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Editors

# NL ARMS Netherlands Annual Review of Military Studies 2020

Deterrence in the 21st Century—Insights  
from Theory and Practice



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# Foreword

This subject of this volume—deterrence—deserves, indeed demands, attention, and not just of scholars, for understanding the challenges and dynamics of deterrence is of paramount importance in today’s rapidly changing international security environment. Deterrence has never gone out of fashion. It is one of the core strategic functions of any defense organization. Immediately following the end of the Cold War, NATO found itself involved in peacekeeping operations in the Balkans, which often called for coercive diplomacy and demonstrations of resolve in order to convince the warring parties to cease fighting or to stop harassing UN peacekeepers executing their UN mandate. In short, NATO aimed to deter aggression but the context this time was much different from that of the Cold War and success was often difficult to achieve in the politically constrained environment despite NATO’s military superiority.

Whether terrorist groups could be deterred became a topic of intense academic and political debate following the terrorist attacks in September 2001, and much has been learned since then. And of course, following the Russian annexation of the Crimea in 2014, interstate deterrence has moved centre stage again. Western governments ponder the challenges of creating an effective nuclear and conventional deterrence posture while they are also concerned about the so-called hybrid threats including the constant intensity of cyber-attacks. Artificial intelligence and other new technologies such as autonomous weapon systems will add to the complexity and challenges of deterrence in the near future. Meanwhile insight is emerging on the specific conceptualization of deterrence; deterrence means different things for different polities, complicating deterrence dynamics in times of crisis.

This research project capitalizes on the extensive national and internal network of the Department of War Studies. The editors succeeded in bringing together a wealth of expertise for this book project as the list of authors demonstrates, including scholars from Israel, the US, Denmark, Canada, the UK, Iran, Russia, and Switzerland. The volume benefited greatly from the author’s workshop the faculty organized at the Netherlands Defence Academy in Winter 2020. The contributors, spanning a variety of academic disciplines, explore deterrence in the full breadth of the concept, update and refine extant knowledge, debate novel technological

features on the strategic landscape, examine deterrence applications in nontraditional and non-Western contexts, and consider the relevance of these findings for our understanding of deterrence in theory and practice in the twenty-first century. The impressive result showcases the great scholarly value of this cross-disciplinary and cross-cultural approach.

But the relevance of this book extends beyond academia. Deterrence is an area of knowledge where theory informs policies, strategies, and behavior and those in turn inform subsequent theorizing, as various chapters in this book attest to. It is a book with direct relevance for thinking about today's security challenges, challenges that feature prominently on the policy agenda of the Netherlands Ministry of Defence, the Ministry of Foreign Affairs, and international security organizations such as NATO and the EU. If history is any guide, that will remain so for a very long time.

Breda/Den Helder, The Netherlands

Prof. Dr. Patrick Ooninx  
Dean of Faculty Military Sciences  
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# Preface

Deterrence as a distinct subfield of study recently celebrated its seventy-fifth birthday. Over the past three-quarters of a century, it has co-evolved with changing strategic conditions to address the pressing strategic challenges of the day. Over the years, it has experienced ups and downs. Periods of sustained stasis have alternated with periods of rapid development, pushed along both by critical scholarly inquiry and by professional policymaker concern. Tellingly, deterrence does not wither away but persists in the portfolio of concepts and strategies employed by nation states. Also in the third decade of the twenty-first century, its use continues to bedazzle strategists even if its efficacy under different conditions has not always been firmly established. That is why we need to continue studying deterrence—in its changing incarnations and in its adaptive applications—which provides the rationale for yet another book on deterrence.

In the context of the sizeable body of deterrence literature, we take two oft-cited articles as our point of departure. In a 2012 article, Patrick Morgan attempted to take stock of deterrence, in theory and practice, to assess where it is now and where it might be headed in security affairs'.<sup>1</sup> Morgan observed the cooperative nature of the relations between leading powers and observed how they had 'remained relatively cooperative and remarkably free of profound security concerns'. As a result, deterrence had become 'less central and salient', especially in the nuclear realm with nuclear weapons having been 'relegated by most nuclear powers to residual functions, primarily hedging against the possible return of serious conflicts.'<sup>2</sup>

At the same time the principal remaining threats, according to Morgan, were failed, weak, and rogue states alongside non-state actors. As a result, deterrence had become much more complicated and difficult to achieve. It had become more of a

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<sup>1</sup>Patrick M. Morgan (2012) The State of Deterrence in International Politics Today, *Contemporary Security Policy*, 33:1, 85–107, 85.

<sup>2</sup>Ibid., 88.

‘tactical resource’ than a fundamental building block of a more general security strategy.<sup>3</sup> Deterrence was also affected by other developments, both technological and ideological. Increased precision in long-range weapons on the one hand, and the deployment of intercontinental ballistic missiles (ICBMs) with conventional warheads on the other, alongside the parallel emergence of strategic cyberattack capabilities, posed a considerable challenge to deterrence stability. Dominant states had started openly disavowing the indiscriminate use of force. Both in conceptual and in practical terms, theorists and strategists wrestled how to design emerging notions of tailored deterrence against different types of actors.

Morgan noted ‘insufficient appreciation of how and why Cold War conceptions of deterrence are of limited relevance now and also of the ways in which Cold War deterrence thinking remains relevant’.<sup>4</sup> More specifically, he observed considerable progress in thinking about the role of deterrence in counterterrorism efforts; growing recognition of the diminished utility of nuclear deterrence; the need for more attention to the political and normative dimensions of deterrence; a rapidly expanding body of scholarship to better understand cyberspace dynamics and the logic of deterrence in this context; deficiencies in our comprehension of the challenges associated with collective deterrence and extended deterrence; and the limited inclusion of arms control perspectives in managing deterrence relationships in an interconnected world.<sup>5</sup>

Since Morgan’s article, some of these topics have been explored in numerous articles and excellent in-depth, book-length volumes. For instance, Andreas Wenger and Alex Wilner edited a timely study on the nexus of deterrence and terrorism,<sup>6</sup> Lukas Kello published a great analysis on the impact of cyber capabilities on international order,<sup>7</sup> Kelly Greenhill and Peter Krause addressed a range of topics also highlighted by Morgan in their volume *Coercion, The Power to Hurt*,<sup>8</sup> and Eric Gartzke and Jon R. Lindsay have analyzed the dynamics of deterrence across traditional and new domains.<sup>9</sup> More recently think tanks and research institutes have produced a stream of more policy-oriented studies analyzing deterrence in the context of hybrid conflict and gray zone competition. Other scholars have explored the ramifications of emerging technologies for deterrence making use of a slowly

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<sup>3</sup>Ibid., 89.

<sup>4</sup>Ibid., 85.

<sup>5</sup>Ibid.

<sup>6</sup>Andreas Wenger, Alex Wilner, *Deterring Terrorism*, Stanford University Press, Stanford, 2012.

<sup>7</sup>Lucas Kello, *The Virtual Weapon and International Order*, Yale University Press, Hartford, Ct, 2017.

<sup>8</sup>Peter Krause (eds), *Coercion, the power to hurt in international politics*, Oxford University Press, Oxford, 2018.

<sup>9</sup>Erik Gartzke and Jon R. Lindsay, *Cross-Domain Deterrence. Strategy in an Era of Complexity*, Oxford University Press, 2019.



but steadily emerging empirical database pertaining to the characteristics of such technologies.<sup>10</sup>

Ten years after Morgan, the use and utility of deterrence in today's strategic environment, therefore, continues to be a topic of paramount concern to scholars, strategists, and policymakers. Because of a combination of military-strategic, technological, and social-political developments, contemporary conflict actors exploit a wider gamut of coercive instruments which they apply across a wider range of domains for strategic gain. These encompass both nuclear and conventional military instruments, but also include non-military instruments of state power that are deployed in grey zone conflicts under the threshold of military violence. The prevalence of multi-domain coercion across but also beyond traditional dimensions of conflict raises an important question: what does effective deterrence look like in the twenty-first century? Answering that question requires a re-appraisal of key theoretical concepts and dominant strategies of the deterrence literature in order to assess how they hold up in today's world.

The second article that this volume takes as a point of departure is Jeffrey Knopf's article of 2010 in which he usefully distinguishes between four waves in deterrence research.<sup>11</sup> The initial wave of deterrence theorizing appeared after the Second World War prompted by the need to respond to a real-world problem—the invention of the atom bomb.<sup>12</sup> The second wave came in the late 1950s and 1960s was dominated by formal theorems that sprang from deductive reasoning and game theory.<sup>13</sup> Starting in the 1960s but really taking off in the 1970s, the third wave used statistical and case-study methods to empirically test deterrence theory. The case-study literature also challenged rational actor assumptions employed in

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<sup>10</sup>To name but a few, see Michael Mazarr et al, *Gaining Competitive Advantage in the Gray Zone*, RAND, Santa Monica, 2019, at [www.rand.org](http://www.rand.org). Thomas G. Mahnken, et al, *Countering Comprehensive Coercion, Competitive Strategies Against Authoritarian Political Warfare*, CSBA, Washington, D.C., 2018, at [www.CSBA.org](http://www.CSBA.org); Yuna Huh Wong, et al, *Deterrence in the Age of Thinking Machines*, RAND, Santa Monica, 2020. Gregory Treverton, *Addressing Hybrid Threats*, Swedish Defence University, 2018, at [www.fhs.se](http://www.fhs.se). Sean Monaghan, *Countering Hybrid Warfare*, MCDC, Shrivenham, 2019; Vytautas Kersanskas, *Deterrence: Proposing a more strategic approach to countering hybrid threats*, March 2020, <https://www.hybridcoe.fi/publications/hybrid-coe-paper-2-deterrence-proposing-a-more-strategic-approach-to-countering-hybrid-threats/>.

<sup>11</sup>Jeffrey W. Knopf, The Fourth Wave in Deterrence Research, *Contemporary Security Policy* 31, no. 1 (April 1, 2010): 1–33, <https://doi.org/10.1080/13523261003640819>.

<sup>12</sup>Robert Jervis, Deterrence Theory Revisited, *World Politics* 31, no. 2 (January 1979): 289–324, <https://doi.org/10.2307/2009945>.

<sup>13</sup>Daniel Ellsberg, *The Theory and Practice of Blackmail* (Santa Monica California: RAND, 1968), <http://www.rand.org/pubs/papers/P3883.html>; Glenn Herald Snyder, *Deterrence and Defense: Toward a Theory of National Security* (Princeton: Princeton University Press, 1961); Thomas C. Schelling, *Arms and Influence: With a New Preface and Afterword* (Yale University Press, 2008); Thomas C. Schelling, *The Strategy of Conflict* (Harvard University Press, 1981); Herman Kahn, *On Escalation: Metaphors and Scenarios*, vol. 1 (Transaction Publishers, 2009).

second-wave deterrence theory.<sup>14</sup> The rational actor perspective was complemented with perspectives from the psychological and decision-making literature.<sup>15</sup> Following the end of the Cold War, a new body of work emerged that focused on asymmetric deterrence especially in the context of the question how to deter so called rogue states and their leaders, and, post 9/11, terrorist groups.<sup>16</sup> Core concepts and assumptions concerning the role of credibility and reputation were reassessed in light of real world deterrence cases between Western states and political leaders such as Milosevic, Ghaddafi, and Saddam Hussein. Studies suggested that deterrence outside of the realm of nuclear peer-competition involving threats with conventional weapons in situations in which relative limited vital interests were at stake, is distinctly more complex and dynamic than traditional first and second wave assumed. Overall these four waves were partly reflective of the strategic issues of the day and partly of the dominant methodological orientation of the field.

## About This Book

Our volume—and the selection of themes—mirrors many of the themes flagged by Morgan and tracks a lively debate in deterrence research from the past decade. It addresses several of these themes to assess where deterrence strategy and theory stand right now against the background of the four waves distinguished by Knopf. The individual chapters synthesize emerging insights from a wealth of literature that has been published since the time of the publication of Morgan’s article. They offer fresh perspectives, reassess assumptions, review the validity of extant theories, and reflect on the implications of novel strategic developments. They do so fully cognizant of the fact that only 2 years after Morgan’s article was published, the geopolitical context changed significantly, invalidating some of Morgan’s comments concerning the prevailing peaceful conditions of the international security environment.

This volume, therefore, surveys the current state of the field to examine whether a fifth wave of deterrence theory is emerging—both in the Western world but also outside of it—to address the pressing strategic challenges of today. Ours is a period of considerable strategic turbulence, which in recent years has featured a renewed

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<sup>14</sup>Alexander L. George and Richard Smoke, *Deterrence in American Foreign Policy: Theory and Practice* (New York: Columbia University Press, 1974); Glenn Herald Snyder and Paul Diesing, *Conflict Among Nations: Bargaining Decision Making and System Structure in International Crises* (Princeton: Princeton University Press, 1978).

<sup>15</sup>Robert Jervis, *Perception and Misperception in International Politics*, 1st ed. (Princeton University Press, 1976); Jervis, “Deterrence Theory Revisited”; Richard Ned Lebow, Deterrence Failure Revisited, *International Security* 12, no. 1 (Summer 1987): 197–213; Richard Ned Lebow and Janice Gross Stein, Deterrence: The Elusive Dependent Variable, *World Politics* 42 (1990 1989): 336–69, <https://doi.org/10/b3hsmx>.

<sup>16</sup>Knopf, 2010.

emphasis on nuclear weapons used in defense postures across different theaters; a dramatic growth in the scale of military cyber capabilities and the frequency with which these are used; and rapid technological progress including the proliferation of long-range strike and unmanned systems and Artificial Intelligence (AI). These military-strategic developments occur in a polarized international system, where cooperation between leading powers on arms control regimes is breaking down, states widely make use of hybrid conflict strategies, and the number of internationalized intrastate proxy conflicts has quintupled over the past two decades.<sup>17</sup> Scholarly and strategic communities, both in the West and elsewhere, are updating, refining, and further developing the analytical portfolio of deterrence concepts that take into account both actor-specific and domain-specific features to address these challenges.<sup>18</sup>

This edited volume brings together insights from world-leading experts from three continents. It identifies the most pressing strategic issues, frames theoretical concepts, and describes new strategies. As such it offers a critical contribution to an as-of-yet nascent body of fifth wave deterrence literature.

## **Concepts of Deterrence: Historical, Conceptual, Conventional, Nuclear, Extended, Cross-domain**

The volume is thematically structured. Following an elegant overview of the evolution of deterrence strategy and research by Sir Lawrence Freedman that concludes with a warning not to over-estimate what deterrence can be expected to achieve, seven chapters explore our understanding of familiar deterrence concepts, assumptions, and strategies. Michael Mazarr offers a synthesis of basic deterrence concepts which is impressive in both its comprehensiveness and its brevity. Sten Rynning follows on from this survey of deterrence and its challenges with an incisive analysis of how the renewed strategic competition with Russia is challenging NATO's ability to develop a coherent deterrence strategy in light of the diversity of strategic perspectives among NATO member states. Karl Mueller informs us about extant insights on the utility of conventional deterrence and the dilemmas associated with it. Alexey Arbatov and Paul van Hoof, both focusing on the renewed prominence of nuclear weapons as deterrence instruments for great powers, respectively, address the crucial role of arms control regimes and the problematic credibility of US extended nuclear deterrence. Jörg Noll and colleagues analyze the types of deterrence expectations harbored by policy elites in three countries that border Russia and rely on NATO for an effective deterrence posture.

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<sup>17</sup>Tim Sweijts and Danny Pronk, *Interregnum: Strategic Monitor Annual Report 2019* (The Hague, Netherlands: The Hague Centre for Strategic Studies & The Clingendael Institute, April 2019).

<sup>18</sup>Michael Mazarr, *Understanding Deterrence* (RAND Corporation, 2018), <https://doi.org/10.7249/pe295>.

The central question is to what extent their expectations coincide with NATO's deterrence strategy. Finally, Tim Sweijs and Samuel Zilincik survey the literature on cross-domain deterrence which has emerged in response to the cross-domain nature of contemporary conflict. They critically assess its theoretical logic, practical feasibility, and degree of novelty, and reflect on the insights for deterrence theory and practice that can be gained from it.

## **Non-Western Concepts of Deterrence**

The second set of chapters offers a fascinating panorama of the ways in which deterrence is conceptualized and operationalized in different strategic cultures. Indeed, as Dmitry Adamsky and Dean Cheng both demonstrate in their respective chapters, Russian and Chinese conceptualizations of deterrence look dramatically different from their Western equivalents, which may translate into dramatic misunderstandings in the real world. Nori Katagiri in turn shows how post Second World War constitutional constraints hamper Japan's ability to mount an effective deterrence posture, demonstrating the validity of Morgan's observation of the impact of normative considerations on deterrence strategy. The ways in which particular strategic contexts shape both the nature of deterrence strategies and their effects are highlighted in two fascinating case studies. Sander Ruben Aarten details how nuclear deterrence strategies have been developed in India and Pakistan, how they have resulted in a modicum of stability, but also how the risk of nuclear escalation has not resulted in an absence of frequent conventional skirmishes. The final contribution in this exploration of non-Western concepts of deterrence is provided by Hassan Ahmadian and Payam Mohseni who explain the evolution of Iran's deterrence strategy through the enlisting of regional partners and non-state proxies such as Hezbollah against the background of Iran's distinct historical experience.

## **Deterrence of Non-State Actors**

The subsequent set of chapters examines deterrence against non-state actors. Eitan Shamir offers an overview of various deterrence strategies against violent non-state actors and analyzes how these have been employed by Israel. Once again, like previous chapters, his argument forces us to acknowledge the limits of classical Western Cold War conceptualizations of absolute deterrence. Martijn Kitzen and Christina van Kuijk extend the application of deterrence concepts to influencing non-state actors by showing how deterrence concepts are, or can fruitfully be, applied in counter-insurgency contexts at the tactical and operational levels. Like

Shamir's chapter, their analysis also illustrates the benefits of multidisciplinary work. Shamir's includes insights from criminology and communication studies. Kitzen and van Kujck connect deterrence studies to the literature on irregular warfare. Maarten Rothman stretches deterrence concepts into yet another, and indeed novel, terrain and considers how Russia seeks to deter democratic revolts in its neighboring countries. Peter Viggo Jakobsen completes the set in an extension of his previous original research on the use and challenges of deterrence strategies in peace operations. Such operations have often required applying pressure on recalcitrant local military commanders to prevent them from frustrating the activities of peacekeepers. Often, however, such deterrence efforts have failed, as witnessed in the Balkan crisis. In addition to explaining the minimum set of requirements for successful deterrence, Jakobsen explains how the deterring actor needs to acknowledge the different audiences—combatants, combatant allies, combatant supporters, and bystanders—as part of a comprehensive multilevel deterrence strategy.

## **New Instruments and Domains of Deterrence**

New technologies and instruments are the subjects of the fourth part of the book. Francesco Giumelli very informatively brings together the sanctions and deterrence literature. Sanctions often precede and accompany deterrent efforts with military threats, yet they are generally ill-understood in terms of what the aims of sanctions are, and what is to be expected of them. Giumelli details how the use of sanctions has evolved since the 1990s from comprehensive sanctions to targeted sanctions both to mitigate the humanitarian suffering associated with comprehensive sanctions and to be more effective in coercing target actors. Another deterrence instrument, a defensive one this time, is explored by Cees van Doorn and Theo Brinkel. Their chapter homes in on the concept of resilience as a form of deterrence by denial, which has been popping up in policy papers of Western governments and the EU since 2014 as a response to the increasing threat of hybrid threats. Using the aftermath of the tragic downing of Flight MH/17 in 2014 as a case study, they argue that the transparent approach taken by the Dutch government in various ways boosted societal resilience which made Russian influence efforts less effective. Whether resilience is also the solution to mitigate the risk of cyberattacks is uncertain. The key question whether such attacks can be deterred at all, and to what extent cyber-capabilities can be employed effectively as an instrument of deterrence, is the topic of a rich survey by Max Smeets and Stefan Soesanto. They canvass the various strands of arguments that have appeared in the growing scholarly body on cyber deterrence and outline future directions for cyber deterrence research. Assessing the impact on deterrence is also the key aim of Alex Wilner and Casey Babb in their analysis of the potential impact of AI on deterrence strategy and strategic stability.

Even more than the debate on cyber deterrence, the discussion of the impacts of AI largely takes place in an empirical vacuum as the technology is still immature. The fact that many analysts expect that AI is likely to have a major impact on international stability, warrants the inclusion of this in-depth, and balanced yet exploratory assessment of the impact of AI on deterrence dynamics.

## **Deterrence and Decision-making: Rationality, Psychology, and Emotions**

Rationality, or the problem of that assumption, is the core theme of the final part of the book. Roy Lindelauf re-assesses game-theoretical assumptions. He reminds us of its utility, captures recent refinements that have been proposed by scholars and discusses the potential impact of AI-enhanced command and control processes on the dynamics of deterrence. Tom Bijlsma returns to third-wave deterrence research in his chapter in which he surveys and concisely summarizes the ways the human mind actually filters incoming data, turns it into information and reaches decisions. His synthesis of insights from cognitive sciences, including prospect theory, substantiates once again that deterrence theorists and strategists should never assume that targets of deterrence will respond according to rational actor model precepts. That notion becomes even more explicit in the original and innovative analysis provided by Samuel Zilincik and Isabelle Duyvesteyn of emerging insights into the effects of emotions on decision-making processes. As Frank Harvey briefly touched upon in 2011 with respect to deterring authoritarian leaders, it seems that emotions such as honor, prestige, or the fear of losing face may actually result in enhanced risk taking.<sup>19</sup> But even when actors behave rationally in a crisis, larger organizations may not, or, there may be confusion what deterrent response is warranted, executed by which organization, and governed by which legal framework. This legal and bureaucratic perspective has been discussed relatively infrequently in deterrence studies. Yet, as analyses of the Cuban Missile Crisis have convincingly demonstrated, organizational dynamics are crucial.<sup>20</sup> These days, when NATO, the EU, and various European governments discuss a whole of society approach to counter unwanted external hybrid influence activities, they assume governmental agencies can and will cooperate to create cohesive responses. Paul Ducheine and Peter Pijpers complete this part of the book by looking into that thorny issue.

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<sup>19</sup>Keith B. Payne (2011) Understanding Deterrence, *Comparative Strategy*, 30:5, 393–427.

<sup>20</sup>Graham Allison and Philip Zelikow (1971), *Essence of Decision Explaining the Cuban Missile Crisis*, Harper Collins Publishers, 1971.

## **Conclusion: Insights from Theory and Practice**

The conclusion synthesizes key insights that have emerged from the different contributions, evaluates their relevance to deterrence theory and practice, and considers to what extent research and current strategic issues give credence to the notion that a fifth wave is emerging. On that basis, it offers an appraisal of contemporary deterrence thinking and it outlines avenues for future research going forward.

Breda, The Netherlands

Frans Osinga  
Tim Sweijjs

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