

The Return of Deterrence:
Credibility and Capabilities in a New Era

The Return of Deterrence: Credibility and Capabilities in a New Era

Edited by William G. Braun III, Stéfanie von Hlatky, and
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Introduction

William G. Braun III, Stéfanie von Hlatky, Kim Richard Nossal

Each year, partners from academia and the military join efforts to organize the Kingston Conference on International Security (KCIS). This conference seeks to inform debate and advance knowledge in the field of security and defence, by identifying priorities in military affairs and convening world-class experts to engage with a series of common questions. The partners — the Centre for International and Defence Policy at Queen’s University, the Strategic Studies Institute of the U.S. Army War College, the Canadian Army Doctrine and Training Centre, and the NATO Defense College — work together to develop a multifaceted program for what has become one of the leading international security conference in North America.

The topic explored by the conference in 2018 was deterrence. As a strategic concept, deterrence was always central to the transatlantic security architecture during the Cold War. In the post–Cold War era, however, out-of-area operations and security cooperation with partner nations captured the attention of Western armed forces, with a concomitant decline in the centrality of deterrence as a theoretical and policy concept.

That changed with the transformation of great-power politics in the last decade. In Europe, the strategic landscape was altered by the increased aggressiveness of the Russian Federation under the leadership of Vladimir Putin, reflected in Russia’s war against Georgia, Moscow’s response to the Euromaidan revolution in Ukraine, the annexation of Crimea in 2014, and Russia’s pursuit of “gray zone” conflict with

Ukraine. In the Asia Pacific, the People's Republic of China continued to rise as a great power, but with an increasing assertiveness under President Xi Jinping. In short, as the United States and its allies are increasingly confronted with challenges in their relations with both Russia and China, deterrence has made a comeback for the West in general and NATO in particular.

What are the implications of re-emphasizing deterrence in defence policy? What is the appropriate balance of capabilities and political commitments to restore a credible defence posture while keeping the door open for constructive dialogue with Moscow and Beijing? In Western Europe, NATO's defence capabilities must be able to both deter adversaries and reassure allies. Canada, along with the United States, Germany and the UK, has become lead nation for one of the four battlegroups in the Baltics and Poland. Yet even with NATO's enhanced forward presence, it is not yet clear what deterrence will entail: is it a return to the Cold War or is deterrence in a more hybrid conflict environment fundamentally different? What is the respective importance of conventional forces, nuclear weapons and missile defence in upholding deterrence and reassurance?

Those questions — and others — were addressed by panelists and presenters at KCIS 2018. We reproduce eight papers from the conference in this volume. The chapters in this volume focus on both the general applicability of deterrence as a theoretical approach to contemporary global politics, and to particular policy issues confronting Western allies.

The complexity of contemporary deterrence is the theme of Paul Bernstein's chapter. He focuses on the differences between the Cold War era, where deterrence was, it is widely held, simpler because of the singularity of the adversary and the constraining role of nuclear weapons, and the contemporary era. His paper focuses on several related issues, all centred around the key task of deterrence: the prevention of aggression. Professor Bernstein examines the nature of regional deterrence with adversaries that have nuclear weapons. In particular, he looks at the challenges of extended deterrence in the contemporary era, concluding that it is not clear whether nuclear deterrence will enjoy the same legitimacy today as during the Cold War.

When we think of deterrence, we rarely think of the logistics that must underpin the delivery of the deterrent effect. Maj.-Gen. Edward F. Dorman III, one of the keynote speakers at KCIS 2018, focused on the importance of logistics in effective deterrence. If credible deterrence re-

lies on proper signaling about resolve, General Dorman argued, it also depends on ensuring the appropriate logistical support, and the comparable ability to prevent adversaries from affecting that logistical supply. From his perspective at U.S. Central Command (CENTCOM), his chapter focuses on the challenges posed by the new era of great-power competition — and the ways to overcome those challenges by embracing what he calls “strategic logistics.” General Dorman argues that new and innovative ways of building resilience in information supply in particular must be found, and that new investments must be made in the areas of lethality and agility, the modernization of systems, and in reforming the acquisitions process. Only then will logistics magnify capability and maximize the success of deterrence.

The next three chapters focus on deterrence in particular regions. One of the areas where deterrence has returned with vengeance in Western strategy is in Europe, where the North Atlantic Treaty Organization (NATO) decided to respond to the increasing assertiveness of the Russian Federation by implementing an Enhanced Forward Presence (EFP). John R. Deni examines the evolution of the EFP process, from the initial NATO response to the Russian Federation’s invasion of Ukraine in 2014, its seizure of Crimea, and its incorporation of Crimea into the federation to the refinements of the Western response in 2016. As Deni shows, there is a concern that the EFP as embraced in 2017 may not be the right tool for the security issues that face NATO in northeastern Europe. He argues that NATO needs to strengthen EFP as a tool for deterrence and assurance, paying particular attention to the differences among the Baltic states.

Alexander Lanoszka expands on Professor Deni’s chapter by examining the impact that new technologies — robotics, artificial intelligence, and additive manufacturing (often called “3D printing” in modern vernacular). Professor Lanoszka looks at how some of the key actors in the Baltic region — the U.S. Army, the Russian armed forces, and the Baltic countries themselves — have been affected by these new technologies. He argues that these emerging technologies will marginally enhance Russia’s military capabilities, with the United States gradually and cautiously adopting them. And while these new technologies might offer the three Baltic countries some advantages in the short run, Professor Lanoszka suggests that in the longer term, emerging technologies could have a transformative effect on forward deployments, increasing their credibility by providing the means to resupply themselves on the spot without having to rely on long supply chains.

Christopher Bolan examines the emerging challenges of deterring Iran. In his view, Iran poses a particularly daunting target for deterrence. The complex and opaque nature of Iranian policy-making — marked by numerous actors and different layers of decision — is particularly challenging for Western deterrent efforts, since targeting for deterrent strategies and actions requires considerable intelligence about the “pulling and hauling” that is so much a mark of the policy-making process. A second major challenge is the difficulty of crafting a deterrent strategy that is able to bring together the different capabilities of the various Western allies into a comprehensive and coherent package that targets both conventional security threats (such as the development of weapons systems) and unconventional security threats (such as Iranian support for terrorism, proxy warfare, and cyberwarfare). Professor Bolan concludes that the future success of efforts to deter Iran will depend on three key elements: the ability of the United States and its allies to come to a consensus about the nature of Iranian threats to Western interests; the ability of Western governments to develop a better and more nuanced understanding of Iranian decision-making that takes into account constantly changing internal dynamics in Iran; and the ability of Western governments to implement a coherent deterrent policy that combines both threats of punishment and promises of rewards to push Iran into decisions that are favourable to allied interests.

The final two chapters are reflections on the general nature of deterrence and reassurance in the contemporary era. Stephen M. Saideman focuses directly on the implications for deterrence of the presidency of Donald J. Trump. In Professor Saideman’s view, Trump’s particular idiosyncrasies — his long record of breaking commitments he has undertaken, and his equally long record of openly and shamelessly lying — make the deterring of adversaries and the reassurance of friends and allies particularly daunting tasks. Complicating the deterrent and reassurance dynamics is Trump’s long-standing hostility towards NATO, his apparent lack of understanding how NATO actually works, and his “strange ties” to Russia that affect how he himself treats a key target of American and Western deterrent efforts, Vladimir Putin. Surveying the nature of both deterrence and reassurance, Professor Saideman concludes that effective deterrence requires the very element that Trump cannot, or will not, provide: certainty. On the contrary: in his public commentary and analysis, Professor Saideman has taken to describing Trump as an Uncertainty Engine™ — someone who not only is unwilling and unable to provide any predictability to American foreign policy,

but also is takes delight in seeking to disrupt America's long-standing alliances by treating them ambiguously. Will deterrence fail because Donald J. Trump is president? Professor Saideman is guardedly optimistic that NATO's Enhanced Forward Presence will continue to have both a deterrent and a reassurance effect. He is also optimistic about the longer term, noting that Trump's constant attacks on NATO have had the effect of making the alliance more popular in the United States.

Hugh White offers a more pessimistic perspective on Western deterrence policies, arguing that deterrence is failing where it matters most. Both the People's Republic of China and the Russian Federation have acted not only in ways that Western governments have regarded as inimical to their interests, but also in ways that pose an open challenge to the post-Cold War order. Professor White's analysis of deterrence after the Cold War argues that the West often took the view that it was doing all that was necessary to deter major-power challenges to the post-Cold War order. It is clear, however, that neither major power was being successfully deterred, requiring a re-examination of the deterrence dynamic. He argues that the failure of deterrence stemmed from the West's tendency to underestimate the motivation and resolve of the West's rivals, and to overestimate the credibility of the West's responses and the power of its military. For Professor White, the huge challenge for the West today is to convince both the Russian Federation and the People's Republic of China that the United States and its allies would be willing to engage in a major conflict with either or both of these powers over key flashpoints in their respective regions. This would require that Western leaders articulate a compelling explanation, for their own citizens as well as for the governments in Moscow and Beijing, why the costs of such a conflict need to be borne. If the United States in particular cannot come up with such an argument, then, as Professor White concludes bluntly, "we'd all be well advised to stop bluffing."

William G. Braun III, one of the co-organizers of KCIS 2019, and A. Thomas Hughes, the KCIS 2019 rapporteur, conclude the collection with a short reflection on the future of deterrence. The papers reproduced here suggest that deterrence is unlikely to be effective if those seeking to deter behaviour see deterrence as a singular concept, or that one strategy is can be applied everywhere. On the contrary: trying to deter in radically different strategic environments that can range from nuclear deterrence to gray zone operations short of war to conflict in cyberspace means trying to a range of pathways. Conducting effective deterrence therefore requires a whole-of-government approach which

leverages all components of national power in a manner that is particular to a given context and situation. They argue that capabilities and vulnerabilities must be understood across the complete spectrum of military, government, and society. More importantly, while deterrence might be the foundation for improving security relationships, William Braun and Thomas Hughes conclude that deterrence is not the only strategic option available to decision-makers; the necessity of exploring a full range of options is one of the key lessons of KCIS 2019.

Contemporary Deterrence Challenges

Paul Bernstein¹

To help frame some of the main deterrence challenges posed by the contemporary security landscape, and to provide some context for the more focused discussions in the chapters ahead, this chapter offers some foundational thoughts on deterrence. To help frame some of the main deterrence challenges posed by the current security landscape and to tee up a number of the more focused discussions to follow. It does not seek to provide a comprehensive assessment of all deterrence problems.

Some Quick Historical Perspective

Looking at how this set of issues has evolved in the United States, the end of the Cold War led to the emergence of a new planning paradigm focused on deterring regional actors armed with (or actively seeking) nuclear weapons or other weapons of mass destruction (WMD) and developing the toolkit necessary to do this. The 9/11 attacks led the administration of George W. Bush to conclude that this threat had morphed into something intolerable against which a strategy of deterrence was simply too reactive and defensive. What followed is the move toward preventive war in Iraq as the alternative to an adapted deterrence posture, and the experience of discovering some of the shortcomings,

1. The views expressed here are my own and not those of the National Defense University, the U.S. Department of Defense, or the United States Government.

costs and unanticipated consequences of this alternative. The reckoning that followed featured, among other things, a reconciliation with the value of deterrence as a strategy that often best balances national interests when dealing with adversaries with whom conciliation may be too difficult but who may be too strong to defeat at low cost. Core national documents in 2006, including the National Security Strategy and Quadrennial Defense Review, reflected this clearly. Beginning in 2010, the administration of Barack Obama adopted some new approaches to defining or shaping the deterrence toolkit, prominent among them a reduced role for nuclear weapons. The administration of Donald J. Trump, in turn, has established a new context for thinking about and operationalizing deterrence with an emphasis on long-term strategic competition, new types of conflict, and the need to close both non-nuclear and nuclear deterrence gaps.

It is worth noting what the 2017 *National Security Strategy* of the United States says:

[D]eterrence today is significantly more complex to achieve than during the Cold War. Adversaries studied the American way of war and began investing in capabilities that targeted our strengths and sought to exploit perceived weaknesses. The spread of accurate and inexpensive weapons and the use of cyber tools have allowed state and non-state competitors to harm the United States across various domains. Such capabilities contest what was recently U.S. dominance across the land, air, maritime, space, and cyberspace domains. They also enable adversaries to attempt strategic attacks against the United States — without resorting to nuclear weapons — in ways that could cripple our economy and our ability to deploy military forces. Deterrence must be extended across all these domains and must address all possible strategic attacks.²

This recognition in a core strategy document of the changed — and more complex — geopolitical and military context for deterrence is significant, and the task to adapt deterrence to meet this multi-domain challenge is a major undertaking. Deconstructing the complexity reveals a number of specific deterrence challenges.

2. *National Security Strategy of the United States of America*, December 2017, 27.

Tailored Regional Deterrence

The most likely path to nuclear confrontation is one that grows out of a regional war in which one of the parties finds itself compelled to contemplate the use of nuclear weapons to change the character of the conflict or overcome a critical operational problem. The U.S. approach to deterrence in regional conflict with nuclear-armed powers is premised on convincing them they will not be able to escalate their way out of a failed or failing conventional aggression. One challenge is that, as already noted, potential adversaries — Russia, China, North Korea — have been working to offset U.S. advantages in conventional warfare in the belief that that they can deter U.S. intervention and if necessary impose high costs on the United States and its coalition partners in a regional conflict. For each of these actors, this is central to its larger security objectives of preserving sovereignty and extending regional primacy. To varying degrees, nuclear weapons and the credible threat to escalate to their use in a crisis or war, play an important role in the strategies these states are developing.

This much potential adversaries have in common, but the deterrence and escalation challenge each poses is unique, framed by the particular features of a likely conflict with each and what is believed to be known about their capabilities, doctrine, and behavior. Accordingly, it is important to differentiate among potential adversaries so that tailored strategies can be developed, even if these strategies are based, unavoidably, on less than complete or perfect information. The requirements of tailoring pose a particular challenge for intelligence agencies with respect to both developing a baseline understanding of adversary attitudes and behavior and supporting crisis decisionmaking where the key questions will have less to do with order of battle than with a leadership's state of mind and propensity for risk-taking.

It is clear that over the medium to long term, the United States views China as the most demanding challenge in preparing for the possibility of regional conflict. While China is emerging as the "pacing threat" for defense planning, today the possibility of war seems more likely with North Korea or Russia — notwithstanding the opening of a diplomatic track with Pyongyang and NATO's progress in bolstering its conventional defenses. Both these cases continue to represent significant difficulties for deterrence.

If nuclear diplomacy fails, deterring North Korea from using its nuclear weapons in a conflict on the peninsula will once again be front and

center as the most urgent and daunting regional deterrence challenge facing the United States. Urgent because North Korea's risk-taking behavior has the potential to trigger a large-scale war at almost any time. Daunting in part because there is little if any understanding of how North Korea would brandish or use its nuclear capabilities in a crisis or war, and in part because a U.S.-led military campaign perceived as seeking to decapitate or overthrow the Pyongyang regime could create a powerful incentive for it to use its nuclear weapons early in the belief that the state's very existence was at risk. If the regime believed its nuclear assets were vulnerable to attack, "use or lose" pressures would reinforce these incentives.

The principal task, of course, is to deter major aggression of any kind. But in the event that pre-war deterrence fails, perhaps the most pressing intra-war deterrence question for policymakers and defense planners is how to wage a decisive conventional campaign in response to North Korean aggression in a way that achieves coalition objectives but does not trigger the regime's use of nuclear weapons. Here, one possibility to consider is a coalition campaign that seeks an endstate short of regime destruction or change in the hopes of giving the North Korean leadership an incentive to act with nuclear restraint. There may be few other ways to convey to Pyongyang that the stakes in a conflict are less than existential, but even this type of approach raises difficult questions. For instance, what type of endstate is likely to be achievable that falls short of regime change but does not accept the status quo ante, which one assumes would be unacceptable to the Republic of Korea (ROK)? Will Seoul have an incentive to show restraint in war aims if it believes the conflict can be won at acceptable cost? Would a campaign characterized by limited objectives refrain from conducting operations to neutralize North Korea's nuclear, chemical and missile forces, including capabilities that could threaten the U.S. homeland?

By contrast, Russia possesses a far more advanced set of capabilities for waging regional war and managing a process of intra-war deterrence and escalation. This includes a diverse arsenal of nonstrategic nuclear weapons and theater-range precision strike systems that could be leveraged for coercive purposes or employed to achieve political and operational objectives. In both these areas, the United States and its NATO allies possess significantly fewer and less diverse capabilities. In a conflict triggered by Russian aggression against NATO's easternmost members, Moscow could view this asymmetry as one of a number of exploitable advantages, strengthening its confidence in a strategy

designed to restrain NATO's response to aggression through credible threats of escalation.

Here, the pressing intra-war deterrence question is how to counter a strategy premised on the adversary's belief that it can dominate a process of conventional and nuclear escalation and thereby impose unbearable risks on the United States and its allies. How best to strip away Russia's confidence in such a strategy and thereby strengthen deterrence? This question has generated a number of responses in the policy and analytic communities in recent years, and these responses pose a basic choice. Should the United States organize around the idea of managing to its own advantage an extended process of escalation that envisions matching Russian capabilities at key thresholds of conflict — to include limited nuclear exchanges using nonstrategic weapons? Or should it focus on an approach that seeks to maximize Moscow's uncertainty and reinforce its sense of risk through the threat of disproportionate responses to aggression, to include nuclear responses?

The former approach seeks to contain the prospects for large-scale nuclear war but at least implicitly accepts that engaging in lower levels of nuclear conflict may be necessary to restore deterrence. As such, it seems premised on large assumptions about the ability of the United States to develop and field a more diverse set of nuclear capabilities, produce supporting doctrine, and successfully promote a concept here and in NATO that inevitably will be characterized, fairly or not, as a "limited nuclear war" strategy. The latter approach is premised on a recognition of these challenges and therefore may be more pragmatic, but runs the risk of appearing less than fully credible if perceived in Moscow as a policy of rapid escalation to the strategic level relying on the most destructive U.S. nuclear weapons.

A middle approach may make most sense in charting a path forward and the 2018 Nuclear Posture Review seems to plot such a course. U.S. strategy need not mimic Russian doctrine and capabilities in order to deter successfully and should avoid signaling to Russia a willingness to engage in a prolonged phase of conflict characterized by "tit for tat" exchanges up to and including limited nuclear strikes. At the same time, a sound deterrence strategy must present to Moscow serious risk below the level of strategic nuclear warfare should it contemplate or execute limited nuclear strikes in a theater of conflict. This argues for ensuring that U.S. capabilities most suited to deliver powerful but limited nuclear responses are maintained and modernized, communicating with clarity their ability to impose high costs on Russia, and anticipating

the requirement to adaptively plan appropriate employment options should the need arise. The supplemental nonstrategic nuclear capabilities identified in the NPR are intended to respond to this need as tailored means to counter Russia's coercive strategy.³

Integrated Strategic Deterrence

How do we “wage deterrence” and manage escalation risk in a more complex, multi-domain environment featuring a diversity of “blue” and “red” forces that can achieve strategic effects? More specifically, do deterrence strategy and capabilities need to be more integrated to take account of intensifying military competition in cyber, space, missile defense and advanced conventional precision strike systems such as hypersonics? And what would this mean in practical terms for policy, plans, and programs? Practitioners and theorists have been struggling with these questions in one way or another for about a decade. There is by now a broad recognition that Cold War-era concepts of conflict escalation emphasizing the transition from a conventional to a nuclear phase do not capture the range of current and emerging capabilities that the parties to a conflict could bring to bear in trying to make coercive threats, manipulate risk, and manage to their advantage a process of escalation. If escalation could once be conceived in relatively simple terms as a ladder with a few well-defined rungs, a more complex dynamic must now be understood. Does that ladder now just have a few more rungs to reflect the emergence of new thresholds in what remains an essentially linear phenomenon? Or is the ladder transforming into something increasingly non-linear suggesting a different model for how strategic crises could unfold?

At one level, the conversation about integrated strategic deterrence (what some still refer to as “cross-domain” deterrence) has been driven from the outset by a sense of vulnerability. As noted by a number of scholars and analysts, the idea of cross-domain deterrence emerged in the DoD in response to growing concerns that Russia and China could exploit U.S. vulnerabilities in cyberspace and outer space to neutralize U.S. advantages in the critical enablers of its military dominance, in particular global intelligence, surveillance and reconnaissance (ISR),

3. The Nuclear Posture Review identifies two supplemental nonstrategic nuclear capabilities to enhance deterrence: (i) modification of a small number of existing submarine-launched ballistic missiles to provide a low-yield option, and (ii) a nuclear-armed sea-launched cruise missile. See Nuclear Posture Review, February 2018, 52–55.

automated command, control, and communications architectures, and precision strike.⁴ Persistent vulnerabilities of this kind, it was feared, could contribute to deterring the United States from resisting local aggression to defend an ally or some other important interest. Inflicting early damage in these domains could lead Washington to reconsider an expeditionary intervention. A more sustained campaign over the course of a conflict could create a situation in which the United States faced the choice of conciliating or considering the use of nuclear weapons. Indeed, if adversaries could disrupt or defeat vital cyber networks and space assets with ambiguity or plausible deniability, and using relatively inexpensive means, the burden of escalation in responding to potentially crippling attacks would fall on the United States.

At another level, the conversation about integrated deterrence is driven by a sense of opportunity — the belief that new capabilities in new domains provide the basis for the United States to sustain and expand its asymmetric advantages at the operational level of war.⁵ At the strategic level, the promise is that of an expanded toolkit for managing intra-war deterrence. To date this has been articulated only in general terms. If conventional high precision, nuclear, cyber, space, missile defense and ISR capabilities can be knitted together and leveraged dynamically, the result will be stronger deterrence, a better prospect for managing escalation risks, and more time and better options for leadership in crisis and conflict. In particular, it should be possible to forestall the point at which an American president would have to contemplate the use of nuclear weapons.

The hope that operationalizing the idea of integrated deterrence will enhance strategic stability and extended deterrence has animated a great deal of discussion in the deterrence community in recent years. But in truth neither deterrence thinkers nor defense planners have more than a sketchy understanding of what this means in the context of a regional conflict with a peer competitor. It is easy enough

4. See Jon R. Lindsay and Eric Gartzke, “Cross Domain Deterrence as a Practical Problem and a Theoretical Concept,” 3, http://deterrence.ucsd.edu/_files/CDD_Intro_v2.pdf. This is a draft chapter for an edited volume.

5. General Martin E. Dempsey, “General Dempsey’s Remarks and the Q&A on Cyber Security at the Brookings Institution,” n.d. [July 2013], <http://www.jcs.mil/Media/Speeches/Article/571864/gen-dempseys-remarks-and-qa-on-cyber-security-at-the-brookings-institute/>. Regarding the operational payoff in the cyber domain, Dempsey notes: “the military with the most agile and resilient networks will be the most effective in future war.”

through analysis and wargaming to anticipate the kinds of actions each side might take in an escalating conflict, but there is not yet a practical framework for thinking about those actions beyond their impact on the operational level of war. Making progress on this framework means unpacking a set of considerations related to thresholds and “red lines,” proportionality and reciprocity, horizontal escalation, attribution, crisis management and messaging, norms, and the laws of armed conflict. The goal is not to develop a formula or algorithm for finely calibrating the application of force across multiple domains — certainly unattainable and probably undesirable — but, more realistically, to devise some type of “rule set” that can help policymakers, planners and operators better weigh risk and reward when confronted with cross-domain opportunities and challenges in a regional conflict.

Until such progress is made, however, the idea of leveraging synergistically a range of systems capable of delivering strategic effects to achieve more robust deterrence will remain an aspiration. Apart from the short exhortation in the National Security Strategy quoted above, the strategy documents produced to date by the Trump administration have not addressed this set of issues. Consideration should be given to forming an expert commission to provide an objective assessment of the opportunities and challenges of integrated strategic deterrence over the medium- to long-term. One possible model for this is the Congressional Commission on the Strategic Posture of the United States (2009), which established a framework for the 2010 NPR. Another is the Commission on Long-Term Integrated Strategy, which in 1988 offered new concepts for deterrence in light of the changing technology environment.

Under the broader rubric of integrated deterrence are more discrete debates about the role and utility of deterrence. A good example is the debate about how deterrence can or should play in the cyber domain. On one side are those who believe the historical experience of nuclear deterrence is relevant to cyber and that its governing principles can be adapted to manage the cyber aspects of conflict. On the other are those who argue that deterrence thinking, with its emphasis on restraint and reasonably well-defined thresholds, is poorly suited to the hypercompetitive nature of the cyber realm. What practitioners and operators are actually doing day-to-day lies somewhere in between — a synthesis of deterrence and competition the goal of which is to both degrade adversary capability and change adversary risk calculus and behavior. The 2018 NPR implicitly argues that deterrence is a legitimate and useful strategy for at least the most extreme cyberattacks an adversary might

contemplate, such as those that might be directed against major economic, financial, public health, infrastructure, and nuclear command and control systems.

Extended Deterrence and Assurance

It has long been central to U.S. thinking that extended nuclear deterrence relationships strengthen regional security and support global nonproliferation objectives, and are therefore indisputably in the U.S. national interest. U.S. strategy documents unambiguously affirm this, and while there may be new pressures on these relationships today in light of threat developments and a renewed focus on burdensharing, the costs of walking away from these commitments are likely to be unbearably high for the United States. That said, the context for assurance and extended deterrence has changed markedly in just the last few years. In both Europe and East Asia, levels of nuclear anxiety are higher. A key question for a discussion of deterrence fundamentals is whether the models for extended deterrence established by the United States in Europe and East Asia remain the right ones.

In NATO, deeply rooted institutionalized planning and consultation and the shared benefits and risks of a land-based nuclear force have worked exceptionally well as a model of extended deterrence and assurance. In the last five years, NATO has performed well in strengthening conventional deterrence in its northeast, though the task of adapting its nuclear deterrent to the new strategic environment in Europe remains incomplete. As important as these near-term efforts are, more fundamental still is the question of alliance solidarity in its security posture over time. If Russia's orientation does not change, can NATO sustain the necessary vigilance and political unity for what may be a lengthy period of tension during which deterrence and defense remain as or more important than dialogue?

And can it do so as the spectrum of conflict widens? NATO now also faces a different type of deterrence challenge: Russia's coercive strategies short of high intensity armed conflict — both “hybrid war” as exemplified by the Ukraine operation, and the campaigns of political-economic-information warfare seen elsewhere in Europe. How well, if at all, do traditional approaches to deterrence and assurance apply to these more novel European security problems? While there is a natural tendency to default to deterrence as a universal paradigm for mitigating security dilemmas, there is a credible argument that for these

problems strategies organized around competition, resilience, and resistance using a more “whole of government” approach are equally if not more important.

In East Asia, the extended deterrence and assurance model has been quite different, defined by bilateral relationships engaged in a far less elaborate consultative process and underwritten in recent decades by “offshore” or “over-the-horizon” nuclear capabilities. The most acute regional security threats have placed a spotlight on the U.S.–Republic of Korea (ROK) alliance, and a key issue here is whether Washington and Seoul are approaching the psychological limits of the extended deterrence relationship in the face of potentially diverging conceptions of how this relationship should work. The evidence of such a divergence is two-fold: the steady push by the ROK to deepen the nuclear dimension of the security relationship, and its parallel effort to develop military doctrines and weapons to provide independent non-nuclear options to pre-empt or respond to North Korean attacks.

For Seoul, deepening the nuclear relationship means establishing a more formal, transparent and senior-level consultative mechanism to achieve a greater sense of partnership and enable more open and concrete discussion of how nuclear security guarantees would be implemented or operationalized in practice. Should the current diplomatic track fail and lead to a resumption of tensions, the ROK may press for more — more information on U.S. nuclear plans, a more active role in the planning process, a more visible U.S. nuclear presence in the region. While the United States has accommodated the ROK’s interest in a more robust process of consultation and joint study, there are limits to what Washington will do to provide nuclear reassurance to Seoul, especially with respect to operational planning and other forms of “nuclear sharing.” At the same time, there is every reason to do whatever is reasonable to minimize the potential for a future crisis that could lead to unwelcome outcomes, such as a decision by South Korea to develop its own nuclear weapons. The possibility of such a crisis cannot be dismissed out of hand.

The ROK may have little success in moving the United States toward a more concrete discussion of security guarantees in order to achieve greater assurance and partnership at the nuclear level. But it has clearly moved to achieve greater freedom of action below the nuclear level. The ROK’s push to develop and deploy independent non-nuclear military capabilities to support its own version of strategic deterrence — what it openly refers to as its triad of strike and missile defense systems — is a

signal that there are limits to the dependencies allies are willing to live with when facing acute threats. While nuclear dependencies may be difficult to overcome, it should be no surprise that Seoul feels a strong psychological need to possess capabilities that it can wield on its own terms to pose a deterrent threat to the North that is not tied explicitly to what the United States might or might not do. Whether these concepts and capabilities (such as “kill chain” and “massive punishment and retaliation”) are sensible or stabilizing may be less important than the fact that the ROK has felt compelled to pursue them.⁶

These examples of strategic divergence could continue to strain and test the extended deterrence relationship if the current diplomatic process fails due to North Korea’s intransigence and the peninsula returns to a state of heightened tension. In this circumstance, U.S. policy must remain mindful of these dynamics and what is likely to be a continuing effort by Seoul to shape the terms of the relationship.

The Legitimacy of Nuclear Deterrence

The challenge to the legitimacy of nuclear weapons and nuclear deterrence as a security strategy has most recently taken the form of the Treaty on the Prohibition of Nuclear Weapons. The so-called Ban Treaty is the first legally binding international agreement to comprehensively prohibit nuclear weapons. This treaty has been signed by 70 parties — most but not all of whom are voting member states at the United Nations — but without the support of the Permanent 5 (P5) nuclear states on the Security Council or any members of NATO. It has yet to enter into force but will do so once it is formally ratified by fifty of the signatory nations.

Today there are considerably fewer than fifty ratifying states, and it is difficult to predict when or if this threshold requirement will be met. To some observers, this is a low bar for a treaty intended to impose a global ban on nuclear weapons. Moreover, the treaty contains

6. “Kill chain” refers to a complex of intelligence, surveillance and reconnaissance (ISR) and precision strike missile systems whose mission is to pre-emptively attack North Korean missile sites prior to launch. See James Hardy, “North Korea, Beware of Seoul’s Mighty Missiles,” *National Interest*, 2 July 2014, <http://nationalinterest.org/feature/north-korea-beware-seouls-mighty-missiles-10792>. “Massive punishment and retaliation” is a concept to use similar capabilities as well as special forces for swift, targeted operations against the North Korean leadership. See Joshua Berlinger and K.J. Kwon, “South Korea Speeds Up Creation of Kim Jong un ‘Decapitation Unit,’” *CNN*, 11 January 2017, <https://www.cnn.com/2017/01/05/asia/south-korea-kim-jong-un-brigade/>.

no provisions for verification or enforcement. Nonetheless, its drafters and supporters clearly aim to use its passage in the United Nations to pressure governments — principally democratic governments — to adopt or deepen anti-nuclear policies and catalyze the stigmatization of nuclear weapons and nuclear security guarantees. Leaders of the ban movement have been open about their intent to target cooperation between nuclear-armed states and their security partners. As the United States is the only nuclear power that maintains a global network of allies to whom it extends nuclear security guarantees, the strategic intent of the Treaty Ban is most clearly directed at this core component of the Western security architecture.

Whether and how states and alliances that have made the choice to deter extreme threats through nuclear deterrence will mobilize to defend this choice will be a key factor in determining whether nuclear deterrence remains a legitimate security strategy and a viable option for those governments most committed to sustaining the liberal international order.

The Critical and Foundational Role of Strategic Logistics in the New Era of Deterrence

Maj.-Gen. Edward F. Dorman III

We associate deterrence most often with the Cold War. Rarely does anyone acknowledge the role that logistics played after World War II that facilitated the recovery, economic growth, and military development of America's allies, underpinning NATO's capability and credibility over the Cold War era. This ultimately exhausted the Soviet Union and ensured Cold War victory. As a Combatant Command Director for Logistics & Engineering-J4, I saw first hand how the decision space and options exercised by the commander daily derive from strategic logistics. Within the U.S. Central Command area of responsibility (AOR), logistics and engineering is the cornerstone for both credibility and capabilities which the United States and its allies can leverage to prevail in deterring or defeating adversaries in the new era.

The twenty countries comprising the vast region that is the responsibility of U.S. Central Command (CENTCOM) confront profound social, economic, and political upheaval while simultaneously facing grave security challenges in the form of widespread conflict, expansionist regional powers, violent extremist organizations (VEOs), and destabilizing behaviour from outside actors. My CENTCOM J4 team leverages strategic logistics on a daily basis, interacting with the military organic and commercial industrial bases to build, and posture capability. This

capability provides CENTCOM and its Coalition partners with the credibility to deter and defeat potential adversaries.

This new era is one in which is increasingly more complex, trans-regional and multidimensional in character. A multitude of asymmetric threats and adversaries are in many cases deterring the United States and its allies from their goals and objectives by operating below the threshold of war. These adversaries leverage supply chains and cyber operations to their benefit. Rather than describe these actions in terms of “gray zone operations,” many see a return to “great power competition,” or a new “cold war.”

During his February 2018 House Armed Service Posture statement, General Joseph Votel described his approach to the region as one of “prepare, pursue and prevail,” an approach which enables CENTCOM to compete, deter, and win. He went on to say: “In practice, 21st-century deterrence encompasses a wider range of complementary tools, nuclear, conventional and non-kinetic capabilities; limited missile defenses; and unfettered access and use of space and cyberspace.” And reflective of the U.S. emphasis on “whole-of-government” approaches to national security challenges, he said, it also includes “soft power” contributions from across the interagency spectrum.¹ As my own J4 team and I worked to help prepare the boss for his testimony, we had several discussion in which he acknowledged and agreed that strategic logistics and engineering play a foundational role as we seek to posture appropriately. Otherwise, the U.S. and its allies will be unable to demonstrate the credibility nor deliver the capabilities necessary to successful deterrence in this new era.

The Logistics of Deterrence

I believe that in addition to the nuclear deterrent — and perhaps eclipsing it in the “new era” — are innovative, synchronized and resilient logistics across multiple domains. Credible deterrence relies on signaling the capability and resolve to deny or punish an adversary. As we all know, deterrence is about risk calculation and preserving decision space while creating options for senior leaders who are most often weighing their considerations from a point of national will across their own na-

1. United States, Congress, House of Representatives, Committee on Armed Services, *Hearing on the Posture of U.S. Central Command Terrorism and Iran: Defense Challenges in the Middle East*, 27 February 2018. 129th Cong. 1st sess. (Washington: GPO, 2018), statement of General Joseph L. Votel, Commander, CENTCOM.

tion and that of allies and partners. Nothing creates the flexibility for deterrent options and decision space more than national logistics that are underpinned by a vibrant, thriving economy that in turn is linked to partners and allies through engaged diplomacy and information-sharing agreements. These links enable the United States and its partners to leverage industrial capacity, expeditionary mobility, and joint force projection capabilities to rapidly project and aggregate military forces at a time and place of our choosing — and then sustain it indefinitely. Given the many factors driving change and uncertainty across the globe, U.S. and allied and partner commitment in the CENTCOM region remains as important as ever. As we adapt to the new National Defense Strategy and implementation guidance, we recognize the revised prioritization of global threats and the changes in applications of force.

However, recent experience has shown that of the “2+3” about which our new NDS is most concerned — Russia and China, plus the Democratic People’s Republic of Korea, Iran and VEOs — the fact is that all five are currently operating within the CENTCOM area of responsibility. Therefore, I see CENTCOM’s contributions to strategic deterrence from both a regional and global perspective. And keep in mind that deterrence is in the eye of the beholder. For deterrence to work, all the elements of national power must be applied and understood by adversaries and potential adversaries alike. In my view, the formula for successful deterrence is: Capability plus Credibility to the power of Logistics x Resolve x Signaling = Deterrence. ($D=C^L+ C^L *R *S$).

The CENTCOM View

Our combatant commands are a critical component of our deterrence both regionally and globally due to the transregional nature of today’s threats. As I noted in the introduction, the commander’s strategic approach is one of “prepare, pursue, prevail” — all underpinned by a solid foundation of strategic logistics synchronized from the national strategic to tactical levels nested inside the new National Defense Strategy. The NDS directs us to deter adversaries from aggression against our vital interests and to discourage destabilizing behaviour.

Our method of working “by, with, and through” partners and allies ensures we are training host nation forces to take the lead in operations, enabling them with key assets like logistics. First we *prepare the environment* by ensuring the right forces, footprints and agreement are in place. This ensures that conditions are set for stabilization post con-

tingency operations and to enable deterrence broadly. Effective preparation enables CENTCOM to compete with the other major actors in the region through strengthening alliances and partnerships. For example, CENTCOM did not lead the fight to defeat Islamic State of Iraq and Syria (ISIS), but prepared the environment by advising, assisting, and enabling Iraqi Security Forces (ISF) and the Syrian Democratic Forces. The Office for Security Cooperation–Iraq worked daily with the government of Iraq to plan execute the acquisition, logistics and distribution of capabilities necessary to man, train, equip, posture and execute operations. Theater logisticians engaged the ISF and the Iraqi government daily to help reform Iraqi repair-and-maintenance facilities. I was able to link the Army Materiel Command (AMC) to this fledgling Iraqi organic industrial base. The linking of industrial bases delivers the capability to produce repair parts to sustain weapon systems platforms that the US no longer produces ensures credible forces. A prepared environment along with exercises and operations are a powerful signal to friend and foe alike that contribute to deterrence. This is essential in contributing to deterring state on state aggression as well as exportation of threat vectors to our collective homelands, preserving regional balances of power, and thus substantially achieving strategic objectives and interests in our national strategies.

Secondly, we must *pursue opportunities* to strengthen alliances which provide the necessary agreements enabling access, basing and overflight. We must also build partner capacity, especially within their own industrial base, which, combined with our own and that of partners and allies, provides resiliency and redundancy. This also fundamentally enables our ability to work “by, with, and through.” Our effort to strengthen the Lebanese security forces, especially the Lebanese Armed Forces (LAF), as the country’s only legitimate security provider is a critical aspect of our policy to promote Lebanese sovereignty and security. With successful operations like Dawn of the Hills, the Lebanese people are realizing more and more that the LAF, their country’s most trusted and respected institution, is increasingly capable of protecting them from external threats. The United States is the LAF’s top security assistance partner, and our consistent, long-term commitment and training efforts, in addition to the more than \$1.7 billion in security assistance provided since 2006, have successfully modernized and strengthened the LAF as a fighting force. While we have been successful in this “coalition centric approach,” it has not always been easy or efficient due to lack of adequate authorities.

I would argue that the new era challenges require a paradigm shift and a deliberate acceptance of risk in order to foster an environment of reciprocal information sharing. Strong partnerships exponentially increase our potential for deterrence. Once we have deterred, we can then *prevail* by either denying adversaries opportunities or punishing them when they seek to move beyond competition into confrontation. It is the threat of our ability to prevail over any enemy that is the heart of deterrence. In other words, if you fight us, you will lose. CENTCOM remains mindful that ours is a team effort and that successful deterrence requires both a regional and trans regional approach working with our fellow combatant commands, our component commands, our regional task forces, the Central Region's partner countries, together with industry and the agencies and organizations of a global joint, intergovernmental, interagency and multinational enterprise working together across the multi-domain environment leveraging all elements of national power — diplomacy, information, military, economy (DIME). This is especially true when trying to leverage military power to deter non-state actors.

New Era Challenges

In recent years, many observers have been fascinated by the power of new weapons, and have concluded that logistics capacity would not be an issue with respect to deterrence. However, one only has to consider precision-guided munition (PGM) consumption and logistics capability force caps to see potential impacts to our ability to effectively deter. I am often accused of being a frustrated operator. That is because I rarely miss an opportunity to inject my opinions on the role of logistics in “gray zone” competition, or in those areas where lack of strategic logistics considerations will significantly impact our ability to respond. “New era” challenges like cyberspace, and our current inability to protect supply chains, have a profound impact on our ability to develop, produce, deploy, distribute, store, and execute the acquisitions, logistics, and distribution that underpin successful deterrence. In August 2018, the MITRE Corporation, a not-for-profit company that operates research and development centres funded by the U.S. government, published a MITRE Advisory Document to the U.S. Government that noted that “Stronger, holistic measures to make our networks and supply chains more robust and resilient can deter adversaries by increasing the costs or even reversing the likelihood of adverse effects—reducing

the return on investment of potential attacks.”² This advisory report made fifteen recommendations, many of which focused on enhancing logistics factors. Ordinarily not much thought is given to impacts on logistics operations across the space, cyberspace, and information domains. However, the navigation, in-transit visibility, and national level logistics enterprise systems of our ships are heavily reliant on a healthy space and cyber space ecosystem. The fact that our global logistic information technology systems ride on the unclassified net make it a lucrative target for adversaries who can manipulate systems and data inhibiting our ability to respond in a timely and accurate manner, vulnerabilities that General Darren W. McDew, former commander of United States Transportation Command (USTRANSCOM), highlighted during his annual testimony to the Armed Services Committee.

Additionally the loss of access to rare earth metals and the potential of counterfeit or corrupted chips has an impact on logisticians’ support, from the national to the tactical level, and across all domains. We must be able to overcome the potential denial of this critical resource and build our own capability to deny or threaten adversaries in this realm. With our technological advantages, proposed projects like asteroid mining could give us back the edge.

Finally, I believe we as logisticians are losing the narrative on the implications of our business relative to deterrence in the new era. We have to communicate and participate in the signaling of both our contributions and requirements for adequate deterrence. Our inability to reform the acquisition process, adjust and enhance organic and commercial industrial base processes for the twenty-first century to enable operating at the speed of need while leveraging innovation in a smart way, in order to provide holistic requirements to industry which enable the right resourcing, and protect supply chains sufficiently has been problematic. This was another note in the 2018 MITRE advisory report: “The contemporary threat landscape has not been effectively addressed or deterred in our national security missions, policies, and infrastructure. The response is inadequate within the private sector and across government.”³

2. Chris Nissen, John Gronager, Ph.D., Robert Metzger, J.D., and Harvey Rishikof, J.D., *Deliver Uncompromised: A Strategy for Supply Chain Security and Resilience in Response to the Changing Character of War* (MITRE, August 2018), 8, <https://www.mitre.org/sites/default/files/publications/pr-18-2417-deliver-uncompromised-MITRE-study-8AUG2018.pdf>.

3. *Ibid.*, 7.

Overcoming “New Era” Challenges through Strategic Logistics

Our biggest challenges today in providing effective deterrence (the ability to deny or punish) result from unconstrained operations. Failure to reduce the vulnerabilities of our logistics infrastructure and forces in this unconstrained environment slows operational tempo and impedes effectiveness. However, rather than this being a vulnerability, we can, through informed planning, execution, and artfully applied logistics, create the force we need from the force we have. A robust, resilient, exercised and tightly synchronized networked ecosystem of multiple modes, nodes, sources, and routes which span from the national to tactical level improves resiliency and responsiveness creates and substantially enables credible deterrence. If deterrence is indeed capability plus credibility to the power of logistics \times resolve \times signaling ($D=C^L + C^L * R * S$), then you understand the role and relationship of a legitimate, robust and a well exercised logistics capability to rapid power projection.

I am naturally speaking of the strategic deployment and distribution capability of the United States armed forces, which allows us to project combat power anywhere in the world at a time and place of our choosing, and sustain it indefinitely. It is, in fact, the guarantor of what makes the U.S. the world’s only superpower. However, without the ability to project or sustain that capability, there can be no deterrence — because the capability and its implied threat would be a paper tiger. Over the past decade and a half the infrastructure necessary to project both within and outside the continental United States, as well as U.S. deployment skills, have atrophied significantly.

However, by making some investments, we can strengthen our inoperability from a people, posture and processes perspective. First we must do our part in preparing the environment which means helping “Set the Globe” for logistics by evolving and optimizing our legacy theater posture network of multiple modes, nodes, routes and sources to ensure the network remains active and resilient. This will enhance trans-regional aspects of dynamic force employment and rapid force aggregation. We must understand — and maximize — scarce strategic transportation assets, both organic and nonorganic, while at the same time strengthening relationships with industry, allies, and strategic partners. A balanced portfolio will require having the proper authorities to position and reposition deployment and distribution capabilities and assets, thus enhancing agility, mitigating risk, and increasing the options and the decision space for both combatant commanders and

the commander-in-chief, the president of the United States.

The ability to project power is a core concern for any deterrence strategy. Our aging infrastructure and its reliance on networks with significant vulnerabilities that have been recently exploited in other conflicts by our potential adversaries must be hardened against threats that interfere with our projection and weaken our deterrence capacity. One example of improvements that have been made is the development of the Trans-Arabian Network. This elaborate system — which connects interior and exterior lines of communications and enables dynamic expeditionary force reception, staging and onward movement across multiple nodes, modes, and routes within all domains — is increasing capability, demonstrating resolve, and recently sent Iran a strong signal about where the United States can be in a moment's notice.

However, more work needs to be done. We must implement new and innovative ways of sharing information with commercial industry, allies, and other partners to build network resiliency, expand our competitive space, and refine and reduce lengthy intergovernmental customs processing and diplomatic and border crossing timelines which the military alone cannot effect. Successful deterrence in the future relies on revolutionizing information integration through expanded authorities across the joint, interagency, intergovernmental, and multinational (JIIM) environment. Equally, we must enhance unity of effort horizontally across business processes to effectively expand the competitive space combining actions across all domains and all dimensions of national power to identify and strengthen relationships to address areas of economic, technological, and informational vulnerabilities within our sustainment enterprise.

However, our reliance on the unclassified information domain creates substantial vulnerabilities across our modes, nodes, sources and routes. In so doing we can ensure strategic predictability and operational unpredictability. Our strength and integrated actions with allies will demonstrate our commitment to deterring aggression, but our dynamic force employment, military posture, and operations must introduce unpredictability to adversary decision-makers. With our allies and partners, we will challenge competitors by maneuvering them into unfavorable positions, frustrating their efforts, precluding their options while expanding our own, and forcing them to confront conflict under adverse conditions. Current operations and on-going sustainment requirements engage a significant portion of the total force, limiting capacity to surge or meet increased deployment and distribution de-

mands. The Department of Defense (DoD) has historically viewed the reserve component as a strategic reserve. However, capacity shortfalls in the active component required the DoD to leverage guard and reserve assets to maintain steady-state activities for nearly three decades. Several conditions exacerbate this concern; fiscal uncertainty, aging fleets, and over reliance on contracted logistics capability. Despite the many challenges of our time, global integration, emerging technologies, and the collective experience of our logistics, sustainment and engineering forces present opportunities to strengthen our sustainment enterprise and improve the effectiveness of our logistics operations while decreasing risk to force. It takes a holistic and integrated force to provide the logistics necessary for credible deterrence.

Key Areas

We must prepare the environment and pursue opportunities to overcome challenges by investing in four key areas: lethality, agility, modernization of systems, and acquisition reform.

Lethality

There is not a single lethal capability that does not have a logistics requirement. We must stay ahead of these logistics requirements, and the implications of technological breakthroughs in commercial and organic industry. We have to understand the holistic requirements of industry and the impacts to capacity and surge ability. Maintaining lethality requires an assessment of supplier capability as well as investment in new logistics and force projection enabling systems. This means paying more attention to issues like Army watercraft, dynamic basing, and operational energy that can project power even in a situation where normal means are denied.

Agility

Our deterrence capabilities require agile logistics. The core of our ability to threaten or deny is based on dynamic force employment and rapid movement and aggregation of combat power. We have to work with national leadership in the diplomatic, economic, and informational spheres to expand our reach and flexibility in lines of communications, dynamic basing (to include joint multinational basing like our partnership at Muwaffaq Salti Air Base in Jordan). The further integration of

industry and academia into our footprint and thought-space is critical to creating and maintaining the innovative edge in threat creation and denial capability.

Modernization

We cannot expect success with yesterday's capabilities, most of which have been mortgaged, or cannot deploy in time, or are limited due to "boots on the ground" force-cap constraints. When considering mobility systems, we should recognize that an aging organic sealift fleet, coupled with a reduction in U.S.-flagged vessels, threatens our ability to meet national security requirements. If the fleet continues to lose ships, a lengthy, mass deployment on the scale of Desert Shield / Desert Storm could eventually require U.S. forces to rely on foreign-flagged ships for sustainment. Along with declining capacity, we are also concerned about the pool of current and qualified licensed merchant mariners who crew America's ships.

In addition, we have to bake cyber protection into our networks and processes. Although logistical and operational planning generally takes place on classified networks, ninety percent of military logistics and global movement operations are executed on unclassified commercial networks. This challenge is exacerbated by the inadequacy of implementing existing cybersecurity standards and the fact that DoD's extensive cyber protections do not extend to industry. These are critical vulnerabilities in our cyber security posture. Defending DoD information on those commercial networks goes beyond the authority of a single combatant commander. Cyber is a truly trans-regional threat to our deterrent capability. Mission assurance, particularly in degraded and contested environments, requires a collaborative effort. We are moving toward hardening our overall cybersecurity posture in collaboration with commercial industry. We are partnering with industry through our CENTCOM logistics program, LOGWERX, which seeks to leverage industry at the speed of need to address technology challenges outside of traditional pipelines.⁴ There can also be cultural challenges as we look to incorporate the latest technology from industry into our programs, as evidenced by the recent spat between Google and the DoD over facial recognition software for drones.

4. See Howard Altman, "CentCom Hoping Logwerx Brings Innovation to Logistics," *Tampa Bay Times*, 4 October 2017, <https://www.tampabay.com/news/military/macdill/howard-altman-centcom-hoping-logwerx-brings-innovation-to-logistics/2339810>.

Acquisition

Finally, we must reform the way we approach acquisition if we are to stay ahead of the curve and present multiple dilemmas for our adversaries that function as a strong deterrent to aggressive action. Our backlog of deferred readiness, procurement, and modernization of logistics requirements, coupled with an imbalance in contracted capability, has grown in the last decade and a half, and can no longer be ignored. We must make targeted, disciplined increases in personnel and platforms to meet key capability and capacity needs including the right mix of organic and industry mobility assets, port operating, global shared awareness, theater movement control and shared awareness systems.

The Way Ahead

Logistics exponentially magnifies capability. It is this capability which creates the conditions for credibility to be taken seriously by potential adversaries. Every capability at the heart of our deterrence strategy cannot be employed or sustained without logistics and engineering. CENTCOM efforts to implement and focus building partner capacity initiatives yielded increased capabilities to support security cooperation and partner nation goals. Section 333 of the National Defense Authorization Act (NDAA) authorizes funds to be available for two fiscal years and program sustainment for up to five years, allowing for execution of long-lead time programs without cross-fiscal year constraints and improved program maintenance, training, and sustainment support.

Enhanced authorities are great, but we must also look at logistics from an institutional perspective. We have to consider how we are going to develop our people, relationships, and processes to ensure our deterrence capability is not limited by our failure to develop the logistics institutions (ours and our partners) necessary for credible signaling of our resolve. We have to recruit and retain the best and brightest to help maintain our edge. While the mind naturally goes to military members and our civilian workforce, we have to expand our definition to include our industry, academia, and coalition partners. We have to understand that our partnership and capability is dependent on a network of people and relationships from which we can pool our collective strength. These relationships will shape processes and open up new avenues through cooperation by which we can create new threats and capabilities to contribute to a strong and credible potential for reprisal that

discourages that first aggressive action. As we modernize and streamline our processes and those of our partners we exponentially increase our capability. As I noted in my formula, logistics is a necessary part of the equation, without which every other element is weakened.

Is NATO's Enhanced Forward Presence Fit for Purpose?*

John R. Deni

Since the first quarter of 2017, the North Atlantic Treaty Organization (NATO) has been implementing the Enhanced Forward Presence (EFP) initiative across Eastern Europe. This initiative, which involves basing roughly 1,000 troops in each of the Baltic states and in Poland, represents a strengthening of the alliance's deterrence and reassurance posture, with eighteen of twenty-nine allies participating. From a strategic perspective, the fact that so many NATO allies are involved in this initiative is a major strength. If, in the worst-case scenario, Russia were to invade one of the four host nations, several alliance member states would likely sustain casualties. This would probably spur a faster, more unified response from the alliance. For this reason, if the primary purpose of the EFP initiative is to act as a tripwire triggering broader allied involvement, then it seems suitable for the task.

However, it remains to be seen whether the allies can overcome the challenges associated with the multinationality that characterizes each battlegroup — in some cases, the battlegroups include troops from as many as seven countries. The challenges brought on by multinationality include questions surrounding equipment compatibility, ensuring all participants can communicate securely, and the degree of English-language proficiency among contributing state forces. Moreover,

* A version of this chapter appeared in the Winter 2019 issue of *Orbis*.

national caveats — limits on what governments will permit their troops to do — frustrate the effectiveness of the EFP battlegroups, potentially preventing some contributing state forces from operating alongside host nation counterparts. Additionally, command and control arrangements are somewhat unclear: are EFP units under the operational control of NATO, host nation units, or contributing states? In many ways, these operational and tactical-level challenges have impacted nearly all NATO operations over the last quarter century or more, and the EFP initiative is no exception.

More broadly though — and more importantly — there remain questions over what role EFP units play against less catastrophic but more likely security challenges such as unattributable cyberattacks, disinformation campaigns, and other “gray zone” operations. In sum, while EFP is a necessary initiative, it does not yet appear sufficient in its current form. Ironically, the EFP initiative seems best suited to deter a scenario — invasion of the Baltic states and/or Poland — that appears unlikely. Getting EFP right by building on the success achieved to date is critical to promoting allied security, and NATO should waste no time in refining its approach to posture, presence, and deterrence in north-eastern Europe.

The rest of this chapter proceeds as follows. First, I address NATO’s initial effort to re-embrace Article 5 and collective defence at the Wales Summit in 2014. For roughly a quarter century following the end of the Cold War, the alliance pursued two missions in addition to collective defense — crisis management and cooperative security. Moscow’s invasion of Ukraine brought collective defense back to the fore, compelling the alliance to reexamine its ability and capacity to deter Russia and to assure member states regarding their territorial defense. Next, the chapter examines refinements to that initial response, especially as promulgated at the 2016 Warsaw Summit. The most consequential outcome of that meeting of NATO’s presidents and prime ministers was the Enhanced Forward Presence initiative, which brought NATO troops onto the territory of the alliance’s newest member states. The paper will then assess EFP’s strengths and its shortcomings. While the EFP initiative represents a significant step forward in terms of NATO’s deterrent posture, it suffers from many of the same challenges that other NATO operations have confronted in recent years. More broadly, the EFP initiative may not be the right tool for the most likely security issues facing allies in northeastern Europe. Finally, I conclude by arguing that EFP can and should be refined further. This last section of the

chapter makes the case for a nuanced refinement that furthers security for all member states.

NATO's Return to Europe

In the wake of Russia's 2014 invasion of Ukraine and its illegal annexation of Crimea, NATO member states realized that the security environment in Europe had decisively changed for the worse. Despite some earlier indications — as well as warnings from Eastern European members of the alliance — that security in Europe was not as overdetermined as many assumed, Russia's military aggression, its violation of agreements such as the NATO-Russia Founding Act of 1997 and the Helsinki Accord of 1975, and its complete disregard for norms in Europe, took many by surprise.

As a direct result of Russian actions, NATO's Wales Summit in September 2014 focused almost exclusively on collective defense and readiness for conventional conflict. Had it not been for Russia's invasion, it is very likely the Wales Summit would have been a rather boring affair, as the allies looked to wrap up their operations in Afghanistan and begin the long process of resting and resetting their militaries after many years fighting and projecting stability thousands of miles from Europe.

Instead, Russia's actions in Ukraine and across Eastern and north-eastern Europe led to a reappraisal of the alliance's defensive posture, its conventional warfare capabilities, and its capacity for large-scale conflict. These were particularly important questions given the nearly quarter century that had passed since the last time NATO needed to seriously worry about an overwhelming conventional military threat to its east. Since the end of the Cold War, alliance strategy, force structure, command structure, training regimen, manpower requirements, and institutional focus had all shifted toward crisis management and cooperative security, in Europe and beyond, and away from collective defense.

Among other initiatives designed to jumpstart NATO's re-embrace of collective defense, the alliance approved a Readiness Action Plan (RAP) during the Wales Summit. The RAP comprised several elements intended to dramatically increase readiness for maneuver warfare. For instance, the allies announced the establishment of a Very High Readiness Joint Task Force (VJTF), consisting of roughly 4,000 troops.¹ The

1. John-Thor Dahlburg and Julie Pace, "NATO Approves New Force Aimed at Detering Russia," *Associated Press*, 5 September 2014.

forces that comprise the VJTF are rotational in nature — hence the VJTF was not a permanent basing of allied forces in the east but rather a so-called “spearhead” force that would deploy quickly to a crisis zone.²

In addition, the alliance declared it would establish an enhanced exercise program with “an increased focus on exercising collective defence including practising comprehensive responses to complex civil-military scenarios.”³ A critical part of the enhanced exercise program has been the so-called High Visibility exercise held every three years, in which tens of thousands of troops participate across the alliance in a collective defense scenario.⁴ The first iteration of this exercise — known by the name Trident Juncture — occurred in 2015, and took place primarily in Italy, Portugal, and Spain. The second iteration occurred in fall 2018, and was held in Norway.

These changes in alliance training and force structure promulgated at the Wales Summit were important and necessary first steps, but they ultimately were seen as insufficient. Officials within NATO and among the member states, as well as outside experts, realized relatively quickly that Wales was merely the first response and that follow-on or additional steps would be necessary to adequately deter Russia and assure allies.⁵

The Warsaw Summit: Addressing Posture

In July 2016, alliance leaders again gathered for a summit, this time in Warsaw, and it was here that they sought to adjust alliance force posture, building on the deterrence and assurance measures adopted two years prior in Wales. The members of the alliance agreed in Warsaw to establish an “Enhanced Forward Presence” (EFP) in the Baltic states,

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2. Alexander Vershbow, “Security Challenges in the Baltic Region in the Perspective of the Wales NATO Summit,” remarks at Multinational Corps (North East) in Szczecin, Poland, September 18, 2014, www.nato.int/cps/ic/natohq/opinions_113113.htm?selected-Locale=ru.
 3. “Wales Summit Declaration,” paragraph 10.
 4. For example, see “Trident Juncture 2015: NATO’s Most Ambitious Exercise for over a Decade,” NATO news release, 15 July 2015, www.nato.int/cps/en/natohq/news_121827.htm.
 5. Symen Hoekstra, “NATO from Wales to Warsaw: Implementation of the Readiness Action Plan, Part II: Assurance,” meeting report, 6 October 2016, www.atlcom.nl/upload/Report_Public_Meeting_Patrick_Turner_06-10-2016.pdf. See also “Implementing the NATO Wales Summit: From Strategy to Action (Part II),” US Project Meeting Summary, 26–27 February 2015, www.chathamhouse.org/sites/default/files/field/field_document/20150226ImplementingNATOWalesSummitUpdate.pdf.

and since early 2017, the allies have been implementing this initiative across Poland and the three Baltic states.

Through the EFP initiative, the alliance is basing combat forces — roughly 1,000 troops in each of the four countries, organized into so-called battlegroups — east of the former East–West German border on a continuous basis for the first time. The four battlegroups are each led by a framework or lead country. The lead countries provide at least the plurality of troops as well as command and control for each battlegroup, but a number of other allies are also contributing forces. In Estonia, where the United Kingdom has the lead as the framework country, Denmark and Iceland also contribute personnel. In Latvia, the Canadians are in the lead, with additional troops contributed by Albania, Italy, Poland, Slovakia, Slovenia, and Spain. Soldiers from Belgium, Croatia, France, Iceland, the Netherlands, and Norway have joined the Germans in Lithuania. Finally, in Poland, where the United States leads as the framework nation, Croatia, Romania, and the United Kingdom also contribute forces.

The units that comprise each EFP battlegroup are not permanently based in Estonia, Latvia, Lithuania, or Poland. Instead, almost all of the allied forces deployed to northeastern Europe do so on a persistent, rotational basis. Generally, the deployments unfold as follows. Each rotation lasts roughly six months, and as soon as one unit leaves a particular battlegroup, another from the same country follows in immediately behind it, with little to no underlap in presence — indeed it is more common for there to be an overlap, for the purposes of a smooth transfer of authority.

In some instances, all contributing countries to a particular battlegroup rotate their units in and out at the same time, while in other instances, the six-month rotations are staggered with units coming and going nearly every month. The battlegroup in Latvia is somewhat exceptional insofar as the Canadian military units rotate on a persistent basis, but certain elements of the Canadian military leadership in Latvia will be forward-stationed in Riga, with accompanying dependents, for periods of two to three years.

This shift in providing persistent — if only rotational — presence in Eastern Europe is a major improvement in the ability of the alliance to deter Russia and in the ability of the member states to reassure each other of their mutual commitment to collective defense. Getting to this point was no easy feat, since some in the alliance view any effort by NATO to base military forces east of Germany as a violation of the NA-

TO-Russia Founding Act. In 1997, NATO and Russia negotiated and signed an agreement to guide their relations by building increased trust, unity of purpose, and habits of consultation and cooperation. This political agreement was not a legally binding treaty, but it nonetheless committed NATO to carry out its collective defense and other missions by, “ensuring the necessary interoperability, integration, and capability for reinforcement *rather than* by additional permanent stationing of substantial combat forces” on the territories of the former Warsaw Pact states.⁶ The Founding Act also obliged Russia to “exercise similar restraint in its conventional force deployments in Europe.” Moreover, all of these principles were based on the “current and foreseeable security environment” of two decades ago.

Arguably, Russia’s illegitimate March 2014 annexation of Crimea, its ongoing invasion of eastern Ukraine, and the massive exercises it conducts on the borders of NATO allies⁷ are not examples of restraint. For these and other reasons, today’s security environment in Europe is nothing like that of 1997. Beyond Russia’s actions of 2014 and the massive short-notice exercises, there are other events that together paint a far less benign picture of security in Europe, relative to 1997. For instance, Russia conducted a massive cyberattack on Estonia in 2007⁸; it invaded Georgia in 2008 and still occupies Georgian territory a decade later⁹; it has violated a vital arms control agreement¹⁰; it has attempted to gain control of critical infrastructure in Europe and North America¹¹; and it has repeatedly violated the airspace of NATO members and oth-

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6. “Founding Act on Mutual Relations, Cooperation and Security between NATO and the Russian Federation,” signed in Paris, France, 27 May 1997, www.nato.int/cps/cn/natohq/official_texts_25468.htm (emphasis added).
 7. Tomasz K. Kowalik and Dominik P. Jankowski, “Zapad 2017: NATO Should Be Keeping an Eye on Russia’s Training Exercises,” *The National Interest*, 7 May 2017, nationalinterest.org/feature/zapad-2017-nato-should-be-keeping-eye-russias-training-20540.
 8. Damien McGuinness, “How a Cyber Attack Transformed Estonia,” *BBC News*, 27 April 2017, www.bbc.com/news/39655415.
 9. “Pompeo Calls For Russian Troop Pullout From Georgia,” *Radio Free Europe/Radio Liberty*, 21 May 2018, www.rferl.org/a/pompeo-calls-for-russian-troop-pullout-from-georgia/29240854.html.
 10. Michael R. Gordon, “Russia Has Deployed Missile Barred by Treaty, U.S. General Tells Congress,” *New York Times*, 8 March 2017, www.nytimes.com/2017/03/08/us/politics/russia-inf-missile-treaty.html.
 11. Nicole Perloth and David E. Sanger, “Cyberattacks Put Russian Fingers on the Switch at Power Plants, U.S. Says,” *New York Times*, 15 March 2018, www.nytimes.com/2018/03/15/us/politics/russia-cyberattacks.html.

er countries.¹²

Nevertheless, some in the alliance — especially Germany — have opposed “permanent” stationing of forces in alliance member states that were formerly members of the Warsaw Pact.¹³ They oppose this for a variety of reasons.¹⁴ For example, some in Germany prefer to maintain the moral high ground, in the view that this will best help to pressure Putin while also maintaining domestic support for alliance solidarity. In additionally, some in the alliance genuinely fear a security dilemma, in which Russia and NATO engage in a spiraling series of destabilizing moves and countermoves. Finally, more material interests may drive some member states to want to retain the NATO forces already on their territory — they fear that those forces may be moved eastward and that they will lose the economic benefits that come with military basing.

The EFP initiative eliminated the potential for significant discord within NATO, allowing the alliance to deploy a persistent — but not permanent — modestly-sized military presence that would deter and reassure without appearing overly offensive or threatening to Moscow. Four dispersed multinational battlegroups that lack organic air support are hardly a threat to the tens of thousands of Russian troops based in northwestern Russia. Despite this objective reality, Russia condemned the Enhanced Forward Presence initiative as escalatory, claimed it violated the spirit of the Founding Act, and vowed to retaliate.¹⁵

Strengths and ... Areas for Improvement

After roughly a year of implementation, the EFP initiative exhibits a number of key strengths. Foremost among them, from a strategic perspective, is the fact that so many NATO allies — 18 of 29 allies — are in-

12. “Estonia Says Russian Plane Again Violates Airspace,” *Radio Free Europe/Radio Liberty*, 21 June 2018, www.rferl.org/a/estonia-russian-plane-violates-airspace/29310815.html.

13. Vanessa Gera, “Polish and Baltic Hopes for Permanent NATO Bases Frustrated by 1997 Agreement with Russia,” *Globe and Mail*, 4 September 2014, www.theglobeandmail.com/news/world/polish-and-baltic-hopes-for-permanent-nato-bases-frustrated-by-1997-agreement-with-russia/article20343316/.

14. Matthew Karnitschnig, “Pact With Russia Keeps NATO Bases at a Distance, But Should It?” *Wall Street Journal*, 3 September 2014, blogs.wsj.com/brussels/2014/09/03/qa-1997s-nato-russia-founding-act/.

15. “‘It Can’t Go Unanswered’: Russia Will Respond to NATO Buildup near its Borders, Senior Diplomat Says,” *RT*, 31 May 2016, www.rt.com/politics/344954-senior-diplomat-promises-response-to/; and “Russian Foreign Ministry Promises Response to NATO’s Armament Buildup,” *Tass*, 7 July 2016, tass.com/politics/886903.

volved. If, in the worst-case scenario, Russia were to invade one of the four host nations, several alliance member states would likely sustain casualties. This would probably spur a faster, more unified response from the alliance. For this reason, if the primary purpose of the EFP initiative is to act as a tripwire triggering broader allied involvement, then it seems suitable for the task.

Spreading risk in this way is similar to multinational formations used by NATO during the Cold War. In particular, the former Allied Command Europe (ACE) Mobile Force—Land was a brigade-sized force comprising fourteen of NATO's then fifteen member states. It was meant to be quickly deployed to an emerging crisis zone and to be a tangible manifestation of allied solidarity. Enhanced Forward Presence plays a similar role on the ground today.

Second, the EFP initiative represents an important strengthening of the alliance's deterrence and reassurance posture through a substantial re-embrace of Article 5 collective defense. Although collective defense has remained a key part of NATO's mission set for all of its existence, the end of the Cold War meant a change in how the alliance pursued security for its member states.

For roughly a quarter century — from the end of the Cold War until 2014 — the alliance has not seriously had to worry about defending one of its members from an attack. Instead, NATO spent almost 25 years focused on crisis response, counterterrorism, and stability operations in places like Bosnia, Kosovo, and Afghanistan. This required the alliance to focus less on territorial defense and its posture in Europe and more on fielding expeditionary, lighter military units capable of projecting force over time and distance.

At the same time, the alliance took on cooperative security tasks that included military diplomacy, confidence building measures, and outreach to promote security sector reform. NATO pursued these activities with former adversaries like Russia as well as with new partners across the globe, such as Australia and South Korea.

Russia's actions in Ukraine forced the alliance to bring collective defense back to the fore. As a result, NATO member states have had to refocus and recalibrate their military forces, equipment, training, strategies, and plans. Military posture also required reexamination, and EFP represents a substantive return to collective defense in terms of how alliance forces are situated relative to a particular security threat. It also represents a strengthening of the alliance's ability to deter Russia and reassure still nervous allies in the east.

Despite these strengths, the EFP initiative also suffers from at least six significant shortcomings. First, some scholars have questioned whether the battlegroups are large enough to signal the kind of resolve necessary to adequately deter Russia.¹⁶ Deploying four battlegroups to the Baltic States and Poland is relatively easy and cheap for NATO allies, and as such the deployments are unlikely to convince Moscow that the alliance is willing to commit substantial resources over a longer period of time to reverse any military gains Russia may achieve. This argument is based on historical evidence indicating that when retaliatory threats are easy, low-risk, and cheap, they typically fail to convince an adversary of Washington's resolve.¹⁷

Second, others have questioned whether Russia would actually 'trip' over the tripwire even if it invaded the Baltic States and/or Poland.¹⁸ This argument is based on the notion that Russian military forces know where the EFP battlegroups are based and they may even know where the battlegroups are located at any given time, if for example they happen to be at a training site. This knowledge would help Russian forces to avoid coming into contact with the battlegroups during any kind of military operation in the Baltic states or Poland. Obviously, armed conflict between invading Russian troops and Baltic state or Polish military forces would trigger the invocation of Article 5. Nonetheless, it is possible Moscow might reason that fewer alliance members would feel compelled to send forces to assist or to even invoke NATO's mutual defense clause if their own troops were not among the early casualties.

Third, the multinationality — with eighteen of twenty-nine allies participating in the EFP battlegroups — that functions as a strength at the strategic level is something of a liability at the operational and tactical levels. While NATO characterizes the EFP units as "robust ... combat-ready forces,"¹⁹ it remains to be seen whether the allies can overcome the many challenges associated with multinationality at the battalion or battlegroup level.

16. Dianne Pfundstein Chamberlain, "NATO's Baltic Tripwire Forces Won't Stop Russia," *The National Interest*, 21 July 2016, nationalinterest.org/blog/the-skeptics/natos-baltic-tripwire-forces-wont-stop-russia-17074?page=show.

17. Dianne Pfundstein Chamberlain, *Cheap Threats: Why the United States Struggles to Coerce Weak States* (Washington, DC: Georgetown University Press, 2016).

18. Alexander Lanoszka and Michael A. Hunzeker, *Conventional Deterrence and Landpower in Northeastern Europe* (Carlisle, PA: U.S. Army War College Press, forthcoming).

19. "Boosting NATO's Presence in the East and Southeast," 2 March 2018, www.nato.int/cps/en/natohq/topics_136388.htm.

During the Cold War, NATO limited multinationality largely to the corps level, but since then the alliance has pushed multinationality to much lower echelons. It had been common practice for many years among NATO allies to limit multinationality in more intense combat operations to the brigade level and above,²⁰ but even here alliance members have in many ways struggled to manage challenges in terms of language, equipment interoperability, and command philosophy.²¹

Given the demands of generating forces for the war in Afghanistan²² — especially at a time when member state force structures continued to shrink — the allies were practically compelled to experiment with multinationality below the brigade level in high intensity operations.²³ The fact that the EFP battlegroups will be operating in a permissive environment — on friendly territory, among welcoming populations — should prove helpful. Nonetheless, after one year of implementation, major challenges remain to be overcome among the EFP battlegroups, especially in terms of secure communications, equipment compatibility, English-language proficiency, and duplicative capabilities such as medical support.²⁴

Fourth, even without what are essentially interoperability issues, operational limitations — more pejoratively known as national caveats — similarly frustrate the effectiveness of the EFP battlegroups. For example, in the event of an obvious crisis threatening allied security in Poland or the Baltic States, it's likely the North Atlantic Council (NAC) — NATO's highest political decision-making body — would act forthrightly and provide the approval necessary for the military units of

20. Multinationality at the battalion level in low-intensity conflict or stability operations has been more common among European allies and partners. For instance, EUFOR Althea — the European Union military force responsible for peace keeping duties in Bosnia — has long consisted of a battalion-sized force comprising smaller units from several EU member states.

21. For the challenges Poland faced in leading a multinational division during Operation Iraqi Freedom in the 2000s, see Jeffrey Simon, *NATO Expeditionary Operations: Impacts Upon New Members and Partners* (Washington, DC: National Defense University Press, 2005), 22–24.

22. John R. Deni, "Perfectly Flawed? The Evolution of NATO's Force Generation Process," in Sebastian Mayer, ed., *NATO's Post-Cold War Politics* (Basingstoke, UK: Palgrave Macmillan, 2014).

23. See for example Jerry Wilson, "1-4 Infantry Leaves Legacy of Team Work in Afghanistan," www.army.mil/article/51087/1_4_infantry_leaves_legacy_of_team_work_in_afghanistan.

24. Interview with an EFP battlegroup commander, 16 April 2018.

EFP contributing states to support and operate with host nation forces. However, if the situation was ambiguous and a host nation decided to take military action absent a NAC decision, operational limitations might prevent some contributing state forces from supporting or operating alongside their host nation counterparts.

Fifth, command and control arrangements are somewhat unclear as well. On the one hand, NATO claims that the four battlegroups are “under NATO command, through the Multinational Corps Northeast Headquarters in Szczecin, Poland.”²⁵ However, the EFP battlegroups are embedded within host nation command and force structures, which do not fall under NATO command. This is not merely a misunderstanding over dual-hatting, something that NATO militaries are used to dealing with. Rather, it may reflect a lack of clarity over who can order EFP units into action and who controls it once it is engaged.²⁶

Finally, the multinational elements that come together for six months do not train together in advance of their deployment to northeastern Europe. The units that comprise each battlegroup conduct plenty of training once they are on the ground in one of the Baltic states or Poland, but there is no pre-deployment training event. Moreover, it is unclear what, if any, standards must be met before units are assigned to any of the battlegroups. This means that the battlegroups face a steep learning curve on the way to integrated operating proficiency during their short six-month deployment. It also means their combat effectiveness is inherently limited, and not simply because of their relatively small size.

A Deeper Challenge

Longtime observers of NATO might consider the six challenges outlined above unsurprising and not terribly new. In fact, from Bosnia to Kosovo to Afghanistan to Libya, NATO operations have often confronted the same hurdles that the EFP initiative is dealing with today. However, NATO also confronts an especially worrying irony with regard to the EFP initiative — namely, that the EFP initiative deters what is arguably the least likely form of aggression from Moscow, leaving the alliance far more vulnerable to the Kremlin's most likely tactics.

In spite of the six challenges outlined above, the EFP battlegroups

25. “Boosting NATO's Presence.”

26. Interview with an EFP battlegroup commander, 16 April 2018; interview with an EFP battlegroup commander, 17 April 2018.

are best suited for deterring by punishment the most dangerous scenario of a Russian military incursion. However, the probability of a crisis based on an unambiguous invasion of allied territory remains low, even for the likes of Russian President Vladimir Putin.²⁷

In contrast, what remains far more likely are crises that might fall below the threshold of Article 5 and the alliance's mutual defense commitments.²⁸ For instance, the Baltic States and Poland are at much greater risk from unattributable cyberattacks or electronic warfare, especially those that strike at critical infrastructure.²⁹ Such operations might only cause casualties indirectly, or might be a prelude to a broader conventional military operation.

Ethno-political discord stemming from or at least involving Russian-speaking communities or other minority groups is also a potential security challenge. Estonia and Latvia in particular — each are comprised of roughly 25 percent ethnic Russians — are conceivably at great risk. Although those Russian communities in Estonia and Latvia enjoy far higher standards of living than their ethnic brethren in the motherland, the potential exists for Russia to leverage those communities for the purposes of political subversion and influence operations.³⁰

More broadly, disinformation campaigns designed to undermine Western consensus or unity are also a more likely Russian tactic than a major cross-border invasion.³¹ Russian government-sponsored and/or government-affiliated entities and companies have proven adept at spreading all manner of disinformation, some related to security mat-

27. Bryan Frederick, et al., *Assessing Russian Reactions to U.S. and NATO Posture Enhancements* (Santa Monica, CA: RAND, 2017).

28. Andrew Radin, *Hybrid Warfare in the Baltics: Threats and Potential Responses* (Santa Monica, CA: RAND, 2017).

29. Emmet Tuohy et al., "The Geopolitics of Power Grids: Political and Security Aspects of Baltic Synchronization," International Centre for Defence and Security, 21 March 2018, icds.ee/the-geopolitics-of-power-grids-political-and-security-aspects-of-baltic-synchronization/; see also Bill W. Williams, "Russian Jamming Crashes GPS," *Norway Today*, 9 March 2018, norwaytoday.info/news/russian-jamming-crashes-gps/.

30. Interview with a senior official at the Latvian Defence Academy, 17 April 2018. See also Carol J. Williams, "Latvia, with a Large Minority of Russians, Worries about Putin's Goals," *Los Angeles Times*, 2 May 2015, www.latimes.com/world/europe/la-fg-latvia-russia-next-20150502-story.html. Finally, see Alexander Lanoszka, "Russian Hybrid Warfare and Extended Deterrence in Eastern Europe," *International Affairs* 92, no. 1 (2016), 175–95, www.alexlanoszka.com/LanoszkaIAHybrid.pdf.

31. Angela Stent, "What Drives Russian Foreign Policy?" in John R. Deni, ed., *Current Russian Military Affairs* (Carlisle, PA: U.S. Army War College Press, 2018).

ters and some less so.³²

Unfortunately, EFP battlegroups are currently not trained, structured, or tasked to assist with any of these or similar “gray zone” eventualities.³³ This is the case in spite of the fact that Russian gray zone operations continue even as implementation of the EFP initiative unfolds. Without a change in NATO’s approach, the EFP initiative will remain a tool that essentially deters an unlikely scenario while doing very little if anything in regards to far more likely Russian operations and tactics.

Nonetheless, NATO must have some means of deterring the worst-case scenario — that is, full-scale invasion — and so EFP remains a necessary tripwire. The decision facing policymakers in Washington and in other allied capitals is not whether to continue with the EFP initiative *or* pursue some other initiative. Rather, the question is how to improve EFP as an effective minimum deterrent against a lower-risk but still salient threat, while figuring out how to supplement it with capabilities for countering more ambiguous threats.

For these reasons, NATO’s approach to deterrence and assurance in Eastern Europe should best be viewed as an evolving effort. The EFP battlegroups are an important, necessary part of a dynamic approach to the defense of vital U.S. and allied interests in the region, but their composition, command relationships, and capabilities are a work in progress. Further work is necessary to refine and strengthen NATO’s deterrent posture in the East.

Conclusion

NATO’s effort to augment deterrence and assurance through force posture changes in Eastern Europe is a process that continues to unfold. The alliance took an important, momentous step in 2016 when it decided to deploy military units on the territory of its newest members, east

32. Linda Qiu, “Fingerprints of Russian Disinformation: From AIDS to Fake News,” *New York Times*, 12 December 2017, www.nytimes.com/2017/12/12/us/politics/russian-disinformation-aids-fake-news.html; “Russian Disinformation Distorts American and European Democracy,” *Economist*, 22 February 2018, www.economist.com/briefing/2018/02/22/russian-disinformation-distorts-american-and-european-democracy; “Russia Has a Record of Disinformation Campaigns. So, Why Wasn’t the US Prepared during the 2016 Election?,” *Public Radio International*, 26 December 2017, www.pri.org/stories/2017-12-26/russia-has-record-disinformation-campaigns-so-why-wasn-t-us-prepared-during-2016.

33. Interview with an EFP battlegroup commander, 16 April 2018; interview with an EFP battlegroup commander, 17 April 2018.

of the former East-West Germany border. Admittedly, the EFP military units are relatively small, and they consist almost entirely of rotational deployments that lack the commitment of permanent forward stationing. Nevertheless, they form a necessary tripwire that would ultimately frustrate any Russia attempt to forcibly stake a claim to Baltic state or Polish territory.

However, the current composition, command relationships, and capabilities of the EFP units are a work in progress. The alliance must next turn to addressing where and how to strengthen EFP as a tool for deterrence and assurance. Doing so will not simply make the EFP initiative more effective, it should also provide more bang for every alliance buck, which is particularly important as allies struggle to recapitalize their forces, ensure adequate manpower, and increase readiness levels.

If NATO is able and willing to refine the EFP initiative, policymakers should bear in mind two key factors. First, one size does not necessarily fit all in northeastern Europe. For example, the populations and geography of the Baltic states and Poland differ significantly. As noted previously, Estonia and Latvia each have significant ethnic Russian minorities, whereas Poland and Lithuania do not. In terms of geography, eastern Estonia and eastern Latvia — the regions that border Russia — are very low-lying, frequently marshy, and dotted with lakes of all sizes. These kinds of variables must be considered as NATO refines its approach and builds on its existing deterrent posture.

Second, NATO's force posture has never been static. Indeed, the alliance has a long history of modifying posture based on the security situation it confronts and on changes in membership. For example, after West Germany joined the alliance in 1955, NATO pushed its planned line of defense forward from the Benelux countries to the inner German border. The forward defense concept adopted then by NATO was vital to reassure the alliance's newest member state and deter aggressive Soviet behavior and posturing in East Germany and Czechoslovakia. For this reason, changes in the EFP and hence in alliance posture today should be viewed as refining an important initial step in promoting member state interests.

How Emerging Technologies Might Affect Baltic Security

Alexander Lanoszka

Many international observers assert that humanity stands on the precipice of a Fourth Industrial Revolution.¹ This looming period of great technological change will consist of advances made in robotics, artificial intelligence (AI), and additive manufacturing (i.e., 3D printing). These technologies might affect not only business practices and the global economy, but also how militaries operate.² For small countries, the Fourth Industrial Revolution may hold considerable promise. T.X. Hammes argues that such technologies could “generate many of the capabilities of the most expensive current systems at a fraction of the cost,” thanks to the potential smallness, cheapness, and smartness of weapons systems drawn from those emerging technologies.³ Howev-

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1. The First Industrial Revolution began in Great Britain in the mid-eighteenth century thanks to mechanized textiles production. The Second Industrial Revolution occurred a century later, with Britain benefiting first from advances in steel production and improved use of steam power. The global predominance of digital electronics has characterized the Third Industrial Revolution.
 2. On the potential effects of automation on labor markets, see McKinsey & Company, *Jobs Lost, Jobs Gained: Workforce Transitions in a Time of Automation* (McKinsey Global Institute, December 2017).
 3. T.X. Hammes, “Cheap Technology will Challenge U.S. Tactical Dominance,” *Joint Forces Quarterly* 81, no. 2 (2016): 84.

er, the experience of remotely piloted aircraft (RPAs)⁴ indicates that although some small and cheap platforms might spread and even deliver capabilities to non-state or weak actors, only an elite group of states will possess the technical and organizational wherewithal to develop and to adopt these new technologies most effectively.⁵

This essay examines the impact that these technologies might have on the Baltic security environment. In that maritime region, the Russian Federation dwarfs those members of the so-called northeastern flank of the North Atlantic Treaty Organization (NATO): Poland and the three Baltic countries of Estonia, Latvia, and Lithuania. The three Baltic countries are particularly vulnerable because of the relatively tiny size of their militaries and their geographical isolation from the other members of the alliance. They may be particularly vulnerable to Russian efforts to activate an anti-access/area denial (A2/AD) bubble that will hamper NATO efforts to move around, let alone enter, the regional theater of operations in the event of a major military attack against any one of them. Accordingly, the Baltic countries are uniquely dependent on security commitments provided by the United States and other NATO members. They also rely on developing asymmetric strategies that involve the use of insurgency and paramilitary organizations to bolster local defence and deterrence initiatives.⁶ Robotics, AI, and additive manufacturing could increase the power of the Baltic countries by amassing firepower and compensating for shortfalls in manpower. Nevertheless, these technologies could impact the capabilities of their primary security guarantor — the United States — and their adversary, Russia. What might be the overall effect of these technologies?

This essay proceeds as follows. First, I sketch the military implications of the Fourth Industrial Revolution. The second section reviews how the United States military — with special attention paid to the U.S. Army given its leading role in local deterrence and defence initiatives in the Baltic region — might incorporate these technologies. I then examine the Russian Armed Forces before addressing the Baltic countries.

4. Also known as unmanned aerial vehicles (UAVs).

5. Andrea Gilli and Mauro Gilli, "The Diffusion of Drone Warfare? Industrial, Organizational, and Infrastructural Constraints," *Security Studies* 25, no. 1 (2016): 50–84.

6. Alexander Lanoszka and Michael A. Hunzeker, "Confronting the Anti-Access/Area Denial and Precision Strike Challenge in the Baltic Region," *RUSI Journal* 161, no. 5 (2016): 12–18.

The Fourth Industrial Revolution

A Fourth Industrial Revolution seems afoot thanks to improvements in robotics, artificial intelligence, and 3D printing. Some see these looming technological changes as portending a major shift in warfare. As T.X. Hammes writes, “the convergence of these new and improving technologies is creating a massive increase in capabilities available to smaller and smaller political entities—extending even to the individual.” He adds that “this increase provides smaller powers with capabilities that used to be the preserve of major powers.”⁷ What are these technologies? How might they affect combat power?

Consider first military robots and its cousin, artificial intelligence. Military robots are weapons systems that have the capacity to make decisions independent of human intervention. Kinetic or lethal action is only one but not necessarily the most important of what military robots can do. They also have the capacity to operate in swarms, to gather intelligence, and to team with manned and other unmanned platforms for various purposes. According to the Pentagon’s Defense Science Board, “to be autonomous, a system must have the capability to independently compose and select among different courses of action to accomplish goals based on its knowledge and understanding of the world, itself, and the situation.”⁸ Such systems are increasingly becoming possible thanks to major increases in computational power. The emergence of autonomous systems promises a wide range of benefits that include “increased safety and reliability, improved reaction time and performance, reduced personnel burden with associated cost savings, and the ability to continue operations in communications-degraded or -denied environments.”⁹ To be sure, the use of military robots and autonomous systems does not imply that human decision-making is entirely absent. Rather, their use serves to augment the ability of “a human-machine system to accomplish a given mission by the performance of key actions.”¹⁰ Humans will stay play key roles in planning operations. Even

7. T.X. Hammes, “Technologies Converge and Power Diffuses: The Evolution of Small, Smart, and Cheap Weapons,” *CATO Institute Policy Analysis*, no. 786 (27 January 2016): 1.

8. Defense Science Board, *Final Report of the Defense Science Board Summer Study on Autonomy* (Washington, D.C.: Department of Defense, 2016): 4.

9. Brian K. Hall, “Autonomous Weapons Systems Safety,” *Joint Force Quarterly* 86, no. 3 (2017): 87.

10. *Ibid.*

if humans are “out of the loop,” as they have already been in the past with the use of landmines, booby-traps, and improvised explosive devices, the initial decision to deploy autonomous weapons will likely remain a human one, thereby offering an avenue for accountability and moral responsibility that critics of autonomous systems argue to be important.¹¹

The impact of autonomous systems — be they military robots or, more broadly, AI — on warfare could be significant. In discussing swarms of cooperative, autonomous robotic systems, Paul Scharre argues that:

Uninhabited systems can help bring mass back to the fight by augmenting back to the fight by augmenting human-inhabited combat systems with large numbers of lower cost uninhabited systems to expand the number of sensors and shooters in the fight. Because they can take more risk without a human onboard, uninhabited systems can balance survivability against cost, affording the ability to procure larger number of systems.¹²

Paying specific attention to landpower, Steven Metz suggests other changes may be afoot. Contrary to what Hammes claims, robots could prove useful for counterinsurgency operations by providing a persistent “saturating presence” that could “limit the ability to operate unseen or hidden in complex terrain like megacities” or to sap morale by inflicting casualties via guerrilla warfare.¹³

A more immediate use for AI involves its capacity for prediction. Contrary to popularized portrayals of AI overpowering humans, such as Skynet in *The Terminator* or Hal in *2001: A Space Odyssey*, several economists argue that AI will not be freethinking, self-aware, and capable of making independent decisions, but will instead reduce the costs of prediction.¹⁴ As with military robots, AI will not so much replace human

11. See, for example, David J. Gunkel, “Mind the Gap: Responsible Robotics and the Problem of Responsibility,” *Ethics and Information Technology* (2017): 1–14.

12. Paul Scharre, *Robotics on the Battlefield Part II: The Coming Swarm* (Washington, D.C.: Center for a New American Security, 2014): 6.

13. Steven Metz, “The Landpower Robot Revolution is Coming,” *Strategic Insights* (10 December 2014), <http://ssi.armywarcollege.edu/index.cfm/articles/Landpower-Robot-Revolution/2014/12/10>.

14. Ajay Agrawal, Joshua Gans, and Avi Goldfarb, *Prediction Machines: The Simple Economics of Artificial Intelligence* (Cambridge, MA: Harvard Business Review Press, 2018).

decision-making as it would complement it. Since AI may ultimately be an algorithm that augments human decision-making and reduces bias, its effects could be much more banal than what Hollywood has envisioned, at least in the foreseeable future. AI could improve situational awareness on the battlefield with greater precision in the detection, analysis, and targeting of so-called signatures — that is, a behavioural pattern belonging to an unidentified target that seems consistent with an operative working for a violent organization.¹⁵

AI could also render logistical and distribution networks in military organizations more efficient. Just as AI enables businesses like Amazon to anticipate customers' wants and needs, AI could help militaries to identify and to address potential shortfalls in key supplies like ammunition, spare parts, medical equipment, and medicine — all with only minimal human intervention.¹⁶

Additive manufacturing — popularly known as 3D printing — involves the use of computing technologies to join materials together so as to create three-dimensional objects. According to Banning Garrett, 3D printing could yield many benefits: producers will be less constrained by machines in designing their products; added complexity to a product will not mean greater costs; products could be made on demand rather than for inventory, with far fewer production materials would be wasted; the manufacturing process will be simpler and require less human interaction; and supply chains and assembly lines would be superfluous.¹⁷

For militaries, however, 3D printing could be a double-edged sword. On the one hand, weapons systems could be redesigned anew and produced more efficiently and cheaply, since defence contractors would no longer be as inhibited by heavy machinery as they have been. Military organizations are already using 3D printers to manufacture spare parts and to make skin and prosthetics for wounded soldiers.¹⁸ On the other hand, terrorist groups with access to 3D printers will depend less on supply chains for weapons. They might even produce weapons more

15. Mick Ryan, *Human-Machine Teaching for Ground Forces* (Washington, D.C.: Center for Strategic and Budgetary Assessments, 2018).

16. Specifically, AI could leverage big data techniques to improve efficiency within supply links. See McKinsey Global Institute, *Big Data: The Next Frontier for Innovation, Competition, and Production* (McKinsey & Company, May 2011).

17. Banning Garrett, "3D Printing: New Economic Paradigms and Strategic Shifts," *Global Policy* 5, no. 1 (2014): 72.

18. *Ibid.*, 73.

cheaply. A research team at the University of Virginia “printed” a military-grade autonomous drone that has a guidance system and can carry a 1.5 pound (0.68 kg) payload for about US\$2,500.¹⁹

Yet we must guard against too much excitement regarding these emerging technologies. Many pundits and scholars used to argue that drones had the potential to shift balances power dramatically in favour of weaker actors. Remotely piloted aircraft (RPAs) were supposedly cheap, easy, and quick to produce.²⁰ Despite this initial consensus regarding drones, recent scholarship has urged greater scepticism as to such claims. Andrea Gilli and Mauro Gilli argue that drones come in different varieties, with some types (e.g., loitering attack munitions) being especially difficult to develop and to use. They argue that states (and producers) must overcome major challenges that range from environmental conditions, the integration of complex systems, enemy countermeasures, and available know-how and expertise. Few states will be able to meet such challenges, with many otherwise technological advanced states not being immune to them. Moreover, states will need to have not only a competent and skilled workforce, but also a set of practices, doctrines, and even organizational cultures to adopt new military technologies most effectively.²¹ Predictions that a technological revolution would dramatically alter warfare have been historically common and wrong.²² We should recognise that key technical and organizational limitations could inhibit the adoption of certain emerging technologies.

19. Jordan Golson, “A Military-Grade Drone That Can Be Printed Anywhere,” *Wired Magazine* (16 September 2014), <https://www.wired.com/2014/09/military-grade-drone-can-printed-anywhere/>.

20. For example, see Daniel Byman, “Why Drones Work: The Case for Washington’s Weapon of Choice,” *Foreign Affairs* 92, no. 4 (2013): 32–43; T.X. Hammes, “Droning America: The Tech Our Enemies Can Buy,” *War on the Rocks* (13 October, 2013), <https://warontherocks.com/2013/10/droning-america-the-tech-our-enemies-can-buy/>; and Michael C. Horowitz, “The Looming Robotics Gap: Why America’s Global Dominance in Military Technology Is Starting to Crumble,” *Foreign Policy*, no. 206 (2014): 62–67.

21. Gilli and Gilli, “The Diffusion of Drone Warfare.”

22. Lawrence Freedman, *The Future of War: A History* (New York: PublicAffairs, 2017).

The U.S. Army and Emerging Technologies

The approach of the U.S. Army towards these emerging technologies has so far been cautious. Its stance contrasts with that taken by other parts of the U.S. military.²³ Indeed, the American way of war traditionally has entailed the overwhelming use of personnel and materiel so as to destroy adversaries decisively. The U.S. military has been attuned to the possibilities afforded by new technologies to wage its preferred type of warfare.²⁴ The U.S. Navy began using unmanned surface vehicles (USVs) for minesweeping and battle damage assessment after the end of the Second World War.²⁵ The Navy has envisioned expanding their use in areas like electronic warfare as well as kinetic operations since 2007.²⁶ Unmanned underwater vehicles (UUVs) — which are trickier to design and to build because of their medium of operation — saw their first prototypes developed around the same time.²⁷ True to its technological bias, the U.S. Air Force has envisioned the use of robotics for at least thirty years out of concerns regarding manpower shortages and budgetary shortfalls.²⁸ The U.S. Air Force has embraced the use of RPAs, although they have been mostly used in permissive operational environments like Afghanistan and Pakistan, where propitious air temperatures, wind conditions, solar activity, and sparse air defences allowed for their extensive use.²⁹ In 2017 the Pentagon initiated Project Maven, which aimed at leveraging AI and machine learning to analyze surveillance data. It has recently begun partnering with the private sector to enhance its AI and cloud-computing capabilities.³⁰

23. Daniel S. Hoadley and Nathan J. Lucas, *Artificial Intelligence and National Security* (Washington, D.C.: Congressional Research Service, 2018).

24. Thomas G. Mahnken, *Technology and the American Way of War since 1945* (New York: Columbia University Press, 2010).

25. U.S. Department of the Navy, *The Navy Unmanned Surface Vehicle (USV) Master Plan* (Arlington, VA: U.S. Department of the Navy, 2007): 1.

26. *Ibid.*, 7.

27. Patrick Lin, George Bekey, and Keith Abney, *Autonomous Military Robots: Risk, Ethics, and Design* (Office of Naval Research, 2008): 20.

28. Committee on Advanced Robotics for Air Force Operations, *Advanced Robotics for Air Force Operations* (Washington, D.C.: National Academy Press, 1989); and Thomas P. Erhard, "Unmanned Aerial Vehicles in the United States Armed Services: A Comparative Study of Weapon System Innovation," (PhD dissertation: The Johns Hopkins University, 2000).

29. Gilli and Gilli, "The Diffusion of Drone Warfare," 72.

30. Such partnerships are controversial, with Google withdrawing from Project Maven following an outcry from its workforce. Daisuke Wakabayashi and Scott Shane,

One reason for the U.S. Army's wariness towards robotics has been its experience in Iraq. During counterinsurgency operations between 2004 and 2008, the U.S. Army deployed the Multi-Function Agile Remo-Controlled Robot (MARCbots) as well as the Special Weapons Observation Remote Direct-Action System (SWORDS) to clear urban areas of insurgents. As Robert Bunker recounts, "These systems suffered mechanical aiming glitches and also possibly ran afoul of slowly emerging [Department of Defense] armed robotic system policy concerns."³¹

Still, the U.S. Army now recognizes that it must reconsider its trepidation towards robotics. In March 2017, it released a report outlining a strategy regarding robotic and autonomous systems (RAS). This report warned that "the Army must pursue RAS capabilities with urgency because adversaries are developing and employing a broad range of advanced RAS technologies as well as employing new tactics to disrupt U.S. military strengths and exploit perceived weaknesses."³² That said, this same report is ambiguous as to whether military robots will engage in kinetic operations. It rather discusses the potential of robots to increase situational awareness, to lighten soldiers' physical and cognitive workloads, and to improve logistics distribution. It highlights the possibility of RAS for "providing greater standoff distance" and extending "the depth of the area of operations", but admits that it prioritises first the previously mentioned capabilities.³³ Beyond 2031, the U.S. Army envisions moving beyond making improvements to situational awareness and distribution networks with the adoption of expendable manned ground vehicles, allowing commanders to "take operational risks previously unimaginable with solely manned formations."³⁴

What are the implications of these technologies for how the U.S. Army might go about deterrence and defence measures on NATO's northeastern flank? In the short-term, they will be of limited use, not

"Google Will Not Renew Pentagon Contract That Upset Employees," *New York Times*, 1 June 2018, <https://www.nytimes.com/2018/06/01/technology/google-pentagon-project-maven.html>.

31. Robert J. Bunker, *Armed Robotic Systems Emergence: Weapons Systems Life Cycle Analysis and New Strategic Realities* (Carlisle, PA: U.S. Army War College Strategic Studies Institute, 2017): 53. Other robots contributed to bomb disposal and scouting missions.

32. Army Capabilities Integration Center, *Robotic and Autonomous Systems Strategy* (Fort Eustis, VA: U.S. Army Training and Doctrine Command, 2007): 1.

33. *Ibid.*, 1–2.

34. *Ibid.*, 10.

least because the U.S. Army does not envision the widespread adoption of these technologies. Indeed, the appropriate weapons systems must first be developed, trialed, produced, and fielded. Yet assume for the sake of argument that they will become available for that theater of operations. Robots may be useful for increasing the firepower of local forces, thereby enhancing deterrence-by-denial. Uneven terrain, battery power, and range will constrain their mobility, however. Furthermore, 3D printing could permit forward deployed forces to replenish their weapons and to produce much needed spare parts on the spot, thereby eliminating supply chains that extend all the way from the continental United States.

And yet killer robots have the potential to erode the credibility of U.S. security guarantees. Since the dawn of the nuclear age, forward deployed military personnel have been an important feature of U.S. security guarantees for two reasons. Not only do they complicate the ability of the adversary to achieve favourable battlefield outcomes, they also perform a trip-wire function regardless of their combat effectiveness. That is, if forward deployed military personnel (and their families) were to die in an attack, then the forward deploying government — in this case, the United States — may be under pressure to escalate and to widen the conflict in such a way that would be unacceptably costly for the adversary.³⁵ Forward deployed military personnel are a hand-tying mechanism that constrains future decision-making. Killer robots lack this feature since they may constitute sunk costs instead.³⁶ They may be seen as ultimately expendable without reputation being on the line. Killer robots have to contribute significantly to the military balance and local deterrence-to-denial in order to offset the political risk that the United States might choose to stand back in case hostilities break out.³⁷ Of course, in the foreseeable future, military robotics and systems that employ AI will operate alongside humans, continuing a long-standing trend in which fewer and fewer personnel are capable of ever greater amounts of firepower. The forward footprint may be smaller than what allies might deem to be desirable, but it may be militarily more capable.

35. Michael A. Hunzeker and Alexander Lanoszka, "Landpower and American Credibility," *Parameters* 45, no. 4 (2016): 17–26.

36. On hand-tying versus sunk costs, see James D. Fearon, "Signalling Foreign Policy Interests: Tying Hands Versus Sinking Costs," *Journal of Conflict Resolution* 41, no. 1 (1997): 68–90.

37. Some experts have the opposite worry: that the United States might become overly tempted to intervene thanks to military robots precisely because it will not be inhibited by casualty aversion. See Metz, "The Landpower Robot Revolution."

The Russian Armed Forces and Emerging Technologies

The Russian Federation has had few reservations in embracing military robotics. Its leaders have been quick to highlight the potential advantages of artificial intelligence, with President Vladimir Putin famously declaring that “whoever becomes the leader in [artificial intelligence] will become the ruler of the world.”³⁸ Russia is in the process of acquiring the Nerekhta, a ground-combat tracked vehicle armed with remotely-operated weapons, including machine guns and grenade launchers. It has also been testing unmanned military systems for use in the air and at sea.³⁹ Indeed, the Russian Ministry of Defense has made the acquisition of military robots a priority.⁴⁰ Russian RPAs have already played a role in the ongoing conflicts in Syria and Ukraine. In Syria, they have been mostly confined to directing ground manoeuvre, spotting for artillery, and assessing the damage inflicted from a strike.⁴¹ Only a handful of reports indicate that drones have performed tactical missions much like what the MQ-1 Predator or the MQ-9 Reaper have done for the U.S. Air Force and the Central Intelligence Agency in Afghanistan and northern Pakistan.⁴² In eastern Ukraine, Russia has provided pro-Kremlin rebels with RPAs that are useful for reconnaissance, enabling those rebels to detect and to destroy Ukrainian forces with artillery pieces.⁴³

Russia has also made some strides in 3D printing. Franz-Stefan Gady reports that the armed forces have produced prototype parts and master models for the T-14 main battle tank using 3D printers in 2015. Yet their production might have served only to demonstrate the potential of 3D printing.⁴⁴ Whether serial production of main battle tanks is pos-

38. “‘Whoever Leads in AI Will Rule the World’: Putin to Russian Children on Knowledge Day,” *RT*, 1 September 2017, <https://www.rt.com/news/401731-ai-rule-world-putin/>.

39. Samuel Bendett, “Russia Presses Ahead with Armed Military Robots,” *War is Boring*, 8 November 2017, <https://warisboring.com/russia-presses-ahead-with-armed-military-robots/>.

40. Samuel Bendett, “Russia is Poised to Surprise the US in Battlefield Robotics,” *Defense One*, 25 January 2017, <https://www.defenseone.com/.../russia-poised-surprise-us-battlefield-robotics/145439/>.

41. Ralph Shield, “Russian Airpower’s Success in Syria: Assessing Evolution in Kinetic Counterinsurgency,” *Journal of Slavic Military Studies* 31, no. 2 (2018): 223.

42. “Russian UAVs in Syria,” *Centre for Analysis of Strategies and Technologies* [n.d.], <http://cast.ru/eng/products/articles/russian-uavs-in-syria.html>.

43. Adam Rawnsley, “Ukraine Scrambles for UAVs, But Russian Drones Own the Skies,” *War is Boring*, 20 February 2015, <https://warisboring.com/ukraine-scrambles-for-uavs-but-russian-drones-own-the-skies/>.

44. Franz-Stefan Gady, “Will 3D Printing Speedup Production of Russia’s ‘Deadliest

sible with this technology remains to be seen. High costs and production limits might keep Russia from building the 2,300 T-14s that it hopes to have eventually, regardless of how 3D printing promises a more efficient manufacturing process. Indeed, the delivery of these new main battle tanks has already been delayed.⁴⁵

Thus we should not overstate the advances that Russia has made in developing emerging technologies. Its investments in AI still lag behind those of the United States and China.⁴⁶ Russian drones so far have been primarily used for reconnaissance, typically in areas where air defenses pose little to no threat. Whatever the hesitation shown by the U.S. Army, the United States armed forces as a whole have been investing in RPAs and military robotics for decades. By contrast, Russia decided to accord importance to their domestic drone industry only after the 2008 war in Georgia and the military reforms that followed it.⁴⁷ Though it may add firepower for frontline troops, the Nerekhta tracked combat robot may itself be vulnerable to anti-tank weapons, mines, and other primitive explosives. It also could lack battery power for sustained use in any military operation.⁴⁸ Even with respect to “older” technologies Russia has had to wrestle with technical problems. Guidance or targeting systems were sufficiently impaired so as to cause several cruise missiles to land in Iran rather than hit their targets in Syria.⁴⁹ Powder and primer problems hamper the use of Russian-produced military ammunition, thereby increasing the likelihood of misfires, lock ups, and barrels exploding when second rounds are fired.⁵⁰ Of course, every military will experience its share of technical mishaps and difficulties. In the case of Russia, its conventional military forces are undergoing an extensive modernization program to make up for the neglect that they

Tank’?” *The Diplomat*, 9 February 2016, <https://thediplomat.com/2016/02/will-3d-printing-speedup-production-of-russias-deadliest-tank/>.

45. Franz-Stefan Gady, “Serial Production of Russia’s Deadliest Tank to Begin in 2020,” *The Diplomat*, 25 January 2018, <https://thediplomat.com/2018/01/serial-production-of-russias-deadliest-tank-to-begin-in-2020/>.

46. Hoadley and Lucas, *Artificial Intelligence*, 21.

47. Rawnsley, “Ukraine Scrambles for UAVs.”

48. I thank Andrea Gilli for this observation.

49. “Syria Crisis: Russian Caspian Missiles ‘Fell in Iran’” *BBC News*, 8 October 2015, <http://www.bbc.co.uk/news/world-europe-34479873>.

50. Charlie Gao, “Russia Makes Some Dangerous Guns. But the Ammo Is a Big Problem.” *National Interest*, 13 May 2018, <http://nationalinterest.org/blog/the-buzz/russia-makes-some-dangerous-guns-the-ammo-big-problem-25792>.

experienced following the collapse of the Soviet Union.⁵¹ Even if Russia does not develop the most sophisticated weaponry, it could still use them to disrupt the military plans of others.⁵²

The Baltic Countries and Emerging Technologies

So where does this leave the Baltic countries? The discussion above suggests that in the foreseeable these emerging technologies will marginally enhance Russia's military capabilities while the United States will gradually and cautiously adopt them. The local balance of power will remain largely static. For one, Russia already enjoys a massive military advantage over the Baltic countries, with or without autonomous weapons. For another, these emerging technologies do not alter how the Baltic countries receive an Article 5 commitment from their NATO partners. Any military activity that triggers this clause of the Washington Treaty could lead to escalatory dynamics that Russia would prefer to avoid. As for the Baltic countries, capabilities remain underdeveloped. Having already embraced digital technologies for its governance, Estonia has been the most advanced of the three Baltic countries in thinking about AI. In March 2018 the Estonian government announced the development of a national strategy towards AI.⁵³ It will also contemplate how to address AI in its legal structures, with one subject being the provision of a special legal status conferred upon robots.

Military robotics and AI could be leveraged for various purposes in the Baltic context. In the long-term, military robots might compensate for the lack of available manpower that Estonia, Latvia, and Lithuania might face in the future due to high emigration, low birthrates, and low immigration. As Mick Ryan argues, "it is possible that a technologically advanced country with a smaller population could build a significant advantage using AI-based military systems and fielding large numbers of robotic warfighters."⁵⁴ Such systems — redolent of many Hollywood films — remain a distant possibility. In the medium term, military robotics and AI could serve logistical as well as intelligence, surveillance, and reconnaissance (ISR) purposes.

51. Bettina Renz, "Why is Russia Reviving Its Conventional Military Power," *Parameters* 46, no. 2 (2016): 28.

52. Hoadley and Lucas, *Artificial Intelligence*, 22.

53. Government Office, "Estonia Will have an Artificial Intelligence Strategy," *Republic of Estonia*, 27 March 2018, <https://riigikantselei.ee/en/news/estonia-will-have-artificial-intelligence-strategy>.

54. Ryan, *Human-Machine Teaching*, 11.

In the more immediate term, however, AI would be most useful for early warning, especially with respect to the monitoring of social media, energy flows, or even encrypted communications between Russia and sources inside the Baltic countries. Consider how AI could help bolster Baltic defences in such a way as to defeat, if not to prevent, some of the tactics that Russia used against Ukraine in its annexation of Crimea in early 2014. Recall that so-called “little green men” — military personnel bearing no insignia or other identifying marks — suddenly appeared in Crimea manning checkpoints, clearing areas, and intimidating members of the local population in the run-up to the independence referendum that Russia used to lend legitimacy to its effort. The Baltic countries fear that Russia might attempt something similar against them, not least because — especially in the case of Estonia and Latvia — their populations contain Russian-speakers who may sympathize with the Kremlin enough to do its bidding.⁵⁵ One measure that they have taken is to practice retaking sites from paramilitary forces of unknown origin.⁵⁶

AI is useful for such situations because the Baltic countries have home-field advantage. As such, they can amass data on certain environments and sites most at risk of being targeted by Russia. Such data could thus be used to understand regular patterns of behaviour of individual contained within those environments, thereby offering earlier detection and warning in the event that something untoward or irregular is happening. Of course, this technology is not impervious to countermeasures. Algorithms could be vulnerable to a battery of malicious queries by adversaries, leading those very algorithms to make faulty or bad predictions.⁵⁷

As for 3D printing, the Baltic countries could benefit in at least two ways. To begin with, observers believe that because they face such a massive imbalance of power, the Baltic countries should not prepare

55. Alexander Lanoszka, “Russian Hybrid Warfare and Extended Deterrence in Eastern Europe,” *International Affairs* 92, no. 1 (2016): 175–195. To be sure, this fear should not be exaggerated since even most Russian-speakers prefer to live within the European Union.

56. “Latvian, Estonian National Guards Drill for ‘Little Green Men,’” *LSM.lv*, 31 August 2015, <https://eng.lsm.lv/article/society/society/latvian-estonian-national-guards-drill-for-little-green-men.a143629/>.

57. Agrawal et al, *Prediction Machines*, 204–205. Algorithms could make problematic or bad predictions in the absence of adversarial actions. See Solon Barocas and Andrew D. Selbst, “Big Data’s Disparate Impact,” *California Law Review* 104: 677–93.

their armed forces for fighting set-piece battles with the Russian military. Instead, they should prepare to wage an insurgency campaign designed to make themselves difficult to swallow and to occupy.⁵⁸ Because 3D printing might reduce supply chains, violent organizations may be able to make their own weapons or weapons parts. 3D printed guns have so far proven to be unreliable, but as one Deloitte report warns, 3D printing “can help terrorist groups not only acquire new weapons or capabilities, but also allow them to do so more rapidly and stealthily than before, across a wider range of locations.”⁵⁹ This can apply equally to insurgent groups, with such capabilities being homemade firearms and improvised explosive devices. 3D printers are not impervious to countermeasures, however. A RAND study cautions that 3D printers — if they are connected to the global internet — can be susceptible to sabotage if a malicious actor hacks into the system and encodes a flaw into the designs of a product that would be printed.⁶⁰ Moreover, if Russia could mass firepower and saturate hostile environments by using killer robots, then the advantage gained from 3D printing weapons could be offset. Finally, 3D printing could allow forward deployed forces — like the NATO battlegroups stationed on Baltic territory as part of the alliance’s “Enhanced Forward Presence” — to buy more time before reinforcements arrive. They can replenish themselves “on the spot” without relying too much on supply chains and logistical tails. Such additional time could help if Russian aerial and naval assets located in Kaliningrad complicate NATO efforts to enter, and to move within, the theater of operations if war were to erupt.⁶¹

Conclusion

Some security analysts argue that the introduction of emerging technologies on the battlefield will have a transformational impact on international security. Military robots, AI, and additive manufacturing (3D

58. Lanoszka and Hunzeker, “Confronting.”

59. Michael Stehn, Ian Wing, Tina Carlile, Joe Dichairo, and Joe Mariani, “3D Opportunity for Adversaries: Additive Manufacturing Considerations for National Security,” Deloitte Insights, 22 August 2017, <https://www2.deloitte.com/insights/us/en/focus/3d-opportunity/national-security-implications-of-additive-manufacturing.html>.

60. Trevor Johnston, Troy D. Smith, and J. Luke Irwin, “Additive Manufacturing in 2040: Powerful Enabler, Disruptive Threat,” (Santa Monica, CA: RAND Corporation, 2019): 18.

61. Stephan Frühling and Guillaume Lasconjarias, “NATO, A2/AD, and the Kaliningrad Challenge,” *Survival* 58, no. 2 (2016): 95–116.

printing) could allow non-state or weak actors to level the playing field with more powerful countries. Yet the preceding discussion suggests that a more tentative attitude is appropriate. In the long-term, the impact of these technologies could be dramatic. However, in the foreseeable future at least, the changes generated by these technologies will be gradual, if not modest. Their significance for Baltic regional security will remain limited despite Russian investments in military robotics and AI. Nevertheless, AI holds some promise for the Baltic countries, especially if it enables them to improve their early warning capabilities so as to thwart “little green men” scenarios.

This essay offers some policy implications for NATO to consider. First, the United States, the Baltic countries, and their fellow allies should be mindful of how these emerging technologies might affect interoperability. If progress in robotics, AI, and 3D printing will be more evolutionary than revolutionary, then the development of these technologies could produce further capability gaps between the United States and its NATO allies. Buying American might help prevent a greater widening of those gaps, but European countries — especially those in the Baltic region — will need to invest in their own research and development (R&D) so that they can tailor these technologies to their own needs.⁶² Indeed, capability gaps could develop *between* the Baltic countries. Since Estonia may already be ahead of the curve, Latvia and Lithuania could find themselves lagging too far behind. Capability gaps could create gaps in coverage if AI has the potential for enhancing early warning.

Second, because AI draws on deep learning methods to improve prediction, more data would allow for a more robust understanding of trends and behaviour patterns. NATO’s new Baltic-focused regional command could provide a clearinghouse of the data drawn from individual allies. Of course, European allies have already agreed to a Declaration of Cooperation on AI in order to share information and to foster research and development links. Yet the regional command can focus on the peculiarities of the Baltic security economy and exploit economies of scale. This regional command can offset the risk of stove piping between the three NATO Centers of Excellence in the Baltic countries. The one in Riga focuses on strategic communications; the one in Tallinn addresses cyber security; and the one in Vilnius is dedicated to ener-

62. See Daniel Fiott, “A Revolution Too Far? US Defence Innovation, Europe and NATO’s Military-Technological Gap,” *Journal of Strategic Studies* 40, no. 3 (2017): 417–37.

gy security. Although these centers of excellence should preserve their specialisations, they admittedly work on overlapping areas and AI is most effective when algorithms crunch the largest amount of relevant data possible. Indeed, another advantage of data sharing and aggregation is to reduce the possibility of bias and to improve the quality of algorithms.

Third, emerging technologies offer no “absolute weapon,” since countermeasures are possible. This could be both good news and bad news. For example, if Russia leans too heavily on military robotics, then it would face new problems that manned systems might not have to confront. Latvia has many forests, but it also has marshes and swamps like the Teiči State Reserve in its east. This terrain would already be difficult for military robots to overcome without further intervention. Russian RPAs might also be vulnerable to man-portable air-defence systems. If Russia comes to rely on AI for military purposes, then it might be susceptible to hacking and manipulation. NATO should also heed these issues. Hence the importance of regional cooperation: no one country should find itself a potential weak link that can be exploited.

Finally, NATO needs to consider systematically how these emerging technologies would affect allies’ perceptions of their received security guarantees. The standard view among allies is to value the presence of forward deployed forces on their territory. This view might have been sensible because their tangible representation as a trip-wire in case they could not mass firepower.⁶³ Yet technological advances might render such beliefs outdated. Large contingents of forward deployments may not be necessary in the presence of military robotics. However, forward deployments could become even more credible if they are able to hold out longer. They could resupply themselves on the spot without relying on supply chains that span large geographical distances. Such developments might not come to pass for a while, but allies should plan for them regardless.

63. Hunzeker and Lanoszka, “Landpower and American Credibility.”

The Challenges of Deterring Iran

Christopher Bolan

The challenges of deterring Iran today are particularly daunting given the complex web of personalities and authorities engaged in Iran's national security decision-making process and the broad spectrum of troubling behaviors that the international community seeks to deter or reverse. This article identifies three principal challenges that Western leaders will need to overcome in forging a coherent and effective strategy designed to deter the worst of Iranian behavior in the region.

The first primary challenge will be to prioritize and clearly articulate the specific Iranian behaviors that Western leaders seek to deter or change. These security concerns include conventional security issues such as preventing Iran from acquiring a nuclear weapon, constraining its ballistic missile capabilities, and ensuring the Strait of Hormuz remains open to global trade and shipping. The second challenge for Western leaders is to develop a sophisticated understanding of key Iranian actors and the role each plays in the national security decision-making process so that deterrent actions can be tailored specifically to influence those centers of powers and influence. The third challenge for Western leaders will be to forge an international coalition capable of presenting Tehran with a coherent set of credible threats of punishment combined with persuasive incentives that are most likely to influence Iranian decision-making in a positive direction.

Essential Insights from Deterrence Theory and Policy

In his pioneering work on deterrence theory in 1966, Thomas Schelling succinctly identified the essential features of what he characterized as effective coercive diplomacy. Schelling makes it clear that this is a strategic game of perceptions being played out by both the country threatening punishment and the adversary whose decision-making and actions are being targeted. In particular, he notes what both policymakers seeking to implement a deterrence-based strategy and their adversaries would have to appreciate about the threats being communicated and behaviors that must be changed to avoid punishment.

To exploit a capacity for hurting and inflicting damage one needs to know what an adversary treasures and what scares him and one needs the adversary to understand what behavior of his will cause the violence to be inflicted and what will cause it to be withheld. The victim has to know what is wanted, and may have to be assured of what is not wanted. The pain and suffering have to appear *contingent* on his behavior; it is not alone the threat that is effective — the threat of pain or loss if he fails to comply — but the corresponding assurance, possibly an implicit one, that he can avoid the pain or loss if he does comply. The prospect of certain death may stun him, but it gives him no choice.

Coercion by threat of damage also requires that our interests and our opponent's not be absolutely opposed. If his pain were our greatest delight and our satisfaction his greatest woe, we would just proceed to hurt and to frustrate each other. It is when his pain gives us little or no satisfaction compared with what he can do for us, and the action or inaction that satisfies us costs him less than the pain we can cause, that there is room for coercion. Coercion requires finding a bargain, arranging for him to be better off doing what we want — worse off not doing what we want — when he takes the threatened penalty into account.¹

Building on Schelling's insights, the Cold War era of global ideological, military, and nuclear competition between the United States and the Soviet Union inspired a rich body of academic literature on deter-

1. Thomas C. Schelling, *Arms and Influence* (New Haven, Connecticut: Yale University Press, 1966; reprint 2008), 3-4.

rence.² Moreover, the historical record since then has given scholars & practitioners ample opportunities to assess where deterrent policies have either yielded successful outcomes or failed to prevent conflict. Michael J. Mazarr offers an excellent modern-day distillation of key insights on this deterrence literature in a recent RAND report entitled “Understanding Deterrence.”³ He highlights several key insights that are relevant to contemporary policymakers contemplating the challenges of deterring modern-day Iran.

First, deterrence is fundamentally about influencing the decision-making of an adversary. Deterrence policies must be expressly designed and tailored to impact the assessment of costs, benefits, and risks of a potential course of action being considered by a potential aggressor. Consequently, the ultimate success or failure of an allied deterrent strategy against Iran will not be determined in Washington or Brussels or Riyadh. It is the senior leaders in Tehran who must be dissuaded from taking actions that they perceive will be overly costly or unnecessarily risky. Deterrence is ultimately a battle of perception management.

Second, scholarship generally admits to two major approaches to deterrence: deterrence by punishment and deterrence by denial. Deterrence by punishment threatens to impose severe costs on a targeted country in order to dissuade that actor from taking particular actions. Implied or actual threats by U.S. or allied leaders to militarily strike Iran in the event it develops nuclear weapons or closes the Strait of Hormuz are prominent contemporary examples of this approach to deterrence policy.

Deterrence by denial, on the other hand, is designed to either decrease the physical capability of the targeted state to undertake particular actions or to convince the targeted state that it is unlikely to succeed in achieving its strategic objectives. Thus Israeli military strikes against rocket production facilities operated by Hezbollah forces in Syria are

2. In addition to Schelling’s *Arms and Influence*, see especially Alexander L. George and Richard Smoke, *Deterrence in American Foreign Policy: Theory and Practice* (New York: Columbia University Press, 1974); Glenn H. Snyder, “Deterrence by Denial and Punishment,” Center of International Studies, Princeton University, 1959; and T.V. Paul, Patrick M. Morgan, and James J. Wirtz, eds., *Complex Deterrence: Strategy in the Global Age* (Chicago: The University of Chicago Press, 2009).

3. See Michael J. Mazarr, “Understanding Deterrence”, RAND, 2018 for an excellent distillation of the scholarship on deterrence, www.rand.org/pubs/perspectives/PE295.html.

intended to deny Iran the physical capacity to threaten Israeli population centers through this proxy force. Similarly, U.S. economic or financial sanctions, as well as cyberattacks on Iranian nuclear centrifuges and suspected assassinations of Iranian scientists are all examples of activities designed to reduce Iran's physical and intellectual capacities to advance its nuclear research programs. As Mazarr points out, it is actually strategies grounded in denial that historically best engender prospects for successful deterrence.⁴

A third — and least acknowledged — contribution to successful deterrence policies is the offering of inducements, concessions, or reassurances.⁵ This is essentially presenting the opponent with not only 'sticks' aimed at raising the costs of a particular action but also adding constructive 'carrots' that increase the benefits to the targeted state of adopting an alternative course of action. This approach was certainly evident in President Obama's offer of sanctions relief to Iran in exchange for accepting meaningful limits on its nuclear activities that resulted in the 2015 Joint Comprehensive Plan of Action (JCPOA or Iran nuclear deal).

Prioritizing U.S. and Allied Strategic Objectives for Iran

The first major challenge for Western leaders will be to articulate and prioritize the specific Iranian behaviors that they seek to deter or change. Recognizing the distinction between deterrence and compellence is critical when policymakers seek to establish and prioritize feasible and attainable objectives for their policies and strategies. Deterrence is designed to prevent an actor from taking an action that has yet to be undertaken. However, compellence is aimed at convincing an adversary to cease or curtail activities that are already in motion. Deterrence and compellence are both variants of coercive strategies that share similar logics and tools. However, policymakers should recognize that compelling an adversary to abandon activities that it already finds beneficial will be a relatively tougher challenge and will likely require a greater combination of additional pressures and/or incentives.⁶

4. Mazarr, 2.

5. Janice Gross Stein, "Reassurance in International Conflict Management," *Political Science Quarterly* 106, no. 3 (Autumn, 1991): 431–51. For a more concise treatment, see also Mazarr, 5.

6. For a theoretical argument in support of this observation, see Gary Schaub, Jr., "Deterrence, Compellence, and Prospect Theory," *Political Psychology* 25, no. 3 (June

So, for example, coalition policies aimed at deterring Iran from developing a yet non-existent nuclear weapons program would represent a relatively easier lift (with greater prospects for success) than a policy aimed at compelling Iran to abandon its ongoing domestic enrichment of uranium.

Forging a shared assessment of the dangers posed by Iranian actions among any potential coalition of Western and regional states would be a difficult task under any circumstances. The U.S.-European consensus that had identified Iran's nuclear program as the most urgent and consequential threat has unfortunately frayed with President Donald J. Trump's withdrawal from the JCPOA in May 2018. Consequently, the first task for Western and regional leaders will be to forge a new shared assessment of the threats posed by Iran.

President Barack Obama's administration clearly prioritized Iran's nuclear program over other troubling aspects of Iran's behavior in the region and thus relentlessly pursued a nuclear agreement that ultimately took the form of the Joint Comprehensive Plan of Action (JCPOA). This international agreement was enabled only by forging a shared assessment by the members of the so-called P5 + 1 (the United States, the United Kingdom, France, Russia, China, plus Germany) that the nuclear threat posed by Iran was the preeminent security concern for the international community. As Obama said in announcing the deal:

I am confident that this deal will meet the national security interest of the United States and our allies...Now that doesn't mean that this deal will resolve all of our differences with Iran. We share the concerns expressed by many of our friends in the Middle East, including Israel and the Gulf States, about Iran's support for terrorism and its use of proxies to destabilize the region. But that is precisely why we are taking this step — because an Iran armed with a nuclear weapon would be far more destabilizing and far more dangerous to our friends and to the world.⁷

In a remarkable rejection of this shared perspective on security priorities, however, Trump reversed course by withdrawing U.S. support

2004). For a case-specific examination, see Sergey Minasyan, "Coercion in Action: Deterrence and Compellence in the Nagorno-Karabakh Conflict," PONARS Eurasia Policy Memo No. 242, September 2012.

7. "Statement by the President on Iran," The White House, Washington, D.C., 14 July 2015, <https://obamawhitehouse.archives.gov/the-press-office/2015/07/14/statement-president-iran>.

for the JCPOA. In fact, one of his most strident objections to the nuclear deal was that it failed to address Tehran's other "malign" activities in the region. This represents a clear break with the shared threat perspective that Obama had successfully forged with the broader international community and has once again opened the door to questioning which aspects of Iranian behavior in the region are most troubling and most in need of addressing.

Indeed in the months before the U.S. abandonment of the JCPOA, French president Emmanuel Macron, German chancellor Angela Merkel, and British foreign minister Boris Johnson had each personally travelled to Washington to convince Trump to stick with the deal.⁸ Macron and others had lobbied intensively to "fix" the nuclear deal by offering to intensify allied sanctions over Iran's ballistic missile programs and other aspects of Iran's troubling behavior.⁹ Having failed in this attempt, these U.S. allies are now scrambling to take unilateral and multilateral steps to insulate their countries and companies from the re-imposition of crippling U.S. sanctions and penalties targeting any entity doing business in Iran.

Meanwhile, leaders from Arab Gulf allies and Israel, who had only reluctantly acceded to the JCPOA, welcomed Trump's withdrawal as evidence that the United States would more aggressively confront all aspects of malign Iranian activities in the region. Israel's prime minister, Benjamin Netanyahu, effusively praised Trump's decision as historic, bold, and courageous. In particular he noted that "Since the deal, we've seen Iran's aggression every day — in Iraq, in Lebanon, in Yemen, in Gaza, and most of all, in Syria, where Iran is trying to establish military bases from which to attack Israel."¹⁰ The Ministry of Foreign Affairs of Saudi Arabia likewise welcomed the decision as a recognition that Iran had been "taking advantage of the revenue generated by the lifting of sanctions to destabilize the region."¹¹ The common refrain from these

8. Yochi Dreazen, "Europe's Fury Over Trump's Iran Decision Explained in One Word," *Vox*, 9 May 2018, www.vox.com/world/2018/5/9/17335308/trump-decrtify-iran-nuclear-deal-europe-sanction.

9. Ishaan Tharoor, "Can Macron Save the Iran Deal?" *Washington Post*, 25 April 2018, www.washingtonpost.com/news/worldviews/wp/2018/04/25/macron-steps-up-his-bid-to-save-the-iran-deal/.

10. Marissa Newman, "Netanyahu: Israel 'Fully Supports' Trump's 'Bold' Pullout from Iran Deal," *Times of Israel*, 2 May 2018, <https://www.timesofisrael.com/netanyahu-israel-fully-supports-trumps-bold-pullout-from-iran-deal/>.

11. "Saudi Arabia, Gulf Allies Welcome Trump Pullout from Iran Deal," *Times of Israel*,

leaders was that the nuclear deal had wrongly prioritized the nuclear issue at the expense of other aspects of Iranian behavior that were more troubling to these regional allies.

When Trump's secretary of state, Mike Pompeo, announced a new strategy for Iran at the conservative Heritage Foundation in May 2018, it did little to resolve these divergent assessments of what aspects of Iranian actions were most troubling and which should properly occupy center stage in any coalition strategy hoping to deter future Iranian actions or compel a change in existing behaviors. Instead Pompeo simply provided a long list of what he termed twelve wide-ranging "demands" for changes in Iranian behavior. These included a full accounting of past Iranian nuclear programs, an end to Iran's nuclear enrichment activities, "unqualified access to all sites throughout the entire country," a halt to ballistic missile development, an end to Iran's support for regional proxies and militias, a complete withdrawal of Iranian and Iranian-supported forces from Syria, and a stop to unspecified "threatening behavior against its neighbors."¹²

A *New York Times* editorial has characterized these wide-ranging U.S. demands as "wishful thinking" that would amount to nothing short of "Iranian capitulation."¹³ Barbara Slavin, a long-time Iran watcher, put it more colorfully: "The demands would require that the Iranian leopard not just change its spots but transform itself into a lamb, subordinated to the wishes of the U.S., and Iran's regional rivals — Saudi Arabia, the United Arab Emirates and Israel."¹⁴ Most recently, more than fifty former senior U.S. government officials penned a public letter criticizing the Trump administration's current approach as leaving "Iran the option of either capitulation or war."¹⁵

Moreover, even within days of one another, various senior members of the Trump administration have emphasized different aspects of

8 May 2018, www.timesofisrael.com/saudi-arabia-gulf-allies-welcome-trump-pullout-from-iran-deal/.

12. U.S. Secretary of State Mike Pompeo, "After the Deal: A New Iran Strategy," The Heritage Foundation (Washington, DC), 21 May 2018.

13. Carol Giacomo, "Pompeo's Iran Plan: Tell Them to Give Up," *New York Times*, 21 May 2018, www.nytimes.com/2018/05/21/opinion/pompeo-iran-deal-give-up.html.

14. Daniel Larison, "Pompeo's Iran Ultimatum Makes War More Likely," *The American Conservative*, 21 May 2018, www.theamericanconservative.com/larison/pompeos-iran-ultimatum-makes-war-more-likely/.

15. "Trump's Iran Policy Counterproductive Say 50+ Former Senior Officials," *Loblog.com*, 24 September 2018, <https://lobelog.com/trumps-iran-policy-counterproductive-say-50-former-senior-officials/>.

Iran's behavior which only add to the confusion surrounding American priorities. U.S. strategy in Syria, for instance, appears to have undergone a fundamental transformation suggesting that removing Iranian forces now tops the list of administration concerns. U.S. military presence and strategies in Syria under both Obama and the first two years of the Trump administration had been laser-like focused on eliminating the threat from the Islamic State of Iraq and Syria (ISIS) with little demonstrated concern over Iran's decades-long support for the Assad regime in Damascus.

In fact, until recently, the sole legal and substantive justification offered for the roughly 2,000 U.S. troops in Syria was tied to the limited U.S. strategic objective to degrade and ultimately defeat ISIS. The U.S.-led coalition military campaign has been tremendously successful in routing ISIS from virtually all territories in both Iraq and Syria. Buoyed by this remarkable success on the ground, Trump himself declared in March 2018 that this U.S. mission would soon be coming to a close. He said "We're knocking the hell out of ISIS. We'll be coming out of Syria like very soon. Let the other people take care of it now."¹⁶ However, concerns over Iran's military presence in Syria have suddenly risen to the top of the U.S. national security agenda. In September 2018, Pompeo's special representative for Syrian engagement, retired Ambassador James Jeffrey, indicated that this concern had prompted a whole-sale change in U.S. strategy. He indicated that Trump had effectively reversed course and was now committed to an enduring U.S. military presence in Syria in order to "ensure an Iranian departure and the 'enduring defeat' of the Islamic State."¹⁷

Only days after this announced major shift in U.S. strategic goals in Syria, U.S. special envoy for Iran Brian Hook failed to make a single mention of Iran's malign activities in Syria.¹⁸ Instead he delivered a blistering critique of Iran's missile program citing it as "among the most significant challenges to broader nonproliferation efforts in the region and ... an enduring threat to our allies and partners." On the same day at the United Nations, U.S. Ambassador Nikki Haley emphasized yet

16. Ryan Browne and Barbara Star, "Trump Says US Will Withdraw from Syria 'Very Soon,'" CNN, 29 March 2108, www.cnn.com/2018/03/29/politics/trump-withdraw-syria-pentagon/index.html.

17. Karen DeYoung, "Trump Agrees to an Indefinite Military Effort and New Diplomatic Push in Syria, U.S. Officials Say," *Washington Post*, 6 September 2018.

18. "Brian Hook's Written Remarks," Washington, D.C.: Hudson Institute, 20 September 2018, www.hudson.org/research/14577-brian-hook-s-written-remarks.

another aspect of Iran's troubling behavior focused on Tehran's support to proxies throughout the region — not only in Syria but also from Iraq, to Yemen, and to Lebanon.¹⁹

Trump's address to the United Nations General Assembly (UNGA) in September 2018 contained a strong critique of Iranian actions — but it lacked any clear priorities. The president condemned a broad array of Iranian domestic and foreign activities, denouncing “the corrupt dictatorship in Iran ... [who] sow chaos, death, and destruction ... build nuclear-capable missiles, increase internal repression, finance terrorism, and fund havoc and slaughter in Syria and Yemen.”²⁰

If deterrence is to have any hope of success, Iranian leaders must be presented with a clear understanding of which activities they must abandon, rather than being given an all-encompassing list that would effectively amount to surrendering what they view as essential levers of regional influence. Additionally, Tehran must be given a clear pathway that allows Iran to avoid punishment while preserving what it considers essential to the country's national security interests.

Jon Alterman of the Center for Strategic and International Studies put it succinctly when he suggested that a more effective deterrent strategy for Iran would include “a more modest policy of incentives and consequences with a bold destination and a clearer idea of how to get there.”²¹ Therefore, one essential component of a successful allied deterrent strategy will be to convince the Iranian leadership that there is a viable path to sanctions relief short of whole-sale capitulation and that regime change is not the hidden ultimate objective of U.S. or allied strategies.

Without a clearer sense of which of these Iranian behaviors most directly impact Western and regional security interests, any deterrent strategy is likely to flounder. Both theory and practice demonstrate that clear communication is essential to successful deterrence. Consequently, there is a compelling need for European, American, and regional leaders to engage in frank consultations aimed at developing a shared

19. Ambassador Nikki Haley, “Remarks at a UN Security Council Briefing on the Situation in the Middle East,” New York City, 20 September 2018.

20. “Remarks by President Trump to the 73rd Session of the United Nations General Assembly,” New York: United Nations, 25 September 2018, www.whitehouse.gov/briefings-statements/remarks-president-trump-73rd-session-united-nations-general-assembly-new-york-ny/.

21. Jon B. Alterman, “In Search of an Iran Strategy,” Center for Strategic & International Studies, CSIS Middle East Notes and Comments, September 2018.

and prioritized assessment of the most urgent threats posed by Iranian policies and actions. As *New York Times* best-selling author and business consultant Patrick Lencioni has long advised his clients, “If everything is important, then nothing is.”²²

Understanding Iranian Decision-Making and Tailoring Deterrence

As the foregoing discussion makes clear, the range of Iranian actions that U.S. and allied leaders seek to deter is broad and include everything from preventing Iran from acquiring a nuclear weapon capability, to curbing Iran’s missile development, to ending Tehran’s support for regional proxy forces that include terrorist groups like Hezbollah in Syria and the Houthis in Yemen. Tailored deterrence emerged during the George W. Bush administration as a concept expressly designed to meet this increasingly wide array of threats. The 2006 *National Security Strategy* called for adapting conventional Cold War deterrence strategies to a “new strategic environment ... that will provide tailored deterrence of both state and non-state threats (including WMD employment, terrorist attacks in the physical and information domains, and opportunistic aggression) while assuring allies and dissuading potential competitors.”²³

A former senior U.S. Department of Defense official who has long experience in crafting defense policies, M. Elaine Bunn, observes that tailored deterrence requires a “detailed knowledge of the society and leadership that we seek to influence ... in order to tailor deterrence to specific actors and specific situations.”²⁴ In particular she identifies a host of questions that intelligence and other officials will have to answer concerning the decision-making process of the adversary. These questions include: Who makes decisions in particular situations? How do these individual actors calculate risk and benefits? What are their values, objectives, and priorities? How do they assess U.S. objectives and options?

Consequently, the second major challenge confronting Western lead-

22. “If Everything is Important,” The Table Group: A Patrick Lencioni Company, March 2006, www.tablegroup.com/blog/if-everything-is-important.

23. George W. Bush, *National Security Strategy of the United States* (Washington, DC: The White House, March 2006), <https://history.defense.gov/Portals/70/Documents/nss/nss2006.pdf?ver=2014-06-25-121325-543>.

24. M. Elaine Bunn, “Can Deterrence Be Tailored?” *Strategic Forum* no. 255, January 2007, www.hsdl.org/?view&did=481759.

ers in crafting a coherent deterrent strategy for Iran will be to develop a more sophisticated understanding of the different actors playing influential roles in Iran's national security decision-making process. These actors certainly include (but are not limited to) the supreme leader, the president, the Supreme National Security Council, the foreign ministry, the Ministry of Intelligence and Security, Iranian conventional military forces or the Artesh, and the paramilitary Islamic Revolutionary Guards Corps (IRGC), as well as the legislative branch, the Majlis, and the Guardian Council.

Ariane M. Tabatabai, a visiting professor at Georgetown University, noted recently that Iranian foreign policies and strategies are not a simple top-down driven process. Instead, decisions are developed in an opaque process that involves a "complex push and pull within a web of organizations."²⁵

A RAND study summarizes the process as follows:

The decisionmaking process in Iran can be, and often is, bewildering in its complexity. The large number of institutions, the important roles of nongovernment actors, overlapping institutional structures, the importance of personal ties, and lack of a clear division of labor among security ministries often lead to conflicting policies and uncertain implementation.²⁶

Western and regional intelligence agencies will play a critical role in developing a better appreciation for the roles, perspectives, interests, objectives, and "red lines" of the variety of political actors that comprise the Iranian system and participate in Iran's decision-making process. Furthermore, coalition leaders will need a nuanced understanding of the push-and-pull between the different agencies, personalities, and interests represented in Iran's complex and opaque decision-making

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25. Ariane M. Tabatabai, "How Iran Will Determine the Nuclear Deal's Fate: The Decision-Making Process Is No Simple Top-Down Exercise," *Foreign Affairs*, 16 May 2018. For more in-depth analysis of Iranian foreign policy decision-making see Thomas Juneau and Sam Razavi, eds., *Iranian Foreign Policy Since 2001* (New York: Routledge, 2013); Jerrold D. Green, Frederic Wehrey, and Charles Wolf, Jr., *Understanding Iran* (California: RAND Corporation, 2009); and various chapters in Robin Wright, ed., *The Iran Primer: Power, Politics, and U.S. Policy* (Washington, DC: U.S. Institute of Peace, December 2010).
26. Daniel Byman, Shahram Chubin, Anoushiravan Ehteshami, et al., "Iran's Security Policy in the Post-Revolutionary Era," RAND Corporation, MR1320, 2001, 21, www.rand.org/content/dam/rand/pubs/monograph_reports/MR1320/MR1320.ch3.pdf.

process. It is only armed with these insights that Western leaders can tailor specific deterrent strategies designed to effectively influence the ultimate outcome of the decision-making process in Tehran.

There are actors such as the supreme leader and president who play substantial roles in all major national security decision-making. One expert on Iran, Karim Sadjadpour, characterizes Supreme Leader Ayatollah Ali Khamenei as Iran's "most powerful official ... [with] either direct or indirect control over the executive, legislative and judicial branches of government, as well as the military and media."²⁷ Any domestic and foreign policy decision ultimately falls within his purview and all major decisions require his approval. Consequently, it will be especially critical that Western leaders have a detailed appreciation for his perspectives on any issue of concern. The supreme leader has certainly been a major determinant regarding the key decisions impacting Iran's nuclear program and missile development. He has long insisted that Iran be able to maintain a domestic enrichment program — an insistence that effectively became a bottom-line for Iran's nuclear negotiating team in advance of the JCPOA agreement.²⁸

In the wake of the U.S. withdrawal from the JCPOA, however, Khamenei has subsequently regretted his decision to allow Iran's participation in the nuclear negotiations themselves,²⁹ has ordered his atomic energy organization to prepare for increasing Iran's enrichment capacity,³⁰ and established minimal demands for Europe to satisfy if the nuclear deal is to be preserved.³¹ Khamenei has also involved himself deeply in establishing the parameters for Iran's ballistic missile programs. In late 2017, Iran announced that the Supreme Leader had ordered that the range of these missiles be limited to 2,000 kilometers which is sufficient to target

27. Karim Sadjadpour, "The Supreme Leader," in Wright, ed., *Iran Primer*, <https://iran-primer.usip.org/resource/supreme-leader>.

28. "Iran Needs More Nuclear Enrichment Capacity — Khamenei," *BBC News*, 8 July 2014, www.bbc.com/news/world-middle-east-28208175.

29. "Iran Supreme Leader Admits Mistake Over Nuclear Talks," *Reuters*, 15 August 2018, www.reuters.com/article/us-iran-usa-vice-president/iran-supreme-leader-admits-mistake-over-nuclear-talks-idUSKBN1L00U8.

30. Bard Wilkinson, "Khamenei Orders Uranium Enrichment Preparations as Iran Nuclear Deal Frays," *CNN*, 5 June 2018, www.cnn.com/2018/06/05/middleeast/iran-khamenei-europe-uranium-intl/index.html.

31. Tom DiChristopher, "Iran's Supreme Leader Just Made 5 Tough Demands for Europe to Save the Nuclear Deal," *CNBC Politics*, 24 May 2018, www.cnbc.com/2018/05/24/irans-supreme-leader-makes-tough-nuclear-deal-demands-for-europeans.html.

the Gulf Arab states and Israel but poses little direct threat to Europe or the United States.³² Clearly, on the nuclear and missile issues, as well as others, a nuanced understanding of the Supreme Leader's views will be essential to tailoring an effective suite of deterrent actions. While the supreme leader remains *primus inter pares* in Iran's decision-making structure, the popularly elected president and other key players have also historically enjoyed varying degrees of influence in crafting, implementing, and operationalizing policies within the broad parameters and limits established by the chief cleric.

After the supreme leader, the next most influential actor in the Iranian foreign policy decisionmaking apparatus is the president. The current president is Hassan Rouhani, elected first in 2013 and re-elected in 2017. Rouhani came to the office with long experience in the government as he served as a member of Iran's Assembly of Experts, the Expediency Council, and two terms as the deputy speaker of the Majlis, Iran's parliament. He developed deep expertise in foreign policy and security issues when serving as head of Iran's National Security Council and lead Iran's negotiating team with Europe on nuclear technology. As Iranian history scholar Shaul Bakhash observes, "The centerpiece of Rouhani's policy was a resolution of the nuclear issue. He and his team believed that once the nuclear issue was addressed, sanctions would be lifted, economic activity would pick up, foreign investment would flow in, and Iran could begin to integrate itself further into the international community."³³ Rouhani's personal insistence on pursuing negotiations was critical in overcoming the skepticism of the supreme leader who was extremely distrustful of the West and was inherently suspicious of any approach resulting in compromises that would endanger or impose limits on Iran's ability to defend itself against regional as well as Western foes.³⁴

It was also the particular background and perspective of Rouhani that created the opportunity for the international community represented by the P5 + 1 to seriously test Iran's willingness to accept verifiable limits of its nuclear technologies & programs in exchange for an easing and eventual lifting of sanctions. The end result of this intensive diplomatic engagement was the 2015 JCPOA.

32. "Iran Says Supreme Leader Limits Ballistic Missile Range," *Associated Press*, 31 October 2017, www.voanews.com/a/iran-says-supreme-leader-limiting-ballistic-missile-range/4094256.html.

33. Shaul Bakhash, "The Seven Presidents," in Wright, ed., *Iran Primer*.

34. Scott Peterson, "Iran's Iron Ayatollah," *Christian Science Monitor*, 4 December 2012.

As of this writing, the JCPOA is on the verge of collapse without any visible or viable replacement on the horizon. A combination of the U.S. withdrawal and credible U.S. threats to impose sanctions against any entity doing business with Iran have robbed many Iranians of any hope that Rouhani's promises of economic prosperity can now be fulfilled. This growing frustration has boiled over with public protests roiling the country placing Rouhani's international and domestic agendas in jeopardy. How this domestic discontent influences the upcoming Iranian presidential elections in 2021 is uncertain. What is clear, however, is that any allied deterrent strategy will need to take into account the background, perspectives, and influence of the incoming Iranian president.

The Islamic Revolutionary Guard Corps (IRGC) is another primary target for allied deterrent strategies and actions. A prominent Iran analyst at the RAND Corporation, Alireza Nader, characterizes the IRGC as "Iran's most powerful security and military organization."³⁵ Of particular concern for Western and regional leaders is the role played by the IRGC in funding, training, and in some cases leading a diverse range of Shia militias scattered throughout the region.³⁶

The IRGC has long supported Hezbollah as a dominant political party representing Lebanon's Shi'a majority population. It has also actively bolstered Hezbollah's military capabilities with more than 100,000 rockets and missiles that Israel fears could overwhelm its sophisticated missile defenses and directly threaten major population centers.³⁷ In Syria, beyond its long-standing for Hezbollah fighters, the IRGC trains, funds, and equips an array of foreign Shi'a militias from as far away as Afghanistan and Pakistan. As the re-imposition of U.S. sanctions scares away needed foreign investment, fuels runaway inflation, and feeds economic discontent at home it is not at all clear that Rouhani has either the power or willingness to press the IRGC into abandoning these programs.³⁸

35. Alireza Nader, "The Revolutionary Guards," in Wright, ed., *Iran Primer*.

36. For a summary discussion of Iran's use of Shi'a militias as proxies see Alex Vatanka, "Iran's Use of Shi'i Militant Proxies: Ideological and Practical Expediency versus Uncertain Sustainability," *Middle East Institute Policy Paper 2018-5*, June 2018, www.mei.edu/sites/default/files/publications/Vatanka_PolicyPaper.pdf.

37. Ben Hubbard, Isabel Kershner, and Anne Barnard, "Iran, Deeply Embedded in Syria Expands 'Axis of Resistance,'" *New York Times*, 19 February 2018, www.nytimes.com/2018/02/19/world/middleeast/iran-syria-israel.html.

38. Najmeh Bozorgmehr, "Trump Sanctions Bolster Influence of Iran's Revolutionary

In addition, the IRGC has developed close ties to a wide range of Shi'a militias in southern Iraq that now include upwards of 50,000 fighters under its direct or indirect control.³⁹ In Yemen, Iran has a record of providing modest financial and military support to the minority Houthis (who represent a sect of Shi'a Islam distinct from that practiced in Iran). Iranian support to these Houthi militias has intensified since the launch of the inappropriately named Operation Decisive Storm by Saudi Arabia and the United Arab Emirates in 2015. The most prominent and perhaps most dangerous aspect of Iranian support has been the supply of missile parts to the Houthis enabling them to launch several (thus far largely ineffective) missile strikes in Saudi Arabia endangering civilians and allied military forces alike.

Of course, other actors — both formal and informal — can also play influential if not always determinative roles in Iranian decisionmaking. The Majlis is invested with constitutional powers to approve government budgets, pass legislation, ratify international treaties, and exercises limited oversight of other government agencies and institutions. Other bodies whose membership and decision-making are heavily influenced by the preferences of the supreme leader include the Assembly of Experts, the Expediency Council, and the Supreme National Security Council. Parallel to this formalized structure of authorities are “multiple networks of various commonalities — interleaved family, experiential, clerical, political, financial, and other relationships and interests — ... that serve as levers of patronage, mobilization, and dissent.”⁴⁰

While the big three above (supreme leader, president, and IRGC) are the major decisionmakers on most significant issues, these other formal and informal bodies can influence the process by ensuring particular issues are included in the agenda and by imposing political or economic costs when they fail to achieve their desired result. One contemporary example is the tug of war over Iran parliament's passage of a bill to

Guards,” *Financial Times*, 19 July 2018, www.ft.com/content/81b4e9d4-89dd-11e8-b18d-0181731a0340.

39. Nicholas A. Heras, “Iraq's Fifth Column: Iran's Proxy Network,” *Middle East Institute Policy Paper 2017-02*, October 2017, 2, www.mei.edu/sites/default/files/publications/PP2_Heras_IraqCT_0.pdf.

40. For additional details on internal Iranian decision-making, see David E. Thaler, Alireza Nader, Shahram Chumbin, et al., *Mullahs, Guards, and Bonyads: An Exploration of Iranian Leadership Dynamics* (Washington DC: Rand Corporation, 2010), www.rand.org/content/dam/rand/pubs/monographs/2009/RAND_MG878.pdf.

comply with global standards on anti-terrorism financing.⁴¹ Rouhani supporters, moderates, and many in Iran's business community argue that such a law is essential to attracting foreign investment and preserving access to global financial markets. Meanwhile, political hardliners including the IRGC oppose the legislation as a capitulation to Western leaders that could jeopardize Iran's ability to support its regional proxies. Finally, as any law, this legislation will ultimately have to await final approval from another unelected body — Iran's Guardian Council.

Western leaders will need to have a sophisticated and nuanced appreciation for the perspectives of these formal officials and informal networks. What is their role in Iranian foreign policy decisionmaking? On what particular issues do they exercise critical influence? What is it that they value and/or fear most? What actions are most likely to convince them to moderate or change Iranian behavior in ways that advance U.S. or Western interests?

Beyond these understandings, policymakers will need to develop an appreciation for the tug-and-pull between these Iranian actors and networks, as well as the elements of society they represent. Understanding these distinctions will be critical to formulating a coherent Western deterrent strategy that effectively and directly targets the most influential actors in Iran's system of decision-making on particular issues of concern. This will be an evolving and dynamic assessment as Iranian President Rouhani's term is up in 2021 and players are jockeying to replace the supreme leader, Ali Khamenei, who is in his late 70s and reportedly suffers from prostate cancer.

The Final Challenge: Coordinating a Unified and Coherent Allied Deterrent Strategy

The final challenge for Western leaders will be to select from a suite of potential deterrent actions to craft a coherent deterrent strategy that effectively targets the most influential actors in Iran's decision-making process. An effective strategy will need to combine elements of deterrence by punishment, deterrence by denial, and positive incentives for constructive actions taken. The United States and its prospective partners each bring different capabilities to such a comprehensive deterrence package. As M. Elaine Bunn observed during the 2018 Kingston

41. Golnar Motevalli, "As U.S. Sanctions Loom, Iran Passes Anti-terror Financing Rules," *Bloomberg*, 7 October 2018, www.bloomberg.com/news/articles/2018-10-07/as-u-s-sanctions-loom-iran-passes-anti-terror-financing-rules.

Conference on International Security, allied policymakers will need to pick and choose from a broad array of the unilateral and multilateral tools available. An effective deterrent strategy will prioritize the most troubling aspects of Iran's behavior, target the most influential Iranian decision-makers, and knit together a coherent set of threats, punishments, and assurances that are most likely to move Iranian foreign policy in a constructive direction. Such a strategy will of necessity be complex.⁴² It will have to deal with both the conventional and non-traditional security challenges posed by Iranian activities in the region.

Conventional Security Threats

The conventional threats posed by Iran center around the potential for Iran to develop a nuclear weapon, the threats posed by Iran's ballistic missile arsenal, and the prospect that Iran would take action to close the Hormuz Strait which U.S. government analysts have characterized as the world's most important transit point.⁴³ In the future, conventional Western deterrence strategies and tools stand a reasonable prospect of success targeting Iranian behaviors in these fields. Here traditional deterrent tools include the threats of Western military strikes, economic sanctions, restrictive arms control measures, and offers of economic benefits associated with rejoining the international community. Similar actions and strategies successfully prevented major armed conflict between the West and brutal dictators in the Soviet Union and China for decades throughout the Cold War. These tools have greatly constricted the proliferation of nuclear weapons to only nine states even though President John F. Kennedy had anticipated in 1960 that as many as "twenty nations will have a nuclear capacity ... by the end of the Presidential office in 1964."⁴⁴

Moreover, these existing tools have thus far proven to be sufficient to curb the worst of Iranian behaviors: Iran has not yet developed a nuclear weapon; it has embraced self-imposed range restrictions on its

42. For a full treatment of the concept of complex deterrence, see T.V. Paul, Patrick M. Morgan, and James J. Wirtz, eds., *Complex Deterrence: Strategy in the Global Age* (Chicago, The University of Chicago Press, 2009).

43. "Strait of Hormuz: The World's Most Important Oil Artery," *Reuters*, 5 July 2018.

44. President John F. Kennedy during the Third Nixon-Kennedy Presidential Debate, 13 October 1960, as quoted in "JFK on Nuclear Weapons and Non-Proliferation," Carnegie Endowment for International Peace, 17 November 2003, <https://carnegieendowment.org/2003/11/17/jfk-on-nuclear-weapons-and-non-proliferation-pub-14652>.

ballistic missiles; and it has yet to make good on repeated threats to close the Strait of Hormuz. Furthermore, prospects for future success are enhanced by the fact that these are genuinely threats that have not yet materialized as opposed to actions that must be reversed. While the potential collapse of the JCPOA has damaged prospects for restraining Iran's behaviors by removing immediate economic incentives, a range of deterrent actions can be adopted either unilaterally or multilaterally as part of a cohesive allied deterrent strategy.

Deterrence by punishment: These actions are designed expressly to increase the costs associated with any potential future damaging action to be taken by Tehran. One of the least costly steps allied officials could take is to reiterate and strengthen nuclear declaratory statements in order to make it abundantly clear to Iranian leaders that they will pay a terrible price for any substantive advancement in their nuclear or missile programs. A united public stand by the U.S. and its allies is critical to sending a credible and consistent message to decision-makers in Tehran.

A somewhat more controversial step would be to formally extend the U.S. and European nuclear umbrellas to the Gulf Arab states and Israel who would be most immediately threatened by an Iranian nuclear capability. The ideal model here, of course, is NATO's principle of collective defense as embodied in Article 5 pledging that an armed attack against one member shall be considered an attack against all. This step would represent a significant step that requires careful deliberation in Washington and Brussels as it burdens the alliance with potentially costly commitments. Moreover, such pledges of extended deterrence might be found to be less credible in Tehran as leaders doubt the willingness of American and European leaders to expose their forces to Iranian attacks for the sake of distant allies.⁴⁵ At the higher end of the scale of concrete actions to be taken would be direct and targeted attacks on Iranian nuclear and other military facilities should Iran cross any "red lines" articulated by the U.S. or its partners.

Deterrence by denial: These are actions taken to minimize Iranian prospects for success. Intensified sanctions targeting the financial resources of any organization or individual involved in supporting Iran's nuclear or missile programs is a classic example of this type of deterrent action.

45. For a full treatment of the concept, see Paul K. Huth, *Extended Deterrence and the Prevention of War* (New Haven: Yale University Press, 1988).

The deployment of the Stuxnet virus to destroy Iranian centrifuges used to enrich uranium gas,⁴⁶ Israel's recent raid capturing the records of previous Iranian nuclear weapons-related research,⁴⁷ and denying Iranian students the opportunity to develop expertise in energy-related subjects or advanced engineering⁴⁸ are all examples of actions designed to limit the ability of Iran to advance its nuclear or missile activities.

Several other concrete actions can and have been taken to signal that Iran will not be allowed to achieve success. Certainly, the U.S. and its partners should periodically conduct coalition military exercises that demonstrate both the capability and resolve to conduct punishing strikes on Iranian nuclear and missile facilities. The U.S. and allies can take additional steps to bolster the missile defense capabilities of regional allies and improve early warning in the event of Iranian missile strikes. The U.S. and its allies can also improve and demonstrate their ability to counter Iran's growing anti-access/anti-denial capabilities in the Persian Gulf — as Britain and the U.S. have periodically done — by conducting multilateral naval exercises that emphasize de-mining, search and seizure training, infrastructure protection, and other missions underscoring allied capacity to maintain freedom of navigation through the Persian Gulf.⁴⁹

Assurances, inducements, and rewards: In addition to all of the “sticks” outlined above, Iran should be offered positive incentives to alter its behavior in the region. Given the mutual hostility that exists between the

46. Kim Zetter, “An Unprecedented Look at Stuxnet, The World’s First Digital Weapon,” *Wired Magazine*, 3 November 2014, www.wired.com/2014/11/countdown-to-zero-day-stuxnet/.

47. Joby Warrick, “Papers Stolen in a Daring Israeli Raid on Tehran Archive Reveal the Extent of Iran’s Past Weapons Research,” *Washington Post*, 15 July 2018, www.washingtonpost.com/world/national-security/papers-stolen-in-a-daring-israeli-raid-on-tehran-archive-reveal-the-extent-of-irans-past-weapons-research/2018/07/15/0f7911c8-877c-11e8-8553-a3ce89036c78_story.html.

48. Stephanie Garcia, “Top U.S. University Bans Iranians from Studying Chemistry or Engineering because of Sanctions,” *Independent*, 18 February 2015, www.independent.co.uk/news/world/americas/top-us-university-bans-iranians-from-studying-chemistry-or-engineering-because-of-sanctions-10053931.html.

49. Ben Farmer, “World’s Biggest Anti-Mine Naval Exercise After Iranian Threats to Close Gulf,” *The Telegraph*, 13 May 2013, www.telegraph.co.uk/news/worldnews/middleeast/iran/10052612/Worlds-biggest-anti-mine-naval-exercise-after-Iranian-threats-to-close-Gulf.html; Samantha Montenegro, “U.S., Iraq, Kuwait Complete Trilateral Exercise,” U.S. Department of Defense, 20 August 2018, <https://dod.defense.gov/News/Article/Article/1606780/us-iraq-kuwait-complete-trilateral-exercise/>.

U.S. and Iran, this will be a particularly tall order. However, the JCPOA is illustrative of what might be accomplished by offering concrete economic benefits in exchange for changes in Iranian behavior on the nuclear front. Moreover, even while not being clear about what specific Iranian actions are of most concern to the West and its allies, Trump himself has recently reiterated his offer to meet with Iranian leaders to reach an equally unspecified “real deal” with Iran.⁵⁰

On the security front, allied partners should consider extending Tehran the opportunity to constructively participate in regional security organizations and military exercises. Taking such a step is admittedly unlikely to be welcomed by Gulf Arab states who seem intent on stoking regional sectarian tensions rather than calming them. However, the disastrous civil wars in Yemen and Syria stand as ready examples of the price to be borne by all parties if these sectarian flames are allowed to fester and spread.

Small confidence building measures in areas of shared interest can begin this process. For instance, U.S. allies could invite conventional Iranian naval forces to participate in international exercises designed to clarify the proper rules of the road for behavior at sea in the narrow confines of the Persian Gulf. The U.S. has in the past extended similar offers to China to both improve transparency and reduce the prospects of miscalculation and misunderstanding in the Pacific. On Syria, the United States, Russia, and Israel — despite wildly different if not opposing strategic objectives — have managed to establish joint centers to deconflict ongoing military activities. There is no reason similar arrangements could not be made to avert unintended military conflict in the narrow sea and air space surrounding the vital Persian Gulf. Moreover, any diplomatic resolution of conflict in Syria, Iraq, Yemen, or Afghanistan will likely require Iran’s participation. Any single or combination of these incentives for constructive participation by Iran can be used as leverage to modify the calculus of decision-making in Tehran.

Unconventional Threats

Iran also poses a series of challenges to Western interests in the fields of terrorism and proxy warfare, cyberwarfare, and information. Regrettably, prospects for developing effective deterrent strategies aimed at

50. Rosie Perper, “Trump Said He Hopes to Negotiate a ‘Real Deal’ with Iran following his Summit with Kim,” *Business Insider*, 13 June 2018, www.businessinsider.com/trump-wants-real-deal-with-iran-north-korea-2018-6.

Iranian actions in the “gray zone” are more remote and will require new thinking and potentially new capabilities and authorities.

Iran will not easily be convinced to alter what it views as a productive strategy of supporting regional proxies, or to abandon its regional information campaign aimed at mobilizing local Shi’a communities, or to foreswear its growing cyber capabilities that it largely views as a defensive deterrent. One of the most sensitive and difficult political tasks for Western leaders will be to push our Arab Sunni regional partners to minimize the political, social, religious, and economic alienation of their Shi’a communities.

Indeed, in assessing the regional advances made by Iran, a RAND study concludes that “The Islamic Republic does not seek territorial aggrandizement or even, despite its rhetoric, the forcible imposition of its revolutionary ideology... Instead, it feeds off existing grievances with the status quo, particularly in the Arab world.”⁵¹ Taking visible steps in this direction could go a long way toward undermining Iranian claims to be defending the interests of these aggrieved Shi’a communities. To deter Iranian adventurism in cyber, the West will need to develop stronger defenses to protect critical infrastructure and should take positive steps to preserve the ability of average Iranians to engage constructively with one other and the outside world.

There are both theoretical and practical reasons to suspect that the policies adopted by the U.S. and its partners will not readily achieve their aims in reversing Iranian actions in these fields of non-traditional security threats. The first major obstacle to overcome is the intrinsic uncertainty associated with correctly identifying the state or other actor responsible for cyberattacks or those committed by terrorists or proxy forces. For a deterrent threat to be credible, there must be a reasonable prospect for correctly identifying the perpetrator. Iran’s use of proxy forces, its military and financial support to terrorist groups, and its conduct of cyberattacks provide the leadership in Tehran with a plausible degree of deniability. The U.S. and partner states will find it difficult to secure international legitimacy and support for retaliation when there are either substantive doubts over who is the responsible party or fears about harming innocent civilians in any potential retaliation. Iran will continue to intentionally obscure its role in any these non-traditional means of competition to further complicate Western deterrent calcula-

51. Frederic Wehrey, David E. Thaler, Nora Bensahel, et.al., *Dangerous But Not Omnipotent* (California: RAND Corporation, 2009): xiv.

tions and undermine the credibility of Western threats.

As Lt.-Gen. H.R. McMaster, who served in the Gulf War and was Trump's national security advisor in 2017–18, once quipped, "There are two ways to fight the United States military: asymmetrically and stupid."⁵² Leaders in Tehran are acutely aware of the power differential between Iran and the Western-aligned countries of the region. Iran's relative isolation as a Shi'a and Persian country in a region dominated by Arab Sunnis who also enjoy the backing of powerful Western states makes a direct head-to-head military confrontation with Iran unwise, unattractive — and highly unlikely.

The fact that Iran is so hopelessly outgunned by its opponents in conventional military terms⁵³ has compelled Tehran to rely on less traditional means of confrontation as a centerpiece of its defense policies and strategies. Iran is already so heavily invested in these non-traditional means of competition that Western leaders will find it incredibly difficult to persuade Iranian leaders to abandon this reliance on asymmetric means of conflict. In short, this is a case where the West is seeking to compel a reversal in Iranian behaviors that leaders in Tehran have already calculated as beneficial and affordable.

Deterrence by punishment: The U.S. and its allies should make substantive investments in intelligence and forensics to overcome the difficulties inherent to attributing terrorist, proxy, or cyberattacks. Doing so is essential to bolstering the credibility of any deterrent threats and poses few risks. Additionally, a broadened application of nuclear threats aimed at deterring Iranian support for terrorist attacks or cyberwarfare is an option that the U.S. has already considered. In fact, the 2018 Nuclear Posture Review says that the U.S. nuclear triad serves not only a deterrent value against nuclear threats but also against "non-nuclear aggression" that would potentially include cyberattacks.⁵⁴

Additionally, the Trump administration has recently authorized the Department of Defense to independently conduct offensive cyber

52. Jeff Schogol, "'American War Generals': A Sobering Reflection on U.S. Failures in Iraq," *Military Times*, 11 September 2014, www.militarytimes.com/off-duty/movies-video-games/2014/09/11/american-war-generals-a-sobering-reflection-on-u-s-failures-in-iraq/.

53. Trita Parsi and Tyler Cullis, "The Myth of the Iranian Military Giant," *Foreign Policy*, 10 July 2015, <https://foreignpolicy.com/2015/07/10/the-myth-of-the-iranian-military-giant/>.

54. Nerea Cal, "Nuclear Weapons' New Purpose: Deterring Cyber Attacks?" *Modern War Institute*, 19 March 2018, <https://mwi.usma.edu/nuclear-weapons-new-purpose-deterring-cyber-attacks/>.

operations in order to speed the retaliatory response and bolster the credibility of the country's deterrent posture against cyber threats.⁵⁵ Of course in the event attribution is clear, direct military action, physical interdiction of supplies to proxies, and the imposition of sanctions can also serve as punishments in direct response to Iranian threats or actions.

Deterrence by denial: Steps taken to minimize prospects that Iran will be successful in the conduct of cyberattacks will serve as important deterrents. In that vein, the U.S., European and Arab governments should work together in concert with private sector partners to develop programs to better defend critical infrastructure against cyberattacks. On the information front, regional allies can better coordinate efforts to foster cooperative relationships between and within societies across sectarian, ethnic, and religious lines to counter extremist propaganda and manipulation of social media networks. Western and Arab governments can offer funding to independent Farsi language TV and radio stations enabling them to by-pass the control of Iranian censors to ensure Iranians have an accurate appreciation for current affairs and coalition policies aimed at Iran.

Additional actions could include strengthening the capabilities and legitimacy of local security organizations and actors who could serve as effective bulwarks against Iranian proxies. This is the continuation and potential extension of the existing U.S. strategy to work “with, by, and through” regional allies. More importantly for the long-term stability of the region, Western leaders should do more to press Sunni Arab leaders to take concrete steps to alleviate the political alienation and economic frustration that is all too common in minority Shi'a communities throughout the region — societal and sectarian fissures that are readily exploited by Iran.

Assurances, inducements, and rewards: Positive incentives to effectively reduce Iran's support to proxies or convince leaders in Tehran to forego their growing capabilities in cyber and information warfare are few and far between. The obvious structural disadvantages Iran suffers at the conventional level of armed conflict, make its reliance on

55. Erica D. Borghard, “What Do the Administration's Changes to PPD-20 Mean for U.S. Offensive Cyber Operations?” Council on Foreign Relations Blog, 10 September 2018, www.cfr.org/blog/what-do-trump-administrations-changes-ppd-20-mean-us-offensive-cyber-operations.

asymmetric forms of conflict an essential component of its national security strategy. Nonetheless, it is here perhaps that the Iranian people themselves might be the most appropriate target for Western policies aimed at coopting them as potential partners in pressuring the Iranian government for change. Fostering cultural, educational, and business exchanges between Iranian civilians, Arab countries, and the West are tools that if properly managed can demonstrate the advantages of an Iran that moderates its foreign activities in exchange for integration into the international community of nations. A growing and restive young Iranian population that has no personal memory of the 1979 Iranian Revolution; is resistant to the conservative religious strictures imposed on society; and is increasingly frustrated by Iran's international isolation can be an effective enabler of change from the inside out.

Absent such positive outreach from the U.S. and its allies, Iranian leaders will seek political, economic, and security assurances from non-Western partners. Indeed this process is already in motion. In September 2018 Tehran hosted senior advisors from Russia, China, India, and Afghanistan in what it billed as its first Regional Security Dialogue to forge new eastward looking multilateral frameworks for cooperation to resist Western and regional pressures.⁵⁶

Conclusion

Although it is by now a cliché, it bears reiterating that the long-term solution to the challenges posed by Iran will not be resolved through direct military actions that aim at reversing objectionable Iranian activities in the region. Instead the United States — joined by allies in Europe and the region — should strive to develop a far-sighted strategy grounded in the fundamentals of deterrence theory that have honed through years of practical experience throughout the Cold War and beyond. Theory and practice both suggest that three essential steps must be taken for such a strategy to be successful.

The first and most fundamental step will for the United States and its allies to forge a genuine consensus on what particular Iranian behaviors form the most urgent critical threats to allied interests. The current divisions between Washington and European and Arab capitals over Trump's decision to withdraw from the Iranian nuclear deal greatly

56. Hamidreza Azizi, "Iran's Launch of 'Look East' 2.0," *Al-Monitor*, 9 October 2018, www.al-monitor.com/pulse/originals/2018/10/iran-region-regional-security-dialogue-multilateralism.html.

complicate the creation of such a unified front. Nonetheless, all alliance players share overlapping national interests in preventing Iran from developing a nuclear weapons capability, limiting the threat posed by Iran's ballistic missile program, and curtailing other Iranian activities that risk further destabilizing the Middle East. Deft allied diplomacy might yet yield a consensus that could form the basis for a shared perception of the multi-faceted threats posed by Iran.

Next, coalition leaders, aided by their various intelligence agencies, should strive to develop a nuanced understanding of Iranian decision-making so that deterrence policies can be expressly tailored to target those actors who are most likely to influence the outcome of decision-making processes in Tehran. The Iranian constitution expressly establishes a distribution of decision-making power and authorities across a complex and often opaque web of overlapping and sometimes competing authorities, so this will be no easy task. Moreover, two of the most powerful determinants of Iranian foreign policy are likely to change in the near future. Rouhani's term as president will end in 2021 and Supreme Leader Khamenei is aging, with periodic reports surfacing of his poor health. Consequently, this assessment of internal Iranian decision-making will need to evolve with these ever-changing internal dynamics.

Finally, alliance leaders will need to draft a coherent combination of both threats of punishment and promises of rewards sufficient to tilt Iranian decision-making in a favorable direction. A division of responsibilities between alliance partners makes particular strategic sense with some partners credibly threatening military action if certain red lines are crossed, others imposing substantive economic sanctions, and yet others holding out the prospects of rewards, assurances, and incentives.

Deterrence and Reassurance in the Incredible Age of Trump

Stephen M. Saideman

Perhaps the upside of the Trump era is that having a temperamental amateur as president of the United States forces everyone to consider and reconsider our assumptions about international relations and how countries seek to avoid war. Donald J. Trump is consistent about very little, but one of his few focal points has been on NATO, raising doubts about whether it is a “good deal” for the United States. This has caused many to consider whether NATO will be around if Trump were to serve more than one term. Combined with Russia’s aggressions since annexing Crimea in 2014, the rise of Trump has raised questions about whether NATO can fulfill its “day jobs” of deterring Russia and reassuring alliance members. To be sure, during the Cold War, there was constant questioning of whether the American commitment to defend its allies was credible — that perhaps the Soviet Union and the allies doubted the American will to potentially sacrifice Chicago for Bonn.¹ Yet those questions arose when the U.S. spent much effort trying to make its promise to NATO as ironclad as possible. And now? Donald

1. See Vesna Danilovic, “The Sources of Threat Credibility in Extended Deterrence,” *Journal of Conflict Resolution* 45, no. 3 (2001): 341–69; and Jesse C. Johnson, Brett Ashley Leeds and Ahra Wu, “Capability, Credibility, and Extended General Deterrence,” *International Interactions* 41, no. 2 (2015): 309–36.

Trump has only made the weakest of statements regarding Article 5.² This paper addresses some of the challenges of deterring adversaries and reassuring allies in the Age of Trump.

This involves going back to basics — taking seriously the key elements involved in deterring an adversary, what is required to reassure a friend, addressing key dynamics that are inherent in any alliance and then examining what role NATO has in both. I then address how Trump affects all of this. The core theme is that everything is much harder now than it used to be or should be, as Trump is causing much unnecessary damage to the institutions that have fostered peace and stability in Europe for seventy years.

The Essentials of Deterrence

The concept of deterrence is simple, but people tend to overlook key aspects. The basic idea is to avoid war by making it so costly for the potential aggressor that they refrain from starting a conflict. For many analyses, the equation is this: if the costs of war are greater than the benefits of war, then the adversary is deterred. It gets complicated when one includes the impact of distant allies on this calculation — that to be deterred, adversary X has to believe that some other actor will participate and impose costs. Thus, much of the concern about deterring Russia in the East now or the Soviet Union in the past was about American commitment — that the U.S. was not only deterring an attack upon itself, but via NATO's Article 5 in Europe and other agreements for a few select countries (Japan, South Korea, Australia and New Zealand), the U.S. was also seeking to deter attack upon allies. This was seen as difficult to believe — that once the Soviet Union developed nuclear weapons that could hit American territory, that the U.S. would not be willing to risk American lives in American cities for West Germans, Turks, Danes, etc. This *extended deterrence* required far greater work by the United States to convince the Soviet Union as well as American allies (see below) than deterring an attack upon itself.³

Alas, there are three wrinkles that are often forgotten in these discussions (and were largely not mentioned by speakers at the 2018 Kingston Conference on International Security). First, to deter someone is not just

2. Jeremy Herb, "Trump Commits to NATO's Article 5," *CNN Politics*, 9 June 2017, <https://www.cnn.com/2017/06/09/politics/trump-commits-to-natos-article-5/index.html>.

3. Paul K. Huth, *Extended Deterrence and the Prevention of War* (New Haven: Yale University Press, 1989).

to convince them that the potential action is very costly, but also that it is also costlier than the status quo or the near future. For the equation is actually: *the benefits of war minus the costs of war are either greater than or less than the benefits of the status quo minus the costs of the status quo*. Japan, famously, was not deterred by the costs of war with the United States in 1941 because its leaders saw an immediate future that was worse than fighting a war. Obviously, there was more to it than that, but a key reason why deterrence failed in 1941 was that Japan faced, in their view, a worsening future. This example reminds us that when we speak of deterrence, we must keep in mind not just the costs of war but the on-going situation facing the adversary and how they see the likely future. Indeed, deterrence requires something far softer than the usual calculations of resolve and ability to impose costs; it requires *empathy* — the ability to see the situation through the eyes of the adversary. To be sure, for existential deterrence, this is much less necessary: the potential costs of a nuclear exchange are so great that they dwarf everything else. But for extended deterrence, however, understanding what the other side is perceiving gains importance, as the deterrence calculation is in their heads.

Second, and more often forgotten, deterrence requires restraint. If the adversary complies, then the deterrer is supposed to refrain from doing that they have threatened. The deterrent threat “if you do x , we will hurt you” implies the promise “if you don’t do x , we will *not* hurt you.” If one is going to get punished regardless of whether one is “behaving” or not, then one might as well misbehave. Iran is facing this situation today: the United States seems determined to punish Iran whether or not Iran is adhering the Joint Comprehensive Plan of Action (a.k.a. the Iran Deal). Likewise, Russia doubtless sees the enlargement of NATO and the “meddling” in Ukraine as an example of NATO breaking an implicit promise to be restrained. More importantly, the challenge today is that restraint is not a word associated with Donald J. Trump. As I will address later, Trump may not be able to commit to anything, even agreeing *not* to do something.

Third, as mentioned above, everything becomes more complex when both sides have the ability to do great harm to each other. One possible result is the *stability/instability* paradox: that mutual assured destruction may deter each side from attacking the other in large-scale assaults, but it might permit or even encourage aggressive behaviour

at much lower levels.⁴ The idea is that both sides are deterred at the strategic level, but this opens up for more instability at lower levels. That a small violation is not going to lead to a nuclear response because of mutual assured destruction. The stability / instability paradox can be exploited by the side that has a greater ability to accept risk—which may be the authoritarian states. It is hard for democracies to play this game, as they have to worry about how their own people will react to crises and even small scale conflicts. Again, this is where Trump comes in—is he a gambler or a bluffer? More on that below.

Finally, we need to return to the classic distinction between deterrence and compellence.⁵ Deterrence is a threat used to prevent an attack from happening—to make the adversary continue with the status quo. Compellence is the threat to use force, or the actual use of force, to get the adversary to change its behaviour. The threat to use force against Serbia and then the bombing of Serbia was an effort to compel Serbia to agree to NATO's demands about Kosovo. Deterrence has always been seen as easier, although harder to measure its effectiveness, than compellence. Forcing someone to back down and change their behaviour generates more costs and has more reputational consequences than encouraging someone to stick with the status quo.

What Is Reassurance?

NATO's efforts in the east have always had two audiences: the Soviets / Russians and the insecure allies. The U.S. and NATO have expended much effort to convince the most vulnerable allies (those closest to the Soviet Union and now Russia) that they will fulfill their alliance commitments. Why? For two reasons: basic alliance dynamics and the implications of deterrence. First, in any alliance, allies have to have two worries: being abandoned, or being dragged into a war one does not want to fight.⁶ In the history of war, allies do not always show up and

4. Robert Rauchhaus, "Evaluating the Nuclear Peace Hypothesis: A Quantitative Approach," *Journal of Conflict Resolution* 53, no. 2 (2009): 258–77.

5. Thomas C. Schelling, *Arms and Influence: With a New Preface and Afterword* (New Haven: Yale University Press, 2009).

6. Thomas J. Christensen and Jack Snyder, "Chain Gangs and Passed Bucks: Predicting Alliance Patterns in Multipolarity," *International Organization* 44, no. 2 (1990): 137–68; Glenn H. Snyder, *Alliance Politics* (Ithaca: Cornell University Press, 2009); Patricia A. Weitsman, *Dangerous Alliances: Proponents of Peace, Weapons of War* (Stanford: Stanford University Press, 2004); and Patricia A. Weitsman, *Waging War: Alliances, Coalitions, and Institutions of Interstate Violence* (Stanford: Stanford University Press, 2013).

keep their commitments. Doing so can be quite costly. As a result, countries must worry whether their allies will keep their commitments, and these worries can lead to hedging (seeking other allies), or even neutrality. Second, as mentioned above, extended deterrence is less credible than existential deterrence — will the Americans defend its allies knowing that doing so may lead to a strategic nuclear exchange and the destruction of its homeland? Because of these very legitimate, rational concerns, the United States and the rest of NATO has had to reassure the allies. Indeed, one could argue that it is easier to deter the threat from the east than it is to reassure the allies.

While these reassurance efforts involve many tactics, two are the most important: NATO and tripwires. First, NATO is more than the sum of its parts — a NATO commitment is far more important than a bilateral treaty. If an actor does not fulfill its bilateral treaty obligations, it may or may not have consequences beyond those two countries. If a country, especially the United States, refused to act to defend a NATO ally, that would have consequences for the entire alliance. Indeed, one of the classic ways to make a threat more credible is to increase the stakes.⁷ Thus, for example, NATO being at stake is far more important to those in the west than Latvian independence. The American commitment to defend the Baltics is far more credible as part of a NATO commitment precisely because a failure to follow through would ultimately put the entire alliance at risk.⁸ In both Bosnia and Kosovo, we saw that countries stayed committed more because of the alliance and the sense that it was at stake than because of the interests members had in the conflicts.⁹

Second, NATO's traditional tactic has been to deploy troops in those countries nearest the adversary as a tripwire. The idea is that the first Soviet/Russian attacks would kill not just West Germans then, or citi-

7. Thomas C. Schelling, *The Strategy of Conflict* (Cambridge: Harvard University Press, 1980).

8. On the other hand, Vladimir Putin understands this, and is tempted to act against a Baltic country so that NATO collapses.

9. Steven L. Burg and Paul Shoup, *The War in Bosnia-Herzegovina: Ethnic Conflict and International Intervention* (Armonk, NY: M.E. Sharpe, 1999); William J. Clinton, "Address at the United States Air Force Academy Graduation," Colorado Springs, CO, 5 June 1995, https://clintonwhitehouse1.archives.gov/White_House/Publications/html/afacad.html; Ivo Daalder and Michael E. O'Hanlon, *Winning Ugly: NATO's War to Save Kosovo* (Washington, D.C.: Brookings Institution Press, 2000); Steven M. Saideman, *The Ties That Divide: Ethnic Conflict, Foreign Policy, and International Relations* (New York: Columbia University Press, 2001), chap. 5.

zens of Baltic countries now, but also the soldiers of NATO countries, thereby creating a relatively automatic reaction by those countries. These deployments serve as a tripwire: hitting those troops starts the process of retaliation. Leaders would have to respond in this circumstance since the blood of their own citizens will have been spilled.

While one can have a tripwire without NATO (see South Korea), and while one can have an alliance without forward deployments/tripwires (see NATO in between the Cold War and 2014), the combination is much stronger. Any Russian attack on the Baltics would kill soldiers from multiple NATO members, making it far more likely that Article 5 (an attack upon one is an attack upon all) would be invoked, and the Russians know that so they are deterred. Are the Baltics reassured? They are far more reassured now in 2018 than they were before NATO first committed to continuous presence (exercising frequently) and then the Enhanced Forward Presence, which is “persistent” but not permanent. They would surely prefer permanent bases, and we have seen Poland advocate for a permanent American base in their country. This indicates that the persistent presence is better, but not completely reassuring.

The allies will never be completely reassured. They will always doubt whether the United States and the other allies will risk much for their independence. The lessons of history suggest that those on the edge of Europe will be betrayed. So, reassurance is not just a one-time phenomenon — the decision to deploy the Enhanced Forward Presence did not end the need or the efforts to reassure those living on NATO’s eastern front.

The Trump Challenge

Deterrence is complicated; reassurance requires constant effort. And now the United States, the key actor in NATO, is led by a man who not only has broken nearly all of the commitments he has made, but also lies all the time.¹⁰ Given that it is the credibility of the U.S. that is at the heart of NATO’s ability to deter Russia, Trump’s inability to keep his word is most problematic. Trump has been divorced twice and clearly has cheated on his third wife. He has gone bankrupt multiple times, and literally thousands of contractors have sued the Trump Organiza-

10. See, for instance, Daniel Dale, “815 False Claims: The Staggering Scale of Donald Trump’s Pre-midterm Dishonesty,” *Toronto Star*, 15 November 2018, <https://www.thestar.com/news/world/analysis/2018/11/15/815-false-claims-the-staggering-scale-of-donald-trumps-pre-midterm-dishonesty.html>.

tion for failing to honor their contracts. I refer to Trump as an “uncertainty engine” because he changes his mind frequently, denies things he said moments earlier, and does not keep his commitments.¹¹ All this is made worse by Trump’s hostility towards NATO.

Even before he was elected, Trump accused members of NATO of not paying enough for their defence, not an uncommon American complaint. However, Trump routinely claims that NATO allies owe the U.S. for the shortfalls of the past. That is, Trump appears to think that NATO allies pay the U.S. for the cost of NATO, and that when other allies fail to spend 2 percent of their gross domestic product on defence, that means they “owe” the United States “back payments.” His repeated mention of back payments shows that Trump simply does not understand how NATO operates — or does not want to understand. Whether Trump’s ignorance is deliberate or not, his hostility to NATO is one of the few consistent stances among he has taken over the past several years.

Trump’s personality and attitude towards NATO matter not just because he has all kinds of strange ties with Russia, but because there is nothing automatic about NATO and how it reacts to events. For NATO to act in a crisis, the representatives from each member have to meet and come to a consensus that an attack has happened. Consensus can be blocked if one or more countries choose to do so. So, this is the first chance Trump would have to prevent NATO from acting — by blocking Article 5 from being invoked. The American permanent representative at NATO headquarters takes her orders from the president of the United States; there is no role for Congress in this. Even if Trump did not block consensus, there is no requirement that the United States must act in any particular way as Article 5 includes language that allows any member to choose how to respond: “as each deems necessary.” So, even if the rest of the alliance acts, the U.S. may not if the president does not give the orders to act. Given the role the U.S. military plays in supporting the rest of the alliance, providing key low density/high demand assets like satellites, its absence in a fight would be devastating. That it might be absent in a fight may lead to other members hedging their bets, perhaps by creating a European army or perhaps by bending to Russian demands.

Consequently, despite whatever assurances the Secretary of State or the Secretary of Defense might provide to American allies, what matters most is who is sitting in the Oval Office. Trump has an impact on both

11. See <https://saideman.blogspot.com/2017/04/the-definitive-uncertainty-engine-post.html>.

halves of the deterrence/reassurance dynamic. Shortly after Trump became president, he flip-flopped on how to handle Taiwan, quickly leading the Chinese to start using the phrase “paper tiger” to describe Trump.¹² Whether the Chinese are right or wrong to consider Trump someone who bluffs rather than actually commits, the fact that they think this way at all is problematic. It may encourage China, as well as Russia, to act more aggressively, expecting Trump to back down. Either way this plays out is bad: aggression is encouraged, or wars happen when adversaries are surprised when Trump does keep an American commitment. While there is much debate about perceptions of resolve and reputation in contemporary international relations scholarship,¹³ having such an irresolute President may reduce the power of deterrent threats made by the United States.

Similarly, it is hard to reassure the allies when the president of the United States not only makes no effort to do so, but continues to utter statements that suggest that the U.S. will not show up. While the presence of NATO forces in the Baltics is reassuring, it is not surprising that Poland seeks a permanent American base. Poland is simply trying to make the American commitment more binding than depending on the word of Donald Trump. The Baltic countries, having framework nations from other countries, cannot try this tactic. Instead, they must worry. In conversations both in Europe and in Canada, I have heard much concern from representatives of these countries as they worry about Trump and whether the Americans will keep their commitments. If we were to chart the level of reassurance felt by the eastern allies, there may be a lower point than right now, but it is hard to imagine.

The Trump effect is to raise doubts about everything. He is no ordinary president, as he does not value the commitments made by his predecessors; nor does he seem to care about the signals he sends. His messaging about the allies reflects contempt — that they have somehow exploited the United States, despite the basic reality that peace and prosperity in Europe is very much in American national interests. All of this applies before we get into the strange relationship Trump has with Vladimir Putin. What should the allies do?

12. Michael H. Fuchs, “Trump’s China Policy Is a Paper Tiger,” *Foreign Policy*, 17 February 2017, <https://foreignpolicy.com/2017/02/22/trumps-china-policy-is-a-paper-tiger/>.

13. Danielle L. Lupton, “Reexamining Reputation for Resolve: Leaders, States, and the Onset of International Crises,” *Journal of Global Security Studies* 3, no. 2 (2018): 198–216.

By Way of Conclusion

Will deterrence fail because Donald Trump is president of the United States? In Europe, probably not (though Korea, however, is another story). The Enhanced Forward Presence effort does have a deterrent effect: any major step by Russia against the Baltics risks a process of escalation that might lead ultimately to a nuclear exchange.¹⁴ Yet Trump's hostility to NATO, his demands that countries pay for "dues" that they did not pay in earlier years, and his admiration of autocrats undermines the reassurance efforts. This has always been the case for the deterrence/reassurance dynamic. It only takes a modest risk of nuclear war to deter, but it takes much more than that to reassure.

For the Europeans, the questions they face right now are: will Trump be around beyond 2020? and is Trump exceptional? No one can answer the first question as we do not know who will run against Trump, we do not know if there will be a recession before the 2020 election, and we do know what else will help that may split the opposition. The latter question is a bit clearer now. Yes, Trump may be the second unilateralist president — following George W. Bush — but surveys show that Trump's railing against NATO may actually have helped to make NATO more popular in the United States.¹⁵

As a famous fictional scientist once said, the future hasn't been written yet.¹⁶ What is clear is that Trump creates a great deal of uncertainty. NATO was created to provide certainty — about the American commitment to Europe. We cannot say for sure that the individual will not break the institution. Trump is no random individual since he is the president of the United States, empowered to pursue policies and make decisions that may challenge NATO's ability to provide the deterrence and reassurance that is at the heart of its mission. Let us hope that NATO is not tested.

14. Schelling, *Strategy of Conflict*, discussed the threat that leaves something to chance — the presence of British, French, German, and Canadian soldiers helps to create that possibility, even if the U.S. is less enthusiastic.

15. Moira Fagan, "NATO is seen favorably in many member countries, but almost half of Americans say it does too little," *Pew Research Center Fact-Tank*, 9 July 2018, <http://www.pewresearch.org/fact-tank/2018/07/09/nato-is-seen-favorably-in-many-member-countries-but-almost-half-of-americans-say-it-does-too-little/>.

16. Dr. Emmett Brown, in *Back to the Future Part III* (1990).

Can Deterrence Work Where It Matters Most?

Hugh White

The central challenge of strategic policy for the West today is that deterrence is failing where it matters most. We have not deterred our most important and formidable rivals from actions that we see as very injurious to our interests, and we are uncertain that they will be deterred from further such actions in future. This has come as an unpleasant surprise, because ever since the end of the Cold War, almost thirty years ago, we have tended to assume that we were doing all that was necessary to deter any major-power challenge to the post-Cold War order. Now we are being proved wrong, so we need to go back to basics and re-examine the foundations of our deterrence policies to see why they are not working.

The West today faces major deterrence failures in relation to both Russia and China. Both powers have taken steps — Russia in Crimea and Ukraine, for example, and China in the South and East China Seas — which we in the West see as inimical to our interests and which our postures have failed to deter. Both countries appear to threaten further actions — Russia in the Baltic states, China over Taiwan, for example — which would be even more serious for our interests and which we very much hope to deter. Most importantly, however, in both cases the actions they have taken and the further actions they appear to threaten are not just seen as injurious in themselves to our interests. They pose deliberate and fundamental challenges to the post-Cold War or-

der in two key regions. In East Asia, China is seeking to take America's place as the primary power and establish a new regional order under its leadership. In Eastern Europe, Russia is trying to push the ambit of post-Cold War European order back from its borders and re-establish something of its traditional sphere of influence in former Soviet territories and beyond to its "near abroad." These regional challenges together constitute by far the most serious assault on the Western vision of global order since the end of the Cold War. The stakes are very high indeed. So what do we need to do?

It is important to understand why these challenges have been harder to deter than we expected. One reason is that we underestimated the motivation and resolve of our rivals. For a long time we bought into the idea that major powers like China and Russia had no compelling reason to challenge the US-led global order or the regional sub-orders that supported it. We bought the "end of history" idea that these great powers were inexorably and contentedly converging on a Western model of liberal democracy, market economics and globalisation, which gave them no reason to oppose the U.S.-led order founded on these principles. We underestimated the appeals of nationalism, the power of different models of political organisation, and the primal impulse of great powers to seek preponderance over their peripheries. It has turned out that these motives have meant that China and Russia have been willing to accept significant costs and risks to reassert their roles as independent great powers in their own regions. Of course neither of them want a war with the West, and indeed each will go to great lengths to avoid one. But they are increasingly confident that they will not have to fight a war to achieve their aims, because the West will back off.

This brings us to the other reason we have found it harder to deter these powers: we have overestimated the credibility of our responses. Since 1989 we have convinced ourselves that the West, and especially the United States, was effectively unchallengeable militarily. The fact that the U.S. has been the world's strongest military power has been taken to mean that it could achieve any strategic outcome it wished against any adversary anywhere at acceptable levels of cost and risk. This belief was nurtured by the swift cheap victory over Iraq in Operation Desert Storm in 1991, and it has persisted despite subsequent failures in Iraq and Afghanistan.

A key result of this state of mind has been the belief that U.S. conventional forces alone would generally, and in future increasingly, be sufficient to deter any rival from challenging Washington. The assumption

has been that even a major power like China or Russia would expect almost certain defeat on a conventional battlefield against the overwhelming superiority of U.S. forces, and they would assume Washington to be very confident of that outcome as well. Western strategists' belief that adversaries would expect Washington to be confident of a swift cheap victory made them sure that U.S. conventional deterrence was highly credible.

Moreover U.S. conventional superiority was believed to be so great that American nuclear forces would have a smaller and smaller role to play in deterrence, as the 2010 U.S. Nuclear Posture Review confidently predicted.¹ A smaller role for nuclear weapons meant a lower risk of nuclear escalation, which seemed to strengthen conventional deterrence by making US conventional threats more credible. At the same time Western strategists have remained confident that conventional deterrence was reinforced by America's nuclear posture. Its declared willingness to use nuclear weapons first if conventional operations faltered made it seem even less likely that Moscow or Beijing would risk a conventional clash.

These expectations about the credibility of Western deterrence have turned out to be over-confident. Neither Russia nor China has been deterred from actions which directly challenge the West's vision of a U.S.-led order in their regions. We need to be clear about the scale of this failure. It can be easy to underestimate it by claiming that Moscow and Beijing have so far been careful to avoid a direct confrontation with U.S. forces by staying within the "gray zone," and hence below the threshold of a U.S. military response. But that is still a deterrence failure. It means these adversaries correctly judged that the US and its allies would not be willing to intervene militarily to resist steps — such as the seizure of Crimea or the erection of bases in the South China Sea — which were clearly direct challenges to the existing U.S.-led order, and a blow to the credibility of U.S. and Western deterrent postures. And that must increase the risk that they will be emboldened to push further in future, in the Baltic states or Taiwan, because of the boost to their confidence that America and its allies will not resist with force.

It is tempting to assume that neither Moscow nor Beijing would make that mistake, because, after all, they "must know" that the U.S.

1. United States, Department of Defense, *Nuclear Posture Review Report* (Washington, DC, April 2010), https://dod.defense.gov/Portals/1/features/defenseReviews/NPR/2010_Nuclear_Posture_Review_Report.pdf.

and its allies would “have no choice” but to respond with force to something as blatant as an attack on the Baltic states or Taiwan. But that is a very dangerous assumption indeed. Wars throughout history have often started because one or both sides underestimated their rival’s resolve. Think of what happened in Europe in July 1914, or in the South Atlantic in April 1982, or Kuwait in July 1990. If our adversaries are to be deterred effectively, they must be led to believe there is a good chance that we will respond effectively, with armed force, to resist their assaults on the status quo we aim to preserve. They do not of course have to be *certain* of that — Denis Healy once famously said the Soviets would be deterred from attacking Western Europe only had to think there was a five percent chance of a U.S. nuclear response. But Healy’s formulation can easily lead us astray. In particular it should not lead us to complacently assume that Russia and China will be sufficiently convinced of our resolve just because a narrow circle of Western policymakers and analysts have convinced themselves of it. And that turns out to be harder than we have so far imagined.

Let us start by looking at the conventional level. We have to revise our view of Moscow’s and Beijing’s perceptions of the conventional military balance in Eastern Europe and the western Pacific respectively. In both cases that means weighing Russian and Chinese advantages of quantity of forces and geography over U.S. and Western advantages of quality of forces. When we do that, the Western deterrent posture looks much less credible than we have assumed.

The Baltic States

In the Baltic theatre Russia would plainly enjoy a huge advantage in conventional forces in the opening stages of a conflict. Successful deterrence depends on NATO convincing Moscow that it could and would eventually overcome that advantage and come to the rescue of a NATO member. So far NATO’s efforts have focused on the *would* side of the equation, with formal declarations — especially by President Barack Obama in Tallinn in 2014² — and by the deployment of the Enhanced Forward Presence (EFP) units as a “tripwire” to ensure that any Russian attack on a Baltic state would swiftly involve conflict with NATO

2. White House, Office of the Press Secretary, “Remarks by President Obama and Leaders of Baltic States in Bilateral Meeting,” Tallinn, Estonia, 3 September 2014, <https://obamawhitehouse.archives.gov/the-press-office/2014/09/03/remarks-president-obama-and-leaders-baltic-states-multilateral-meeting>.

as a whole. But these gestures will not be enough to convince Moscow that NATO would in fact respond militarily to an assault on one of the Baltic states. To do that NATO must also show that Moscow that it *could* do so, and at acceptable levels of cost and risk. Otherwise it becomes easy for Moscow to conclude the despite the bold talk and the tripwires, NATO would find that it had no choice but to let the Baltic states fall into Russia's hands.

Clearly that would inflict immense damage to NATO's credibility, and to U.S. standing in Europe and globally, but that does not guarantee an effective NATO response, if the costs and risks of that response are even higher than the costs and risks of abandoning an alliance member to an aggressor. Formal declarations like Obama's, and even the placing of tripwire forces like NATO's EFP, increase the reputational and political costs to America and NATO if they fail to respond decisively to Russian aggression against a Baltic state, as Moscow would understand. But Moscow would also expect that those costs of inaction would have to be weighed against the costs and risks of an effective response. It may well be that failure to respond would be a terrible blow to NATO's and Washington's credibility, but they might decide to accept that if the alternative was to start a war with Russia that they had no clear prospect of winning and which carried a serious risk of nuclear escalation.

So to assure deterrence by convincing Moscow that NATO would respond decisively to an attack on a Baltic state, NATO must show Moscow that it has a credible concept of operations to do so. There is little evidence that NATO has given much attention to this, and that is understandable when one starts to consider what such an operation would entail. There is no place for wishful thinking here: we are talking about a major continental war on a scale not seen since the Korean War at least. Dislodging and expelling Russian forces numbering many divisions from a Baltic state — say Latvia — would require NATO to build up at least a comparable sized force in Poland and Lithuania — assuming those countries were willing. This build-up would require the deployment of substantial forces, and the logistics required to support sustained high-tempo manoeuvre operations, from around Europe from the United States. This would take many months, and much of it would have to be improvised as nothing on this scale has been contemplated for decades: the last Exercise *Reforged* took place in 1993, twenty-five years ago.

It could not be assumed that Russia would patiently wait for NATO's build-up to be completed, so the concept of operations (CONOPS)

would need to encompass a credible plan to defend the NATO force concentration — including the transport of U.S. and Canadian forces across the Atlantic. And once combat operations began, it would be impossible to limit them to the Baltic states alone. Strikes on airbases, force concentrations, and support systems in Russia itself would be unavoidable, so the risk of escalation into a wider East European war would be very real. And beyond that, of course, looms the potential for escalation to nuclear war, which would have to be taken very seriously indeed.

So the closer one looks at what would be involved in an effective NATO military response to Russian aggression against a Baltic state, the more costly and risky it appears. The higher those costs and risks seem to be, the more likely it becomes that NATO leaders, including a U.S. president (*any* U.S. president) would decide that they would rather accept the humiliation of backing down, including the abandonment of the tripwire forces, than launch a major war with an uncertain prospect of victory and a very real chance of catastrophe. This is a timely reminder that deterrence is a game that both sides can play. While NATO focuses on how to deter Russia from attacking the Baltic States, Russia focuses on how to deter NATO from intervening. For NATO's deterrent to work, it must convince the Russians that their deterrent might not.

So to make deterrence work in Eastern Europe today, NATO leaders, and especially the U.S. president, must convince Moscow that they would be prepared to launch a major war despite the costs and risks. This points to a critical weakness in the NATO deterrent posture in relation to the Baltic states today. It is far from clear why defending the Baltics is sufficiently important to NATO's principal members, and especially to the United States, as to justify a major war with Russia. The reason most commonly given, and most widely accepted, is that it is necessary to preserve NATO's credibility, but that is far too weak a reason to justify such a costly and risky step. In fact this argument embodies a classic, and all too common, muddle about whether alliances are ends or means in strategic policy. Arguing that America and its partners must go to war with Russia to defend the credibility of NATO suggests that preserving the alliance itself is a first order strategic objective in its own right. But in reality an alliance is only ever a policy tool, valued not in itself but only in so far as it helps achieve a wider policy objective. The challenge is to say what that wider objective might be in the case of the Baltics and NATO.

This naturally raises the question as to why the Baltic states were ad-

mitted to NATO in the first place. In those optimistic times few people imagined that the alliance would ever have to contemplate fulfilling the commitments embodied in Article 5. As a result, few asked what should have been the central question: how much does the security and independence of the Baltic states really matter to NATO as a whole? The hard reality is that the more the answer is framed in terms of broad principles of upholding democracy and the right to self-determination, the less convincing it will be, particularly when weighed against the costs and risks involved. A compelling answer would need to explain why the defence of the Baltic states is essential to the direct physical security of key NATO members themselves — especially the United States. We will come back to this thought.

Taiwan

Does deterrence look any healthier in East Asia? There the critical test is Taiwan, where the risk seems to be growing that China under President Xi Jinping will lose patience with the status quo and try to use military pressure to force Taiwan to accept absorption into the People's Republic of China (PRC). Although the United States has no formal treaty obligation to defend Taiwan, it is widely believed that the Taiwan Relations Act of 1979 embodies a *de facto* commitment to defend Taiwan if it is attacked by China. The key question is whether this will be effective in deterring China from using force against Taiwan.

For a long time after 1979 it appeared credible that it would. A key reason for that was the clear superiority of U.S. maritime forces in the western Pacific over China's relatively weak navy and air force. This made it very likely that America could intervene decisively to bolster Taiwan's defences and inflict heavy losses on Chinese forces without much risk to U.S. units and without a major campaign of strikes on Chinese territory. Plainly the lower the cost and risk to the United States of supporting Taiwan, the more credible US threats to do so were to Beijing, and the stronger the American deterrent posture.

But the maritime military balance in the western Pacific has moved decisively against the United States and in China's favour in recent decades. China's investments in anti-access/area denial (A2/AD) capabilities have sharply increased its capacity to target U.S. power projection forces around Taiwan, raising the costs and risks to Washington of intervening in a China–Taiwan conflict very significantly. The Pentagon's attempts to restore U.S. maritime preponderance, for example

through the development of the Air-Sea Battle concept, seem to have gone nowhere. Whereas twenty years ago America could confidently expect a swift and cheap victory, today the most likely outcome would be a costly and messy stalemate in which both sides would suffer substantial losses without securing anything that looked like victory. In that situation the most likely sequel would be escalation to a wider regional war involving sustained Chinese attacks on U.S. regional bases and U.S. attacks on Chinese territory. Here too there would be clear risk of escalation to nuclear war. And in this situation, as with Russia in the Baltics, the balance of perceptions of resolve on both sides would become critical. In an escalating crisis, a clear advantage lies with the side that is seen to have the most at stake, and in the case of Taiwan that advantage appears to lie with China. That makes reliable deterrence much harder to achieve. There is a real chance therefore that deterrence will fail over Taiwan because Beijing's decision-makers will conclude that Washington will not be willing to launch a costly and risky war in which victory seems unlikely and catastrophe is a clear possibility, and in which any hope that escalation would be avoided by Beijing backing down is undermined by the evident fact that the stakes appear much higher for Beijing than for Washington.

Here again, then, as we saw above in relation to Russia and the Baltics, successful deterrence of China over Taiwan depends on there being a compelling argument as to why America should — and would — accept the high costs and risks of an effective military response to a Chinese attack. To many in U.S. policy circles that seems self-evident. They argue that America's position as the leading strategic power in Asia depends on its network of alliances, and those alliances depend on the credibility of U.S. security undertakings. Failing to support Taiwan would do fatal damage to that credibility, and hence to the entire U.S. position in Asia. This argument is valid enough as far as it goes, but it leaves open the critical broader question about why America needs to resist China's ambitions, why must it sustain its leadership position in Asia and the alliances that support it? Of course there are many familiar reasons why it would be desirable for America to preserve that position, but they do not explain why it is *so* vital to America's future that it should be willing to shoulder the burdens of a major conflict with China to do so.

Thomas Schelling and the Art of Commitment

Thomas Schelling explored this kind of problem and its relationship to successful deterrence in the 1960s. Chapter Two of his book, *Arms and Influence*, entitled “The Art of Commitment,” offers a sustained discussion in which he was seeking to explain how America could successfully deter a Soviet attack on Western Europe.³ By that stage of the Cold War it was clear that any European war would swiftly escalate to the nuclear level, and that America would become a target for large numbers of Soviet nuclear weapons. Successful deterrence therefore depended on the Soviets being convinced that the United States would be willing to endure a large scale nuclear attack rather than allow the Soviets to overrun Western Europe. Schelling argued that the Soviet Union would only be convinced of that if they believed that America saw the security of Western Europe as being indistinguishable from the security of the United States itself, so that a threat to Western Europe would be tantamount to a threat to California.

That argument still rings true today, and has new relevance as it becomes clearer that the costs and risks of an effective military response to Chinese aggression in East Asia or Russian aggression in Eastern Europe would be very high, and would include a significant risk of nuclear war. U.S. strategic policymakers must again ask how we can convince America’s key adversaries that their country is willing to accept these immense costs and risks to preserve the status quo in places like the Baltics and Taiwan. Following Schelling, I think the only credible basis for doing that today, as during the Cold War, is to argue that defending the Baltic states and Taiwan is essential to America’s own security in the western hemisphere. It is not enough to argue that such sacrifices are justified to defend abstractions like the rules-based order, the credibility of U.S. alliances or the principles of democracy, because the probability is too high that leaders in Moscow or Beijing would in a crisis not believe that an American president would be willing to risk Los Angeles or New York for such things.

So how did it work in the Cold War? Successive U.S. administrations convinced Moscow that America would fight a nuclear war to defend Western Europe and northeast Asia by making it clear that Americans believed that their security in the western hemisphere depended on

3. Thomas C. Schelling, *Arms and Influence* (New Haven: Yale University Press, 1966), 35ff.

preventing the Soviet occupation of these regions. This belief was underpinned by a clear strategic argument with deep roots in American history. It was that any country which gained control of the entire Eurasian landmass would thereby become so strong that they could project enough power across the Atlantic and Pacific oceans to threaten and subdue the United States. During the Cold War — at least in its early stages — this was not a remote possibility. The Soviet Union already dominated its own vast territory and the whole of Eastern Europe. China was in its orbit, and Western Europe and Japan both lay weakened and vulnerable to subversion or invasion. Preventing their subjugation to the Soviets at was therefore seen to be literally vital to keeping America itself secure, and hence worth facing even the most harrowing dangers.

Can the same kind of argument be made today to support the credibility of America's strategic commitments in Europe and East Asia? It is not clear that it can. Look at Europe first. During the Cold War, Western Europe was incapable of defending itself against the Soviet Union and its satellites, so that America's interest in preventing Soviet domination of Western Europe required it to take responsibility for its defence. But today things are very different. A much-diminished Russia has no chance of dominating Eurasia, and poses no credible threat to a Western Europe which for all its foibles and problems is potentially very formidable as a strategic power, being far stronger economically than Russia, and with the clear potential to match Russia militarily if it chose.

America therefore has nothing like the imperative to defend Europe that it had in the Cold War, and in hard strategic terms NATO matters much less to America than it did. Once it was possible to argue that America's security depended on the defence of West Berlin, but today it is hardly credible to make the same claim about Tallinn. That makes it hardly credible that America would decide to fight a major war with Russia over the Baltic states. And that is the ultimate weakness in America's, and the West's, deterrent posture in the Baltics.

What about China? In many ways China poses a more serious potential threat to America's security than Russia. In the long run China is a far more formidable adversary than Russia, if only because its economy, and hence its deep reservoir of national power, is so much greater than Russia's — and on some measures already bigger than America's. In fact one can argue that China is the most formidable rival America has ever faced since it became a world power in the late nineteenth

century. But might it come to threaten America directly, if its growing influence is not contained? Some say it easily could. It is natural to assume that if, as seems probable, China's economy grows over coming decades to be become the world's largest by a wide margin, then it will have both the power and the ambition to "rule the world," and certainly to dominate Eurasia. Some see Beijing's plans to enmesh Eurasia with infrastructure under its Belt and Road Initiative as evidence that this is already starting to happen.

But such grandiose ideas are likely to remain well beyond Beijing's reach. As the world's biggest economy it will have a lot of power, but it will nonetheless be surrounded by many other powerful states and entities. Russia will be a significant constraint to China's Eurasian aspirations, and so will India, while further afield Europe's strategic potential will also be a curb. It seems likely that while China's economic interests and influence will spread far and wide, its strategic sphere of influence will not extend beyond east Asia and the western Pacific. That will still make it a major global player, but not a threat to the United States.

These are of course big and complex issues and they deserve to be more carefully analysed and debated. But we have seen enough to suggest that the problems of deterrence in both Europe and Asia go much deeper than a lot of contemporary discussions suggest. It is not simply a matter of exploring different force dispositions, capability options or diplomatic postures. To strengthen deterrence of both Russia and China, the West and especially the United States will have to undertake a radical overhaul of its strategic posture. First, it must develop a robust and realistic concept of military operations which would deny our adversaries their objectives, because without that the West's deterrent threats are not credible. Second it must acknowledge the costs and risks involved in implementing those operations, including the risk of escalation and all that that entails when our adversaries are nuclear armed and have intercontinental range forces. And third, it must develop a compelling explanation — compelling to their own citizens, and to Moscow and Beijing — of why those cost and risks must be borne in order to deny our adversaries their objectives. And it may be, of course, that when it is fully understood what would be involved in a major war with Moscow or Beijing, and it is fully understood what that would cost, then American decision-makers will find that they can give no compelling explanation of why America should bear those costs. In which case we'd all be well advised to stop bluffing.

Conclusion: Deterrence and the Future

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As the various contributions to this volume clearly demonstrate, deterrence as a strategic imperative is as significant as ever for global politics. However, our understanding of the foundations of the concept, what it can be used for, and where its shortfalls may be, must be re-examined. Cold War lessons about deterrence remain valuable, and the foundations of deterrence are applicable today. However, as understanding of deterrence diminished in the years following the fall of the Berlin Wall, these lessons need to be re-learned. Further, nuclear deterrence lessons need to be adapted to today's security environment. Unless we understand the dynamics of twenty-first century international security, deterrence theory risks being improperly applied. Unlike the Cold War, deterrence today may not rest primarily on nuclear capability. A full understanding of deterrence must be dynamic and flexible enough to account for and counter "gray zone" activities — those coercive activities of international competition short of "war."

The array of actors able and willing to engage in aggressive and destabilizing activity short of war has grown, as have the spectrum of tools available to prosecute coercive leverage. In particular, imposing costs through the use of cyberspace and manipulation of information flows has become a viable tactic. These approaches challenge our binary understanding of "war" and "peace," and require creative integration of multiple components of national power to develop effective deterrence strategies tailored to distinct new environments. The process of developing deterrent strategies must be founded on a clear under-

standing of “deterrence” as a concept, including an acknowledgement that deterrence is simply a means to an end, not the end in itself. Deterrence in the twenty-first century requires a re-assertion of common values and objectives in order to communicate a commitment to overcome the fear of potential escalation, a key component of any effective deterrent strategy.

The emergence of gray zone competition and new approaches to imposing costs on an adversary does not mean that the foundations and core tasks of deterrence are fundamentally altered. At its core, deterrence remains premised on credibly communicating to an adversary that they will be unable to achieve their objectives through aggressive means; and convincing them that, if they attempt to do so, the costs would outweigh the perceived benefits. Signaling and perception are therefore critical to influencing leader decision-making, and thus to effective deterrence. There is an absolute need to ensure that the actions that the deterring party find unacceptable are clearly communicated, and that the threatened response will be realized. This communication is at least as important as the capabilities that back up any deterrent posture. Western policymakers have not always followed through on proffered threats, and it is sometimes difficult for Western governments to gain universal public consensus on perceived interests and acceptable responses when those interests are threatened. The first step of developing an effective deterrence strategy is for the deterring party to understand their own identity and interests, as well as what others believe their intentions to be. In all contexts, maintaining a consistent posture is key in both assuring allies and persuading adversaries that threats are credible.

Psychology is thus central to deterrence, and it is imperative to signal clearly to adversaries the actions that will trigger a response, and those that will not. In both cases, the credibility of the deterring party is crucial. If a threat is not carried through, future threats may not be believed. Inaction on the part of the deterring party may be interpreted as weakness or lack of resolve. At present, there is a great deal of ambiguity about actions and reactions in the gray zone, and a demonstrated will to act in the face of this ambiguity is required for deterrence to be effective. Notably, collective deterrence through co-operative strategies are crucial in preventing a rise in coercive activities within the gray zone.

When full information of an adversary’s interests, motives, capabilities, and decision-making process cannot be attained, deterrent actions

should be based on informed judgement founded on deep and extensive study. Deterrence theory emerged on the premise of “rational actions,” but humans are not always “rational” in the *homo economicus* sense of the term. A keen awareness of an adversary’s priorities and potential non-rational motivations are crucial to engaging in effective deterrence. There is no single foundational deterrence doctrine that is universally applicable and successful, despite there being a broad continuity of the principles of capability, resolve, and communication that underlie it. Tailoring deterrence strategies to specific contexts, regions, and capabilities is therefore critical, and the deterring party must understand not only what an adversary values, but also factors which are most likely to influence their decision-making processes. The importance of influencing decision-making has been highlighted by emphasis of Western nations on deterring large-scale traditional conflict, while adversaries have increasingly operated in the gray zone. A mind-set that fears the prospect of escalation to traditional conflict allows rivals to leverage cyber capability, information manipulation, and other gray zone competition to achieve war-like effects and objectives short of war.

Alliances present unique challenges to generating effective deterrence. Fostering steadfast alliances can create a force multiplier effect on capability and communicated resolve. Consequently, “sunk costs” and “tying hands” through activities such as public statements, military deployments, and joint exercises may be immensely valuable in producing successful deterrent effects. The Enhanced Forward Presence strategy, despite protestations to the contrary from many of those involved in the force, signals deterrence resolve. While the forces are insufficient to defeat a concerted Russian advance, they do represent an effective “tripwire” to escalation and expanded risk of conflict.

The existence of the forward presence forces is their most significant quality, signaling that an attack will bring together the weight of the Alliance’s power. Assuring allies of mutual support is difficult. Doubts between states arising from unequal perceptions of risk and benefit, especially when committing forces to shared security commitments will likely always be present. Differences between allies can also make operations and clear signaling challenging, especially in the context of “caveats.” It is not entirely clear how stakeholders involved in Enhanced Forward Presence would respond to the local chain of command in the event of a Russian invasion. Furthermore, self-interested state behavior puts pressure on alliances and can heighten the fears that one or both parties will renege on their agreements to combine power.

Although deterrence now stretches far beyond the deployment and threat of nuclear weapons, this capability remains a facet of many deterrence strategies, particularly if there is concern about regional crisis escalation. The most recent U.S. Nuclear Posture Review indicates that the U.S. is maintaining its “first-use” policy prerogative, thereby retaining the ability to escalate to a nuclear level without the adversary using similar weapons. There is, however, some ambiguity about what actions would constitute sufficient threat or provocation for nuclear escalation to occur, and this is not unique to the United States. While conventional force deployment has replaced the overt threat of nuclear escalation in many contexts, where maintaining this presence is too costly, nuclear weapons have provided a stop-gap solution. Russia, for example, has attempted to bridge the conventional military capability gap with the U.S. by maintaining a quantitative advantage in tactical nuclear weapons. The danger, however, is that if this deterrent fails, the risk of escalation to a broader nuclear conflict is significant. Nuclear weapons may also be of limited value in the context of deterrent strategies that take into account a broad array of threats and threat vectors, including those presented by non-state actors.

The emergence of cyberspace as an adversarial arena and the manipulation of narratives have been the most notable threat vectors that have emerged in the gray zone. These vectors impose costs but do not fit traditional linear concepts of “war.” Indeed, the existence of such actions indicates that, in this environment, deterrence has failed. These vectors can be immensely difficult to deter, not least because of the challenges of attribution, and highlight significant vulnerabilities in the West. Deterring these forms of aggression requires the creation of clear “red lines” to indicate what constitutes unacceptable behavior, risking escalation to kinetic conflict. Currently, it is difficult to predict the shape of a response to a cyber or false narrative attack, or if a response will occur at all. When considering an effective response option, the target of the attack must be creative — it is not necessary, for example, to respond symmetrically. The deterrent threat might better adopt asymmetric responses employing other forms of national power. Additionally, the concept of a linear and clear “escalation ladder,” the existence of which may have always been exaggerated, has now become even more complex, making controlling such escalation hugely challenging.

Deterrence is unlikely to be effective if it is approached with the perception that one strategy is universally applicable, or that deterrence is a singular concept. Developing defense and resilience while providing

assurance to allies may ultimately be the most appropriate pathway to deterrence in the gray zone. Conducting effective deterrence therefore may best employ an approach which leverages all components of national power, tailored to a specific context and problem. One's own capability and vulnerabilities — and that of one's adversaries — must be understood across the complete spectrum of military, government, and society. Deterrence should therefore involve a variety of actors, approaches, and capabilities, and incorporate the introspection required to appreciate the instances when we ourselves have been deterred. As a means to an end, deterrence provides an important tool in the national security chest of options. The insights provided at KCIS 2018 provide a solid foundation for the re-generation of a nuclear deterrence dialogue, and a start point for an expanded view of deterrence in the context of twenty-first century security challenges.

Envoi

The chapters in this volume capture the central themes of each of the panels at KCIS 2018, while providing deeper context and a richer exploration of the data and analysis. If the papers in this volume have sparked an interest, consider viewing the remainder of the presentations — they are available on the Kingston Conference on International Security website at <http://www.queensu.ca/kcis/home>.

