

Evolving Deterrence in the North American and Global Contexts

Suggested Readings

AUGUST 30, 2020

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Background

Deterrence is a concept often associated with nuclear strategy but in fact precedes the advent of nuclear weapons. There are two general types of deterrence – punishment and denial. Traditional deterrence – by punishment – is a state’s practice of threatening punishment in order to prevent an aggressor from taking a particular action. The punishment or retaliation could be proportional or greater in magnitude than the action intended to deter – it is based on a calculation of the costs versus benefits of taking an aggressive action. A punishment deemed unacceptable incentivizes an actor to reconsider his action. Deterrence by punishment is viewed as a purely defensive approach, argued to reflect the stability of mutual vulnerability.

During the Cold War, as military capabilities advanced, including nuclear delivery systems, the US revised deterrence to include options to prevent an aggressor’s action by eliminating his ability to execute it. Deterrence by denial is the threat of the potential loss of a weapon system or platform to disincentive an actor from launching it in the first place. Deterrence by denial and is often critiqued as being offensive and thus provoking arms races. Whether to pursue deterrence by punishment or denial – defensive or offensive capabilities and policies – is the essence of the debate on strategic stability and effective deterrence dividing “hawks, owls, and doves.”¹ Adding to the debate is the challenge posed by the entanglement of conventional and nuclear forces, creating uncertainty in the punishment versus denial capabilities of various systems.²

With changes in the current international security environment characterized by the rise of peer competitors, rogue nations with rapidly advancing missile capabilities, and new domains and grey warfare, the practice of deterrence is being revised in both global and regional contexts. In today’s context, deterrence concepts are being sought to address aggression or other threatening activities in the domains of sea, air, land, cyber, space, and information (cognitive). The following list of recommended readings address the debates on deterrence, revisions to the concept, exploring new domains, and requirements to respond to emerging threats to North America and allies in other geopolitical regions. These selections are contemporary works that focus on current and

emerging threats and challenges and how to revise deterrence moving forward in the strategic context.

Christopher Buckley, “Building Space into Multi-Domain Deterrence Strategy,” *Air Power Strategy*, 1 (December 2018), <http://www.airpowerstrategy.com/2018/12/01/space-deterrence/>.

This article presents a deterrence strategy involving multiple domains, suitable to the current strategic context. Space as global commons allows a multi-domain approach to deterrence “with unaffordable non-compliance that eliminates escalation ambiguity while increasing assurance to all.” The definition and application of deterrence remains constant, regardless of domains and tools. To Buckley “‘space’ deterrence is a myth. Deterrence is just deterrence ... The domain is irrelevant because deterrence is a concept that includes all types of tools, or deterrents.” This includes nuclear weapons, which are a deterrent, but not deterrence itself. Buckley reminds us that deterrence is a cost-benefit decision, where new technologies like nuclear weapons added more cost in the cost-benefit analysis. He states that “open conflict in space will not occur in a political vacuum,” “limiting the concept of deterrence to ‘space deterrence’ mistakenly isolates the space domain from the other Earth-bound domains,” whereas the US “employs a multi-domain deterrent strategy that includes all warfighting domains (land, sea, air, space, and cyberspace) and instruments of national power (diplomatic, informational, military, and economic).” The reality of deterrence is not tit-for-tat - the US responds in a manner and timeline that best suits its national interests. The US reliance on space assets makes it more vulnerable than other nations; however, as a target becomes less attractive when “viewing space through the lense of multi-domain retaliation ... The credibility of deterrence propagates from the capability to threaten retaliation anywhere, in any domain.” In the Cold War any escalation in space was understood as unaffordable. In the current context the United States “must clarify and validate what it considers a provocation or escalation in space” either through demonstrations of resolve, or assurance. Buckley strongly cautions against weaponizing space, advising that “space assurance allows commercial gain and the continued, unencumbered utilization of space to assist terrestrial military operations.” He argues that US policy should “change to a policy of “space assurance” to protect the space domain and abandon the concept of space dominance. This creates “mutual vulnerability” and thus stability achieving strategic balance. This will be enhanced through better situational awareness, hardening links to assets, access, and established international norms of behaviour – and treat space as a global commons.

Andrea Charron and James Fergusson, “Rediscovering the Costs of Deterrence,” Canadian Global Affairs Institute, September 2019, [https://d3n8a8pro7vnm.cloudfront.net/cdfai/pages/4264/attachments/original/1568661891/Rediscovering the Cost of Deterrence.pdf?1568661891](https://d3n8a8pro7vnm.cloudfront.net/cdfai/pages/4264/attachments/original/1568661891/Rediscovering%20the%20Cost%20of%20Deterrence.pdf?1568661891).

Charron and Fergusson explore how deterrence is being rediscovered in an era of increasing great power competition and new threats to North America. They address areas for investment in the defence of North America through modernization and upgrades to the early warning and response capabilities, within the constraints of competing priorities in the Canada-US defence relationship and election politics. In this assessment they also consider the most prolific challenge in measuring the effectiveness of deterrence, namely whether the measures executed during the Cold War prevented a third world war because “one cannot measure a non-event ... one can only know when deterrence fails.” They highlight the importance of understanding intentions, not just capabilities, which are also difficult to measure. Demonstrating a credible defence comes at a considerable cost, as demonstrated by upgrading the Distant Early Warning

(DEW) Line to the North Warning System (NWS), which would have affected Soviet strategic calculations “as part of the broader U.S.-led Western policy of strategic deterrence that extended into NATO Europe.” NORAD modernization in the current era would close gaps in the West’s deterrence posture, however the cost for revitalized defence for Canada and the US would be considerable, particularly for a system-of-systems solution to modern threats. The cost to Canada would be financial, may contribute to increased tensions with adversaries, or become an issue if the US demands more funding or is unsatisfied with the military contribution, from Canada placing it in a politically difficult position – a rift that could be exploited by adversaries. Ultimately, deterrence requires spending on capabilities, training, and material, as well as supporting allies – nuances that extend beyond the cost of NORAD modernization and replacing the NWS.

Andrew J. Duncan, “Missed Steps on a Road Well-Travelled: *Strong, Secure, Engaged* and Deterrence,” *Canadian Military Journal*, 18.3 (2018): 17-25.

<http://www.journal.forces.gc.ca/vol18/no3/PDF/CMJ183Ep17.pdf>.

Deterrence makes a comeback in *Strong Secure Engaged* (Canada’s Defence Policy 2017) as a CAF core mission and Canada benefits from the deterrence effect provided by NORAD and NATO, as new actors and domains have recentralized deterrence in defence thinking. However, the defence policy does not deterrence in significant depth which is problematic as deterrence theory has undergone challenges and changes since the Cold War. This may lead to a flawed understanding of the topic in Canada, which can be mitigated by exploring the body of knowledge produced by allies and academia. In Canadian considerations, deterrence tends to be addressed primarily in the topic of cyber security, and Duncan argues that SSE gets deterrence wrong, particularly in its ambiguous definition of preventing “something harmful.” He suggests this reflects mirror imaging of Canadian perceptions originating in normative internationalism onto potential adversaries. Thus, “the definition is not practicable for defence and national security officials and must be abandoned for one that better reflects thinking on the subject.” He suggests that “better and more nuanced definitions of deterrence exist that explain the interplay between actors in a deterrence situation.” He argues that deterrence is better understood as both a theoretical model and as a strategy, providing an intellectual framework for viewing a deterrence problem and as a strategy “ways and means” for an organization to control a situation and achieve deterrence ends. In his discussion, Duncan focusses on deterrence in theory and practice from a conventional military perspective and within the structures and capabilities of the CAF. He concludes that in order to serve as a basis for writing military doctrine and supporting the new defence policy, deterrence theories and strategies must acknowledge the emerging challenges, in addition to viewing the situation from the adversary’s perspective. Duncan argues that the oversight in the definition problem in SSE can be corrected, crafting a unique Canadian perspective on deterrence providing the benefit of avoiding armed conflict and peaceful resolution of disputes.

P. Whitney Lackenbauer and Ryan Dean, “We Cannot Deter What We Cannot Detect,” NAADSN Quick Impact Report, 25 May 2020, <https://www.naadsn.ca/wp-content/uploads/2020/05/20-may-25-PWL-RD-We-Cannot-Deter-What-We-Cannot-Detect-final.pdf>.

In January 2020 Canadian Commodore Jamie Clarke, deputy director of strategy at NORAD stated: “We cannot deter what we cannot defeat, and we cannot defeat what we cannot detect” – a frequent point reinforced by NORAD/NORTHCOM Commander General Terrence O’Shaughnessy. In this Quick Impact report, Lackenbauer and Dean approach the statement from a different direction. They argue that “it should emphasized that we cannot deter what we cannot detect, yet it can be possible to deter threats that you cannot defeat. One must be able to detect a threat in order to deter or defeat it.” One can also be “strong enough to deter an attacker (with fear of devastating reprisal or through denial) without being

strong enough to defeat the attacker outright.” The authors consider Gen O’Shaughnessy’s statements about requirements for sensors and defeat mechanisms in order to protect North America from new missile threats from Russia and China, noting a fundamental change in US strategic direction, and what this could mean for NORAD’s mission in the future (i.e. towards an offensive role) and debates this opens up. Although traditional deterrence by punishment “still has its place,” deterrence by denial through defeating “threat systems rather than deterring potential major power adversaries from employing them” runs risks of arms races in domains which could be exploited by our adversaries, potentially destabilizing “the deterrence regime that has safeguarded against a nuclear or conventional military attack on North America since the early Cold War.” It is the messaging that NORAD must shift to “defeat” threats in all domains that risks destabilizing the balance – messaging that the authors strongly caution against. Rather, in the context of NORAD modernization and replacing the North Warning System of sensors, they argue that “we cannot deter what we cannot detect” in conjunction with an affirmation by Ernie Regehr that “we must deter what we cannot defeat.”

Michael J. Mazarr, “Understanding Deterrence,” *RAND Perspectives*, 2018, PE-296-RC,
<https://www.rand.org/pubs/perspectives/PE295.html>.

Deterrence has returned to the US defence policy agenda in light of adversaries becoming significantly more capable over the past decade. The risks of fighting a major war today makes deterrence of conflict even more imperative, “yet much of the emerging dialogue on deterrence remains characterized by unsupported assertions, claims that contradict the empirical record, and little reference to classic analyses.” The context for deterrence has altered due to changes in the international security environment. This report revisits fundamental deterrence concepts and principles with a view to the perceptions of the adversary, particularly “interests, motives, and imperatives,” which “demands the nuanced shaping of perceptions so that an adversary sees the alternatives to aggression as more attractive than war.”

Joseph Nye, “Deterrence in Cyberspace,” *The Strategist*, 7 June 2019,
<https://www.aspistrategist.org.au/deterrence-in-cyberspace/>.

Nye addresses the role of offensive cyber operations and the proposed new offensive doctrine of “persistent engagement” with adversaries, in which proponents argue that deterrence does not work in cyberspace. Nye suggests that a new offensive doctrine can reinforce, but not replace deterrence. The challenge of understanding deterrence in cyber space is due to the shaping of the concept during the Cold War through the image of massive retaliation – an analogy that does not work for cyber space. Nye outlines four mechanisms to reduce and prevent adverse behaviour in cyberspace that together provide a range of means to mitigate harmful effects. These are 1) threat of punishment; 2) denial by defence (through hygiene, defence and resilience); 3) entanglement; and 4) normative taboos. This approach addresses the attribution issue, particularly as denial and entanglement do not require attribution, limiting the role of punishment which does require attribution. Interdependent relationships reduce the likelihood of a cyber Pearl Harbour, and the US has deterrence options across domains and sectors, ranging from “naming and shaming to economic sanctions to kinetic strikes.” Persistent engagement combines mechanisms for state and non-state actors that disrupts attacks, as well as reinforcing deterrence by raising the costs for adversaries. Mechanisms such as entanglement and norms moves beyond the classic instruments of deterrence by punishment and denial, with an understanding that one size does not fit all when it comes to the cyber era.

Ernie Regehr *Deterrence, Arms Control, and Cooperative Security: Selected Writings on Arctic Security*, NAADSN Engage Series, June 2020, https://www.naadsn.ca/wp-content/uploads/2020/06/Regehr-Deterrence_ArmsControl_CooperativeSecurity-NAADSN-jun20.pdf.

In this collection of works from over the past five years, Regehr looks at various dimensions of nuclear activities and deterrence strategies involving North America and the Arctic. The breadth of issues addressed include challenges to deterrence due to aging sensor systems, potential nuclear submarine activity in the Arctic, denuclearizing the Arctic, cooperative security in the Arctic, revisiting missile defence cooperation, and NATO and the Arctic. Regehr addresses the debate involving contrasting perspectives of the Arctic as a calm and peaceful geo-strategic region versus a sharp decline in regional cooperation in light of new threat vectors to North America through the Arctic and NORAD declarations that the “homeland is no longer a sanctuary.” The roles and postures of the CAF in light of changing North American security concern “renewed strategic competition, emerging technologies, and shifting defence priorities.” Regehr calls for “new Canadian approaches to strategic deterrence and disarmament, and ‘decisive and internationally significant national initiatives to prevent the deployment of destabilizing strategic defence systems’.”

Jessica L. Cox, “Nuclear Deterrence Today,” *NATO Review*, 8 June 2020, <https://www.nato.int/docu/review/articles/2020/06/08/nuclear-deterrence-today/index.html>.

Cox discusses NATO nuclear posture in light of the return of nuclear weapons to the strategic calculus in the modern era, which includes new domains of warfare. Cox reminds us that nuclear weapons provide the foundation of NATO collective security and NATO is a nuclear alliance through deterrence and reassurance to its allies. At the end of the Cold War there were significant nuclear reductions changes in US and Russian nuclear force posture. There were pursued through strategic arms control and Presidential Nuclear Initiatives (reducing tactical nuclear weapons). These demonstrated transformative changes by the US and Russia to their nuclear posture in Europe. Russia is now deploying nuclear weapons in Europe to counter NATO conventional superiority. It is modernizing its nuclear arsenal, including new capabilities (hypersonic glide vehicle, new cruise missiles, and air-launched ballistic missile), pursued with dual-capable tactical systems deployed in Europe. These are increasingly problematic in light of the ending of New START and the US lagging behind Russia’s hypersonic developments. Cox affirms that NATO must be able to deter nuclear threats in Europe and reassure allies in this theatre. Although she presents statements outlining NATO’s nuclear posture and need to ensure NATO’s deterrence and defence capabilities, Cox does provide further recommendations or guidance on how deterrence should evolve with the new nuclear and non-nuclear threats in multiple domains. Although not addressed by the author, these challenges have implications for NATO’s role in the Arctic around Norway and Barents Sea region.

Additional Readings

Richard K. Betts., “The Lost Logic of Deterrence: What the Strategy that Won the Cold War Can – and Can’t – Do Now,” *Foreign Affairs* (Mar/Apr 2013), <https://www.foreignaffairs.com/articles/usa/2013-02-11/lost-logic-deterrence>.

Betts argues that since the end of the Cold War, the US clung to a deterrence where it should not have with Russia; whereas it should have embraced, rather than rejected, deterrence with Iran. In addition, its indecision about how to apply deterrence to a rising China creates conditions that could result in crisis and a dangerous miscalculation. Betts addresses misunderstandings about the application of deterrence with a

view to reducing its misapplication, and reduce risk in instances of uncertainty. Deterrence must return to the vocabular of Washington to train diplomats and governments when to use it to prevent costly mistakes and conflicts. This article provides useful material for considering how to deal with rising nuclear states such as Iran, North Korea, and peer competitor like China that are modernizing and increasing their nuclear arsenals; however, his approach to misapplying deterrence to Russia may be debated in light of the current challenges it poses in multiple domains today.

Department of National Defence and the Canadian Armed Forces, *Strong Secure Engaged: Canada's Defence Policy* (June 2017), <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/canada-defence-policy.html>.

SSE addresses deterrence in a number of sections considering new domains of cyber and space, but does not discuss much in depth. The section on state competition regarding the emergence of major power competition and re-emergence of deterrence (p. 50) states that “deterrence has traditionally focused on conventional and nuclear capabilities, but the concept is also increasingly relevant to the space and cyber domains.” It notes that “Canada benefits from the deterrent effect provided by its alliances (e.g., NATO and NORAD).” The section on global terrorism (p. 53) states that “Traditional concepts of deterrence may also not apply to non-state actors who calculate risks and rewards in radically different ways and do not ascribe to the universal values enshrined in the United Nations Charter.” The section on space capabilities and responsible uses of space, particularly cooperation between Canada and the Five Eyes in the Canada space program (p. 72) considers the Combined Space Operations Initiative (CSpO) which “enables cooperation on military and defence space activities, with the aim of strengthening deterrence, improving the resilience of space systems on which Five-Eyes militaries rely, and optimizing resources across participating nations.” Deterrence is referenced in the section outlining Canada’s role as a framework nation as part of its enhanced forward presence in Central and Eastern Europe (p. 83); and under NATO crisis management (p. 91).

Michael S. Gerson, “Conventional Deterrence in the Second Nuclear Age,” *Parameters* (Autumn 2009), <https://apps.dtic.mil/dtic/tr/fulltext/u2/a510428.pdf>.

Forward-looking in 2009, Gerson states that “deterrence is once again a topic of discussion and debate among US defense and policy communities.” He affirms that deterrence “seems poised to take center stage in America’s national security policy during the coming decades.” Acknowledging the nuclear modernization programs and missile technology developments by Russia, China, North Korea, and Iran “adversary-specific deterrence strategies will likely become a prominent component of national and international security in an increasingly multipolar world.” The US New Triad consisting of nuclear and conventional weapons indicates how conventional capabilities are substituting missions previously reserved for nuclear weapons. As the US has expanded the concept of “strategic deterrence” Gerson argues that the substitution of conventional weapons is an important step towards a credible and robust deterrent for the 21st century. However, debate on the deterrence role of conventional munitions does not address the deterrence by denial mission. Thus, Gerson expands the debate on the role of and utility of conventional forces by re-examining the traditional logic of conventional deterrence, with a focus on extended deterrence (protecting allies) rather than homeland deterrence. He suggests that conventional weapons, rather than nuclear, will likely dominate research and debate on deterrence in the new century. This requires new thinking on capabilities, targeting doctrines, warfighting strategies, deployment and strategic communication, in addition to understanding the unique logic and strategy associated with conventional deterrence.

Keith B. Payne, "On Deterrence, Defense and Arm Control: In Honor of Colin S. Gray," *Real Clear Defense*, 22 June 2020,

https://www.realcleardefense.com/articles/2020/06/22/on_deterrence_defense_and_arm_control_in_honor_of_colin_s_gray_115402.html.

Payne describes the valuable contribution of the late Colin Gray to the field of strategic studies, particularly deterrence theory, policy, and arms control, providing a "select synopsis of his basic points and positions." Describing Gray as an "innovative realist" Payne cites a number of Gray's publications and noting that he coined the term "Second Nuclear Age" to describe the post-Cold War era. This reflects his view that "nuclear weapons would *not* lose their salience post-Cold War ... but nuclear weapons would continue to cast a long shadow over international security concerns." Payne affirms that Gray was correct in his prediction of new security challenges would arise and old challenges return, given recent history. In his work on deterrence, Gray recognized the possibility that deterrence could fail, resulting in nuclear war, thus requiring the US to think about what it should do in such an event. Rather than a large-scale nuclear response, he advised thoughtful planning further escalation and minimize societal destruction. Such thinking was outside the norms of policy and academic discourse, as it reflected "sympathy for nuclear war fighting" rather than deterrence. Nuclear war was considered "unthinkable," whereas Gray advised prudent planning – advice that was often misunderstood and mischaracterized. Similar sentiment was directed at Gray's perspective on arms control, namely that "the arms control process is incapable of transformative effects amongst hostile states because it is limited by their hostility." Arms control stability would not be possible until political relations improved dramatically between adversaries. Regarding deterrence, Payne notes that Gray's perspectives on strategic deterrence and missile defence build upon Herman Kahn's works *On Thermonuclear War* and *Thinking About the Unthinkable*. Particularly, Gray considered how "the unique history, culture and political context of nations could drive considerable variation in different leaderships' decision making pertinent to the functioning of deterrence," and his work focused on the US extended deterrence relationship with allies. Gray's views challenged conventional wisdom on deterrence, particularly the impact of perceptions, that "assessments of deterrence stability err because they do not take into account" differences in political will." Thus, Gray rejected "mirror imaging" and universal definitions of rational behaviour. Gray affirmed that "leaderships with a wide range of strategic cultures, perceptions, beliefs, goals, and passions can arrive at very different conclusions about what constitutes the most sensible deterrence-related decision making and behavior." Gray thus supported strategic missile defence because deterrence is uncertain and can fail, the US must consider what to do if deterrence fails, and society should be defended to the extent it is feasible. In addition, vulnerability undermined US extended deterrence to allies – strategic defence enhanced credibility through survivability and retaliation. Payne commends Gray for "speaking truth to power" with great effect, contributing to the betterment of US policy on deterrence, defence, and arms control.

Selections from the "Classics" on Deterrence Theory

Richard K. Betts, *Nuclear Blackmail, Nuclear Balance*. Washington, DC: Brookings Institution, 1987.

Bernard Brodie, *The Anatomy of Deterrence*, RAND, 23 July 1958,
https://www.rand.org/content/dam/rand/pubs/research_memoranda/2008/RM2218.pdf.

Bernard Brodie, *The Absolute Weapon: Atomic Power and World Order*, New York: Harcourt, Brace and Company, 1946.

Lawrence Freedman, *Deterrence*. Cambridge, UK: Polity Press, 2008 (2004).

Colin Gray, *Modern Strategy*. Oxford University Press, 1999.

Robert Jervis, "Deterrence and Perception." *International Security* 7 (1982/83): 3-30.

Robert Jervis, "Deterrence Theory Revisited." *World Politics* 31 (1979): 314-317.

Herman Khan, *On Thermonuclear War*. Princeton University Press, 1960.

Thomas C. Schelling, *Arms and Influence*. Yale University Press, 1966.

Thomas C. Schelling, *The Strategy of Conflict*. Harvard University Press, 1960.

Glen Harald Snyder, *Deterrence and Defense: Toward a Theory of National Security*. Princeton, NJ: Princeton University Press, 1961.

¹ In 1985 Graham T. Allison, Albert Carnesale, and Joseph S. Nye published *Hawks, Doves, and Owls: An Agenda for Avoiding Nuclear War* (New York: W. W. Norton & Company, 1985) that compares and contrasts the differing approaches to weaponry and the causes of war. Hawks view the cause of war as weakness that invites aggression, thus necessitating developing strength through military capabilities. Owls represent those who recommend moderation and constraint of weaponry through arms control, which mitigates the causes of war. Doves perceive the cause of war in provocative arms races. These various approaches comprise the national security debates concerning arms control versus arms build-up.

² See James M. Acton, "Escalation through Entanglement: How Vulnerability of Command-and-Control Systems Raises the Risks of an Inadvertent Nuclear War," *International Security* 43:1 (Summer 2018): 56-99. DOI: https://doi.org/10.1162/ISEC_a_00320.