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EXERCISE/EXERCICE NEW HORIZONS

Preparing for War: Asymmetric/Irregular Threats and Conventional Adversaries.

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La présente étude a été rédigée par un stagiaire du Collège des Forces canadiennes pour satisfaire à l'une des exigences du cours. L'étude est un document qui se rapporte au cours et contient donc des faits et des opinions que seul l'auteur considère appropriés et convenables au sujet. Elle ne reflète pas nécessairement la politique ou l'opinion d'un organisme quelconque, y compris le gouvernement du Canada et le ministère de la Défense nationale du Canada. Il est défendu de diffuser, de citer ou de reproduire cette étude sans la permission expresse du ministère de la Défense nationale.

Abstract

The security environment of the 21st Century is characterized by the globalization, exponential growth of information technology, financial crisis and demanding security challenges. This paper reviews the current irregular and conventional security threats to Western (NATO) countries at the beginning of the 21st Century and discusses the possible developments on a global stage from the military point of view. It also shows shortfalls and challenges facing the Western Military Alliance and ways to mitigate them during the preparation for future possible conflicts. It argues that the Afghanistan war can serve as a unique opportunity which can enable unification of political, military and economic efforts in order to achieve the required interstate, intergovernmental and military interoperable level of cooperation between Allied countries with the ultimate goal to make systemic progress for future coalition operations while avoiding a new Cold War. Therefore, Western Countries must be able to respond to challenges across the spectrum – including the conventional forces of other nations.

Preparing for War: Asymmetric/Irregular Threats and Conventional Adversaries.

The blade itself incites to violence.

Homer, 1000 B.C.

Introduction

The security challenges faced by Western Countries are significantly different than during the last century. After the end of the Cold War the United States of America gained the leading position on the World Stage as the only military super power on the globe able to project power in order to protect its national interests. Promoting democracy, human rights and the rule of law and working through the UN, NATO and other multinational organizations the USA was successfully and unhampered extending its area of influence.

The 21st century started with the unpredicted and horrible terrorist attack on the USA. Currently the world faces the deepening global financial and economic crisis forcing a change in altitude toward the World's financial stability. All Western countries were affected in by those two events without exception. After the 9/11 event the perception of the USA and other Western countries of their security invulnerability evaporated. The low cost and high effect terrorist operation forced the USA and many other countries around the Globe to revise their foreign policy and military doctrines. As a result, it affected all multinational institutions such as the UN and NATO. Since then the 'War on Terrorism' has occupied the first position on the political and military leaders' priority lists. For almost 8 years all world lead institutions have paid a great attention to antiterrorism activities. Before the 'War on Terrorism' started the USA and allied forces were primarily organized, trained, educated, and equipped for the conventional war fighting. Western forces were not as well organized, trained, educated or equipped for the

protracted irregular warfare on a global scale. As the threat of the Cold War disappeared, almost all allied countries underinvested in general purpose forces and special operations forces capabilities, especially for the protracted irregular war. With the current operations in Afghanistan and Iraq much more resources were directed to develop necessary military capabilities for these particular operations. Transformation efforts of this scale are difficult as they concern all Western countries and require a clear road map of coordinated actions.

Only the unexpected and devastating World Financial Crisis moved 'The War on Terrorism' from the first position. It is still unclear what kind of aftermath we should expect and when the World economy will recover. At the same time, it should not be forgotten that the world population also suffers from other challenges such as poverty, hunger, illnesses, climate change, narcotics and human trafficking. The most important thing is that no country alone is currently able to provide due protection to its citizens against terrorists or financial crisis any more. 21st Century's Globalization means that threats and bonuses are shared between all interrelated countries in the world community. The failing or failed states can not survive without support of leading world institutions and require a special attention by the multinational involvement. It means that the current challenges we are facing now can not be resolved without the proper multinational approach which needs to include the wide range of diplomatic, political, military and economic efforts. Western countries united under the NATO and the UN banners should be better prepared to predict and face challenges of 21st Century and render help to failing states.

In spite of the cultural distinctions and national caveats of member countries, during its 60 year history NATO remains the leading military alliance able to deal with the wide range of security treats. From the military perspective there can be indentified the four currently the most

dangerous transnational threats which should be addressed during the preparing for the future conflicts. First of all, it is the ongoing Global War on Terrorism and, particularly, the War in Afghanistan as a main part of it. Dealing with that threat also includes helping to failing or failed states as they become the most likely sources of terrorism support. The second one is the challenge of nuclear-armed adversaries and the proliferation of weapon of mass destruction (WMD). The third is the conventional forces threat, which includes China's and Russia's military and political intensions and ambitions. The last one is a National Defense of each independent state, which has to include also defending space and cyberspace additionally to the land, sea and air defense.

Each of the above listed threats demands unique political approach and certain resources and military capabilities to wage conventional or irregular warfare. This mix of threats makes it even more difficult to find the right solution and to choose the optimal course of action. It is also very difficult to separate threats from another as most of them so interrelated and interdependent so they should be addressed as a whole. This essay examines the current security threats and argues that the common approach by all Western countries to challenges through political, economical and military devotion to Alliance goals is the only option for the future operations.

Global War on Terrorism

Since the end of the Cold War, conventional militaries and their political leaders have confronted a new, brutal type of warfare in which non-state armed groups use asymmetrical tactics to successfully fight larger, technologically superior forces. In order to prevent future bloodshed and political chaos, it is crucially important to understand how these unconventional armed groups think and to adapt to their methods of combat. In insurgents, terrorists, and militias, it is necessary to investigate the history and politics of modern asymmetrical warfare.

By analyzing experience in multinational operations in Afghanistan and Iraq a careful analysis of tribal culture and the value of clan associations should be included in troops' predeployment training. It should highlight why these "traditional" or "tribal" warriors fight, how they recruit, where they find sanctuary, and what is behind their strategy. Examine the doctrinal, tactical, and strategic advantages and consider the historical, cultural, and anthropological factors behind the motivation and success of the warriors of contemporary combat. The war in the post-Cold War era cannot be waged through traditional Western methods of combat, especially when friendly states and outside organizations like al-Qaeda serve as powerful allies to the enemy. Conventional militaries can defeat irregular troops of insurgents, terrorists, and militias if carefully apply knowledge of the patterns and trends of their combat.

There is no doubt that the greatest military challenge of Western Countries right now is a military operation in Afghanistan. During the last NATO summit in April 2009 President Obama has made it clear that the mission in Afghanistan is currently a top military priority for the US and NATO countries and received pledges for needed support from Allies.¹ There are more than forty nations, hundreds of NGOs, universities, development banks, the United Nations, the European Union, NATO, and more, involved in Afghanistan – all working to help a nation to cope with the poverty, corruption, drug trade, insurgency and terrorist groups including Al Qaeda. Coordination of these international efforts is a key in dealing with challenges in Afghanistan. Lessons learnt from the past experience in Iraq and Afghanistan should provide an integrated way forward to achieve Alliance goals. It is now clear that there is no purely military solution in Afghanistan. But it is also clear that there are not enough troops to provide a baseline level of security in some of the most dangerous areas. That is why the USA is considering an

¹ CNN publication ; available from <http://www.cnn.com/2009/WORLD/europe/04/04/nato.summit/>; Internet; accessed 6 April 2009.

increase in military presence, in conjunction with a dramatic increase in the size of the Afghan security forces. Because of the multi-faceted nature of the fight – and because of persistent ISAF shortfalls for training teams – all NATO forces should have a respective level of counterinsurgency training based on current experience.

One of the most dangerous security threats in Afghanistan is the porous border between Afghanistan and Pakistan. To mitigate this threat the USA intends to provide Pakistan’s military with equipment and counterinsurgency training during next five years in order to bolster Pakistan’s fight against Al Qaeda and the Taliban². In the coming year Western Countries also need to improve civil-military coordination which will make an impact of both military and rebuilding efforts.

As one more security threat in the region and, arguably, a threat to the USA national and Western Countries interests, there is still a potential for setbacks in Iraq. While the Allies military presence decreases over time in Iraq, it is expected that the USA military will be involved in Iraq for much longer time. The required condition for this is the Iraqi government agreement for foreign forces deployment on its territory.

Nuclear-Armed Adversaries and Proliferation

Beyond operations in Afghanistan and Iraq, one of the greatest dangers to the World Community is ‘the toxic mix of rogue nations, terrorist groups, and nuclear, chemical, or biological weapons’³. The US’s Defense Secretary Robert M. Gates called the nuclear weapon issue as one of “messy realities” and defended the need to maintain a nuclear arsenal of some

² New York Times; available from <http://www.nytimes.com/2009/04/03/washington/03military.html?ref=politics>; Internet; accessed 12 April 2009.

³ SecDef Gate's Testimony, available from http://armchairgeneralist.typepad.com/my_weblog/2009/01/secdef-gates-testimony.html; Internet; accessed 16 April 2009.

level “as long as others have nuclear weapons”⁴. The problem of the nuclear weapon can be divided in two interrelated issues – maintenance and modernization of ‘legal nuclear weapons’ and illegal attempts to develop nuclear weapon by ‘rogue states’. While the first issue has more political and economical nature and can be predicted and regulated through agreements (Russia and USA as an example), the second one seems much more complicated and based purely on aggressive (offensive or defensive) and covert military intentions of the ‘rogue states’ such as North Korea and Iran.

The fact, that an impoverished nation-state, such as North Korea, developed and tested a nuclear device in 2006 and launched a long-range ballistic missile in 2009 in the face of opposition from the US and other states in northeast Asia and around the Glob shows a real threat to the stability in the region. Implications of North Korea’s intentions to develop the nuclear weapon can lead to the military intervention into the country. Iranian leadership ambitions, resources and country’s technical capabilities to develop deliverable nuclear weapons possess even more dangerous threat to the World. There are some common reasons for North Korea and Iran to acquire nuclear weapon. First of all it is a self defense reason in order to deter military aggression by more powerful states in the event of war or attempts to change the current regime.⁵ The second one is to ‘enhance national prestige and influence’. The last one is to gain more popularity for the ruling regime domestically. All those reasons are justified by ruling regimes and, therefore, it is a real danger that the nuclear weapons will be soon in disposal of both states. It is also notable to mention that from the military point of view North Korean and

⁴ Global security newswire, available from http://www.globalsecuritynewswire.org/gsn/nw_20081029_2822.php ; Internet; accessed 18 April 2009.

⁵ The challenge of nuclear-armed regional adversaries. D.Ochmanek, H.Schartz. 2008 Rand Corporation.

Iranian ballistic missile programs can be considered as a part of nuclear weapon development, and, therefore, its development should be controlled as well .

The possibility that Iran or North Korea can get an advanced nuclear weapon technology from other nuclear weapon owners cannot be dismissed. Therefore, denying nuclear weapons to regional powers like Iran and North Korea became the most urgent and difficult task for the World community as more powerful players like Russia and China can be involved. With the main efforts focused on Afghanistan dealing with nuclear weapon proliferation issue needs additional resources and participation of all allied and partner countries. Information sharing between likeminded states and common policy on the issue is highly required. It also means that in order to decrease nuclear war's likelihood it is necessary to find ways of improving the nuclear deterrent's survivability, controllability, and therefore credibility in the face of changing dangers.

Russia and China

While the military experience in Iraq and Afghanistan forces Western countries to meet unconventional threats, the challenges posed by the conventional military forces of other countries should not be neglected. The Russian invasion of Georgia last year was a reminder that the Russian military is a force to be reckoned with in Eastern Europe and the Caucasus. Historically, Russia attempts to dominate its “near abroad”. The country’s conventional military remains a shadow of its Soviet predecessor. Nevertheless, the Russians have concentrated on improving their strategic and nuclear forces, but recently have begun to devote more attention to their conventional capabilities. However, the current financial crisis and low price of oil greatly hampers Russian plans.

According to the recent reports, China is conducting modernization across the whole of its armed forces. The areas of greatest concern are Chinese investments and growing capabilities

in cyber-and anti-satellite warfare, anti-air and anti-ship weaponry, submarines, and ballistic missiles. Modernization in these areas could threaten America's primary means of projecting power and helping allies in the Pacific. There some improvement in the U.S.-Chinese security relationship recently, however, the NATO framework for the strategic dialog between the West and China would be much more preferable.

In response to the “color” revolutions, Russia and China achieved broad agreement on the priority of regime security and the need to limit the long-term military presence of the United States in Central Asia. These are also two key areas—defining the political path of Central Asian states and securing a strategic foothold in the region—where the United States finds itself in competition with Russia and China. Currently the Russia-China participation in the none military-political alliance – the Shanghai Cooperation Organization (SCO) partnership can not be seen as an anti- US-NATO. However, it can evolve in something more than just a political and economic regional alliance in the Central Asia region with the limited military activities.⁶ If it happens than NATO will get a potentially powerful military regional alliance. Existence of such a competitor in the region will require new NATO policies and doctrines. Currently, divergent interests within the SCO, among Central Asian states, and especially between Russia and China serve to limit any coordinated anti-Western activity. American policy goals—energy cooperation, regional security, and support for democracy and the rule of law—continue to run at cross-purposes with one another. However, a competition for the energy contracts jeopardizes regional security, as authoritarian regimes and their rulers get all benefits strengthening own power. Cautious diplomatic and economic approaches to the transnational problems in Central Asia are needed in order to avoid potentially dangerous collision of the great powers' interests. It

⁶ Russia-China: SCO Military Alliance Challenges US-NATO Unipolar World, available from; <http://www.globalresearch.ca/index.php?context=va&aid=10104> Internet; accessed 18 April 2009.

can be achieved through the multilateral cooperation, first of all in the political-military sphere, due to the increasing primacy of transnational threats which affect all countries. Due to the integrated nature of the global economy, however, Russia and China cannot afford to isolate themselves, and the United States and the European Union (EU) need to work with Russia and China to address a range of important economic, political, and security issues.

The Georgian crisis in 2008 also has had a major impact on Sino-Russian relations. The Sino-Russian partnership reached a limit when Russia decided to recognize the two break-away regions. Because of China's own concerns with separatism in Xinjiang and Tibet, the Russian action evoked considerable concern in Beijing, and China reportedly stymied Russia's effort to gain the support of the Shanghai Cooperation Organization (SCO) on this issue. Against a background of renewed concerns about regime security since the "color" revolutions in Georgia, Ukraine and Kyrgyzstan, and in light of the 2005 protests in Andijan, the Uzbek regime requested that the United States close its base at Karshi Khanabad (known as K2)⁷. With the drop in the price of oil, Russian influence in the region and on energy flows will decrease. Russia has become more determined to restore its influence on its southern flank, partly to guarantee access to needed gas supplies for reexport to Europe and for its own domestic needs, but also to keep the United States at bay. As China's energy needs have grown and its policymakers have sought to develop its western provinces, China, too, has sought to expand its influence in Central Asia. All of this is occurring at a time when Al-Qaeda has become reinvigorated in Afghanistan, instability is deepening in Pakistan, a poor USA image pervades the Muslim world, and the USA faces challenges in its relations with Russia and China. In general, the Russia-China partnership

⁷ Global security newswire, available from; <http://www.globalsecurity.org/military/world/centralasia/khanabad.htm> Internet; accessed 18 April 2009.

does not possess a military threat to Western countries yet. Notably, there are areas where Russia and China are in competition with one another, particularly in the economic realm, which provide opportunities for Western countries' policies. Moreover, the lack of consensus between Beijing and Moscow over economic integration within the SCO has weakened the organization's cohesiveness, while leaving room for projects to integrate Central Asia economically with South Asia, East Asia, and Europe, as well as for other diplomatic initiatives to engage Central Asian states on transnational issues of common concern.

The Western countries, Russia, and China all have an interest in addressing narcotics trafficking, human trafficking, and illegal arms trade in the region. They also have a common stake in achieving stability in Afghanistan and routing Al-Qaeda from the region. To the extent that Russia, China, and the SCO as an organization share these goals, the United States will face opportunities to expand region-wide as well as for bilateral cooperation with Russia and China on transnational problems.

NATO needs to develop a set of achievable and consistent policy goals for Central and South Asia. The USA diplomatic approach to Central Asia is premised on the elaboration of a broader regional strategy that seeks to integrate Central and South Asia.

The USA Government pursued a Pakistan policy, an India policy, and policies towards individual Central Asian states. Although some progress has been made in encouraging the development of regional transportation and electricity links in Central Asia, the United States cannot hope to succeed in viewing the region as an integrated whole if the countries concerned fail to have such a vision themselves. The USA pursues different priorities in relations with Central Asian states. As a solution for the region can be creating an SCO plus alpha format,

which could include the United States, the EU, and Japan, perhaps to discuss issues of particular concern, such as Afghanistan, counterterrorism, or narcotics and human trafficking.

National Defense

In 21st century the warfare is becoming increasingly sophisticated. With the late 20th century's land, navy and air military defense capabilities, the contemporary military forces should be able to defend the space and cyberspace domains. The full spectrum of military capabilities on land, sea, and air now depend on digital communications and the satellites and data networks that support them. NATO communications, navigation, weather, missile warning, surveillance, and reconnaissance systems rely on free access to space. Almost every developed country has own or rented satellites in orbit. There are around 20 countries with advanced missile launch capabilities, including Iran and North Korea. The recent North Korea's attempt to orbit its Kwangmyŏngsŏng-2 communication satellite raised concern of the regional instability and demonstrated the current and potential threat to Western Countries. The importance of space defense was highlighted also when the Chinese successfully tested an anti-satellite weapon.

In an effort to maintain technological edge and protect access to this critical domain, it is needed to continue to invest in joint space-based capabilities such as infrared systems and global positioning systems. With cheap technology and minimal investment, current and potential adversaries operating in cyberspace can inflict serious damage to the NATO vast information grid. There is evidence that computer systems of different military institutions are constantly scanned and probed by outside entities world wide. As an example is the last year one of the most severe cyber attacks on Pentagon military network was committed by computer hackers

allegedly from Russia.⁸ There were also many other cases around the Glob when government networks were attacked by hackers. It is noteworthy that Russia's ground offensive into Georgia was preceded by a sophisticated cyber attack. The massive cyber attack suffered by Estonia in 2007 illustrates how vulnerable even a relatively technologically-sophisticated networks. The NATO Cooperative Cyber Defense Center of Excellence was designed to tackle this issue. Therefore, a robust common network defense strategy should be followed by all Allied countries in order to continue to defend computer systems against network attacks, intrusions, and other incidents.

Conclusion

As was examined in the essay, there are currently many treats which require mostly non-military solutions, and where military forces play a role of enablers rather than the main force. Western countries' decisionmakers and intelligence analysts have to unite efforts in order to identify warning of terrorist acts, possible nuclear attack and other security treats in order to provide military leadership with the possible direction of forces development. The wars Western Countries are fighting today should unite likeminded states in order to be prepared for possible operations in future. Western countries should arrange preparing for future wars, which can be either short or protracted. The challenge Western countries face is how well Western military can institutionalize the irregular capabilities gained and means to support troops in theater that have been developed ad hoc and funded outside the base budget. There is an urgent need to distinguish support of the current operations and preparing for the future conventional threats. Wartime needs must have a home and enthusiastic constituencies in the regular budgeting and

⁸ Telegraph news, available from; <http://www.telegraph.co.uk/news/worldnews/northamerica/usa/3535165/Russian-hackers-penetrate-Pentagon-computer-system-in-cyber-attack.html> Internet; accessed 18 April 2009.

procurement process. Procurement and preparation for conventional scenarios must be driven more by the actual capabilities of potential adversaries, and less by what is technologically feasible given unlimited time and resources. There will be limited resources for the current and future operations which require cautious and mindful approaches in planning. That is why it is critically important to analyze on the regular base what forces are being trained for and how money is being spend on. During the global financial crisis the budget pressures will require much more responsible accountability for the military spending in current and future operations. It will force governments to avoid unnecessary or low priority use of military force and keep lists of prioritized security threats updated.

The United States with its Allies has ample and untapped combat power in naval and air forces, with the capacity to defeat any adversary that committed an act of aggression – whether in the Persian Gulf, on the Korean Peninsula, or in the Taiwan Strait. The risk from these types of scenarios cannot be ignored, but it is a manageable one in the short- to mid-term. Greater multilateral consultations between Russia, China and Western Countries are needed on key security issues. It will give opportunities to engage both China and Russia on areas of shared interest, such as achieving stability in Afghanistan, reducing narcotics and human trafficking, preventing state-sponsored terrorism and proliferation of WMD, and promoting energy efficiency and conservation. Diplomatic efforts in establishing a relationship between NATO and the SCO would serve to equate the SCO with a military alliance. Creating an SCO plus alpha format, which could include the USA, the EU, and Japan to discuss security issues.

In order to avoid strong confrontation between Russia and NATO, a commitment to

membership action plan for Georgia and Ukraine to join NATO and the missile defense deployments in Eastern Europe⁹ should be postponed and revised by Alliance.

The Allies should also coordinate assistance and avoid overlapping efforts in Afghanistan. The Western Alliance needs to redress the imbalance in aid to failing or failed states. The success of Western Alliance military policy highly depends on other policy areas. The future military operations, like Operation Iraqi Freedom, should be avoided and substituted by diplomatic or economic efforts, especially taking into account the current economical crisis. The open broad political dialog between Western Countries and Iran on security issues is needed, especially with the involvement of the US new government which shows signs of possible positive changes in US-Iran relations through the President Obama's new diplomatic approach.¹⁰ For the World community it is crucially important to find a non-military leverage such as agreements or sanctions to stop nuclear proliferation in the region. Asymmetric and conventional threats should be equally addressed by the Western leadership. Military preparations for the future conflicts should not overestimate the needs and real threats and have to response to the political leadership vision. Basing on current operations in Afghanistan and Iraq future military operations will be population-oriented, not adversary oriented, and will emphasize winning support. It means that the current challenges we are facing now can not be resolved without the proper multinational diplomatic approach which needs to include the wide range of diplomatic, political, military and economic efforts.

⁹ U.S. Plans Deployment of Missile Defense in Eastern Europa, available from: http://defense-update.com/newscast/0107/news/250107_abm.htm; Internet; accessed 18 April 2009.

¹⁰ Obama tests diplomatic waters in Iran, available from: <http://www2.ljworld.com/news/2009/mar/31/obama-tests-diplomatic-waters-iran/>; Internet; accessed 19 April 2009.

BIBLIOGRAPHY

- al-Qurashi, Ubeid. Quoted in “Bin Laden Lieutenant Admits to September 11 and Explains Al-Qa'ida's Combat Doctrine.” *The Middle East Media Research Institute Special Dispatch Series*, no. 344 (10 February 2002). Journal on-line; available from <http://www.memri.org/bin/articles.cgi?Page=archives&Area=sd&ID=SP34402>; Internet; accessed 9 February 2009.
- Alberts, David S. and Richard E. Hayes. *Power to the Edge: Command, Control, in the Information Age*. Washington, DC: CCRP Publications, 2003.
- Arquilla, John and David Ronfeldt. “A New Epoch – and Spectrum – of Conflict.” In *In Athena's Camp: Preparing for War in the Information Age*, edited by John Arquilla and David Ronfeldt, 1-20. Santa Monica, CA: RAND, 1997.
- Arquilla, John and David Ronfeldt. “Cyberwar is Coming!” In *In Athena's Camp: Preparing for War in the Information Age*, edited by John Arquilla and David Ronfeldt, 23-60. Santa Monica, CA: RAND, 1997.
- Arquilla, John and David Rondfeldt. *Swarming and the Future of Conflict*. Report Prepared for the Office of the Assistant Secretary of Defence (Command, Control, Communications, and Intelligence) project “Swarming and Information Operations.” Santa Monica, CA: RAND, 2005. Electronic publication; available from http://rand.org/pubs/documented_briefings/2005/RAND_DB311.pdf; Internet; accessed 9 March 2009.
- Arquilla, John and David Ronfeldt, “The Advent of Netwar.” In *In Athena's Camp: Preparing for War in the Information Age*, edited by John Arquilla and David Ronfeldt, 275-293. Santa Monica, CA: RAND, 1997.
- Arquilla, John and David Ronfeldt. “The Advent of Netwar (Revisited).” In *Networks and Netwars: The Future of Terror, Crime, and Militancy*, edited by John Arquilla and David Ronfeldt, 1-25. Santa Monica, CA: RAND, 2001.
- Byman, Daniel. “Should Hezbollah be Next?” *Foreign Affairs* 82, no.6 (November-December 2003): 54. Journal on-line; available from <http://proquest.umi.com/pqdweb?RQT=318&pmid=6>; Internet; accessed 17 March 2009.
- Callwell, Colonel Charles E. *Small Wars: A Tactical Textbook for Imperial Soldiers*. London: Greenhill Books, 1990.
- Canada. Department of National Defence. B-GG-005-300/FP-000 *Canadian Forces Operations*. Ottawa: DND Canada, 2005.

- Canada. Department of National Defence. B-GL-310-001/AG-001 *Land Operations 2021: Adaptive Dispersed Operations, The Force Employment Concept for Canada's Army of Tomorrow*. Ottawa: DND Canada, 2007.
- Canada. Department of National Defence. B-GL-323-004/FP-003 *Counter-Insurgency Operations*. Kingston: Army Publishing Office, 2007.
- Denning, Dorothy E. "Activism, Hacktivism, and Cyberterrorism: The Internet as a Tool for Influencing Foreign Policy." In *Networks and Netwars: The Future of Terror, Crime, and Militancy*, edited by John Arquilla and David Ronfeldt, 239-288. Santa Monica, CA: RAND, 2001.
- Fisk, Robert. *Pity the Nation: The Abduction of Lebano*. New York: Thunder's Mouth Press/Nation Books, 2002.
- Granovetter, Mark S. "The Strength of Weak Ties." In *The American Journal of Sociology* 78, no. 6 (May 1973): 1360-1380. Journal on-line; available from <http://www.jstor.org/>; Internet; accessed 13 March 2009.
- Gray, Colin S. *Another Bloody Century: Future Warfare*. London: Weidenfeld and Nicolson, 2005.
- Grice, Major Michael D. "Distributed Operations: Is the Marine Corps Ready?" *Marine Corps Gazette* 92, no. 3 (March 2008), 20-21. Journal on-line; available from <http://proquest.umi.com/pqdweb?RQT=318&pmid=27962>; Internet; accessed 6 April 2009.
- Hammes, Colonel Thomas X. *The Sling and the Stone: On War in the 21st Century*. St. Paul, MN: Zenith Press, 2004.
- Hammes, Colonel Thomas X. "Fourth Generation Warfare Evolves, Fifth Emerges." *Military Review* 87, no. 3 (May-June 2007): 14-23. Journal on-line; available from <http://www.proquest.com/>; Internet; accessed 9 March 2009.
- Herbert, Adam J. "Compressing the Kill Chain," *Air Force Magazine Online* 86, no. 3, March 2003, n.p. Electronic publication; available from <http://www.afa.org/magazine/March2003/0303killchain.asp>; Internet; accessed 6 April 2009.
- Lind, William S. "Understanding Fourth Generation War." 6 January 2004. <http://www.lewrockwell.com/lind/lind3b.html>; Internet; accessed 15 March 2009.
- Lind, William S., Colonel Keith Nightengale, Captain John F. Schmitt, Colonel Joseph W. Sutton, and Lieutenant Colonel Gary I. Wilson. "The Changing Face of War: Into the

- Fourth Generation.” *Marine Corps Gazette* 73, no. 10 (October 1989): 22-26. Electronic publication; available from http://www.d-n-i.net/fcs/4th_gen_war_gazette.htm; Internet; accessed 2 March 2009.
- Matthews, Matt M. *We Were Caught Unprepared: The 2006 Hezbollah-Israeli War*. The Long War Series Occasional Paper 26. Washington, DC: CSI Press, 2008. Electronic publication; available from <http://usacac.army.mil/CAC/csi/RandP/CSIPubs.asp>; Internet; accessed 29 March 2009.
- Metz, Steven and Raymond Millen. *Future War/Future Battlespace: The Strategic Future of American Landpower*. Report Prepared for the U.S. Army War College Strategic Studies Institute. Carlisle PA: Strategic Studies Institute Publishing, March 2003. Electronic publication; available from <http://www.strategicstudiesinstitute.army.mil/pdf/PUB214.pdf>; Internet; accessed 8 March 2009.
- Metz, Steven and Raymond Millen. *Insurgency and Counterinsurgency in the 21st Century: Reconceptualizing Threat and Response*. Report Prepared for the U.S. Army War College Strategic Studies Institute. Carlisle PA: Strategic Studies Institute Publishing, November 2004.
- Ronfeldt, David and John Arquilla. “Networks, Netwars, and the Fight for the Future.” In *First Monday* 6, no. 10 (October 2001). Journal on-line; available from <http://www.uic.edu/htbin/cgiwrap/bin/ojs/index.php/fm/>; Internet; accessed 14 March 2009.
- United States Secretary of Defense Gate's Testimony. Journal on-line; available from http://armchairgeneralist.typepad.com/my_weblog/2009/01/secdef-gates-testimony.html; Internet; accessed 16 April 2009.
- United States. Department of the Army. FM 3-24 *Counterinsurgency*. Washington, DC: U.S. Government Printing Office, 15 December 2006. Electronic publication; available from <http://www.fas.org/irp/doddir/army/fm3-24.pdf>; Internet; accessed 8 March 2009.
- United States. Joint Chiefs of Staff. JP 1 *Doctrine for the Armed Forces of the United States*. Washington, DC: U.S. Government Printing Office, May 14, 2007. Electronic publication; available from http://www.dtic.mil/doctrine/jel/new_pubs/jp1.pdf; Internet; accessed 8 March 2009.
- United States. Joint Chiefs of Staff. JP 1-02 *Department of Defence Dictionary of Military and Associated Terms*. Washington, DC: U.S. Government Printing Office, April 12, 2001 as amended through October 17 2007. Electronic publication; available from http://www.dtic.mil/doctrine/jel/new_pubs/jp1_02.pdf; Internet; accessed 8 March 2009.

United States. Secretary of the Air Force. *Air Force Doctrine Document 2-3: Irregular Warfare*. Washington, DC: U.S. Government Printing Office, August 1, 2007. Electronic publication; available from <http://www.e-publishing.af.mil/>; Internet; accessed 1 March 2009.

Williams, Phil. "Transnational Criminal Networks." In *Networks and Netwars: The Future of Terror, Crime, and Militancy*, edited by John Arquilla and David Ronfeldt, 61-97. Santa Monica, CA: RAND, 2001.

Zanini, Michelle and Sean J.A. Edwards. "The Networking of Terror in the Information Age." In *Networks and Netwars: The Future of Terror, Crime, and Militancy*, edited by John Arquilla and David Ronfeldt, 29-60. Santa Monica, CA: RAND, 2001.