Allies grew; furthermore, farmer and labour opposition led to a minor mutiny in the ranks in December. The mutiny was quelled, and the main body of troops sailed for Russia in January. When they stepped off the ships in Vladivostok, they received news that the government was refusing to allow them to move "up country" to the active front against the Red Army. Indeed, not all the contingent had sailed for Russia, and on 20 February the government moved to disband those who had remained behind awaiting embarkation.

This painting, by Colonel Louis Keene and likely painted in February or March of 1919, depicts Canadian troops of the CSEF on parade outside their depot in Siberia while they waited for repatriation; a process that would not begin until April, just as partisans began to lay siege to the city. The first contingent of Canadians sailed for home on 22 April, followed by two contingents in May, and on 5 June 1919, Major General Elmsley and the last of the Canadians boarded the SS Monteagle and sailed for Victoria. In the end, Vladivostok would hold on for another seven months before eventually falling to the Red partisans and 90 years of communist rule.



BUSH WARFARE: THE EARLY WRITINGS OF GENERAL SIR WILLIAM C. G. HENEKER, KCB, KCMG, DSO

BIBLIOGRAPHICAL INFORMATION:

GODEFROY, Major Andrew B, Ed. Kingston: Army Publishing Office, 2009, 163 pages, ISBN: 978-1-100-10301-3

Reviewed by Sergeant K. Grant, CD

In any informed discussion regarding contributions to the art of warfare, Canadian soldiers are usually noted only for their complete absence from the subject matter. Indeed, in the shadow of such giants as Sun Tzu, Clausewitz and Machiavelli, only a true student of the art would know that Canada has contributed more than its share to the topic.

In fact, the Canadian Army has a long tradition of tactical and technical innovation. Furthermore, we have a history of senior leaders who have continually attempted, with varying degrees of success, to innovate at the operational and strategic levels and apply their ideas to practical problems.

For instance, Canada debated the merits of mounted infantry over cavalry in the 1880s and 1890s, the nature of small wars and counter-insurgencies at the turn of the century and the relationship between military operations and national command in the first decade of the twentieth century. Canadians developed the art of the set-piece attack during the First World War, debated the future of armour between the wars and the strategic nature of both arctic and atomic warfare after the Second World War. In the 1960s, the ideas of expeditionary war and "mobile commands" (concepts required to implement the North Atlantic Treaty Organization's flexible response) evolved, thus sowing the seeds of a paradigm that the Canadian Army continues to employ today. The fact that these antecedents are not well known or studied is not a validation of their non-existence but rather is an admission of ignorance.

Such is the case with William Heneker, a person seldom remembered in Canadian history. Born in Canada on 22 August 1867, William Charles Gifford Heneker served as a soldier his entire life. Enrolling in 1884, he was one of the early (college number 168) gentleman cadets at the Royal Military College of Canada (RMC); like many of his fellow Canadian classmates of that period, he accepted a commission to serve with the British Army upon graduation in 1888.

The range and scope of Heneker's 43-year military career, even when compared to today's careers, is simply put … impressive. He served with the British Army in West Africa and India, and later during the First World War, he continued to serve with the British Army on the Western front. Through these experiences, Heneker became a notable military strategist and tactician. He also became one of the most experienced and highly decorated Canadians in the British Empire as well as one of only a handful of Canadians to reach the rank of full general. Yet with the exception of his First World War service, his career was characterized by his constant involvement in peacetime military engagements, stability operations, small wars and counter-insurgencies—all subjects of considerable relevance to the Canadian Army today.

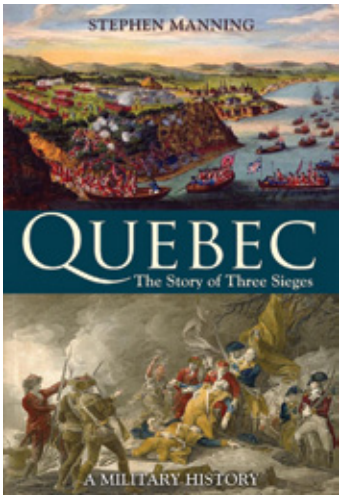
Once commissioned into the British Army, Heneker quickly gained extensive operational experience in a wide range of missions similar in scope to those observed today. His career evolved during a time that later scholars identified as the period where modern small wars and counter-insurgency theory originated. For instance, when Colonel C.E. Callwell published the now famous book, *Small Wars, Their Principles and Practice,* in 1896, Heneker was just about to deploy to West Africa where he would first apply and then later challenge and improve upon many of Callwell's ideas.

In an era when there was little in the way of published doctrine on counter-insurgency to guide the army, Heneker realized the value of his own experiences and the need to share them with his fellow officers just as Callwell and another British officer, Colonel A.F. Montanaro (the Ashanti Campaign of 1900), had done. In 1907 he added his own voice to the debate and discourse of small wars theory and practices by publishing his manuscript *Bush Warfare*.

This version of the text is a reproduction of Heneker's original work and, as such, needs to be read within the context of the original period; however, as the editor points out, the aim of republishing this book has been two-fold. First, it is designed to bring General William Heneker, his writings and his ideas back into the current debate on the nature of small wars, counter-insurgency and stability operations. He was an important contributor to the development of modern small wars and counter-insurgency theory and practices that later influenced British and Canadian schools of thought and thus deserves a place in the current lexicon of study. Second, the conceptual and doctrinal products that were derived from these ideas and the debates of the day characterized what should be recognized as a distinctly Canadian school of thought. The legacies of William Heneker and other early Canadian soldiers who shaped the evolution of both the British and Canadian Armies must also be recognized within that context.

Bush Warfare: The Early Writings of General Sir William C.G. Heneker, KCB, KCMG, DSO represents the very beginning of counter-insurgency theory and practice and is highly recommended reading for the serious student of counter-insurgency warfare, its evolution and development.

This book is not sold in bookstores but is available from Directorate of Land Concepts and Designs on their website at www.army.forces.gc.ca/DLCD-DCSFT/monograph_e.asp free of charge.



QUEBEC: THE STORY OF THREE SIEGES—A MILITARY HISTORY

BIBLIOGRAPHICAL INFORMATION:

MANNING, Stephen. Montreal and Kingston: McGill-Queen's University Press, 2009, hardcover, 194 pages, ISBN: 978-0-7735-3639-5

Reviewed by Major A.B. Godefroy, CD, PhD, plsc

Recognition of the 250th anniversary of the Battle of the Plains of Abraham was too often sadly marked by emotional and misinformed counterfactual historians, who used the opportunity to promote 21st century political and social agendas that had little, if anything, to do with the event itself.

As a result, the military history of Quebec was too often boiled down to the bare essentials of one battle, whose outcome spoke more to the symbolism it provides today's agendas than to telling the whole story of the incredible events that shaped the future of one of Canada's greatest cities.

In his latest book, *Quebec: The Story of Three Sieges—A Military History*, Stephen Manning has attempted to place the city's military heritage within the broader context of eighteenth century North American conflict. Designed as a general survey rather than a complex academic analysis, Manning delivers a decent introduction to the French-Indian War era sieges of 1759 and 1760 as well as the attempt by American revolutionaries to seize the city in the winter of 1775–1776.

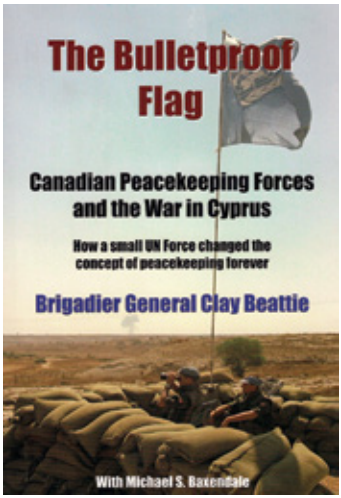
Simply structured with a brief introduction and conclusion, Manning has devoted a single chapter essay to each siege. Of the three, the second chapter, describing the British defence of Quebec against counter-attack in the winter of 1760, is by far the most gripping of the three tales. Manning's depiction of the desperation of the British garrison, as its commander James Murray attempted to balance occupation and civil obedience while limiting collateral damage, leaves the reader feeling the chill of the winter and the toll it exacted on the soldiers and population. For example, he notes that, with the ground too frozen for digging, the bodies of the fallen were lined up along the walls of the town. Passing such morbid sights daily is nearly unthinkable today, yet it was but a small part of the very real hardship those confined inside the city faced.

The sieges of Quebec are also case studies worthy of modern investigation. The campaign planning for the first assault against Quebec by Wolfe and Saunders suffered all the constraints and restraints so often observed by campaign planners today, and there is considerable educational and professional development value to gaining a broader understanding of the mission analyses these commanders undertook to prepare for the successful execution of complex combined and joint operations. As a resource for these activities alone, Manning's book offers a good starting point for further study.

There is really only one major fault with the book. The author specifically states at the beginning that, "I decided I would write a book which would be accessible to all and not littered, perhaps even hindered by, footnotes." How being exposed to additional resources might hinder readers is a complete mystery to this reviewer; instead, it seems to be a veiled suggestion that most readers are too dumb or lack the curiosity to want to know more. Combined with the very poor maps and lacklustre selection of illustrations, one has to wonder if this was simply a cost saving measure or worse, the shape of things to come from this university press in the future.

Overall, *Quebec: The Story of Three Sieges—A Military History* is a well-written introduction and good reading for those previously unfamiliar with these campaigns. For those seeking more comprehensive histories, however, other books will likely offer better detail for the investment made.

Combat Camera VL2006-0197-21



THE BULLETPROOF FLAG: CANADIAN PEACEKEEPING FORCES AND THE WAR IN CYPRUS. HOW A SMALL UN FORCE CHANGED THE CONCEPT OF PEACEKEEPING FOREVER

BIBLIOGRAPHICAL INFORMATION:

BEATTIE, Clay, Brigadier-General (Ret) with Michael S. Baxendale, Maxville, ON: Optimum Publishing International, 2007, Softcover 216 pages, $29.95, ISBN 978-0-88890-249-8

Reviewed by Colonel P.J. Williams

It's hard to believe now, but in the pre-Bosnia era our contribution to the United Nations Force in Cyprus (UNFICYP), which began in 1964, was the only show in town from an overseas operational perspective for the Canadian Forces (CF)—with due respect to those who served in Canadian Forces Europe (CFE) during the Cold War.

Today, our presence on this eastern Mediterranean island continues with a staff officer in the mission's headquarters, our unit-level presence there having ended in mid-1993. For the most part the mission was somewhat benign, its mandate being to:

- prevent a recurrence of fighting;
- contribute to the maintenance and restoration of law and order; and
- promote a return to "normalcy."

I say "for the most part" because in the summer of 1974, in response to a coup d'état in Cyprus ostensibly led by officers of the Greek Cypriot National Guard (GCNG) who wished to see Cyprus united with Greece, Turkish forces invaded the island. UN forces, which included Canadians, soon found themselves in the midst of what the author quite rightly calls a war: between 15 July 1974-1 April 1975 UN forces suffered casualties of 9 killed and 62 wounded, which included 3 Canadian soldiers killed and 18 wounded. At the time of the Turkish invasion, the author was both Deputy Chief of Staff UNFICYP and also Canadian Contingent Commander, thus was ideally placed to report on and to play a central role in directing and leading the UN's response on the ground to the resulting war and subsequent cease-fire negotiations. It is ironic that given Canadian's ostensible nostalgia for our role under the UN flag, that a published account has not been related in such detail before. With Brigadier-General Beattie's book, a gap in Canada's military history has been filled, and by one who was there.

The author has an extensive background in the field of what might be termed peacekeeping studies, having studied International relation at memorial University of Newfoundland where the Cyprus situation was analyzed. He has also been a prolific writer in the field and a section at the end of the book lists his works in this regard, beginning with a paper written on the necessity for "…Permanent United Nations Police Forces" in 1959.

He also served an initial tour in UNFICYP in 1964, shortly after the mission was established. His second tour began in 1972, two years before the Turkish invasion and was also noteworthy as Brigadier-General Beattie was also involved in Canada's contribution to the United Nations Emergency Force II (UNEF), following the 1973 Yom Kippur War between Egypt and Israel. His assistant in writing the book, Michael Bexendale, is a former Canadian soldier, freelance reporter during the First Gulf War and the founder of Optimum Publishing International.

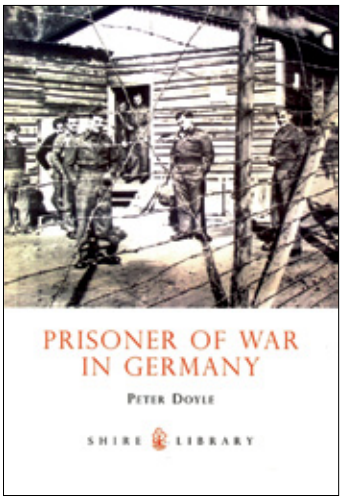
For those unfamiliar with the background to the events of 1974, the authors provides a concise historical summary of the volatile events between the Greek and Cypriot communities on the island and events elsewhere that led to the Turkish invasion on the 20th of July 1974. The Turks had invoked the so-called 1960 *Treaty of Guarantee* between Cyprus, Greece, Turkey and the United Kingdom, which allowed unilateral action in the event that breaches of the Treaty could not be resolved by consultation and negotiation. Indeed, it was an invasion in force with one situation report making reference to extensive Turkish forces numbering "… forty-seven tanks and twenty-three armoured personnel carriers (APCs) with a large number of troops…" This was a situation for which the lightly-equipped UN force was ill-equipped. Nonetheless, Beattie, given a largely free hand by his superiors, and taking very seriously his role as the Canadian Commander on the ground, was instrumental in directing CF troops (based on elements of the Canadian Airborne Regiment, which were subsequently heavily reinforced, as was UNFICYP as a whole) and in negotiating several cease fires between the Greek and Turkish forces.

By the end of the war the island remained divided with the Turks having control of 28% of the island (representing a 10% increase from before the invasion, and the Greeks controlling the remainder. In the months that followed, the UN force changed its deployment from one based on geographic sectors to a system of Observation Posts (OPs) along the cease-fire line so familiar to veterans of UNFICYP. While the UN and Canada had suffered losses, great bravery and valour was demonstrated by Canadian troops, with two Stars of Courage and seven Medals of Bravery being awarded. The then-Colonel Beattie was made Commander of the Order of Military Merit (CMM) for his leadership role during the events he describes.

One of the author's aims in writing the book was to ensure that lessons that were learned could be applied to the broader field of peacekeeping. Indeed, General Beattie devotes an entire chapter to lessons learned and highlights the importance of language, translators, avoidance of civilian casualties and training, all of which have relevance today. The book also serves as a reminder to those who in the author's words, "…lament that Canada is foregoing its traditional role of peacekeeping…" While we have always been and continue to be supportive of the UN, we have also participated in larger conflicts and are now heavily committed to Afghanistan. As Brigadier-General Beattie states in his foreword, "One cannot stand on the sidelines hoping that conflicts will be resolved if the politicians compromise and reach consensus." This long-overdue volume demonstrates that General Beattie and the soldiers under his command were true to those words.

In producing this work, General Beattie used his own notes from the time, HQ UNFICYP Operations Log Sheets, several reports made by the UN Secretary-General in the 1960s and 1970s, as well as a 1995 PhD thesis written by a University of Ottawa student on Canada's contingent in Cyprus between 1964–1975. Several secondary sources are also used.

This book is strongly recommended not only for veterans of UNFICYP, and those with an interest in contemporary Canadian military history, but also for institutions of higher learning where conflict studies and peacekeeping are part of the curriculum. It might also be useful for commanders of UN forces in the field, so that when confronted with events beyond their mandate, they can read of and learn from how predecessors responded.



PRISONER OF WAR IN GERMANY

BIBLIOGRAPHICAL INFORMATION:
DOYLE, Peter. Oxford: Oxford Shire Library, 2009, 64 pages, $14.95, ISBN: 978-0-7478-0685-1

Reviewed by Sergeant K. Grant, CD

New from the Shire Library in England comes a monograph by author Peter Doyle whose title accurately describes the contents of the book: *Prisoner of War in Germany*. While this book may be short, it is well worth the read.

Doyle is well qualified to write on the topic. A scientist and military historian, he has written a number of books on the topic of conflict archaeology. In addition to his scientific writing, he has written a number of books about the British solider including *The British Solider of 1914–1918 and The Home Front 1939–1945*. In 2003, he was in charge of the archaeological dig at the site of *Stalag Luft III*, home of "the great escape" of movie and historical fame.

Doyle comes by his interest in the topic honestly. Apart from his scientific and historical background, his father, Private Leslie Doyle, spent five long years as a prisoner of war (POW) in Germany, and one can surmise that he grew up with stories of what it was like to be a POW.

With this work Doyle asks the question "what was it like to be a kriegie—the nickname given to POWs—in Germany during the Second World War?" and then takes us through what it was like for some 164,000 Commonwealth and 95,000 American soldiers, sailors and airmen who were captured by the Germans.

He begins by setting the stage from capture—"'for you the war is over"—a phrase used far too often in memoirs to be a Hollywood cliché," through dividing up the prisoners, to describing the types of camps they were sent to.

A monograph such as this, like the life it portrays, could be incredibly boring, but to help avoid this pitfall, Doyle does not limit himself by discussing life in any one camp in detail. Instead, he discusses the subject in terms of popular culture, perceptions on the home front and the psychology of being a prisoner to help the reader understand the subject writ large. And yet, he stays close enough to the subject to keep the reader's interest with the use of personal letters and interviews that give the reader a brief insight into the psychology of being a prisoner. As one interview revealed, "there were to be three main Kriegie 'types': hardened escapers, POWs willing to assist in escapes, and those committed to 'seeing out the war' come what may."

Doyle also shows that not all camps were the same. The *Luftwaffe*, for instance, jealously guarded their responsibility for Royal Air Force (RAF) and United States Army Air Forces personnel, and as such captured airmen were quickly searched and handed over to them. While some camps were *Arbeit* (work) camps, *Luftwaffe* camps like *Stalag Luft III* were not, for "as trained flying officers, work was forbidden to all prisoners." In light of the enforced boredom, it was estimated that at any given time as many as 30 percent of the prison population was involved in an escape attempt of some sort.

As is to be expected, each POW had a different experience depending on their place of capture, their rank, their branch of service and the location and reputation of their prisoner of war camp. To illustrate this point, Doyle (in the chapter entitled Contrasts) brings home the experiences of three POWs. Beginning with his father, Leslie Doyle, who was a member of the British Expeditionary force and was captured at Dunkirk. Doyle's father spent five years behind wire while Private Aben S. Caplen, an American captured in the final year of the war, spent only three months. And finally, there is the story of RAF Flying Officer Duncan Black who was shot down in a raid over Germany in 1943 and spent two years in prison.

Prisoner of War is short (60 pages) but is chock-a-block full of interesting information and illustrations. Written as a primer on the subject, the book's strength lies in the fact that every page contains photographs or drawings that support the information contained in the text and help to bring the point home.

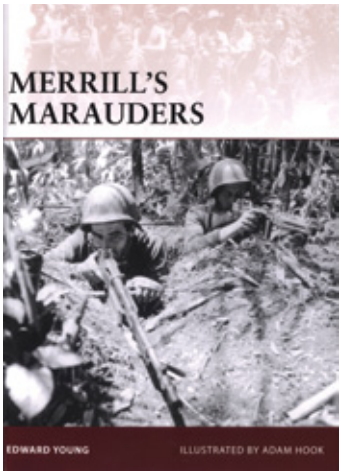
For light reading on the subject, this book is highly recommended. If, however, readers are interested in a more in-depth study of the topic, a quick check of the recommended reading contained in the back of this book will point them in the right direction.

Land Operations 2021

As the 21st Century unfolds, Canada's Armed Forces must be ready to operate in within an international security arena marked by uncertainty, volatility and risk in order to meet national security needs and expectations. This book outlines an employment concept that is ambitious and forward thinking, but at the same time well grounded in the lessons that we have captured from today's operations. In essence, it is a conceptual guide, from which force generation must evolve, acknowledging where we are, what we have achieved, and what we must do to ensure continued success in the future.

Toward Land Operations 2021

To mitigate the unpredictability of future conflict and prepare itself for the challenges it will face in the years ahead, the Army has recently published *Land Operations 2021: The Force Employment Concept for Canada's Army of Tomorrow,* to serve as a guide for land force development through the year 2021. *Toward Land Operations 2021* is the foundation document, developed from a series of operating, functional and enabling concepts that collectively describe an approach to future land operations characterized by the deliberate dispersion and aggregation of adaptive forces in order to create and sustain tactical advantage over adept, adaptive adversaries.



MERRIL'S MARAUDERS

BIBLIOGRAPHICAL INFORMATION:
YOUNG, Edward. Oxford: Osprey Publishing, 2009, 64 pages, $22.00, ISBN: 978-1-84603-403-9

Reviewed by Sergeant K. Grant, CD

During the Second World War, the Allies created a number of special operations units: the British Special Air Service, the Canadian-American First Special Service Force and the Rangers, to name but a few.

The 5307th Composite Unit (provisional) was one of these units. More commonly known as Merrill's Marauders after its commander BGen Frank Merrill, the unit was unique not because it was special forces, but because it was the first United States (US) infantry unit to fight in the China-Burma-India theater and, as the author points out, because it was intended to be a single purpose unit that would be disbanded when it was used up. Even so, the 5307th established a reputation (which continues to live on) for hard fighting and tenacity.

If there is a balance to writing history in such a way that it isn't so detailed that it becomes a slog to get through, or so short that one wonders what the real story was, then Osprey Publishing has come close to finding it with *Merrill's Marauders* and its warrior series of monographs.

Merrill's Marauders is an intriguing story of a unit consisting of three thousand men who volunteered for a "dangerous and hazardous" mission that required a "high state of physical ruggedness and stamina." Other than that nobody knew what they were getting into.

Once gathered in Camp Deogarh, India, the unit trained without break from November 1943 to the end of January of 1944. In February they began operations and did not stop until August 1944 when the final battle for Myitkyina airfield had been fought and the bulk of the men evacuated. During the six months the unit conducted operations, it suffered over 90 percent casualties, won the Distinguished Unit Citation for its contribution to the campaign in northern Burma and each member of the unit was awarded the Bronze Star. Still, on August 10, 1944 the 5307th was dissolved with no ceremony, no final parade or granting of individual awards, and its acting commander, LCol Hunter, was dismissed and returned to the US by boat.

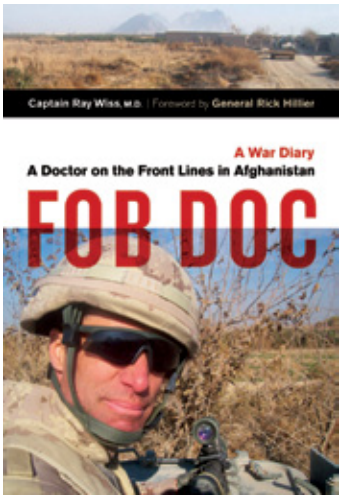
It is difficult to imagine that a unit would be formed with the intent that it would be allowed to die from attrition, but that's exactly what happened. During the course of their six months of continuous operations, the Marauders suffered 424 battle casualties, with 93 men killed in action and 293 wounded who required hospitalization (many others with light wounds simply returned to duty), but 1,970 casualties from disease and exhaustion. It is a well-established fact that men rarely fight for King and country; instead they willingly face repeated hardship for the man who stands beside them. During the final battle at Myitkyina, the remnants of three battalions had been reduced to the point where fewer than 300 men were fit for duty. In a controversial move, convalescent hospitals were combed, and 200 men were returned to the airfield to fill in the lines. Even so, by the end men were so exhausted that some actually fell asleep during fire fights with the enemy.

Without becoming lugubrious, *Merrill's Marauders* takes the reader through the phases of recruiting, training and each of the battles fought by the unit during its brief existence. It is a story that deserves to be told, and it has been in both book and movie. A quick Google search reveals that a number of books listed in the bibliography—including the movie *Merrill's Marauders*, staring Claude Akins—are still available to the reader interested in pursuing the matter further.

This book delivers what it advertises, namely insights into the motivation, training, tactics, weaponry and experiences of the unit without getting into too much detail. Indeed, the book is full of photos, maps and paintings covering the spectrum of the aforementioned. Following Osprey's well-established formula for telling this kind of story (number 141 in the warrior series), Young has provided the reader with a comprehensive history of the unit in a nutshell. If the publication has any flaws it's that it could afford to include some more detail about the various battles and what happened to its acting commander, LCol Hunter. An additional map showing the Burma theatre and the importance of the blocking actions and raids conducted by the Marauders as seen from the larger perspective would also be useful.

This book tells a good story about a well-known special forces unit that made a difference in an important campaign and is well worth having on one's bookshelf.

Combat Camera AP2002-5593



FOB DOC: A DOCTOR ON THE FRONT LINES IN AFGHANISTAN: A WAR DIARY

BIBLIOGRAPHICAL INFORMATION:

WISS, Captain Ray, MD. Vancouver: Douglas & McIntyre, 2009, hardcover, 208 pages, $32.95, ISBN: 978-1-55365-472-8

Reviewed by Lieutenant (Navy) J. Lee

"EXPLETIVE (Interjection)!" That is the censored curse which came out of my mouth when I unwrapped the book. I should never judge a book by its cover, but I did not feel comfortable reading about military medical operations in Afghanistan, especially when I just returned from my second rotation at the Role 3 Hospital, Kandahar Airfield. I have not read any of the other books on the Afghanistan conflict, such as Blatchford's acclaimed *Fifteen Days*. It seems to me that every time I return from Afghanistan, another book is written. I quickly flipped through the 200-odd pages. It has pictures, and they are accurate from what I remember of Afghanistan. "EXPLETIVE (Interjection, again)!"

It took three weeks before I was able to sit down and read the book. Frankly, I was pleasantly surprised. First, the author took the time to explain regarding why he wrote this book. In addition, he mentioned that the profits from the book were going to Military Families Fund, which is managed by the Canadian Forces Personnel and Families Support Services. It also set the tone of the book. The author had a strong message to state but did so in a sincere and humble manner.

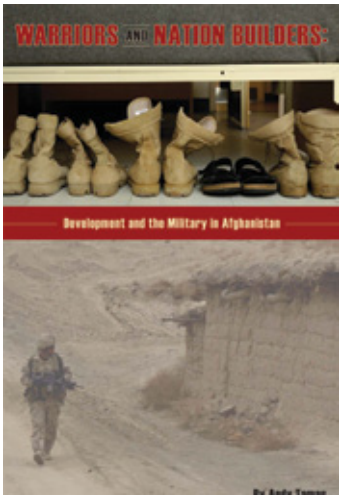
The author originally had a collection of letters, which had been used to explain to family and friends why he had volunteered as a reservist to temporarily set aside his emergency medicine practice and go to Afghanistan from 2007 to 2008 as a general duty medical officer. This initial collection led into the development of a personal war diary, which is the format of the book. The author took a lot of effort to keep the content understandable to the non-medical and non-military reader. He documented the period from the flight from Canada to Afghanistan, his duties as a medical officer in a theatre of combat and the return trip home. Many anecdotes of various experiences—good or bad, humorous or sad—were written with enough detail that a Canadian Forces member, like me, can vouch for their authenticity. A bonus was the author's addendums to various entries; they helped to explain and place into context the events of the day.

The descriptive entries give the reader a vivid image of the daily activities the author had lived through. The author also provides enough background to keep the reader aware of the situation, the context of his experiences and his personal thoughts. It is quite clear at the end of the book why Captain Wiss volunteered to go the war and why he supports the mission.

Since the text takes a diary format, its temporal span is limited. As the conflict in Afghanistan is still ongoing, previous events of significance are supporting entries and future events cannot be added. It must be clear that this was Captain Wiss's personal experience and therefore, is his personal opinion, which many may agree with, on the war in Afghanistan. I only wonder if he will maintain the same sentiments after a second deployment or as the conflict continues to evolve. *FOB DOC* was not intended to be an academic review of the Afghanistan conflict; instead, it is a single story covering a brief period during the ongoing conflict. This is a very good book but one of many that will accumulate by the end of the conflict.

On a final note, I really enjoyed reading this book. I appreciate that Captain Wiss took the time to document his experiences and share them. The author evoked memories of my two recent deployments, both good and bad. An academic debate and review on the Afghanistan conflict were not my reactions after reading this book. The actual result was closer to a loud horn blast to awake the masses to the fact that he lived through the experience of going to war for Canada.

Combat Camera AR2006-A007-0005a



WARRIORS AND NATION BUILDERS: DEVELOPMENT AND THE MILITARY IN AFGHANISTAN

BIBLIOGRAPHICAL INFORMATION:

TAMAS, Andy. Kingston: Ontario: Canadian Defence Academy Press, 2009, paperback, 249 pages, ISBN: 978-1-100-10165-1

Reviewed by Major (Ret) P. Bury

In his introduction, Andy Tamas undertakes to provide both a "set of navigation aids for military leaders to help them have some sense of what this field of development is all about" by shedding important light on the connection between development aid and military force as well as advice to practitioners of both. In the humble opinion of this reviewer, Mr. Tamas has delivered.

Andy Tamas served as a capacity development worker, and one of the few civilians, in the first rotation of Canada's Strategic Advisory Team in Afghanistan. Bolstered by a career in international development, this experience provides much of the insight in this book. It also enabled the author to write a book for soldiers.

In the past few years, Western armies have been frantically trying to come to grips with the contemporary operating environment. Some valuable lessons have been found in older works (such as Lawrence's *Seven Pillars of Wisdom*, Galula's *Counterinsurgency Warfare: Theory and Practice*) as well as some recent ones (such as Kilcullen's *Accidental Guerrilla* and Nagl's *Learning to Eat Soup with a Knife*). The United States has published FM 3-24 / MC 3-33.5 to widespread approval, and Canada's B-GL-323-004/FP-003 has just hit the streets. *Warriors and Nation Builders*, however, examines the same problem, not from the point of view of the armed struggle, but rather that of getting a country back on its feet.[1] Thus, it provides an excellent complement to the military manuals. In fact, with a bit of paragraph numbering, its clear layout and plain language could easily be a manual for civilian development workers as well as for those who have to deliver development with a gun.

Early on, the book describes the international institutional framework of development assistance. It is a cautionary tale, for who would have guessed it was so complicated? Much is explained by exposing the problems of trying to bring international assistance to a struggling society, and it is something that military officers who form part of that assistance must understand.

The reader quickly discovers how highly structured that world is and some of the difficulties that structure presents to those who seek, and those who would deliver, development assistance. It also seems that the same structure has yet to adapt to the increasingly common situation where development assistance must be delivered under fire.

The author highlights a number of important themes and pitfalls, some of which the Canadian Forces (CF) has probably learnt but which need to be recorded. He points out, for instance, that a fragile society has limited capacity to absorb development, or new forms of governance (or military assistance); therefore, such effort must be delivered with great patience, care and caution. Also, that capacity must be built on the foundations of what is in place, however damaged, rather than by introducing foreign structures. The vital importance of relationships and mutual trust, in Afghanistan for instance, is a lesson our soldiers and our developers have learnt and continue to learn. Personal relationships are vital, not just in the institutions but among the individuals who intervene in the host country; therefore, so too is continuity. When one foreign worker, soldier or official is replaced by another, ground is almost certainly lost, perhaps not ever to be regained. Cultural awareness is equally important. Understanding and accepting how things really work in the host country is very difficult, but essential; and always takes time. The international community must help the people of the host nation build or rebuild, rather than trying to do it for them; this is an important lesson that the international community in its development, diplomatic and military efforts still needs to learn. It is difficult but essential for civilian and military agencies to genuinely integrate their efforts. The author emphasizes the difficulty and futility of forcing one's own plan on the hosts (or often the collaborators) and advocates "management by groping along" which is probably a lot like "muddling through" or even mission command. Amidst the many other lessons, we might even ask ourselves whether Canada's mission in Afghanistan should properly be called a war, or maybe something else.

Apart from its plain utility, the book has a number of interesting angles that should appeal to the military reader and the developer. The questions: "development for what?" (or "intervene in country X for what?") should focus the mind and echoes both Clausewitz: "The first…act of judgement…is to establish…the kind of war on which they are embarking" as well as FM 3-24 which advocates the need for patience and letting the host nation figure it out. FM 3-24 recalls both the new and seemingly unwritten doctrine of "lead from the rear" and Liddell Hart's "Indirect Approach." We are again reminded of Lawrence's admonition "Better [they] do it tolerably than that you do it perfectly." It's their country, not yours can be accepted, but their world view, not yours, is a harder adaptation.

Tamas cites General System Theory to suggest "an analytic framework to describe many of the factors involved in development." This is the first time this reviewer has seen this notion applied to development, and it proves valuable. It needs to be used wherever these things are studied and is also very useful in understanding war, peace or any conflict / political situation, and if it isn't taught in the military colleges, it ought to be. It is certain that a society is what the systems folk call a complex adaptive system, so too is conflict, and the discussion in this book about various concepts of systems thinking is extremely useful. One such concept, beloved of systems engineers which could be applied here, is the idea that different "views" or "perspectives" (or pictures, or drawings) are necessary tools in understanding a complex system which cannot be understood by a single way of looking at it.

The author refers to a continuum of inputs, correctly applying Krulak's three-block war idea, and warns that the boundaries between the blocks are often not precisely defined. He would do better to say that the boundary is more often illusory. All three blocks can occur, not only in contiguous spaces, but also in the same time and place as part of the same "battle" (transaction?), which complicates immensely the work of all the actors. Likewise, the idea of a continuum, so popular in CF doctrine, can be misleading. The progression from peace to full-scale war has many dimensions, and it's impossible to identify a conflict simply by saying it's higher on the scale than another. Not every conflict or development challenge with the same level of violence can be described the same way. For the purposes of Tamas's explanation, however, the continuum works. Happily, the subsequent paragraphs emphasize the difficulty of *Thinking about Two Things at the Same Time*. In particular, we read that when the soldier has a choice, the tendency is to reach for kinetic activity as the default solution. The need, however, is to keep both kinetic and development activities equally uppermost in the mind, a challenge for anyone; the author makes clear that developers are vulnerable to the same difficulty. (So too, we fear, are the press and by extension the public and the politicians.)

Certainly, if developers go into a troubled country with the objective only of reducing poverty, they are likely to fail, as will soldiers whose only aim is to eliminate the bad guys. While it is true that some will need to be eliminated, others may turn out to be part of the solution. In fact, Mr. Tamas comments on the military's tendency to talk of "the enemy," or sometimes "the adversary," and remarks that business would more often refer to these individuals as "competitors." All are actors with different aims and agendas as well as different views of the world, and Tamas points out that one way to eliminate the enemy is to arrange for him to no longer be an enemy. It probably isn't a good idea, however, even if aid agencies are squeamish about uniforms to "leave the armour, weapons and uniforms back at camp." If it were, we could leave the soldiers behind too. In between fighting and feeding, lies the mysterious and newly discovered (by the military) terrain of influence operations, a field that often (and very wrongly) is reduced merely to information operations. But that would be another book or another essay.

By the same token, the three-D efforts of development, diplomacy and defence are in constant danger of being regarded as parallel but separate stovepipes. It takes an effort to remember that they cannot be separated, and if they don't at all times form interdependent parts of the same activity, they are likely to fail. The newer term whole of government may only be a change in terminology, but it also needs to signify that the intervener's (Canada, North Atlantic Treaty Organization, United Nations, etc) whole effort must not only be synchronized, but must be directed at the same effects, objectives and outcomes. Canada is getting better at this, perhaps better than when this book was written, but it seems likely that there is still a way to go.

Warriors and Nation Builders is a valuable and perhaps unique contribution to the understanding of helping a conflict-torn society. It should be required reading for soldiers on their way to a conflicted society and for developers who may have to coexist with armies. We can hope to see it on the next edition of the admirable Canadian Army Reading List.

ENDNOTE

1. The smarter books acknowledge that the objective is to fix the country, but they are still largely about the judicious application, and the limitations, of force.

Combat Camera ISX2009-0118

Received by the Canadian Army Journal

FUBAR: SOLDIER SLANG OF WORLD WAR II

WISS, Captain Ray, MD. Vancouver: Douglas & McIntyre, 2009, hardcover, 208 pages, $32.95,
ISBN: 978-1-55365-472-8

The soldier slang of World War II could be insulting, pessimistic, witty and even defeatist. FUBAR takes a frank and detailed look a the slang of World War II American, British, German, Japanese and Commonwealth soldiers and includes not only a list of terms with their definitions and origins, but also an entertaining feature showing how they were used.

THE BAY OF PIGS: CUBA 1961

de QUESADA, Alejandro. Oxford: Osprey Publishing, 2009, paperback, 64 pages, $22.00,
ISBN: 978-84603-323-0

The landings by the Cuban exile Assault Brigade 2506 at the Bay of Pigs on April 17 1961 led to three days of savage but unequal combat. Despite stubborn resistance to Castro's troops and tanks (and heroic sorties by Cuban and American B-26 pilots), the Brigade was strangled for lack of firepower and ammunition. Their story is illustrated with rare photos from Brigade veterans as well as detailed colour plates of the uniforms and insignia of both sides. Book number 166 in the *Elite* series.

THE CABANATUAN PRISON RAID: THE PHILIPPINES 1945

ROTTMAN, Gordon, L. Oxford: Osprey Publishing, 2009, paperback, 64 pages, $22.00 ISBN: 978-84603-399-5

On January 27th, 1945 the 6th Ranger Battalion and the 6th Army Special Reconnaissance Unit (the Alamo Scouts) began the most dangerous and important mission of their careers to rescue 500 American, British and Dutch prisoners of war held at a camp near Cabanatuan. Rottman details the build-up and execution of the operation, analyzing the difficulties faced and the contribution made by the guerrillas. Book number 3 in the *Raid* series.

WORLD WAR II US CAVALRY UNITS: PACIFIC THEATER

ROTTMAN, Gordon, L. Oxford: Osprey Publishing, 2009, paperback, 64 pages, $22.00,
ISBN: 978-1-84603-451-0

At the time of Pearl Harbor, ten American cavalry regiments were still horsed; one fought mounted in the Philippines, but many were then dismounted and sent to the Pacific. While retaining their cavalry identity, organization and traditions, these units then saw action as infantry. This book explains the combat implications of dismounted cavalry's unique organization which played a crucial and unsung role within the Pacific theater. Book number 175 in the *Elite* series.

WORLD WAR US ARMORED INFANTRY TACTICS

ROTTMAN, Gordon, L. Oxford: Osprey Publishing, 2009, paperback, 64 pages, $22.00, ISBN: 978-84603-692-7

When the United States (US) entered World War II, the organization and combat doctrine of armored infantry was in its infancy. In common with other nations' forces, the US Army at first greatly underestimated the necessary ratio of mechanized infantry to tanks, and it gained painful experience in North Africa in early 1943. This book explains in detail how the techniques and tactics of effective tank-infantry cooperation were developed and gives in-depth data on unit equipment and organization.

BLUE DIVISION SOLDIER 1941–45: SPANISH VOLUNTEER ON THE EASTERN FRONT

CABALLERO JURADO, Carlos. Oxford: Osprey Publishing, 2009, paperback, 64 pages, $22.00,
ISBN: 978-84603-412-1

The all-volunteer "Blue Division" was a formation that allowed Franco's technically neutral Spain to support Nazi Germany's invasion of Russia. In 1943, with the tide turning against the Axis forces in Russia, the Division was ordered to withdraw, yet many men chose to stay on and serve with the relieving Volunteer Legion. Even after the collapse in the East, some volunteers remained and served with *Waffen-SS* units through to the fall of Berlin in 1945. Book number 142 in the *Warrior* series.

MOBILE STRIKE FORCES IN VIETNAM 1966–70

ROTTMAN, Gordon, L. Oxford: Osprey Publishing, 2009, paperback, 96 pages, $22.00,
ISBN: 978-1-84603-139-7

United States Army Special Forces performed a wide variety of missions in Vietnam, many of them unique. From 1964, Mobile Strike (MIKE) forces were formed to ensure reinforcement was immediately available to the fortified camps that protected local villages from Vietcong exploitation; they also conducted border surveillance, infiltration interdiction, raids and combat patrols in their assigned tactical area of responsibility. The MIKE units quickly grew in size, and later they also conducted large-scale, independent offensive operations. Book number 30 in the *Battle Orders* series.

PANZER DIVISIONS: THE BLITZKRIEG YEARS 1939–40

BATTISTELLI, Pier Paolo. Oxford: Osprey Publishing, 2009, paperback, 96 pages, $29.95,
ISBN: 978-1-84603-146-5

Although the German Army was a relative latecomer to the field of armoured warfare, its Panzer Divisions were a fundamental combat arm during the Blitzkrieg years of 1939–40, when "lightening war" was waged across Europe. This book describes the birth and the evolution of the armoured units of the *Panzerwaffe*; it focuses on the organization, tactics, weapons and command system that enabled the Panzer Divisions to become the most feared offensive branch of the *Wehrmacht*. Book number 32 in the *Battle Orders* series.

PANZER DIVISIONS: THE EASTERN FRONT 1941–43

BATTISTELLI, Pier Paolo. Oxford: Osprey Publishing, 2009, paperback, 96 pages, $30.00,
ISBN: 978-1-84603-338-4

On 22 June 1941, Germany attacked the Union of Soviet Socialist Republics, thus opening the front that would bleed the German Army white. The Panzer Divisions fought hard from the outset, with 17 of 21 divisions deployed on the Eastern Front. Yet despite efforts to sustain this triumph, Germany's forces would be ground down and defeated within years. This book describes the development of Panzer forces on the Eastern Front along with accounts of the campaign's major actions. Book number 35 in the *Battle Orders* series.

THE BRITISH SOLDIER OF THE SECOND WORLD WAR

DOYLE, Peter. Oxford: Shire Publications Ltd., 2009, paperback, 64 pages, $14.95,
ISBN: 978-0-7478-0741-4

The experiences of the British soldier in the Second World War (in the theatres as diverse as Europe, the Western Desert and the Far East) were broad, but have been overshadowed by those of the other combatants. Doyle redresses the balance in a wide-ranging analysis of the British soldier's contribution to the war effort all over the world between 1939 and 1945.

EVACUEES OF THE SECOND WORLD WAR

BROWN, Mike. Oxford: Shire Publications Ltd., 2009, paperback, 64 pages, $14.95, ISBN: 978-0-74780-745-2

During the last days of peace in 1939 nearly two million people, most of them children, were evacuated from British cities, towns and ports to the countryside or across the Atlantic to the United States and Canada. It was a time of great upheaval, and the transition from city life to the countryside, or from one region to another, often proved extremely stressful. This highly illustrated book looks at the experience of evacuation up to the homecomings of 1945 and the aftermath.

AMERICAN CIVIL-MILITARY RELATIONS: THE SOLDIER AND THE STATE IN A NEW ERA

NIELSEN, Susan C. and Snider, Don M. Baltimore: The Johns Hopkins University Press, paperback, 409 pages,
$34.95, ISBN: 978-0-8018-9287-5

American Civil-Military Relations offers the first comprehensive assessment of the subject since the publication of Samuel P. Huntington's field-defining book, *The Soldier and the State*. Using this seminal work as a point of departure, experts in the fields of political science, history and sociology ask what has been learned and what more needs to be investigated in the relationship between civilian and military sectors in the twenty-first century.

HELL TO PAY: OPERATION DOWNFALL AND THE INVASION OF JAPAN, 1945–1947

GIANGRECO, D.M. Annapolis: Naval Institute Press, 2009, hardcover, 365 pages, ISBN: 978-1-59114-316-1

Author Giangreco describes in horrific detail the American planning for the invasion of Japan, which would have been the largest amphibious assault in history. He convincingly shows that "both sides were rushing headlong toward a disastrous confrontation in the Home Islands" and that it was prevented only by the sudden conclusion of the war in August 1945. His account, based on exhaustive research and informed by special insight into military operations, will refute revisionist theses, especially the contention that Truman and Stimson's projection of the American casualties was a "postwar invention."

ALLIES AGAINST THE RISING SUN: THE UNITED STATES, THE BRITISH NATIONS, AND THE DEFEAT OF IMPERIAL JAPAN

SARANTAKES, Nicholas Evan. Lawrence: University Press of Kansas, 2009, hardcover, 458 pages,
ISBN: 978-0-7006-1669-5

In the annals of World War II, the role of America's British allies in the Pacific Theater has been largely ignored. Nicholas Sarantakes now revisits this seldom-studied chapter to depict the delicate dance among uneasy partners in their fight against Japan, offering the most detailed assessment ever published of the United States' alliances with Great Britain, Australia, New Zealand and Canada.

THE CORAL SEA 1942: THE FIRST CARRIER BATTLE

STILLE, Mark. Oxford: Osprey Publishing, 2009, paperback, 96 pages, $22.95, ISBN: 978-1-84603-440-4

The battle of the Coral Sea was among the most important of the Pacific War. The Japanese advance on the key base of Port Moresby in Papua New Guinea provoked the world's first battle between two fleets of aircraft carriers wherein the Japanese force was badly mauled and forced to withdraw. As a naval battle it was unique, and from a strategic perspective, it was the Allies' first check of the Japanese after six months of Japanese advances. Perhaps most importantly, it had a major impact on the most decisive naval clash in the Pacific War, the battle of Midway, fought less than a month later. Book number 214 in the *Campaign* series.

THE ATLANTIC WALL (2): BELGIUM, THE NETHERLANDS, DENMARK AND NORWAY

ZALOGA, Steven, J. Oxford: Osprey Publishing, 2009, paperback, 64 pages, $22.00, ISBN: 978-1-84603-393-3

Germany's Atlantic Wall was the most ambitious military fortification program of World War II. Following the conquest of Western Europe, Germany had to defend some 5,000 km of Atlantic coastline from the Spanish border to the Arctic Circle. The United States' entry into the war and the inevitability of an Anglo-American landing in Western Europe resulted in the fortification of this coastline along its entire length. Focusing on the northern Atlantic Wall in the Low Countries and Scandinavia, this title address the special aspects of these countries, such as the early concentration on fortifying Norway in response to early British Commando raids as well as the greater use of turreted naval guns and the establishment of first-line Flak defenses in the Low Countries to counter the Allied strategic bombing campaign. Book number 89 in the *Fortress* series.

GERMAN SPECIAL FORCES OF WORLD WAR II

WILLIAMSON, Gordon. Oxford: Osprey Publishing, 2009, paperback, 64 pages, $22.00, ISBN: 978-1-84603-920-1

Germany's wartime special forces were a distinctive and pioneering range of elite units, and they saw action from the first day of the war. Part of the *Abwehr*, the *Brandenburgers* would become famous for their operations behind enemy lines, often equipped with captured Allied uniforms and vehicles. They would be joined later in the war by the Skorzeny commandos of the *Waffen-SS*, who carried out the extraordinary glider-borne raid to rescue Mussolini from his mountain prison and later caused chaos behind Allied lines during the Battle of the Bulge. This book examines the full range of Germany's wartime elite units, including the midget submarines and frogmen of the *Kriegsmarine's* special forces as well as the captured allied bombers and manned V1s of the *Luftwaffe's Kampfgeschwader* 200. Book number 177 in the *Elite* series.

Combat Camera LK2006-0126-017d