

\*\*\* DEPARTMENT OF THE AIR FORCE \*\*\*

# AETHER

## A JOURNAL OF STRATEGIC AIRPOWER & SPACEPOWER

### SENIOR LEADER COMMENTARY

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LIEUTENANT GENERAL B. CHANCE SALTZMAN, USSF  
JAMES WOOD FORSYTH JR.  
J. WESLEY HUTTO

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#### NOT CYBERWAR, BUT CYBERBALANCE

DAVID BENSON

VOL. 1 NO. 2 ★ SUMMER 2022

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# ÆTHER

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# FROM THE EDITOR

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Dear Reader,

This month, the journal learned of the February 2022 passing of its oldest subscriber, Lieutenant General Harry E. Goldsworthy, USAF, Ret. Lieutenant General Goldsworthy, 107 years old, was preceded in death in 2010 by his wife of 73 years, Edith Kathryn. Goldsworthy, born in Spokane, Washington, graduated from Washington State College with a reserve commission as a second lieutenant in 1936 and went on to Army Air Corps pilot training in 1939.

Goldsworthy flew submarine patrols and B-25 strafers in World War II, holding squadron and group commands. He later flew B-29s and was promoted to brigadier general while commander of the task force that activated the first Minuteman ICBM wing at Malmstrom AFB, Montana. Before retiring in 1973, he held positions including director of production, headquarters US Air Force, commander of the Aeronautical System Division at Wright-Patterson AFB, Ohio, and deputy chief of staff for systems and logistics, headquarters, US Air Force.

In a fitting tribute to Lieutenant General Goldsworthy's years serving a global mission and leading in the early years of strategic deterrence, the summer issue of *Æther: A Journal of Strategic Airpower & Spacepower* focuses on strategic competition and deterrence, including the intercontinental ballistic missile component of the nuclear triad.

Our issue begins with a senior leader perspective led by Lieutenant General B. Chance Saltzman and coauthored by James Forsyth and J. Wesley Hutto. They argue that after a 30-year hiatus, great power politics are back and with them, conflict and, perhaps, great power war. Given these stakes, they offer 10 propositions concerning international relations.

This marked shift in the international order includes changing international security dynamics. Our Strategic Competition forum leads with an article by Ginta Palubinskas who argues the lack of cohesion between the United States and its European allies has called established relationships into question, complicated longstanding international issues, and eroded protections offered by NATO. She examines the Alliance at 70 and assesses its ability to keep the peace in a changing security environment. And the changes are not limited to Europe of course.

Noting the erosion in US military advantages across the spectrum of Taiwan contingencies, Mackenzie Eaglen and John Ferrari, in our second article in the forum,

contextualize the evolving conventional Sino-American military balance and assess capability gaps across the US armed forces, highlighting key investments that would bolster the services' and Taiwan's own conventional capabilities for the defense of the island.

Our second forum, *Approaches to Deterrence*, begins with an article by Benjamin Jamison. He argues our noncredible countervalue deterrent threats call for a modification to the counterforce targeting model. Tailored targeting, when paired with a deliberate strategic messaging strategy, synthesizes adversary vulnerabilities and American political objectives to produce unique targeting solutions applicable to various contingencies, resulting in a continuum of effective deterrent options along the entire spectrum of conflict.

Stephen Cimbala and Adam Lowther analyze the US nuclear force structure in the second article of the forum, arguing for the necessity of modernizing not just the ground-based leg of the US nuclear triad, but the submarine and bomber legs as well. The United States must not only meet but also exceed the nuclear capabilities and modernization efforts of its adversaries, and essential to this is modernizing the aging ICBM fleet, in particular, replacing aging Minuteman IIIs with the Sentinel ICBM.

In our third article in the forum, Michelle Black and Lana Obradovic observe that current US strategies and plans must work within a complex, multiplayer scenario that demands a multi-actor deterrence strategy rather than the traditional Cold-War-era dyadic structure. Multi-actor deterrence, they argue, recognizes multiple state and nonstate actors operating within a new security environment in which nuclear proliferation, cyber and space threats, and regional and hybrid conflicts simultaneously exist and influence their decision-making processes.

David Benson concludes our forum, noting that most cyberattacks are not attempts to coerce or deterrence failures, but are attempts to alter the balance of power. He argues that while balancing affects the balance of power by increasing power, states can also affect the balance of power by decreasing their competitors' power, or "handicapping" through the targeted and deliberate use and manipulation of information. The decreased costs and global scope have moved handicapping from the periphery of statecraft to a central position in international associations. **Æ**

~The Editor

# TEN PROPOSITIONS REGARDING GREAT POWER POLITICS

LIEUTENANT GENERAL  
B. CHANCE SALTZMAN, USSF  
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J. WESLEY HUTTO

The global distribution of power is changing; as a result, China and Russia pose the biggest security challenges to the United States. In short, after a 30-year hiatus, great power politics are back and with them, conflict and, perhaps, great power war. Given the stakes, we offer 10 propositions:

**1. In international politics, there is no harmony of interests.**

The individual interests of states take precedence over the common interest of peace. In his foundational realist text, E. H. Carr describes an absent-minded faith by the victors of World War I in the possibility for a harmony of interests across the globe. In this faith, Western leaders projected their opinion onto the rest of the world “that war profits nobody . . . and that an intellectual grasp of this fact was all that was necessary to induce the nations to keep the peace in the future.”<sup>1</sup> One looks no further than the utopian notion of the democratic peace proposition to identify present conceptions of this idea.

Presumably democratic states, like firms in a collusive market, are hard wired for cooperation, at least among themselves.<sup>2</sup> But unlike laissez-faire economists who assume the economic interests of the world are identical with the common interests of the state, the politician assumes the interests of the state are identical with the interests of the world.<sup>3</sup> Extending this to the high politics of war and peace, the assumption there is a world interest in peace that is compatible with the interest of each individual state overlooks the fact that some great powers desire to uphold the status quo and some desire to change it.

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1. E. H. Carr, *The Twenty Years' Crisis, 1919–1939* (New York: Harper & Row, 1964), 51–52.

2. See Zeev Maoz and Bruce Russett, “Normative and Structural Causes of the Democratic Peace, 1946–1986,” *American Political Science Review* 87, no. 3 (1993); John M. Owen, “How Liberalism Produces Democratic Peace,” *International Security* 19, no. 4 (1994); and Thomas Risse-Kappen, “Democratic Peace—Warlike Democracies? A Social Constructivist Interpretation of the Liberal Argument,” *European Journal of International Relations* 1, no. 4 (1995).

3. Carr, *Twenty-Years Crisis*, 51–52.

## 2. Great powers are different than the rest.

Great powers must deal with all the world all the time; they have robust economies, generally capable militaries, and worldwide interests.<sup>4</sup> It is the lack of a world government to resolve disputes between states that drives great powers to help themselves according to their interests.<sup>5</sup> To protect themselves in this anarchic world, great powers seek to build their influence, resources, and territories, which inevitably threatens the security of other states, generating a security dilemma.<sup>6</sup>

Because of their power and position, great powers cannot afford to overlook any part of the international system—doing so puts them at risk of becoming vulnerable to the designs and influence of the other great powers. Thus, great powers have a responsibility to manage the international system. They do this by managing their relations with one another and the other states in the system simultaneously, even if they would prefer not to, which is one reason why they tend to fight more wars than most.<sup>7</sup> In short, great powers “usually lead troubled lives.”<sup>8</sup>

## 3. International political systems are “individualist in origin, spontaneously generated, and unintended.”<sup>9</sup>

International political systems are individualist in the sense they are formed by the interactions of self-interested states, spontaneous in that they are the result of the uneven distribution of power throughout the world, and unintended in that the uneven distribution of power produces second- and third-order effects that become constraints over time. Put simply, no great power intends to create an international system that constrains them, but that is the result.<sup>10</sup> One looks no further than the Cold War to grasp this idea.

After World War II, neither the United States nor the Soviet Union intended to create a bipolar system that constrained them, but that is what emerged.<sup>11</sup> For nearly 50 years, leaders on both sides of the Atlantic had to consider the possible reactions of the other to every move and countermove. Today, as a multipolar system emerges, the

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4. Alfred Zimmern, *Spiritual Values and World Affairs* (Oxford: Clarendon Press, 1939), 32.

5. Kenneth N. Waltz, *Theory of International Politics* (Long Grove, IL: Waveland Press, 1979); and John J. Mearsheimer, *The Tragedy of Great Power Politics* (New York: W. W. Norton & Co., 2001).

6. Robert Jervis, “Cooperation Under the Security Dilemma,” *World Politics* 30, no. 2 (1978).

7. See George Modelski, “War and the Great Power System,” in *War: A Historical, Political, and Social Study*, ed. L. L. Farrar Jr. (Santa Barbara, CA: ABC-CLIO, 1972); Jack S. Levy, *War in the Modern Great Power System, 1495–1975* (Lexington: University of Kentucky Press, 1983), 4; Bear F. Braumoeller and Austin Carson, “Political Irrelevance, Democracy, and the Limits of Militarized Conflict,” *Journal of Conflict Resolution* 55, no. 2 (2011).

8. Waltz, *Theory of International Politics*, 187.

9. Waltz, *Theory of International Politics*, 90.

10. Waltz, 90.

11. Waltz, *Theory of International Politics*, 171; Charles W. Kegley and Gregory A. Raymond, “Must We Fear a Post-Cold War Multipolar System?,” *Journal of Conflict Resolution* 36, no. 3 (1992); and Dale Copeland, “Neorealism and the Myth of Bipolar Stability: Toward a New Dynamic Theory of Major War,” *Security Studies* 5, no. 3 (1996).

cause is the same: the uneven redistribution of power.<sup>12</sup> Will it result in a new Cold War? Time will tell.<sup>13</sup>

**4. Great powers are sensitive to competition; strategic competition stems from international systems that condition behaviors.**

Three types of international systems exist: unipolar, bipolar, and multipolar. In unipolar systems, one great power dominates the rest. Competition is monopolistic and political leaders need not be sensitive to anyone or any body politic, making overextension the behavior to be avoided. Overextension unnecessarily wastes resources, hastening the rise of other great powers. In bipolar systems where the nature of great power competition stems from the actions of two great powers, political leaders must be sensitive to the actions and responses of other great powers. Here, overreaction is the behavior to be avoided.

Overreaction can unnecessarily escalate local conflicts to global levels with harmful effects. The United States' experience over the last three decades has been one of monopolistic competition. The Clinton and Bush administrations often draw criticism for their adventurous foreign policies, but overwhelming US power conditioned these policy decisions, releasing them from any real concern for the interests and desires of other states.<sup>14</sup>

In multipolar systems where three or more great powers compete for power, the nature of competition is oligopolistic; political leaders must be sensitive to the interests of other members in the group. Due to myriad variables, uncertainty regarding great power responsibilities is highest and the game itself is not easily understood; any miscalculation by any member of the group affects the other members in the group. Overconfidence must be avoided. For Waltz, overconfidence is the more menacing of the possibilities, since it "is more likely to permit the unfolding of a series of events that finally threatens a change in the balance and brings the powers to war."<sup>15</sup>

On the other hand, overreaction under bipolarity "is the lesser evil because it costs only money and the fighting of limited wars."<sup>16</sup> That said, one thing is certain: No two powers want to take an action that would weaken them while enhancing the power of

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12. See John J. Mearsheimer, "Back to the Future: Instability in Europe after the Cold War," *International Security* 15, no. 1 (1990); Christopher Layne, "The Unipolar Illusion: Why New Great Powers Will Rise," *International Security* 17, no. 4 (1993); Layne, "This Time It's Real: The End of Unipolarity and the Pax Americana," *International Studies Quarterly* 56, no. 1 (2012); and Fareed Zakaria, *The Post-American World* (New York: W. W. Norton & Co., 2008).

13. See Graham Allison, *Destined for War: Can America and China Escape Thucydides's Trap?* (New York: Houghton Mifflin Harcourt, 2017); Christopher Layne, "Coming Storms: The Return of Great-Power War," *Foreign Affairs* (November/December 2020); and Charles Kupchan, "Bipolarity Is Back: Why It Matters," *Washington Quarterly* 44, no. 4 (2021).

14. See G. John Ikenberry, *Liberal Leviathan* (Princeton, NJ: Princeton University Press, 2011); and Barry R. Posen and Andrew L. Ross, "Competing Visions for US Grand Strategy," *International Security* 21, no. 3 (1996).

15. Waltz, *Theory of International Politics*, 172.

16. Waltz, 172.

the third. Add thermonuclear weapons to the group, and any conflict among members becomes acute.<sup>17</sup>

##### **5. Great powers rise and fall endlessly.**

In 1700, there were seven great powers in the world. 100 years later, there were five; 100 years after that, eight, but by 1945, only two remained. This was followed by a period of unipolarity that lasted from 1989 to 2005.<sup>18</sup> Interestingly, in nearly every instance, international systemic change was the result of great power war (with, of course, the famous exception of 1991).<sup>19</sup> Such wars involve the dominant powers in an international system and the rising challengers.<sup>20</sup>

The fundamental issue at stake is the nature and governance of the system itself, which is why great power wars—or hegemonic ones—are fought with unlimited means. As Marshal Ferdinand Foch summarized the changing character of war in 1917, the new wars of existential and global interests “were to absorb into the struggle all the resources of the nation, which were to be aimed not at dynastic interests, not at the conquest or possession of a province, but at the defense or spread of philosophic ideas first, of principles of independence, unity, immaterial advantages of various kinds afterwards.”<sup>21</sup>

Extending this logic further, the rise of China has not threatened the nature or governance of the contemporary international system sufficiently to warrant war. Will that hold? Perhaps. Much scholarship has been published debating whether China is a status quo or revisionist rising power, not to mention some questioning the utility of the classifications altogether.<sup>22</sup> The point to be made here is whether the United States interprets China’s rise as a threat.

John Mearsheimer argues that as China’s economic prowess expands, its interests will expand with it, leading to efforts to place itself at the head of East Asian politics

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17. See Kenneth N. Waltz, “The Emerging Structure of International Politics,” *International Security* 18, no. 2 (1993); Daniel Deudney, “Hegemony, Nuclear Weapons, and Liberal Hegemony,” in *Power, Order, and Change in World Politics*, ed. G. John Ikenberry (New York: Cambridge University Press, 2014); John Lewis Gaddis, “The Long Peace: Elements of Stability in the Postwar International System,” *International Security* 10, no. 4 (1986); and Keir A. Lieber and Daryl G. Press, *The Myth of the Nuclear Revolution: Power Politics in the Atomic Age* (Ithaca, NY: Cornell University Press, 2020).

18. See Levy, *Great Power System*, 47–48; and Mearsheimer, *Great Power Politics*, 347–56.

19. See G. John Ikenberry, *After Victory* (Princeton, NJ: Princeton University Press, 2001).

20. See, for example, Robert Gilpin, *War & Change in World Politics* (New York: Cambridge University Press, 1981); Paul Kennedy, *The Rise and Fall of Great Powers* (New York: Vintage Books, 1987); and Ikenberry, *After Victory*.

21. Ferdinand Foch, *The Principles of War*, trans. J. de Morinni (New York: H. K. Fly, 1918), 31.

22. Alistair Ian Johnston, “Is China a Status Quo Power?,” *International Security* 27, no. 4 (2003); Scott L. Kastner and Phillip C. Saunders, “Is China a Status Quo or Revisionist State? Leadership Travel as an Empirical Indicator of Foreign Policy Priorities,” *International Studies Quarterly* 56, no. 1 (2012); Ian Taylor and Zhangxi Cheng, “China as a ‘Rising Power’: Why the Status Quo Matters,” *Third World Quarterly* 43, no. 1 (2022); and Alexander Cooley, Daniel Nexon, and Steven Ward, “Revising Order or Challenging the Balance of Military Power? An Alternative Typology of Revisionist and Status Quo States,” *Review of International Studies* 45, no. 4 (2019).

certain to spark balancing from the United States.<sup>23</sup> Far from the certainty of Mearsheimer's prediction, Evan Braden Montgomery argues convincingly that the likelihood of tension between a hegemon and a potential rising challenger turns—in part—on the type of order the challenger is interested in establishing in its sphere of influence.<sup>24</sup>

The question under review is whether a hegemonic China would upend what is often referred to as the liberal international order and replace its components with institutions containing Chinese characteristics. Kori Schake intimates the unlikelihood of a peaceful power transition between the United States and China amounts to cultural incommensurability preventing the powers from trusting one another.<sup>25</sup> Still, there are those who argue from a rational perspective that in light of the geopolitical environment, there is no reason that China would pursue a new order-building strategy in East Asia.<sup>26</sup> This debate is unlikely to be resolved any time soon.

Hegemonic wars are not inevitable, but dominant powers are left with few options when confronted by a challenger. Declining hegemons can try to expand their economic base by creating new markets or retrench by cutting back foreign policy commitments.<sup>27</sup> And while preferable to war, neither choice is easy, which is one reason why war has been prevalent among the great powers.

#### **6. Interdependence does not mean peace.**

Interdependence is the order of the day.<sup>28</sup> Broadly defined, it refers to the idea that change in one part of the world is felt in all others. In narrower terms, interdependence is an economic concept the impacts of which are expressed in terms of the pacifying effects of trade. The key characteristic of an interdependent relationship is that the autonomy of each actor is constrained by the necessary estimation of the costs of any action. States would rather trade than invade—or so enthusiasts say. But is this accurate?

World trade doubled between 1870 and 1900, and immediately prior to World War I, European trade grew another 50 percent.<sup>29</sup> The European core's (including the United Kingdom, France, and Germany) level of exports and imports ranged from 30 to 59 percent of total gross domestic product.<sup>30</sup> And yet war came. Will it come again?

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23. John J. Mearsheimer, "China's Unpeaceful Rise," *Current History* 105, no. 690 (2006): 160–62.

24. Evan Braden Montgomery, *In the Hegemon's Shadow* (Ithaca, NY: Cornell University Press, 2016).

25. Kori Schake, *Safe Passage* (Cambridge, MA: Harvard University Press, 2017).

26. Jonathan Kirshner, "The Tragedy of Offensive Realism: Classical Realism and the Rise of China," *European Journal of International Relations* 18, no. 1 (2012).

27. Kirshner, "Offensive Realism."

28. See Robert O. Keohane and Joseph S. Nye Jr., *Power and Interdependence*, 4th ed. (New York: Longman, 2012).

29. David M. Rowe, "World Economic Expansion and National Security in Pre-World War I Europe," *International Organization* 53, no. 2 (1999).

30. Mariko J. Klasing and Petros Milionis, "Quantifying the Evolution of World Trade, 1870-1949," *Journal of International Economics* 92, no. 1 (2014).

Certainly, much has changed since 1914.<sup>31</sup> International institutions like the World Trade Organization abound, and trade between the great powers has never been higher. Richard Rosecrance notes the tendency of states after 1945 to pursue trading strategies over those of territorial acquisition.<sup>32</sup> Trying to dispel confusion, Dale Copeland argues it is the expectation of future trade that staves off war, but states can be pushed to war when facing the potential for losing the benefits of future trade.<sup>33</sup> Russia's recent willingness to risk economic isolation from Europe as a response to its invasion of Ukraine suggests this debate is far from resolution. Are institutions and trade sufficient to alleviate the acute conflicts that inevitably arise among great powers? These are questions worth pondering.

#### 7. Prestige is the currency of everyday international politics.<sup>34</sup>

Prestige can be measured in terms of credibility. More specifically, the credibility of a state's power is defined by its ability to deter and compel others. The hierarchy of prestige in international politics serves an authority function. The most prestigious states are on top, the less so at the bottom. Interestingly, the eras of relative peace in the world are associated with a clearly understood prestige hierarchy. This notion squares with Geoffrey Blainey's argument that war is the result of disagreements about the balance of power.<sup>35</sup> These disagreements follow from contrasting perceptions of capability.

Logically, if no contrasting perspectives exist, peace should endure. One looks no further than the unipolar period of 1989–2005 to grasp this idea. For a relatively brief period, the US economy and military sat so far atop the hierarchy that it made the idea of great power war appear quaint. In this moment of unipolarity as William Wohlforth described, balancing coalitions were impossible.<sup>36</sup>

This is no longer the case today. In parts of the developing world, some think China's economy has surpassed that of the United States, generating a competition for prestige between the two great powers.<sup>37</sup> If an unambiguous prestige hierarchy is associated with a stable international order, this is not encouraging. Misunderstanding or misperceiving shifts in the prestige hierarchy can lead declining hegemons to make rash and consequential decisions.<sup>38</sup>

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31. See Richard N. Rosecrance and Steven E. Miller, eds., "A Century after Sarajevo: Reflections on World War I," *International Security* 39, no. 1 (2014).

32. Richard Rosecrance, *The Rise of the Trading State* (New York: Basic Books, 1986).

33. Dale Copeland, "Economic Interdependence and War: A Theory of Trade Expectations," *International Security* 20, no. 4 (1996).

34. See Gilpin, *World Politics*; Yuen Foong Khong, "Power as Prestige in World Politics," *International Affairs* 95, no. 1 (2019); Jonathon Renshon, *Fighting for Status: Hierarchy and Conflict in World Politics* (Princeton, NJ: Princeton University Press, 2017); and Jonathan Mercer, "The Illusion of International Prestige," *International Security* 41, no. 4 (2017).

35. Geoffrey Blainey, *The Causes of War*, 3rd ed. (New York: Free Press, 1988); and Gilpin, *World Politics*, 31.

36. William Wohlforth, "The Stability of a Unipolar World," *International Security* 24, no. 1 (1999).

37. Khong, "Power as Prestige."

38. Gilpin, *World Politics*, 14.

### 8. With great power comes great responsibility.

To think in these terms is to think of international order. International order refers to a pattern of activity that sustains the preservation of the society of states. This includes those goals essential for the sustainment of international life such as the limitation of violence, the keeping of promises, and the possession of property.<sup>39</sup> Great powers are invested in preserving the society of states because it often benefits their growth and sustains their power.<sup>40</sup> They exploit their preponderance of power in such a way as to give general direction to the affairs of the international system.

Great powers do this by creating legitimate international orders. Legitimate orders are ones in which members willingly participate and agree with the overall orientation of the system.<sup>41</sup> Once in place, these orders tend to facilitate the further growth of international institutions.<sup>42</sup> One need look no further than the Anglo-American alliance.<sup>43</sup> After World War II, the democracies made a commitment to building institutions that would buttress open markets, economic security, multilateral cooperation, and common security.<sup>44</sup> The US constitutional order-building strategy after 1945 cultivated a reputation for benignity, making it easier for states to opt in. Today these ideals are under attack. Will they persist? If so, the institutions created through this order will be one reason why.

### 9. International institutions are power politics by other means.

By institution we do not imply an organization or administrative apparatus. Rather, international institutions refer to habits and practices in line with common goals. The balance of power, international law, and diplomacy are all institutions that wield considerable power.<sup>45</sup> These institutions dictate the ways rules are “communicated, administered, interpreted, enforced, legitimized, adapted and protected” in international politics.<sup>46</sup>

Such arrangements create deeper institutional linkages among states and make it difficult for alternative orders to replace existing ones. Thus, legitimate political orders are transformative ones, making their dissolution difficult if not impossible. Moreover, there is a functional imperative for strong states to cooperate and seek institutional solutions—they allow for the conservation of power itself. Great powers must make

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39. Hedley Bull, *The Anarchical Society*, 2nd ed. (London: Macmillan Press, 1995), chap. 1.

40. See Bull, *Anarchical Society*.

41. See Ikenberry, *Liberal Leviathan*.

42. See Ernst Haas, *The Uniting of Europe: Political, Social, and Economic Forces, 1950–1957* (Stanford, CA: Stanford University Press, 2004).

43. See Ikenberry, *After Victory*; and Richard Rupp, “NATO 1949 and NATO 2000: From Collective Defense toward Collective Security,” *Journal of Strategic Studies* 23, no. 3 (2000).

44. See Ikenberry, *Liberal Leviathan*.

45. Bull, *Anarchical Society*.

46. Hidemi Suganami, “The International Society Perspective on World Politics Reconsidered,” *International Relations of the Asia-Pacific* 2, no. 1 (2002).

their commanding power positions more predictable and restrained by institutionalizing deliberative international practices.<sup>47</sup> In short, they are power politics by other means.

**10. “The texture of international politics remains highly constant, patterns recur, and events repeat themselves endlessly.”<sup>48</sup>**

Today, three great powers vie for the world’s attention—China, Russia, and the United States. As daunting as this might appear, along with everything else noted above, multipolarity and oligopolistic competition are ordinary features of this type of international system. In short, we have seen all this before. Yet change is the watchword of the day, and as it is with watchwords, change often goes undefined.

It is not enough to claim the world has changed; one must specify exactly what in the world has changed. One hears claims that cyberspace is changing international politics, but it is also the case that international politics are changing cyberspace.<sup>49</sup> In a similar way, the interaction between space and international politics is affecting both. So long as the world is made of states invested in survival, the tendencies of international politics will continue. The space domain will be used much as the sea and air have been, as a way for states to project their power. In other words, great power politics are back and with them, conflict and, perhaps, war.

So long as anarchy is the organizing principle of international politics, Waltz notes, state relations will be marked by “dismaying persistence.”<sup>50</sup> The character of these relations is *persistent* because anarchy imposes constant uncertainty on great powers, inciting security dilemmas and balancing. This tendency is *dismaying* because the security dynamics of international politics are inescapable and marred by tragedy.

The recorded history of the world is replete with the birth and death dates of great powers.<sup>51</sup> It would be a mistake to expect the future to be different. Of course this is not to suggest the behaviors of the great powers do not matter. It makes a difference to individuals if the Hitlers or the Putins of the world rule. Thus, we close with this: Take nothing for granted. Let us work to ensure the evils of men are not met with the power of the great powers. Æ

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47. Ikenberry, *Liberal Leviathan*, 356.

48. Waltz, *Theory of International Politics*, 66.

49. James W. Forsyth Jr. and Brandon E. Pope, “Structural Causes and Cyber Effects: Why International Order Is Inevitable in Cyberspace,” *Strategic Studies Quarterly* 8, no. 4 (2014).

50. Waltz, *Theory of International Politics*, 66.

51. See Paul Kennedy, *The Rise and Fall of Great Powers* (New York: Vintage Books, 1987).

# NATO AT 70 PEACE IN A CHANGING SECURITY ENVIRONMENT

GINTA T. PALUBINSKAS

Seventy years after its inception, the international order is unraveling, and the international security terrain is changing. Europe is fragmented, Russia has expanded, and the United States has waffled in its stewardship of the liberal order. The solidarity between democratic nations that bound the international security order has declined. Populism and authoritarianism are on the rise, and democracy is under threat across the globe. The lack of cohesion between the United States and its European Allies and partners has called established relationships into question, complicated longstanding international issues, and eroded protections offered by NATO. This article examines NATO at 70 and assesses its ability to keep the peace in a changing security environment.

An examination of recurrent patterns in the transatlantic security environment, including a 70-year pattern of behavior by Russia, reveals the ongoing threat Russia poses and confirms the essential role NATO continues to play in maintaining peace in the twenty-first century. Findings show that Russia's strategy and foreign policy remain consistent over time. In particular, over the past 70 years, Russia's continued rejection of the West's goodwill has come at the cost of transatlantic security, Russia's development, and global stability. Despite the Soviet Union's collapse, Russia has inherited the Soviet Union's imperialistic mindset, continuing to straddle a fine line as a successor state while refusing to acknowledge the former's failures.

The end of the Cold War rapidly altered the transatlantic security environment and led to a series of questions and debates on the future of the North Atlantic Treaty Organization (NATO). Among these was the question of whether NATO was still necessary in the absence of the threat of Soviet expansionism. Scholars and practitioners largely agreed NATO was still needed.<sup>1</sup> Arguments in favor of maintaining the Alliance included the questionable durability of the changes occurring in the Soviet

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1. See Peter Corterier, "Quo Vadis NATO?," *Survival* 32, no. 2 (1990), <https://doi.org/>; Charles L. Glaser, "Why NATO Is Still Best: Future Security Arrangements for Europe," *International Security* 18, no. 1 (1993), <https://doi.org/>; William F. Hickman, "Nato: Is It Worth the Trouble?," *Naval War College Review* 46, no. 3 (1993): 36–46, <https://digital-commons.usnwc.edu/>; and John S. Duffield, "NATO's Functions after the Cold War," *Political Science Quarterly* 109, no. 5 (Winter 1994–1995), <https://doi.org/>.

Union, the existing imbalance in military power that favored the Soviet Union, the likelihood that the danger posed by Russia had not permanently disappeared, and the need to maintain stability in Europe.<sup>2</sup> Those advocating an end to the Alliance primarily argued NATO had served its purpose and was no longer needed or that the time had come to develop a new security structure in Europe.<sup>3</sup>

When NATO members decided to continue their alliance, the question of NATO's necessity was quickly supplanted by the question of whether the Alliance should accept new members. Those favoring enlargement focused on, among other things, NATO's importance to the continued effectiveness of the Alliance, its ability to deal with a resurgent Russia, Central and Eastern European democratization, economic transformation, and transatlantic stability.<sup>4</sup> Those opposed to NATO enlargement focused largely on Russia claiming, among other things, that Russia did not pose a threat. They argued that admitting new members to the Alliance would not spread democracy, but rather it would humiliate, isolate, and aggravate Russia, endanger its democratic reform, threaten its national security, damage its relationship with the West, and draw new dividing lines in Europe.<sup>5</sup>

As the relationship with Russia foundered, the debate shifted to the question of whether NATO enlargement was behind the decline in relations between Russia and the West. Some scholars asserted that NATO expansion had "become the key problem

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2. See James R. Huntley, "If the Cold War Is Waning, Is NATO Still Needed?," *Christian Science Monitor*, April 7, 1989, 19; Margaret Thatcher, "Speech to North Atlantic Council at Turnberry," Margaret Thatcher Foundation, June 7, 1990, <https://www.margarethatcher.org/>; postscript by General Secretary Manfred Wörner in NATO, "NATO Facts and Figures 1989," 1989; and Glaser, "NATO Is Still Best."

3. See Jonathan Clarke, "Replacing NATO," *Foreign Policy*, no. 93 (1993), <https://doi.org/>; Eugene Carroll and Pat Schroeder, "It's Time to Consign NATO to History, and Look to Future," *Chicago Tribune*, September 2, 1994, <https://www.chicagotribune.com/>; Charles A. Kupchan and Clifford A. Kupchan, "Concerts, Collective Security, and the Future of Europe," *International Security* 16, no. 1 (1991), <https://doi.org/>; and "Gorbachev Says Cold War Over," *Tampa Bay Times*, October 17, 2005, <https://www.tampabay.com/>.

4. See Madeleine Albright, "Why Bigger Is Better," *Economist*, February 15, 1997; Stephen J. Blank, "Rhetoric and Reality in NATO Enlargement," in *European Security and NATO Enlargement: A View from Central Europe*, ed. Stephen Blank (Carlisle, PA: Strategic Studies Institute, April 1998), <https://press.armywarcollege.edu/>; Volker Rühle, "Shaping Euro-Atlantic Policies: A Grand Strategy for a New Era," *Survival* 35, no. 2 (June 1, 1993), <https://doi.org/10.1080/>; and Karsten D. Voigt, "NATO Enlargement: A Holistic Approach for the Future," *SAIS Review (1989-2003)* 15, no. 2 (1995), <https://www.jstor.org/>.

5. See Alexei Arbatov, "NATO and Russia," *Security Dialogue* 26, no. 2 (1995), <https://doi.org/>; Michael Mandelbaum, "Preserving the New Peace: The Case against NATO Expansion," *Foreign Affairs* 74, no. 3 (1995), <https://doi.org/>; Dan Reiter, "Why NATO Enlargement Does Not Spread Democracy," *International Security* 25, no. 4 (2001), <https://doi.org/>; and Karl-Heinz Kamp, "The Folly of Rapid NATO Expansion," *Foreign Policy*, no. 98 (1995): 126, <https://doi.org/>.

in U.S.–Russian security relations.<sup>6</sup> The Russian narrative held that the West deceived Russia and left it out of post-Cold War Europe.<sup>7</sup> Scholars have also claimed that during talks on German reunification, a promise was made not to expand NATO into Eastern Europe, a promise that was subsequently broken.<sup>8</sup> Interviews with Gorbachev, however, have confirmed that no such promise was made and that the agreements made at the time were subsequently honored.<sup>9</sup>

Others concluded the decline in relations between Russia and the West had less to do with any of NATO's actions than with Russia's frustration at its own political, economic, and military decline following the collapse of the Soviet Union, and that Russia's turn against the West was driven by "status concerns rather than military threat perception."<sup>10</sup>

Russia's covert attack on Ukraine and illegal annexation of Crimea in 2014 caused scholars to ask whether the West's relations with Russia could improve, and to question whether it would have been possible to develop a stable and cooperative partnership with Russia if NATO had not enlarged in the 1990s.<sup>11</sup> In 2014, Mark N. Katz argued Russia's relations with the West could not improve while President Vladimir Putin remained in power; Putin feared that good relations with the West would strengthen democratic forces and empower opposition to his rule in Russia.<sup>12</sup> A Westernized,

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6. Alexei Arbatov, "Eurasia Letter: A Russian-U.S. Security Agenda," *Foreign Policy*, no. 104 (1996): 103, <https://doi.org/>; John J. Mearsheimer, "Why the Ukraine Crisis Is the West's Fault: The Liberal Delusions that Provoked Putin," *Foreign Affairs* (September 2014); Ruslan Pukhov, "NATO Is the Obstacle to Improving Russian-Western Relations," *Defense News*, March 28, 2019, <https://www.defensenews.com/>; and Andrey A. Sushentsov and William C. Wohlforth, "The Tragedy of US–Russian Relations: NATO Centrality and the Revisionists' Spiral," *International Politics* 57, no. 3 (June 2020), <https://link.springer.com/>.

7. Mike Eckle, "Did the West Promise Moscow that NATO Would Not Expand? Well, It's Complicated," *RadioFreeEurope/RadioLiberty*, May 19, 2021, <https://www.rferl.org/>; and Jim Goldgeier, "Promises Made, Promises Broken? What Yeltsin Was Told about NATO in 1993 and Why It Matters," *War on the Rocks*, November 22, 2019, <https://warontherocks.com/>.

8. See Joshua R. Itzkowitz Shiffrin, "Deal or No Deal? The End of the Cold War and the U.S. Offer to Limit NATO Expansion," *International Security* 40, no. 4 (April 2016), <https://doi.org/>; Marc Trachtenberg, "The United States and the NATO Non-Extension Assurances of 1990: New Light on an Old Problem?," *International Security* 45, no. 3 (January 2021), <https://doi.org/>; Mark Kramer, "The Myth of a No-NATO-Enlargement Pledge to Russia," *Washington Quarterly* 32 (April 1, 2009), <https://doi.org/>; and Kramer and Mary Elise Sarotte, "No Such Promise," *Foreign Affairs* (November-December 2014), <https://www.foreignaffairs.com/>.

9. See Maxim Kórshunov, "Mikhail Gorbachev: I Am against All Walls," *RBTH*, October 16, 2014, <https://www.rbth.com/>.

10. Roland Dannreuther, *Russian Perceptions of the Atlantic Alliance*, Final Report for the NATO Fellowship 1995–1997, n.d., 38–39, <https://www.nato.int/>; and Kimberly Marten, "Reconsidering NATO Expansion: A Counterfactual Analysis of Russia and the West in the 1990s," *European Journal of International Security* 3, no. 2 (June 2018), <https://doi.org/>.

11. Mark N. Katz, "Can Russian-US Relations Improve?," *Strategic Studies Quarterly* 8, no. 2 (2014), <https://www.airuniversity.af.edu/>; and Tuomas Forsberg and Graeme Herd, "Russia and NATO: From Windows of Opportunities to Closed Doors," *Journal of Contemporary European Studies* 23, no. 1 (January 2, 2015), <https://doi.org/>.

12. Katz, "Russian-US Relations."

market-oriented, and democratized Russia would likely have approached its neighbors, NATO expansion, and the West with a greater sense of cooperation, since it would not have perceived democratization in the region and NATO expansion as a threat to Russia's national security under those circumstances.<sup>13</sup>

In 2015, other scholars concluded that "limits to cooperation were hard-wired into Russia's foreign policy philosophy."<sup>14</sup> A year later, Robert E. Hunter argued it wasn't clear whether there was "any formulation that Russia would have been willing to accept" regarding NATO enlargement and the future of power in Europe, "short of the dissolution of NATO and maybe not even that."<sup>15</sup> He concluded, "perhaps nothing the West could have proposed [would] have made possible a workable similarity of interests and practices between NATO and Russia" and prevented a return to the same kind of difficulties that precipitated the Cold War.<sup>16</sup>

This article picks up on that thread, assessing the need for NATO through an examination of recurrent patterns in the transatlantic security environment. This analysis allows for a more nuanced evaluation of Russia as a threat, the need for NATO, and NATO's role in maintaining peace in the twenty-first century. The article identifies a pattern in Russia's behavior that spans more than seven decades, helps account for the current state of affairs between Russia and the West, and adds to the current understanding of what drives the need for NATO today.

## **Background**

Created in 1949, the North Atlantic Treaty Organization was an elegant and effective response to a rising threat to Europe, democracy, and the liberal world order. It signaled that an attack on a NATO member state would lead to an encounter with a defensive force second to none. This rapidly stabilized the existing security situation and served as an effective deterrent to further Soviet expansion into Europe. Three basic factors ensured NATO's success: the promise of a unified response, the maintenance of sufficient military force coupled with the willingness to use it, and the ability to win.

### ***A New World Emerges and Takes Shape (1945)***

At the end of World War II, much of Europe's infrastructure had been destroyed, food was scarce, and millions of displaced Europeans struggled to find refuge. Initially, the Allied powers cooperated to repatriate refugees and bring order to war-torn Europe. But, as the work progressed, it became increasingly clear Russia was not in

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13. Katz, "Russian-US Relations."

14. Forsberg and Herd, "Windows of Opportunities," 54.

15. Robert E. Hunter, "NATO in Context: Geopolitics and the Problem of Russian Power," *PRISM* 6, no. 2 (July 2016): 12, <http://cco.ndu.edu/>.

16. Hunter, "NATO in Context," 12.

sync with its wartime allies, did not abide by international conventions, and sought a different peace than the rest of the world.

When assessing the situation at the end of the war, seasoned diplomats reached the same conclusion: the Soviets were seeking to grab as much territory as possible. Maxim Litvinov, a prominent Soviet diplomat who had served as commissar for Foreign Affairs from 1933 to 1939 and as the Soviet ambassador to the United States from 1941 to 1943, interpreted the situation as one in which the primary cause of the emerging schism between the wartime allies was the Soviet Union's "striving for power and influence too far in excess of its reasonable security requirements."<sup>17</sup>

He identified the secondary cause as "the West's failure to resist that effort early enough."<sup>18</sup> He observed that Soviet leaders "refused to believe that goodwill could possibly constitute the lasting basis of any policy . . . [opting instead] to grab 'all they could while the going was good.'"<sup>19</sup> Eventually, the Soviet Union pursued its expansionist policy with such vigor that Litvinov saw no hope in reversing the trend toward confrontation. Asked whether the situation would be improved if the West agreed to Soviet demands, Litvinov responded that it would simply lead to the West being presented with additional Soviet ultimatums.<sup>20</sup>

Litvinov believed Moscow had chosen to act aggressively in the war's aftermath not because of anything that the Western democracies had done, but rather because they had failed to act in the face of what the Soviet Union had chosen to do. That is, the Soviet Union pursued a policy of aggression "not so much because the Anglo-American attitude had stiffened . . . but rather because it had not stiffened enough."<sup>21</sup>

Similarly, Loy W. Henderson, a US diplomat whose experience in the region began shortly after the end of World War I and continued through World War II, and his colleagues who had been observing the Soviet Union over the years drew similar conclusions to Litvinov's at the end of the war. Their observations led them to conclude "that no amount of blandishment, no amount of persuasiveness, no bribes, and no concessions could divert the Soviet Union from its basic objectives" and that placating the Soviets was a mistake.<sup>22</sup> Henderson noted that while the Soviets were willing to change tactics when necessary, "they would not alter their basic objectives."<sup>23</sup>

Henderson concluded that the Soviet Union would not only seek to retain control over the territories that its forces already occupied but would also seek to seize "as

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17. Vojtech Mastny, "Reconsiderations: The Cassandra in the Foreign Commissariat," *Foreign Affairs* 54, no. 2 (January 1976): 373, <https://www.foreignaffairs.com/>.

18. Mastny, "Cassandra," 373.

19. Mastny, "Cassandra," 374.

20. Rogers P. Churchill and William Slany, eds., *Eastern Europe, The Soviet Union*, vol. 6, *Foreign Relations of the United States* (Washington, DC: Government Printing Office, 1969), Document 517, <https://history.state.gov/>.

21. Mastny, "Cassandra," 373.

22. Loy W. Henderson, Oral History interview by Richard D. McKinzie, June 14, 1973, transcript, 20, Harry S. Truman Library and Museum, <https://www.trumanlibrary.gov/>.

23. Henderson, Oral History Interview, 21.

much additional territory as it might extract from its indecisive Western Allies.” This conclusion was confirmed by Litvinov’s 1946 postwar acknowledgment that the Soviet Union sought to grab all that it could “while the going was good,” and his “alarming suggestion that its appetite may be insatiable.”<sup>24</sup>

Nine months after the war, George Kennan, the US chargé d’affaires in Moscow, provided a comprehensive assessment of the situation and set the stage for the US policy of containment. In what became known as the Long Telegram, Kennan conveyed that the Soviet Union believed itself to be in perpetual conflict with the West and was engaging in a long-term strategy to surreptitiously deepen conflicts within and between capitalist countries in order to enable the advance of communism.

Kennan advised that the Soviet Union understood and respected the logic of force above all else and thus, if its adversary “has sufficient force and makes clear his readiness to use it, he rarely has to do so.”<sup>25</sup> He warned the Soviets would seek to “undermine the general political and strategic potential of major western powers,” by exploiting their societal fissures to create circumstances in which, “poor will be set against rich, black against white, young against old, newcomers against established residents” in order to increase social unrest, “disrupt national self confidence . . . and to stimulate all forms of disunity” in Western democracies.<sup>26</sup>

Kennan understood the Soviets did not seek peace; instead, they sought to undermine democratic societies and spread their political, economic, and social system throughout the world. As a result, he concluded diplomacy alone would not be enough to navigate the international environment that had emerged.

That the peace which Europe sought would prove elusive without an economic recovery was evident to both Russia and its former Western allies. Their response to Europe’s postwar crisis would define and shape the postwar world. The former wartime allies could unite for the sake of lasting peace, or they could remain divided. The United States offered the former through the Marshall Plan; Russia chose the latter, understanding that an economically stable Europe would mean the countries of Western Europe would slip beyond its grasp.

While the United States developed the Marshall Plan, the Soviet Union continued to destabilize Europe. At the end of February of 1948, Czechoslovakia collapsed, extinguishing the last democracy in Eastern Europe and further expanding Soviet power. This prompted Britain, France, Belgium, the Netherlands, and Luxembourg to sign a common defense pact.

When Russia condemned the alliance, accusing its members of undermining peace and “assisting the instigators and organizers of a new war,” Belgium noted the Treaty of Brussels had been concluded out of fear of the Soviet Union, which was the only country that had emerged from the war having conquered other territories and taken power in neighboring states and after the war, had sought to gain and control increas-

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24. Henderson, Oral History Interview, 37; and Mastny, “Cassandra,” 374.

25. Churchill and Slany, *Eastern Europe*, Document 475.

26. Churchill and Slany, *Eastern Europe*, Document 475.

ingly more territory.<sup>27</sup> It implored the Soviet Union to stop sabotaging the United Nations' work and to work with the other UN members to help ensure international peace.

Nevertheless, by the autumn of 1948, the United Nations was stymied by the Soviet Union's abuse of its veto. Europe and the United States recognized Russia's program of expansion had to be countered through containment if international peace was to be maintained. Consequently, they worked together to fortify the peace by forming a more formidable defense alliance intended to suppress Russia's westward expansion. The North Atlantic Treaty Organization emerged in the spring of 1949 as the "natural and logical supplement to the economic aid being provided to the western European states by the Marshall Plan."<sup>28</sup>

### ***Why NATO? (1949)***

The move to form NATO raised the question, Why do we need the North Atlantic Treaty if we have the UN? Then-US Secretary of State Dean Acheson provided the answer. He explained that the postwar system to maintain peace and security was not working because the Soviet Union was purposefully misusing its veto to interfere with the UN Security Council's ability to maintain international peace. Because of this, the North Atlantic pact was needed to achieve peace and security and to prevent war.<sup>29</sup>

The formation of NATO on April 4, 1949 was a deeply considered, measured response to nearly four years of Soviet postwar actions in Europe. The founding of NATO marked the Western democracies' coming to terms with the existing situation and sent two very clear signals. First, it signaled that the signatories were committed to the UN Charter and were joining together to do what the United Nations was being prevented from doing. And, second, they made it known, in no uncertain terms, that they would not be picked off, one by one, by any aggressor. NATO was the collective transatlantic response to the Soviet threat to world peace. In short, because the Soviet Union was working to undermine the existing system, NATO was formed to preserve it.

### ***The Cold War (1949–89)***

The formation of NATO changed the potential for a hot war to a cold war. The Alliance was an effective deterrent to war in Europe and an effective guarantor of North

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27. See Vyshinsky (USSR) comments in United Nations, 143rd Plenary Meeting, Palais de Chaillot, Paris, September 25, 1948: (General Assembly, 3rd Session), 129–30, United Nations Digital Library, <http://digitallibrary.un.org/>; and Spaak (Belgium) comments in United Nations, 147th Plenary Meeting, Palais de Chaillot, Paris, September 28, 1948: (General Assembly, 3rd Session), 281, United Nations Digital Library, <http://digitallibrary.un.org/>.

28. Grayson Kirk, "The Atlantic Pact and International Security," *International Organization* 3, no. 2 (1949): 242, <http://www.jstor.org/stable/>.

29. "Text of Secretary Acheson's Broadcast on Atlantic Accord," *New York Times*, March 19, 1949, <http://movies2.nytimes.com/>.

Atlantic peace. From NATO's founding in 1949 to the collapse of the Soviet Union in 1991, Europe lived in relative peace without suffering another military attack from its Eastern neighbor. The Soviet Union continued to disparage the alliance and to cast NATO as an aggressor that it feared. In reality, it feared meeting a united front of countries joined in protecting their sovereignty and unified by the values enshrined in the UN Charter.

The NATO alliance was needed during the Cold War to serve as a bulwark for peace and to stabilize a situation that had the potential to lead to another war if left unchecked. At the time, postwar Europe was subject to two distinct systems competing for its future. One was being promoted by an external force, which sought to capture Europe through coercion. The other was one the European nations themselves were actively pursuing, relying on like-minded nations for support in maintaining their sovereignty and a lasting peace. The Alliance was needed to prevent a hot war from erupting in Europe. It achieved this end through a clear and unflagging commitment to the security of its members backed by a credible level of military forces that could offer successful resistance to any attack on them.

### ***Post–Cold War (1989–2014)***

When the Cold War ended and the Soviet Union began to disintegrate, NATO continued to serve as a stabilizing force during an uncertain time. Neither Russia nor the countries emerging from the defunct Soviet system viewed NATO as a threat. For countries reasserting their independence, NATO offered the promise of permanent protection from a revanchist Russia, which many believed would emerge in a matter of time. For Russia, which had lost its empire, it offered the promise of a safe emergence into the post-Cold War security environment.

As had been the case following the end of World War II, Western democracies hoped they could build a long-lasting, cooperative relationship with Russia, now heir to the Soviet Union. They did not want to believe Russia's post-Soviet aims were irreconcilable with theirs. And their good will was once again on full display as they responded to a former adversary in crisis with compassionate generosity.

In 1990, when Soviet leadership appealed directly for US and Western food and medical aid, Western governments responded quickly. In 1991, they provided billions of dollars of assistance to the Soviets. The influx of Western aid helped stabilize the Soviet Union, which continued to disintegrate from within. When the Soviet Union collapsed in December 1991, Western democracies provided Russia and the other countries emerging from the Soviet Union with a steady stream of financial assistance, as well as help in integrating into the world economy and international organizations.

At the time, there was hope Russia would emerge a democracy and the world would enjoy a long and abiding peace. And then there was the question—why do we need NATO?

For some, the answer was clear—NATO is needed to protect its members from any and all countries that would attack them. While the Soviet Union had represented the greatest threat during the Cold War, by definition the Alliance protected its members

against more than just the Soviet Union. Therefore the disappearance of the Soviet Union did not eliminate the need for the Alliance. The dissolution of the Soviet Union did not guarantee NATO members' security. It simply alleviated a known threat. It did not eliminate all possible threats.

At the end of the Cold War, Russia's basic objectives did not change. It sought to recapture its former sphere of influence, reintegrate the Russian empire, and re-emerge as a great power. But Russia was weak and not in a position to challenge the West, so it altered its tactics to suit the circumstances. Using its weakness to its advantage, Russia accepted the West's financial assistance and support as it integrated into international economic structures, simultaneously gathering strength and weighing its readiness to challenge the West.

Though Russia faced no threat from the West, NATO was perceived as an instrument that could interfere with Russia's ability to achieve its expansionist goals once it had regrouped and was back on its historical course. As a consequence, NATO had to be undermined. Here, Russia took a new tack. Instead of pursuing its traditional goal of undermining NATO unity, it sought to insinuate itself into NATO decision making in an effort to create a situation in which "excluding Russia . . . would make achieving peace impossible."<sup>30</sup>

This strategy positioned Russia to act as the spoiler in world peace. It was also reminiscent of the approach that the Soviet Union took when abusing its veto in the UN Security Council, which led to the formation of NATO. And it reflected the same hostility toward the West that had driven Soviet foreign policy when Andrei Gromyko, who served as the Soviet Foreign Minister from 1959 to 1987, asserted that "no international question of any consequence could be decided 'without the Soviet Union or in opposition to it.'"<sup>31</sup>

In the West, arguments were made for and against NATO enlargement. Three recurring arguments against NATO enlargement emerged: NATO enlargement will provoke Russia; NATO enlargement will create new dividing lines in Europe; and, NATO enlargement is expensive. Each argument suggested the cost of enlarging NATO exceeded the benefit. Each of these arguments also omitted a critical factor: the primary cause of the emerging situation was Russia's drive for "power and influence too far in excess of its reasonable security requirements" much like that of the Soviet Union after World War II.<sup>32</sup>

As discussed earlier, at the time, Litvinov concluded Moscow had chosen to act aggressively not because of anything that the Western democracies had done, but rather because they had failed to act in the face of what the Soviet Union had chosen

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30. Arbatov, "NATO and Russia," 142.

31. Michael Mandelbaum, "Introduction: Russian Foreign Policy in Historical Perspective," in *The New Russian Foreign Policy*, ed. Michael Mandelbaum (Washington DC: Council on Foreign Relations, July 1998), <https://www.cfr.org>.

32. Mastny, "Cassandra," 373.

to do.<sup>33</sup> At the end of the Cold War, the same thing occurred: Western democracies did not do anything to provoke Moscow's aggression, yet the Kremlin acted aggressively. Confronted with increasing Russian aggression in Europe, Western democracies decided to enlarge NATO.

The enlargement of NATO did not occur suddenly or unexpectedly. The Alliance only began accepting new members in 1999, a decade after the end of the Cold War. Once the enlargement process began, 12 countries joined the Alliance over the span of 10 years (1999–2009). With each enlargement, NATO grew stronger and Europe became more stable. Eighteen years after the disintegration of the Soviet Union, 25 (57 percent) of the 44 countries in Europe were members of NATO. The majority of countries of the continent stood together in a common defense alliance: they would not go to war with one another and they would defend each other if attacked. Peace in Europe seemed assured.

Despite the West's efforts, post-Cold War dividing lines appeared in Europe. Some blamed the West, positing that it had "missed an opportunity to integrate Russia into the Euro-Atlantic security architecture (on an equal basis)."<sup>34</sup> But facts show otherwise. Russia has had little interest in avoiding confrontation with its neighbors in the twenty-first century. And it had no interest in joining NATO.<sup>35</sup> Rather than missing an opportunity to integrate Russia into the Euro-Atlantic security architecture, the West missed the opportunity to integrate countries, such as Georgia and Ukraine, into NATO through its effort to placate Russia.

Following the Cold War, Russia actively attacked Europe where it is most vulnerable, rending countries off the path to EU and NATO membership, creating wedges, and exploiting divisions in an effort to destabilize the continent and reorder it for its own purposes. To this end, Russia employed a variety of approaches. It used its energy resources in an effort to gain political leverage over Europe through the development of a natural gas monopoly. It cut off the flow of natural gas to demonstrate its power to countries largely dependent on it for resources.

Russia also sought to intimidate its democratic neighbors. It conducted regular incursions into their airspace, violated their territorial waters, harassed navy ships, dogged military jets and surveillance planes, simulated nuclear attacks on other countries, and flew its military aircraft into foreign airspace with transponders turned off to show it was

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33. Mastny, "Cassandra," 376.

34. Tom Sauer, "The Origins of the Ukraine Crisis and the Need for Collective Security between Russia and the West," *Global Policy* 8, no. 1 (2017): 82, <https://doi.org/>.

35. *Debate on NATO Enlargement, Hearings before the Committee on Foreign Relations United States Senate*, 105th Cong. (October 9, 1997) (statement of Secretary of State Madeleine Albright, US Secretary of State and response to Senator Wellstone's question regarding whether Russia could join NATO), <https://www.govinfo.gov/>.

not bound by international rules and values.<sup>36</sup> It launched cyberattacks against NATO member states and those aspiring to join the Alliance.<sup>37</sup> It fomented civil discord in neighboring states.<sup>38</sup> It funded far-right and anti-EU political parties and supported disruptive activities in neighboring democracies.<sup>39</sup> Russia weaponized citizenship through passportization campaigns.<sup>40</sup> It meddled in foreign elections.<sup>41</sup>

It also modernized its military and tested it in countries that lack protection. It systematically expanded into neighboring states through a process of creeping annexation, violating international law and inching its way toward Europe. In short, Russia actively presented itself as a threat to European states through calculated acts of aggression on land, air, sea, and in cyberspace, as well as through disinformation campaigns, the creation of false narratives, and threats up to and including nuclear attacks against them. Kidnappings, poisonings, and killings carried out by Russia abroad further instilled the sense that Russia considered itself above international law.

Rather than accepting that goodwill could constitute the lasting basis of foreign relations and focusing its efforts on democratizing, restructuring its economy, and raising its people's quality of life, post-Soviet Russia sought to disrupt the emergence of a lasting peace in Europe. Over the course of a quarter century, it proved itself to be a master of employing "[p]rovocative acts, adequately spaced, [to] leave an impression . . . without generating a response."<sup>42</sup>

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36. "Russia Flexes Its Military Muscles with Western Airspace Violations," *Deutsche Welle*, April 4, 2010, <https://www.dw.com>; Barbara Starr, "Pentagon: 2 Russian Aircraft Buzzed U.S. Warship," *CNN*, September 17, 2010, <http://www.cnn.com>; "Russian Aggression Drives Swedish Defense Spending," *Defense News*, February 7, 2016, <https://www.defensenews.com>; and "Russian Military Jet Nearly Collides with Passenger Plane—Again," *Deutsche Welle*, December 13, 2014, <https://www.dw.com>.

37. See Ian Traynor, "Russia Accused of Unleashing Cyberwar to Disable Estonia," *Guardian*, May 17, 2007, <https://www.theguardian.com>; Valentinas Mite, "Attacks Seen as First Case of 'Cyberwar,'" *Radio Free Europe/Radio Liberty*, May 20, 2007, <https://www.rferl.org>; John Markoff, "Before the Gunfire, Cyberattacks," *New York Times*, August 12, 2008, <https://www.nytimes.com>; and Robert Windrem, "Timeline: Ten Years of Russian Cyber Attacks on other Nations," *NBC News*, December 18, 2016, <https://www.nbcnews.com>.

38. *Putin's Asymmetric Assault on Democracy in Russia and Europe: Implications for U.S. National Security*, Minority Staff Report prepared for the use of the US Senate Committee on Foreign Relations, 115th Cong. (January 10, 2018), <https://www.govinfo.gov>.

39. See Mitchell A. Orenstein, "Putin's Western Allies," *Foreign Affairs*, March 27, 2014, <https://www.foreignaffairs.com>; and Rick Noack, "The European Parties Accused of Being Influenced by Russia," *Washington Post*, November 17, 2017, <https://www.washingtonpost.com>.

40. See Mark Mackinnon, "Russian Passports Anger Georgia," *Globe and Mail*, July 2, 2002, <https://www.theglobeandmail.com>.

41. See Lucan Ahmad Way and Adam Casey, "Russia Has Been Meddling in Foreign Elections for Decades. Has It Made a Difference?," *Washington Post*, January 8, 2018, <https://www.washingtonpost.com>; and Maggie Tennis, "Russia Ramps up Global Elections Interference: Lessons for the United States," *Center for Strategic and International Studies* (website), July 20, 2020, <https://www.csis.org>.

42. Kyle Mizokami, "Russia Is Stealthily Threatening America with Nuclear War," *The Week*, September 16, 2014, <https://theweek.com/>.

Western democracies initially viewed these provocations as reflections of Russia's insecurity, something that could be overcome through goodwill and diplomacy. They worked to develop a partnership with what they hoped would be a democratic Russia. When Russia began to reemerge as an imperial challenge to European security, Western policymakers and political leaders called for Russia to join the West as a post-imperial power. But Russia's desire for expansion eclipsed its perceived gains from democracy and peace.

### ***Navigating a Shifting Security Environment (2014–20)***

In 2014, after modernizing its military for the better part of a decade, Russia opted for empire over modern statehood. Unthreatened and unprovoked, Russia attacked Ukraine, which had been promised NATO membership in 2008 but had not yet been accepted.<sup>43</sup> In doing so, Russia defined itself and staked out its position with regard to its neighbors and the international system. Consequently, a shift occurred in the international security environment that had serious implications for NATO and the rules-based international order.

After the Cold War ended, Russia emerged as a defeated power—it had lost the struggle with capitalism. For many, Russia appeared to stand at a critical juncture, a crossroads that would allow it to become a “normal” country. Russia had the choice of becoming a stable and effective state (a normal country) or seeking to reemerge as an empire.

It did not take long for Russia's deep-rooted imperialistic tendencies to reassert themselves publicly, even under Boris Yeltsin, who had been voted in as Russia's first democratic-leaning president. In 1999, during a meeting with Clinton, Yeltsin openly and unabashedly asked that Clinton give Europe to Russia. “I ask you one thing. Just give Europe to Russia. The U.S. is not in Europe. Europe should be the business of the Europeans. Russia is half European and half Asian.”<sup>44</sup> Yeltsin then insisted, “Bill, I'm serious. Give Europe to itself. Europe has never felt as close to Russia as it does now. We have no difference of opinion with Europe.”<sup>45</sup>

After eight years of support, talks, negotiations, and peace with NATO countries, Yeltsin, Russia's first president, confidently and unambiguously expressed Russia's intentions toward Europe. Russia did not see European countries as partners, but rather as states that it sought to dominate and as countries that could be given and taken without their consent.

Initially, Russia's expansionism manifested itself close to its borders in Georgia, Moldova, and Ukraine. But by 2007, Russia had used its natural resources, bilateral agreements, and position on the UN Security Council so effectively in this pursuit

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43. David Brunnstrom and Susan Cornwell, “NATO Promises Ukraine, Georgia Entry One Day,” Reuters, April 3, 2008, <https://www.reuters.com/>.

44. “Memorandum of Conversation – President Boris Yeltsin of Russia,” November 19, 1999, 3, Memcons and Telecons, Clinton Digital Library, <https://clinton.presidentiallibraries.us/>.

45. “Memorandum of Conversation,” 4.

that the EU found it had “allowed its relationship with Russia to be organised in a way that diminishes its own potential power and boosts Russia’s.”<sup>46</sup> In 2008, Russia’s thinly veiled grand strategy lost all of its subtlety when it mounted an indirect challenge to NATO through its war on Georgia, which had been promised NATO membership.<sup>47</sup>

Russia’s response to the West’s protests was consistent with its historical pattern. In a manner reminiscent of Russia’s earlier contentions that no international questions of any consequence could be decided without Russia or in opposition to it, Foreign Minister Sergei Lavrov dismissed the West’s concerns.

Everyone should accept the new realities on the ground. . . . Our decisions taken after the war begun by Georgia are irreversible and they should be accounted for in practical matters.<sup>48</sup>

As far as Russia was concerned, the matter had been decided and the rest of the world would have to adjust to its decision. The West accepted this largely as an expression of Russia’s resolve to dominate its traditional sphere of influence.

In 2014, Russia upped the ante again by surreptitiously attacking Ukraine and illegally annexing Crimea. Through its attack on Ukraine, its subsequent actions, and the official statements that followed, Russia definitively revealed itself as a state that does not honor its word, does not consider itself bound by international law, continues to define itself in opposition to the West, and fundamentally rejects the values that undergird the liberal international order.

In a move that showed utter disregard for the UN Charter, Russia misused its veto to block a UN Security Council resolution aimed at reaffirming Ukraine’s “sovereignty, independence, unity and territorial integrity.”<sup>49</sup> By doing so, Russia purposefully interfered with the role of the Security Council in maintaining international peace and security.

In March 2014, international relations had come full circle: they were back to where they had been at the start of the Cold War when the Soviet Union, Russia’s predecessor in the UN Security Council, had regularly abused its veto to impede the proper functioning of the UN and thereby created the circumstances that brought about the need for NATO.

Russia had once again shown the UN could be rendered powerless by any permanent member of the Security Council using its veto to prevent the application of sanctions against itself or any other state guilty of aggression. It had also reconfirmed the United Nations could not guarantee collective security against aggression, which underscored the importance of NATO in the preservation of European peace and security in the post-Cold War era and beyond.

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46. Mark Leonard and Nicu Popescu, “A Power Audit of EU-Russia Relations,” policy paper (London: European Council on Foreign Relations, 2007), 10, <https://ecfr.eu/>.

47. Brunnstrom and Cornwell, “NATO Promises.”

48. Gregory Feifer, “Frictions Fuel Fears of New Conflict,” RadioFreeEurope/RadioLiberty, June 29, 2009, <https://www.rferl.org/>.

49. “UN Security Council Action on Crimea Referendum Blocked,” UN News, March 15, 2014, <https://news.un.org/>.

As a result, a tectonic shift occurred in NATO and EU countries' understanding of the transatlantic security environment, and in their approach to Russia. NATO suspended its practical cooperation with Russia, and its members stopped cutting their defense budgets and began increasing their defense funding instead. Western democracies imposed harsh sanctions and refused to recognize Russia's illegal annexation of Crimea. They made clear, in practical terms, that Russia was not exempt from international law and would not be allowed to undermine the liberal international order. The time for optimism had passed: Western democracies would have to deal with Russia as it was, not as they wished it to be.

Instead of reversing course, Russia increasingly presented itself as a threat to Western Europe and NATO member states through calculated acts of aggression. These included cyberattacks; support for far-right and anti-EU political parties, support for disruptive activities in Western democracies, and meddling in foreign elections. Russia targeted NATO member states and potential members with disinformation campaigns including the creation of false narratives. It exacerbated refugee flows into Europe and threatened these countries with nuclear attacks.

In the years since its 2014 attack on Ukraine, Russia has leaned into undermining Western democracies, all the while insisting it wants better relations with the West. In doing so, Russia has revealed its real preference: while it says it wants positive relations with the West, it aspires to weaken, divide, and immobilize Western democracies by sowing confusion, discord, and fear.

Russia's goal is to supplant the values at the heart of the liberal international order with its own rather than adhere to existing international norms. To achieve this end, Russia has made use of EU and NATO member state "pre-existing cleavages and shortcomings—be they neglected minorities, threatened majorities, biased media outlets, home-grown corruption, insufficient law enforcement, or disillusionment with politics."<sup>50</sup> It has watched and waited for opportunities to exploit societal fissures and openings for Russian messaging and to fan arguments that would estrange NATO members from one another.

If Russia can succeed in dividing European democracies, then it can potentially tear apart the EU, a thorn in its side domestically and a barrier to its expansion. More importantly, if it can divide the transatlantic democracies enough to lead to a dissolution of NATO, then Russia will have rid itself of the greatest barrier to its expansion westward and across the European continent.

For its part, NATO continues to protect its members from being picked off by Russia, as it did at its inception. More than 70 years after its founding, the Alliance continues to adapt to new security threats, faithfully guarding the transatlantic community against instability and unpredictability in a shifting security environment. It remains an effective shield between its members and Russia, which still aims to take just as much additional territory as the situation will permit. And NATO's effectiveness con-

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50. Kadri Liik, "Winning the Normative War with Russia: An EU-Russia Power," Policy Brief (London: European Council on Foreign Relations, 2018), 6, <https://ecfr.eu/>.

tinues to be reflected in Russia's choice of victims: Russia does not attack members of the Alliance.

## Conclusion

### *Why NATO?*

Russia's attack on Ukraine and illegal annexation of Crimea in 2014 and the events that followed clarified the state of the transatlantic security environment and provided a concise answer to the question of why NATO is needed today. The Alliance is needed now for the same reason it was needed when it was created. Now, as then, the UN cannot guarantee collective security against aggression. Transatlantic countries continue to face the same threat, albeit in a different form, that existed when NATO was established. The Alliance has proven effective in its mission for more than seven decades and continues to be necessary for the preservation of transatlantic security and, by extension, the liberal international order. In short, we need NATO in order to maintain world peace.

### *Can NATO Endure?*

The NATO alliance and the context within which it operates have changed significantly over time. At its inception, NATO focused on the security of Western Europe, the United States, and Canada. Today, it protects the majority of European countries, as well as the United States and Canada. It is comprised of 30 Allies, protects almost one billion people on both sides of the Atlantic, and represents half of the world's military and economic might.

The challenges NATO faces and the environment in which it operates are also notably different than those that existed when the Alliance was created. In 1949, NATO guarded against the threat of military attack that could be countered through traditional military strengths. At that time, the Soviet Union was the primary threat to the Alliance.

Today, NATO is deterring Russian expansion rather than Soviet expansion, facing an adversary that readily deploys the means of hybrid warfare against its targets in order to achieve its political goals. It is an aggressor that has successfully melded hybrid warfare with information, cyber, diplomatic, political, economic, and social means of warfare.<sup>51</sup> Russia is a continually evolving apex predator. Consequently, NATO operates in a rapidly changing and unpredictable environment fueled in large part by a state that operates outside the bounds of international law and works to foil the international system while simultaneously insisting no international question may be resolved without it.

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51. Tad A. Schnauer II, "Redefining Hybrid Warfare: Russia's Non-Linear War against the West," *Journal of Strategic Security* 10, no. 1 (2017): 19, <https://digitalcommons.usf.edu/>.

Permanently on guard, NATO has successfully adapted to political, economic, and social changes that have altered the international security environment over the course of more than seven decades. The Alliance is the transatlantic community's perpetual guardian, its constantly evolving primary line of defense. As such, it remains an essential component of transatlantic security and the liberal international order. But, can it endure?

Currently, every indication is that NATO is a durable compact: all of its 16 long-time members have remained in the Alliance, 14 new members have joined since the end of the Cold War, and additional countries have joined NATO's Partnership for Peace with the hope of becoming members of the pact. Despite some assertions that NATO and the ideas that underpin the liberal world order are obsolete, NATO's image has improved on both sides of the Atlantic amid growing security concerns. And it is generally "seen in a positive light across publics within the alliance."<sup>52</sup> The benefits of membership far outweigh the costs. The price of peace costs less than the price of war and rebuilding.

### ***Maintaining Peace in the Twenty-First Century***

The twenty-first century transatlantic security environment has largely been shaped by a revanchist Russia, which has emerged as the single greatest threat to transatlantic peace and security in the post-Cold War era. Over the course of the past 30 years, Russia's foreign policies and actions have fallen into well-defined historical patterns. Russia's resurgent expansionism, use of force to change borders, abuse of its UN Security Council veto, and its hostility toward its neighbors and the liberal international order have created comparable conditions to those that led to NATO's creation in 1949.

The Alliance's success in maintaining transatlantic peace and security through deterrence, along with Litvinov's, Henderson's, and Kennan's post-World War II observations, provides policymakers with important insights into how to approach today's transatlantic security situation and how to value NATO. In short, Litvinov pointed out that Russia's desire to expand is insatiable; Henderson observed that its goals never change; and Kennan advised that Russia understands and respects the logic of force above all else.<sup>53</sup> NATO has been an effective and durable alliance, one that continues to be a timely and elegant response to the dangers facing transatlantic peace in the twenty-first century. NATO remains the most effective means of ensuring peace for years to come. **Æ**

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52. Moira Fagan and Jacob Poushter, "NATO Viewed Favorably across Member States," Pew Research Center's Global Attitudes Project (blog), February 10, 2020, <https://www.pewresearch.org/>.

53. Churchill and Slany, *Eastern Europe*, Document 475.

# CONVENTIONAL DETERRENCE AND TAIWAN'S INDEPENDENCE NECESSARY INVESTMENTS

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Until recently, the United States has held critical advantages against China in a potential conflict scenario over Taiwan. Those advantages have eroded precipitously across the services and the Joint Force—most war games and analysis suggest China could dominate in a Taiwan scenario. As platforms and competition between the US and China modernize, it is critical to maintain conventional power until future platforms are delivered. An analysis of current capabilities reveals key Department of Defense investments needed to deter Chinese aggression and potentially defend Taiwan.

The advantages of the US military across the spectrum of Taiwan contingencies are quickly disappearing. The Department of Defense must invest in conventional capabilities that would provide an edge in these conflict scenarios. By contextualizing the evolving conventional Sino-American military balance and assessing capability gaps across the US armed forces, key investments emerge that would bolster the services' and Taiwan's own conventional capabilities for the defense of the island.

## Introduction

*The greatest danger the United States and our allies face in the region is the erosion of conventional deterrence vis-à-vis the People's Republic of China.*

Admiral Philip Davidson, USN, commander,  
US Indo-Pacific Command, March 2021.<sup>1</sup>

The United States no longer possesses the same military advantages over China in the Indo-Pacific region that it has enjoyed since China initiated its Open Door policies in 1899. The Department of Defense's (DOD) 2020 and 2021 China military power reports have assessed just how rapidly the changes in Chinese military stature

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1. Jim Garamone, "Erosion of U.S. Strength in Indo-Pacific Is Dangerous to All, Commander Says," US Department of Defense (DOD) News, March 9, 2021, <https://www.defense.gov/>.

have been since the early 2000s.<sup>2</sup> These advances are a product of China's substantial investments in modernizing and expanding its armed forces, while the United States has focused on fielding the capabilities and capacity required for its wars in the Middle East and underfunded or delayed conventional defense modernization programs.<sup>3</sup>

Today, the Chinese Communist Party (CCP) is pushing a more aggressive and expansionist regional agenda in the Western Pacific, particularly toward Taiwan, and the US military is struggling to field the conventional forces required to mount a forward defense in the theater—one capable of effectively deterring further Chinese aggression.<sup>4</sup>

If China expects to achieve its geopolitical goals with a conventional attack on Taiwan at low cost because US forces will not be able to respond rapidly and effectively, the chances of China using its military forces to achieve its regional ambitions vis-à-vis Taiwan will only increase. Most war games and Taiwan crisis simulations today indicate China will successfully capture the island.

Importantly, the US military has not been completely idle in preparing for a potential invasion of Taiwan, even if it has not matched China's own military modernization and expansion efforts. In October 2021, Taiwanese leadership acknowledged for the first time the presence of US special operations forces and Marines stationed on the island to train components of the Taiwanese military.<sup>5</sup> Still, the capacity and capabilities of the US military must be expanded and improved simultaneously with continuing efforts to assist Taiwan as Taipei seeks to improve its own defenses.

Key solutions could decrease China's advantage, shoring up the strength of US conventional deterrence and improving the ability of the United States to defend Taiwan against People's Liberation Army (PLA) forces. Core recommendations include: (1) securing US Air Force air superiority across legacy and modernized systems such as hypersonic missiles; (2) increasing Army troop and funding levels, protecting both from budget sacrifices for the other services; (3) expanding the US naval fleet and domestic production capacity; and (4) ensuring Joint Force/hybrid investments in regional posturing, air and missile defense, and intelligence, surveillance, and reconnaissance (ISR) are bolstered across services.

When outlining potential discrete moves of CCP aggression against Taiwan or within the East and South China Seas more broadly, Admiral Gary Roughead explained in June 2021 that China's "seizure of offshore islands, a blockade of Taiwan or quarantine, missile strikes on the island, and a ultimately a full-on invasion must be

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2. Office of the Secretary of Defense (OSD), *Military and Security Developments Involving the People's Republic of China 2021: Annual Report to Congress* (Washington, DC: OSD, 2021), <https://media.defense.gov/>; and OSD, *Military and Security Developments Involving the People's Republic of China 2020: Annual Report to Congress* (Washington, DC: OSD, 2020), <https://media.defense.gov/>.

3. Mackenzie Eaglen, *The 2020s Tri-Service Modernization Crunch* (Washington, DC: American Enterprise Institute (AEI), March 2021), <https://www.aei.org/>.

4. Elbridge Colby and Walter Slocombe, "The State of (Deterrence by) Denial," War on the Rocks, March 22, 2021, <https://warontherocks.com/>.

5. Ben Blanchard and Yimou Lee, "Taiwan President Confirms U.S. Troops Training Soldiers on Island—CNN," Reuters, October 28, 2021, <https://www.reuters.com/>.

addressed. . . . More consideration must be given to more extensive and aggressive ‘grey zone operations,’ that activity between war and peace.”<sup>6</sup>

In short, the advantages of the US military across each prominent Taiwan contingency are deteriorating. This article focuses on potential US military investments in conventional capabilities that would provide an edge in a range of Taiwan deterrence and conflict scenarios. It contextualizes the evolving conventional Sino-American military balance and assesses capability gaps across the individual services and Joint Force operations, listing key investments to bolster the services’ and Taiwan’s own conventional capabilities for the defense of the island.

## Sino-American Military Balance

The Obama, Trump, and now Biden administrations have signaled a rebalance to Asia, but in bipartisan fashion, success has been minimal at best. America’s regional posture in the Indo-Pacific remained relatively stagnant through the 2010s, partly a result of inertia, competing priorities, and mismatched or insufficient defense investments. This stagnation has had clear consequences for the balance of conventional military power between the United States and China.<sup>7</sup>

Secretary of Defense Lloyd Austin III released high-level findings from the classified *Global Force Posture Review* in late 2021, emphasizing that posture requirements would be reduced in other theaters to support warfighting readiness and increased US military activities in the Indo-Pacific, but Congress was generally unimpressed by the actual recommendations of the review. One staffer who was familiar with the findings critiqued them for reflecting “no decisions, no changes, no sense of urgency, no creative thinking.”<sup>8</sup> Pentagon officials also acknowledged that few shifts were made in the report, with one saying, “there was a sense at the outset that there was a potential for some major force posture changes. Then, as we got deeper and deeper into the work, we realized in aggregate that the force posture around the world was about right.”<sup>9</sup>

While some analysts have cautioned that more shifts are likely in the future, particularly after the release of the 2022 national defense and security strategies,

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6. Gary Roughead, “Taiwan: Time for a Real Discussion,” *Strategika*, no. 73 (June 30, 2021), <https://www.hoover.org/>.

7. US Department of State (DOS), *A Free and Open Indo-Pacific: Advancing a Shared Vision* (Washington, DC: DOS, November 4, 2019), <https://www.state.gov/>; Jonah Langan-Marmur and Phillip C. Saunders, “Absent without Leave? Gauging US Commitment to the Indo-Pacific,” *Diplomat*, May 6, 2020, <https://thediplomat.com/>; Linsey F. Ford, “Sustaining the Future of Indo-Pacific Defense Strategy,” Brookings Institution (website), September 28, 2020, <https://www.brookings.edu/>; and Mackenzie Eaglen, *Defense Budget Peaks in 2019, Underfunding the National Defense Strategy* (Washington, DC: AEI, May 17, 2018), <https://www.aei.org/>.

8. Tara Copp, “US Needs Indo-Pacific Force ‘Enhancements,’ Global Posture Review Finds,” *Defense One*, November 29, 2021, <https://www.defenseone.com/>; and Jack Detsch, “‘No Decisions, No Changes’: Pentagon Fails to Stick Asia Pivot,” *Foreign Policy*, November 29, 2021, <https://foreignpolicy.com/>.

9. Gordon Lubold, “Pentagon Plans to Improve Airfields in Guam and Australia to Confront China,” *Wall Street Journal*, November 29, 2021, <https://www.wsj.com/>.

preliminary signs do not suggest the Biden administration's Pentagon is prepared for ambitious change.

Despite underwhelming progress from successive presidential administrations, there are plenty of roadmaps, frameworks, and defense programs that would bolster the US military's position in the Indo-Pacific. For the purposes of this analysis, the posture requirements of the US military in the Indo-Pacific today and in the future are assessed in relation to the ability of US forces to prevent China from capturing Taiwan or interfering with critical US trade and economic activity with the island.

Rather than discuss the multitude of deterrence strategies, this analysis will remain acutely focused on direct investments that would allow US forces to succeed across a variety of scenarios. (For the recommendations included, various cost estimates are based on fiscal year (FY) 2022 defense budget documents and can be found in the Defense Futures Simulator budget analysis platform, developed by the American Enterprise Institute, the Center for Strategic and International Studies, and War on the Rocks.)<sup>10</sup>

## **US Capability Gaps and Key Investments**

### ***Department of the Air Force***

*Capability Gaps.* US Air Force preparation for a possible invasion of Taiwan by China is hampered by three factors: (1) ongoing congressional skepticism of hypersonic missiles; (2) the service's inability to move on from legacy programs; and (3) the tyranny of distance represented by the Pacific that hampers the service's ability to be part of the fight.

At the time of writing, the House Appropriations Committee set a target cut of \$44 million from the Air Force's hypersonic missile program for FY 2022.<sup>11</sup> While these missiles are mostly still in development and testing, they are one of the most significant capability gaps the United States faces in this arena, as China has also been testing their own advanced hypersonic capabilities. A scenario in which each side engages with hypersonic missiles is within reason in the very foreseeable future. China has tested nuclear-capable hypersonic weapons that threaten Taiwan, US basing, and continental security.

The second problem, the maintenance of legacy platforms depleting funding allocations for modernization programs, is far from new. The Air Force has asked Congress to divest from the air- and ground-support purposed A-10 Warthog, F-15C/D and F-16C/D fighters, and KC-10 refueling tankers.<sup>12</sup> Domestic considerations occasionally

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10. AEI, Center for Strategic and International Studies (CSIS), and War on the Rocks, Defense Futures Simulator, <https://defensefutures.net/>.

11. Valerie Insinna, "House Appropriators Want to Shave \$44M Off Air Force's Flagship Hypersonic Program," Defense News, July 12, 2021, <https://www.defensenews.com/>.

12. Valerie Insinna, "US Air Force to Mothball Dozens of A-10s, F-15s and F-16s in FY22 Budget," Defense News, May 28, 2021, <https://www.defensenews.com/>.

complicate such requests; members of Congress are often hesitant to shift funding from programs based or built in their home states or trade existing platforms for those in development.

Undoubtedly, funding outdated and aging programs is preventing the service from investing in new aircraft and modernization. The Air Force wants to use the funds freed up from divestment to support its hypersonic missile programs and other long-range weapons.<sup>13</sup> The service also must grapple with how the F-35 program—the centerpiece of its modernization effort—will overcome the long distances in the Pacific to be relevant. So far, the shift of regional focus has not been met with a quick shift in investment to match changing priorities, which will undoubtedly make defending Taiwan more difficult.

*Key Investments.* In 2018 and 2019 Air Force war games, the service lost disastrously in the South China Sea and Taiwan scenarios respectively.<sup>14</sup> In a late 2020 war game, the Air Force reportedly successfully defeated a Chinese invasion of Taiwan by “relying on drones acting as a sensing grid, and advanced sixth-generation fighter . . . cargo planes dropping pallets of guided munitions and other novel technologies yet unseen on the modern battlefield.”<sup>15</sup> While the war game victory reportedly depended on some technologies not in the current budget plan, the service made other decisions that, if implemented, could improve the relevance of the Air Force for securing air superiority at the outset of a Taiwan crisis.

In the war game, the Air Force reportedly disaggregated its command-and-control structure by making “investments to remote airfields across the Pacific region—fortifying and lengthening runways as well as pre-positioning repair equipment and fuel.”<sup>16</sup> In addition to key posture adjustments, the Air Force should prioritize investments in fifth and sixth generation fighters, a mix of drones for a variety of purposes—including serving as long-range communications nodes, using bombers to penetrate contested air space, employing airlift assets in offensive roles, and securing aerial refueling to elongate fighter distance capability in the face of lengthy flight paths in a Taiwan conflict.

The Air Force should also allocate funds above the current budget plan to the Next Generation Air Dominance fighter and its associated systems to accelerate the fielding of the program, and it should extend the service lives of the F-22s through the 2030s.<sup>17</sup>

While investing in new, relatively low-cost and comparatively attritable drones like the XQ-58A Valkyrie is important, the service should not prematurely cut legacy platforms when the assets can be used for new mission sets. Although the MQ-9 traditionally operated in uncontested battlespaces in the Middle East, with technological

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13. Frank Wolfe, “Kendall: 30-Year-Old Aircraft an ‘Anchor’ Holding Back Air Force Modernization,” *Defense Daily*, December 6, 2021, <https://www.defensedaily.com>.

14. Valerie Insinna, “A US Air Force War Game Shows What the Service Needs to Hold Off—or Win against—China in 2030,” *Defense News*, April 12, 2021, <https://www.defensenews.com>.

15. Insinna, “China in 2030.”

16. Insinna.

17. Heather R. Penney, *The Future Fighter Force Our Nation Requires: Building a Bridge* (Arlington, VA: Mitchell Institute for Aerospace Studies, October 26, 2021), <https://mitchellaerospacepower.org/>.

adjustments the platform can support maritime and littoral domain awareness operations in the Pacific.<sup>18</sup> Finally, the service should accelerate investment in the new and still developing B-21 Raider stealthy bomber and replace its older tanker fleets.

## ***Department of the Army***

*Capability Gaps.* The Army has been preparing itself for future budget cuts more than any other service. According to Army Chief of Staff General James McConville, without significant budget increases, the Army will be unable to increase its end-strength.<sup>19</sup> Declining end-strength will be met with declining influence and deterrence, and in the event of a conflict anywhere—such as the ongoing war in Ukraine—the United States cannot risk destabilization as a result of self-inflicted blows in force size and presence across the globe.

While some speculate the Army could play a smaller role in the defense of Taiwan than the other services, it may be required to deploy troops to Taiwan to either deter or defend against Chinese troops.<sup>20</sup> In a late 2021 discussion regarding the Army's role in countering China, Secretary of the Army Christine Wormuth cited long-range precision fires as perhaps the most important of these but also emphasized the service must work to answer many difficult questions about its role in a conflict with China, Taiwan-related or not.<sup>21</sup>

A scenario of failed deterrence followed by the United States being called upon and deciding to restore Taiwan's territorial integrity, however, is largely under-discussed and particularly poignant for those who debate the US Army's future role in the Pacific; observers warn "these [restorative] roles are massive shifts for an insurgency-honed force, as well as expensive, bloody, and politically fraught."<sup>22</sup> Moreover, one of the biggest problems the Army faces is the pressure to become the bill payer for Navy and Air Force costs as the military shifts towards the Indo-Pacific.<sup>23</sup>

Should a conflict begin, Wormuth detailed five key tasks for the Army. (1) The Army must establish, build up, secure and protect staging areas and Joint operating bases in theater with integrated air and missile defense. (2) The Army must sustain the Joint Force with logistical support. (3) The Army must provide command and control at multiple operational levels. (4) The Army must provide ground-based, long-range fires as part of the Joint Force's strike capabilities. And (5) if required, the Army

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18. Lawrence A Stutzriem, "Reimagining the MQ-9 Reaper" (Arlington, VA: Mitchell Institute for Aerospace Studies, November 18, 2021), <https://mitchellaerospacepower.org/>.

19. Jen Judson, "US Army Bracing for Budget Hit Next Year," *Defense News*, April 20, 2021, <https://www.defensenews.com/>.

20. Jacquelyn Schneider, "The Uncomfortable Reality of the U.S. Army's Role in a War over Taiwan," *War on the Rocks*, November 30, 2021, <https://warontherocks.com/>.

21. Tony Bertuca, "Wormuth: Army Must 'Ruthlessly Prioritize' to Avoid Becoming a 'Bill-Payer' for Other Services," *Inside Defense*, October 11, 2021, <https://insidedefense.com/>.

22. Schneider, "War over Taiwan."

23. Schneider.

should be ready to counterattack using maneuver forces such as infantry, Stryker elements, and combat aviation brigades.<sup>24</sup>

*Key Investments.* When discussing the role of US landpower in response to a Taiwan contingency, it is helpful to consider the responsibilities of US forces before and after the start of a conflict. Prior to an increase in hostilities between China and the United States over the independence of the island, the currently minimal footprint of US troops on Taiwan itself could be increased.<sup>25</sup>

The Department of Defense could also choose to discreetly or overtly conduct more security force assistance missions with Taiwan by means of the Army's 5th Security Force Assistance Brigade or dedicate two security force assistance brigades to the Indo-Pacific region, which includes raising and maintaining another brigade for the region over the next five years.<sup>26</sup> Recommendations to permanently station a full armored brigade combat team on Taiwan, however, would likely spell the end of US strategic ambiguity toward the island.<sup>27</sup>

Other frameworks short of a substantial land presence might involve dispersing smaller contingents of ground forces at key locations around the island, preserving Taiwan's ability to communicate in the event of an invasion. Further, independent from platform investments, personnel policies could support the development of critical language skills in the US military to support closer cooperation if required in the future. At a minimum, the Army should resist end-strength reductions to its maneuver forces. More ambitiously and with more funding, the service could accelerate fielding of new equipment including investments in future helicopter programs such as future attack reconnaissance aircraft and future long range assault aircraft.

## *Department of the Navy*

*Capability Gaps.* The United States' global advantage in antisurface warfare has declined precipitously since 2015, negatively affecting the Taiwan scenario with China.<sup>28</sup> The Navy's 30-year shipbuilding plan released in 2020 acknowledges China's substantial improvements in naval capabilities, which surpass the United States in ship totals. Just two months before the release of the 30-year plan, the Navy acknowledged its aging

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24. Dontavian Harrison, "CSIS: China Power Conference 2021; Secretary of the Army's Opening Remarks," US Army (website), December 20, 2021, <https://www.army.mil/>.

25. Jack Detsch, "Pentagon Quietly Puts More Troops in Taiwan," *Foreign Policy*, November 18, 2021, <https://foreignpolicy.com/>.

26. Joseph Trevithick, "American Forces Have Been Quietly Deployed to Taiwan with Increasing Regularity: Report," *The Drive*, October 7, 2021, <https://www.thedrive.com/>; and AEI, CSIS, and War on the Rocks, Defense Futures Simulator, dashboard, US Army, <https://d311eb9zv1nxq7.cloudfront.net/>.

27. Todd South, "An Army Brigade Posted to Taiwan, and Other Ways to Counter China Being Floated," *Army Times*, June 23, 2021, <https://www.armytimes.com/>.

28. Eric Heginbothan et al., *The U.S.-China Military Scorecard: Forces, Geography, and the Evolving Balance of Power, 1996-2017* (Santa Monica, CA: RAND Corporation, 2015), <https://www.rand.org/>.

surface fleet was becoming increasingly expensive and difficult to maintain.<sup>29</sup> The Aegis combat system's effectiveness is declining despite substantial upgrades. Hull lives are expiring across the fleet (perhaps most notably on cruisers), and declining maintenance standards have contributed to this problem.

The Navy's 500-ship-by-2045 mark has been met with some skepticism, though mostly for financial reasons. According to the Congressional Budget Office, meeting the deadlines in the plan would require an additional \$20 billion in shipbuilding funds annually, with sustainment and personnel costs exceeding \$300 billion.<sup>30</sup> With such severe conflicts between planning and budgeting, reversing course on China's increasing naval advantage in the Taiwan Strait seems like a distant possibility.

*Key Investments.* The US military should prioritize arresting the decline of the Navy's fleet with targeted investments in platforms that would increase US undersea superiority, support more distributed operations, secure logistics, and procure more salvage and rescue ships that would be key in the event of a conflict.<sup>31</sup>

The Navy could begin by buying one more amphibious transport dock (LPD Flight II) per year carrying Marines to more remote operational areas and supporting larger amphibious operations. Of note, the Hudson Institute also recommended developing a light amphibious warship to support more littoral operations in a study on the future Navy fleet conducted in 2020. The Navy could also maximize the production of the new Constellation-class frigate, buying nine ships above the current program of record over the next five years.

The service could also increase its production of Virginia-class attack submarines to three per year instead of two. Efforts such as the Navy's full spectrum undersea warfare project merit support, particularly with its emphasis on subsea and seabed warfare technologies, key to enabling future undersea weapons systems. An additional six Navajo-class (T-ATs) salvage and rescue ships would markedly improve the fleet's ability to recover from damages sustained in a conflict.

Increasing the planned procurement of John Lewis-class oilers by six over the next five years will also advance the endurance and range of the Navy's existing ships, a critical investment as the fleet operates with more regularity in the Indo-Pacific.<sup>32</sup> Overall, increased shipbuilding will prove exceedingly difficult without substantial concurrent investment in US shipyards to sustain a larger fleet. Recent efforts to this end in Congress include the introduction of the SHIPYARD Act that seeks to improve the infrastructure of public yards.<sup>33</sup>

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29. David B. Larter, "US Navy's Aging Surface Fleet Struggles to Keep Ships up to Spec, Report Shows," *Defense News*, October 5, 2020, <https://www.defensenews.com/>.

30. John Kroger, "Epsler's Fantasy Fleet," *Defense One*, October 13, 2020, <https://www.defenseone.com/>.

31. Blake Herzinger, "The Budget (and Fleet) that Might Have Been," *War on the Rocks*, June 10, 2021, <https://warontherocks.com/>.

32. AEI, CSIS, and War on the Rocks, *Defense Futures Simulator*.

33. Justin Katz, "Another \$25B Boost, This Time for Shipyards, Proposed for NDAA," *Breaking Defense*, November 16, 2021, <https://breakingdefense.com/>; and S. Amdt. 4653 to S. Amdt. 3867, to National Defense Authorization Act for Fiscal Year 2022, H.R. 4350, 117th Cong. (2021), <https://www.congress.gov>.

The Navy should also think creatively about how it conducts a variety of mission sets. While SSN-class submarines and surface combatants are generally responsible for antisubmarine warfare for example, this platform-intensive approach will be difficult to scale during a Taiwan contingency. Research from the Hudson Institute in October 2020 recommended using torpedoes or depth bombs to suppress an adversary's submarine fleet with investments in alternatives like the Navy's new Very Light-weight torpedo with its offensive compact rapid attack weapon.<sup>34</sup>

Another investment route might involve increasing US procurement of maritime mines—and encouraging Taiwan to do the same—to be used as antisurface ship or antisubmarine subsurface weapons. The US naval mining capability currently includes the Quickstrike family of mines, the MK 67 submarine launched mobile mine, the MK 68 clandestine delivered mine, and the Hammerhead Encapsulated Effector.<sup>35</sup>

At a higher level, the Marine Corps' new "Stand-In Forces" warfighting concept will specifically enable Marines to field and maintain the capabilities required to begin countering aggression below the level of armed conflict. For example, Stand-In Forces may be able to prevent Chinese militia from antagonizing vessels passing through the South China Sea, without the involvement of more heavily armed US warships.<sup>36</sup>

The Navy would be well served by also investing in electronic warfare systems, the Rolling Airframe Missile Block II, and Evolved Sea Sparrow Missile Block II—shorter range systems that can be carried by ships at greater capacity. And the Navy should continue to investment in the Marine air defense integrated system for short-range air defense intended to protect maneuver forces, installation, and other critical assets.<sup>37</sup>

The Navy should also sustain or increase investments in its ability to counter capable surface-to-air missiles from the PLA, including sustained spending on the Navy's advanced antiradiation guided missiles-extended range, the procurement of 54 low rate initial production missiles and associated equipment.<sup>38</sup> This capability supports the ability of US air forces to attack PLA integrated air defenses.<sup>39</sup>

## ***The Joint Force***

*Regional Posture.* As the Air Force war games found, improving US theater-based force posture and logistical capabilities will be critical for overcoming the tyranny of

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34. Kyle Mizokami, "Here Comes the Navy's First New Torpedo in Decades," *Popular Mechanics*, January 1, 2021, <https://www.popularmechanics.com/>.

35. Department of the Navy (DoN), *DOD Fiscal Year 2022 Budget Estimates: Navy Justification Book*, vol. 1, "Weapons Procurement, Navy" (Washington, DC: DoN, May 2021): 401, <https://www.secnav.navy.mil/>.

36. Justin Katz, "Marines's New Warfighting Concept Focuses on Small, Agile Forces with an Eye on China," *Breaking Defense*, December 1, 2021, <https://breakingdefense.com/>.

37. DoN, *DOD Fiscal Year 2022 Budget Estimates: Navy Justification Book*, vol. 1, "Procurement, Marine Corps" (Washington, DC: DoN, May 2021): 95, <https://www.secnav.navy.mil/>.

38. David Ochmanek, "Restoring U.S. Power Projection Capabilities: Responding to the 2018 National Defense Strategy" (Santa Monica, CA: RAND Corporation, 2018), <https://www.rand.org/>.

39. DoN, *DOD Fiscal Year 2022 Budget Estimates: Navy Justification Book*, vol. 1, "Weapons Procurement, Navy" (Washington, DC: DoN, May 2021), 293, <https://www.secnav.navy.mil/>.

distance that characterizes the region and will allow US forces to jointly and rapidly respond to a variety of Taiwan scenarios. To this end, the recently established—and recently reformed—Pacific Deterrence Initiative serves as an instructive case study for where additional dollars might be well spent.

While the Pentagon's original request for the fund attempted to force through platform-centric investments, the reforms proposed by Congress in the FY 2022 National Defense Authorization Act redirected the fund to focus primarily on improving US regional posture. The reforms emphasize “planning and design” activities that will be “used to develop shovel-ready military construction projects to advance a distributed and resilient theater force posture.”<sup>40</sup>

These changes will ensure military logisticians and troops have the supplies and plans they need to develop quick, useable access to a variety of critical operational sites like refueling centers and air strips across the Indo-Pacific and potentially on the island itself. Even so, certain analyses caution that infrastructure investments in the initiative are still focused on large and centralized bases, not improvements to remote runways, for example, such as those proposed by the Air Force.<sup>41</sup>

At a minimum, substantially increasing current Pacific Deterrence Initiative program funding over the next five years would improve US basing in the Indo-Pacific. Simultaneously, the United States should be enhancing regional force survivability. Such investments include passive protection measures for forward bases such as “expedient shelters, fuel bladders, [and] airfield damage repair equipment and materiel.”<sup>42</sup>

*Hybrid Air and Missile Defense.* The US military must defend its bases and platforms against PLA attacks from the very beginning of a conflict. As a case study, the Biden administration is focusing on securing the defense of Guam. The US territory provides support for Navy submarines operating in the Pacific, sustains Air Force strategic bombers, operates surveillance drones, and is simultaneously charged with developing point and area defense across the services. These capabilities are key to any Pacific conflict engaging US forces—especially in defense of Taiwan—because China is developing offensive weaponry that puts these critical operations at severe risk.

In mid-2021, Vice Admiral Jon Hill, director of the Missile Defense Agency, noted that US Indo-Pacific Command “has a clear requirement” to update the missile defense of Guam. He reported Guam's ballistic missile defense as the combatant command's primary unfunded requirement for FY 2022 at \$231.7 million.<sup>43</sup>

The Joint Force must develop a hybrid defense for Guam that incorporates the Navy's Aegis Ashore and the Army's Terminal High-Altitude and Area Defense systems. Fully funding Guam's defenses cannot and should not be understated. Developing an

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40. Dustin Walker, “Pacific Deterrence Initiative: A Look at Funding in the New Defense Bill, and What Must Happen Now,” *Defense News*, December 15, 2021, <https://www.defensenews.com/>.

41. Walker, “Pacific Deterrence Initiative.”

42. Ochmanek, *Power Projection Capabilities*.

43. John Grady, “MDA: US Has Several Options to Defend Guam from Missile Threats,” USNI News, August 13, 2021, <https://news.usni.org/>.

evolved missile defense architecture for Guam will grow in importance as advanced threats like hypersonic missiles proliferate. Increases in the FY 2022 budget request for the Hypersonic Defense Program indicate DOD prioritization of the program and suggest further future investments.<sup>44</sup>

Of note, defense analysts have advocated investing in cost-effective passive defenses for US bases and platforms including “dispersing forces across multiple locations, spreading forces and equipment out on a base, hardening, redundancy, camouflage, concealment, deception, early warning systems, and recovery capabilities . . . to rapidly repair damage.”<sup>45</sup> Ultimately, the US military would most benefit from attention and investment in a combination of active *and* passive defenses.

*Hybrid Long-Range Strike.* While some commentators have warned that investments in long-range strike options across the Joint Force are needlessly repetitive in constrained budget environments, should the United States commit to fully funding an ambitious defense agenda, long-range strike options across the services should be seen as important efforts to build useful redundancies across the US military. Not only is Taiwan interested in fielding long-range strike capabilities themselves, but the ability of the United States to deploy long-range precision missiles against Chinese land targets from surface and submarine systems also will strengthen US deterrent capabilities and potential response in the event of conflict. China is actively developing these technologies; US superiority in long-range precision munition deployment would serve Taiwan and US defenses well.

The Air Force is making substantial investments in Joint air-to-surface standoff missiles and long range air-to-surface missiles. The service is also investing in its most prominent hypersonic, the air-launched rapid response weapon (ARRW), with the hypersonic conventional strike weapon as an alternative, particularly as ARRW came under congressional scrutiny in 2021.<sup>46</sup> The Army is scheduled to field a prototype of its new long-range hypersonic weapon in 2023, while the service simultaneously endeavors to diversify its long-range strike portfolio with the development of the precision strike missile.

The Marine Corps is focused on fielding an antiship naval strike missile to undermine PLA Navy defenses, advancing its Navy/Marine expeditionary ship interdiction system.<sup>47</sup> The Navy intends to field its conventional prompt strike hypersonic missile on the Virginia-class submarines and Zumwalt-class destroyers.<sup>48</sup> If further funding is required for the new integration effort, Congress and the Navy should provide it.

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44. Wes Rumbaugh and Tom Karako, *Seeking Alignment: Missile Defense and Defeat in the 2022 Budget* (Washington, DC: CSIS, December 10, 2021), 10, <https://www.csis.org/>.

45. Stacie Pettyjohn, “Spiking the Problem: Developing a Resilient Posture in the Indo-Pacific with Passive Defenses,” *War on the Rocks*, January 10, 2022, <https://warontherocks.com/>.

46. Rumbaugh and Karako, *Seeking Alignment*, 4.

47. Mark F. Cancian, *U.S. Military Forces in FY 2022: Marine Corps* (Washington, DC: CSIS, November 2021), <http://defense360.csis.org/>; and Rumbaugh and Karako, *Seeking Alignment*.

48. DoN, *DOD Fiscal Year 2022 Budget Estimates: Navy Justification Book*, vol. 2, “Research, Development, Test & Evaluation, Navy” (Washington, DC: DoN, May 2021), 1527, <https://www.secnav.navy.mil>.

*Intelligence, Surveillance, and Reconnaissance.* If the United States cannot achieve an enhanced force posture in the region quickly, the advances in ISR that give US forces the warning they require to be appropriately positioned has to be a priority. Broadly, more ISR assets that support US regional awareness will be money well spent. In particular, space-based warning platforms become more important in providing constant surveillance if US posture cannot be rapidly adjusted. Accordingly, efforts like the Space Development Agency's investments in developing beyond-line-of-sight targeting and advanced missile tracking merit sustained or increased funding where necessary.<sup>49</sup>

The US military could also accelerate investments in missile sensing proliferated low Earth orbit satellites.<sup>50</sup> Accelerating the development and fielding of counterspace systems should also take priority.<sup>51</sup> Further, while the United States cannot depend on or force defense investments from Allies and partners, fielding more geospatial intelligence capabilities such as synthetic aperture radar will be useful for supporting extended land surveillance and maritime awareness.<sup>52</sup>

Remotely crewed platforms such as the Navy's XLUUV, for example, will be useful for expanding the service's undersea ISR capacity. For the Air Force, a high-altitude, unmanned long-range reconnaissance system like a larger RQ-180 is reportedly flying and operating.<sup>53</sup> If true, increasing the Air Force's inventory of the platform would also be a valuable investment.

## **Taiwan Defense Capabilities**

### ***Support Taiwan's Defenses and Resiliency***

Short of an outright assault on Taiwan, the Chinese Communist Party might pursue a range of potential methods to subjugate Taiwan covering the full spectrum of conflict. The systems and investments detailed above would strengthen the US military's ability to mount an appropriate response in each scenario. But Taiwan must be able to do so as well. In May 2021, analysts identified a menu of defense investments that Taiwan should consider:

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49. DOD Space Development Agency, *DOD Fiscal Year 2022 Budget Estimates: Defense-Wide Justification Book*, vol. 5, "Research, Development, Test & Evaluation, Defense-Wide" (Washington, DC: Space Development Agency, June 7, 2021): 19, <https://comptroller.defense.gov/>.

50. AEI, CSIS, and War on the Rocks, Defense Futures Simulator, dashboard, US Space Force, <https://d3l1eb9zv1nxq7.cloudfront.net/>.

51. Ochmanek, *Power Projection Capabilities*.

52. Jason Wang and Mark Matossian, "David vs Goliath: How Space-Based Assets Can Give Taiwan an Edge," *Diplomat*, March 27, 2021, <https://thediplomat.com/>.

53. David Axe, "America's New Stealth Drone Appears to Be Operational near China," *Forbes*, September 7, 2021, <https://www.forbes.com/>; and Mark F. Cancian, *U.S. Military Forces in FY 2022: Air Force* (Washington, DC: CSIS, November 2021), 18, <http://defense360.csis.org/>.

If Taiwan acquires, over roughly the next five years, large numbers of additional anti-ship missiles, more extensive ground-based air defense capabilities, smart mines, better trained and more effective reserve forces, a significantly bolstered capacity for offensive cyber warfare, a large suite of unmanned intelligence, surveillance, and reconnaissance (ISR) and strike systems, and counterstrike capabilities able to hit coastal targets on the mainland, it will continually increase the price China will have to pay to win a war.<sup>54</sup>

The United States can do much to support Taiwan's development and acquisition of these capabilities. Most obviously, Washington could transfer relevant technologies to support the production of specific weapons like improved short-range (up to 1,000 kilometers or 539 nautical miles) missiles, particularly useful for advancing Taiwan's ability to "disrupt, degrade, and interdict Chinese command and control nodes, military airfields, supply depots and reinforcements in response to an attack."<sup>55</sup>

To bolster Taiwan's ability to counter Chinese aggression in the grey zone, the United States could assist Taiwan with developing its own resident cyber offense and defense capabilities and sustain other ongoing US efforts to train the Taiwanese armed forces. Enabling Taiwan to defend itself through resiliency against nonkinetic attacks such as cyber and information operations must be a key component of the assistance provided to Taiwan.

More broadly, Taiwan's defense ministry must also ensure its existing forces are capable of responding to a Taiwan Strait contingency.<sup>56</sup> Importantly, these asymmetric investments would mark a departure from Taiwan's current defense investment plans, which still focus on buying exquisite weapons systems from the United States—demonstrated by Taiwan's purchase of 66 F-16 fighters for an estimated \$8 billion in 2019.

First and foremost, the United States and Taiwan should determine how to maximize and rationalize their defense spending decisions and tradeoffs.<sup>57</sup> The F-16 is a capable, highly maneuverable fighter that, while different from the F-35 in that it is more defensive than offensive in nature, would still provide advanced day-to-day operational air power. Taiwan's decision to buy the Patriot advanced capability-3 missile segment enhancement missiles in early 2021 is a positive step in the right direction, even if deliveries will not begin until 2025.<sup>58</sup>

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54. Patrick Porter and Michael Mazarr, *Countering China's Adventurism over Taiwan: A Third Way*, Lowy Institute, May 20, 2021, <https://www.lowyinstitute.org/>; US-China Economic and Security Review Commission, *2020 Annual Report to Congress*, chap. 4 (Washington, DC: US-China Economic and Security Review Commission, 2020), 467–68, <https://www.uscc.gov/>; and William S. Murray, "Revisiting Taiwan's Defense Strategy," *Naval War College Review* 61, no. 3 (2008): 13, 30–31, <https://digital-commons.usnwc.edu/>.

55. Michael Hunzeker and Alexander Lanoszka, "Taiwan Wants More Missiles. That's Not a Bad Thing," *Defense One*, March 24, 2021, <https://www.defenseone.com/>.

56. Paul Huang, "Taiwan's Military Has Flashy American Weapons but No Ammo," *Foreign Policy*, August 20, 2020, <https://foreignpolicy.com/>.

57. Michael A. Hunzeker, "Taiwan's Defense Plans Are Going off the Rails," *War on the Rocks*, November 18, 2021, <https://warontherocks.com/>.

58. Yimou Lee, "Taiwan to Buy New U.S. Air Defence Missiles to Guard against China," *Reuters*, March 31, 2021, <https://www.reuters.com/>.

## **Smarter and More Ambitious Investments**

Despite the grim outlook for the ability of the United States to deter or defend against a Chinese invasion of Taiwan, this article provides concrete steps the US military and Congress can take to improve the outlook. While the options for conventional deterrence may be fading, an appropriate budget and the responsible allocation of funding will be key to restoring and maintaining our strength.

The Biden Administration's FY 2023 defense budget request was released following the drafting of this analysis. Regrettably, the concrete steps the US military needs to strengthen conventional deterrence are being scrapped even more rapidly than experts imagined. While the request rightly invests in hypersonic missile development and key cyber objectives, it cuts down troop level goals for the services, decreases flight training for Air Force pilots, and decommissions more operational planes and ships over the next year and five-year period than it plans on replacing.

As the request essentially ignores record inflation today, Joint Force procurement capabilities deteriorate. Maintaining the readiness and capabilities of the warfighter are essentially deemed nonessential in comparison to shifting funds to what might be the conflict of the future. The assessment of senior military leaders throughout this article is that a Taiwan conflict could most certainly occur in the near term; the FY 2023 budget request largely ignores investing in conventional deterrence capabilities and end-strength that not only deter but would defend the island if need be.

None of the proposed investments throughout the analysis will immediately tip the balance in extreme favor of the United States should China decide to invade Taiwan. They are, however, solutions lawmakers and defense officials can examine in the near term and begin to implement sooner rather than later. As Congress takes up the president's budget this year and begins planning future years defense spending, it is crucial to invest heavily in forces that imply combat power and have deterred and defended for decades, alongside the modernization priorities of the Department, which are also included in these recommendations.

While the United States might not have a role—or the same role—to play in every Taiwan scenario developed or war gamed, key investments listed throughout this analysis provide crucial capabilities that would allow the nation to play whatever role it assumes effectively and successfully. Closing capability gaps and securing American military superiority will only benefit the American and Taiwanese people who jointly seek peace and freedom around the world. *Æ*

# NUCLEAR TARGETING METHODS AND MODERN DETERRENCE

BENJAMIN JAMISON

Countervalue deterrent threats are no longer credible for the United States, and the model of counterforce targeting requires modification. Tailored targeting is a concept that matches adversary vulnerabilities and American political objectives to produce a unique targeting solution. When paired with a deliberate strategic messaging strategy, tailored targeting provides the president with a credible deterrent threat. A strategy of multiple tailored targeting solutions for various contingencies creates a continuum of effective deterrent options along the entire spectrum of conflict.

The concept of a countervalue strike is no longer credible in modern American nuclear deterrence, and counterforce needs modification. *Tailored targeting* complements the concept of tailored deterrence while assisting policy makers and military strategists in applying nuclear deterrence along the entire spectrum of conflict, from the gray-zone to general nuclear war. To this end, a holistic counterforce targeting strategy remains valid only if revised; tailored nuclear targeting must be envisioned in a new way.

## Background

*The difference, of course, between the debate over the nature of thermonuclear war and previous such debates is that it remains hypothetical. And unless we want to bet everything on the optimist, that is what it will always be. For if we lost this bet, and the pessimist turned out to be right, a thermonuclear war will have destroyed the human race, and along with things like discourse and memory. The debate would remain forever unresolved, because those pessimists proven right, along with those optimists proven wrong, would all be dead.*

—Campbell Craig, *Destroying the Village:  
Eisenhower and Thermonuclear War*

Nuclear weapons fundamentally changed the way nations think about targeting. The strategic bombing campaigns of World War II lacked the precision, intelligence,

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and battle damage assessment capabilities required to make the promise of a quick victory through airpower a reality. The pure destruction resulting from the use of nuclear weapons made the airpower theories of the Air Corps Tactical School and Giulio Douhet more applicable. But the delivery of these awe-inspiring weapons remained largely imprecise for the duration of the Cold War.

To overcome the accuracy issues, nuclear targeting planned to employ the largest -yield weapons available against enemy cities; this became known as countervalue targeting. Eventually, a second targeting strategy, counterforce, emerged as an option to avoid targeting civilian populations and instead target adversary nuclear forces.<sup>1</sup> As a general concept, if a state is the first to employ nuclear weapons, a counterforce targeting strategy designed as a disarming first strike is the most advantageous approach. In contrast, if the state is responding to a nuclear attack, it is more valuable to use a countervalue targeting strategy as a retaliatory response.<sup>2</sup>

## **Conventional Nuclear Integration**

While these two approaches have evolved since the Cold War, they remain the foundation of nuclear targeting. With advances in technology in the form of precision delivery and low-yield nuclear weapons, and the distinctly different geopolitical climate of 2022 compared to the height of the Cold War, it is time to reevaluate these targeting strategies.

The *Summary of the 2018 National Defense Strategy* highlighted the need for America to reassess its ability to deter adversaries, explicitly stating North Korea, China, and Russia are all developing new capabilities including advanced delivery options for nuclear weapons.<sup>3</sup> The United States is pursuing modernization for its nuclear triad and ballistic missile defense. But these technological solutions require a credible and capable targeting and messaging strategy to produce a convincing deterrent threat. America retains a technological advantage in the conventional realm, yet China and Russia are quickly approaching parity in several aspects of nuclear capability.<sup>4</sup>

The United States' nuclear modernization efforts will help address some of the technological and numerical shortfalls, but America can further combat Russian and Chinese advancements through superior tactics and training. One way to showcase America's continued superior nuclear capability is with conventional nuclear integration (CNI).

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1. Fred Kaplan, *The Bomb: Presidents, Generals, and the Secret History of Nuclear War* (New York: Simon & Schuster, 2020).

2. Bernard Brodie, *Strategy in the Missile Age* (Santa Monica, CA: RAND Corporation, 1959), 229.

3. James N. Mattis, *Summary of the 2018 National Defense Strategy: Sharpening the American Military's Competitive Edge* (Washington, DC: Office of the Secretary of Defense (OSD), January 2018), 8.

4. OSD, *Military and Security Developments Involving the People's Republic of China 2020: Annual Report to Congress* (Washington, DC: OSD, September 2020), ix.

The Joint doctrine of the United States military discusses the importance of maintaining a flexible and integrated nuclear and conventional force.<sup>5</sup> Additionally, it acknowledges the importance of messaging, stating “effective military capabilities require that they be visible to and known by the adversary. The ability to communicate US intent, resolve, and associated military capabilities in ways that are understood by adversary decision makers is vital.”<sup>6</sup>

Finally, Joint doctrine recognizes the need for nuclear options along a spectrum from “limited use to large-scale employment,” and that nuclear operations “must not assume use in isolation but must plan for strike integration into the overall scheme of fires.”<sup>7</sup> Tying CNI to messaging and tailored nuclear targeting options translates doctrine into practice.

Joint doctrine provides a starting point for US military planners. Effectively executing CNI, however, requires the integration of conventional and nuclear forces in exercises and live-fly situations. Without exercising conventional nuclear integration, the military remains unprepared to implement a plan requiring the tactical-level integration of conventional and nuclear forces.

In addition to providing the required training for American military forces, exercising CNI also allows America to message its deterrent capability in a way that is highly visible to adversaries and demonstrates American credibility. Joint doctrine also promotes the importance of integrating planners with decision makers to achieve tailored deterrence options.<sup>8</sup> Current Joint doctrine discusses the need for planning tailored, flexible deterrence options that are quick to implement, but the concept of a tailored targeting strategy to complement tailored deterrence is missing.

## Countervalue and Counterforce Targeting

When Giulio Douhet wrote *The Command of the Air* in 1921, the technology to execute his concepts for strategic bombing did not exist. He envisioned a fleet of airplanes that would bomb an enemy into capitulation, independent of other military action.<sup>9</sup> Douhet’s idea was to use bombers to coerce adversary leadership by targeting civilian populations with what was essentially a countervalue attack.<sup>10</sup>

With the introduction of nuclear weapons in 1945, the technology caught up to the theory and the United States took an approach to nuclear strategy that drove a single targeting solution. The newly independent US Air Force embraced Douhet’s theory

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5. Chairman of the Joint Chiefs of Staff (CJCS), *Joint Nuclear Operations*, Joint Publication (JP) 3-72 (Washington, DC: CJCS, April 17, 2020), II-1.

6. CJCS, JP 3-72, I-4.

7. CJCS, V-3.

8. CJCS, III-1.

9. Giulio Douhet, *The Command of the Air*, trans. Dino Ferrari (Washington, DC: Air Force History and Museums Program, 1998).

10. Douhet, *Command of the Air*.

and developed plans to destroy Soviet Union cities with nuclear weapons.<sup>11</sup> President Dwight D. Eisenhower concluded, however, that the idea of a nuclear war was so terrible that the only option was to use the threat of nuclear retaliation to avoid conflict; this policy became known as massive retaliation.<sup>12</sup> The cataclysmic potential of general thermonuclear war was so horrific that the purpose of the United States military changed from winning a war to avoiding war entirely.<sup>13</sup>

During President John F. Kennedy's administration, the United States publicly moved toward a counterforce strategy, but the policy of avoiding war with another nuclear power remained the practice through the Cuban Missile Crisis and Vietnam War.<sup>14</sup> Thus in the first three decades that the United States possessed nuclear weapons and developed the concepts of counterforce and countervalue, the overall targeting strategy for the United States remained the same: avoid general nuclear war altogether by threatening to respond with a single massive volley of nuclear weapons striking all available targets.<sup>15</sup>

In the 1970s, nuclear targeting strategies remained constrained by two primary issues: the inability to rely on command and control networks to manage a nuclear conflict and the inability to discriminate between a counterforce and a countervalue attack.<sup>16</sup> The assumption at the time was that any nuclear exchange would quickly eliminate the president's ability to issue orders to the nuclear force.

This presented a two-fold problem. First, if the president could not issue an execution order, then the nuclear weapons were unusable. Second, if the president could not communicate with the nuclear forces, then issuing a war termination order was also problematic.<sup>17</sup> This problem resulted in the assumption that any nuclear warfighting options requiring tightly coupled command and control were infeasible. The targeting plan remained essentially the same: a few alleged counterforce options involving the massive employment of weapons against a large target set, thus achieving a countervalue effect.<sup>18</sup>

Messaging also constrains nuclear targeting. Many of the countervalue targets in the Soviet Union were located in close proximity to urban population centers. Therefore, to the Kremlin, a counterforce attack on the Soviet Union looked the same as a

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11. Campbell Craig, *Destroying the Village: Eisenhower and Thermonuclear War* (New York: Columbia University Press, 1998).

12. Craig, *Destroying the Village*, viii.

13. Bernard Brodie, "The Absolute Weapon: War in the Atomic Age," in *The Absolute Weapon: Atomic Power and World Order*, ed. Bernard Brodie (New Haven, CT: Yale Institute of International Studies, 1946).

14. Craig, *Destroying the Village*, 51.

15. Eric Schlosser, *Command and Control: Nuclear Weapons, the Damascus Accident, and the Illusion of Safety* (New York: Penguin Books, 2014), 457.

16. Desmond Ball and Jeffery Richelson, *Strategic Nuclear Targeting* (Ithaca, NY: Cornell University Press, 1986), 15.

17. Ball and Richelson, *Strategic Nuclear Targeting*.

18. Ball and Richelson, 57.

countervalue attack.<sup>19</sup> This issue remains true in the post-Cold War world. While modern technology provides high fidelity on ballistic missile trajectories, a nuclear-armed adversary may still misinterpret a counterforce missile attack as a countervalue strike and respond in kind.

Several modern nuclear states maintain a nuclear alert posture capable of a launch-on-warning response. Thus the use of ballistic missiles, regardless of the targets or the quantity of missiles used, carries a significant probability of immediate escalation. Combined with the nuclear taboo covered in more detail later and the current international norms of liberal democracies, any threat of a massive nuclear attack, regardless of the targets, is credible in only the most desperate of situations that directly threaten national survival.<sup>20</sup>

Difficulties in discrimination and proportionality continue to complicate countervalue's messaging problems.<sup>21</sup> The discrimination challenge is that an adversary cannot determine if an incoming ballistic missile is part of a limited or a major nuclear attack. Therefore, rationally, the adversary will assume the worst case of a massive attack.<sup>22</sup> The proportionality problem argues that threatening to respond to nonnuclear attacks with nuclear weapons creates credibility issues.

Both issues negate the credibility of a countervalue nuclear deterrent threat. If the United States messages a countervalue targeting strategy, then an adversary will assume any ballistic missile attack from the United States is a countervalue attack. Likewise, if the United States does not have a proportional nuclear response, then it undermines any deterrent message that threatens a nuclear response to a nonnuclear attack.

Since 1945, the nonuse of nuclear weapons has created an internationally recognized taboo surrounding nuclear weapon employment. The taboo's power has expanded to the point where it is arguable whether the United States would use nuclear weapons even in response to a nuclear attack.<sup>23</sup> Add to this decision calculus the difficulties of discrimination, and it is unlikely the United States would employ a countervalue nuclear attack even in response to an attack on mainland America.<sup>24</sup> Therefore, countervalue nuclear threats are no longer credible for American deterrence.

Yet countervalue targeting remains valid for other nuclear states. With the difficulties in discerning a countervalue and counterforce ballistic missile attack, countervalue nuclear threats only remain credible in specific circumstances. A nuclear state

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19. Ball and Richelson, 15.

20. Nina Tannenwald, *The Nuclear Taboo: The United States and the Non-Use of Nuclear Weapons since 1945* (Cambridge, MA: Cambridge University Press, 2007), 16.

21. Evan Braden Montgomery, "Posturing for Great Power Competition: Identifying Coercion Problems in U.S. Nuclear Policy," *Journal of Strategic Studies*, published online February 24, 2012, <https://www.tandfonline.com/doi/>.

22. Thomas C. Schelling, *Arms and Influence* (New Haven, CT: Yale University Press, 1966).

23. Tannenwald, *The Nuclear Taboo*, 16.

24. Tannenwald, 16.

that maintains an assured retaliation nuclear posture can retain a credible counter-value nuclear deterrent.<sup>25</sup>

For example, China has kept an extremely consistent assured retaliation posture since first acquiring nuclear weapons in the 1960s. By 1967, China's arsenal had a nuclear capable bomber, intercontinental ballistic missiles, and a thermonuclear weapon. By all measures, the country was a modern nuclear force. But it did not pursue parity with the Soviet Union or the United States. Instead, China built and maintained a survivable second-strike capability and never pursued a large number of weapons or a first-strike capability.

China possesses an arsenal of large megaton and inaccurate weapons. The country has modernized its nuclear forces and added a nuclear-capable submarine, but the goal remains the preservation of a survivable second-strike option. Considering its available technology and resources, China could certainly build a nuclear force to rival the United States or Russia. Instead, it pursues a strong conventional force that can match the United States and Russia.<sup>26</sup> Unlike the United States, a countervalue targeting strategy remains credible for Chinese deterrence.

With the implausibility of countervalue nuclear threats, counterforce is the only option left for the United States. Counterforce targeting remains valid for American deterrence, but it requires revision—the concept of counterforce necessitates decoupling from the idea of a first strike and expanding into tailorable targeting alternatives. A single, massive, first-strike counterforce attack designed to eliminate the adversary's ability to respond is one extreme along a continuum of counterforce options. Dove-tailing with the idea of tailored deterrence, tailored targeting provides planners a way to create credible deterrent threats based on the adversary.

## **Tailored Targeting: Potential Models**

Currently, the United States views conventional operations and nuclear operations as separate enterprises. Given America's conventional superiority, this model does limit conflict escalation up to the point of a limited nuclear exchange. Presently, however, the United States has a gap in its ability to deter conflict between conventional war and general nuclear war. American conventional superiority has also created space for adversaries to operate below the threshold of state-sponsored violence, otherwise known as the gray zone. To better manage conflict escalation and present deterrence options to the president at all levels of conflict, the United States must reevaluate how it messages deterrence.

To make credible deterrent threats, the president requires a response option that matches adversary capabilities at every level. The 2018 national defense strategy outlined the need for defense strategies tailored for individual adversaries and geographic

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25. Vipin Narang, "Nuclear Strategies of Emerging Nuclear Powers: North Korea and Iran," *Washington Quarterly* 38, no. 1 (2015).

26. Narang, "Nuclear Strategies," 123.

regions; this is the basic concept for tailored deterrence.<sup>27</sup> A counterforce continuum of tailored targeting options presents a way to take the concepts of tailored deterrence and pair them with executable options to create credible deterrence threats. Tailored targeting integrates conventional and nuclear response options to manage escalation by providing credible response options at all levels of conflict.

John Warden and Robert Pape provide historical examples of targeting methodologies applicable to nuclear deterrence and a counterforce continuum of targeting options. Warden's "five rings" include leadership, organic essentials, infrastructure, population, and fielded forces.<sup>28</sup> In addition to his five-ring model, Warden offers three strategies to compel the enemy: imposed cost for coercion, paralysis leading to incapacitation, and destruction ending in annihilation.<sup>29</sup> According to David Fadok, "collectively, these strategies represent a continuum of force application. The point chosen along that strategy continuum should coincide with the level of objective intent."<sup>30</sup> Similarly, Pape presents four strategies for coercion: punishment, risk, denial, and decapitation.<sup>31</sup> The models presented by Warden and Pape inform a way to reconceptualize counterforce targeting as a continuum.

Warden's strategy of imposed cost aims to make continued resistance too expensive for the enemy. His cost imposition strategy seeks to exceed the enemy's tolerance threshold as violently and instantaneously as possible with simultaneous parallel attacks upon a designated target set.<sup>32</sup>

This strategy works well with a counterforce continuum targeting strategy using the idea of tailored targeting. For an adversary that relies on a finite number of geographic decisive points to control an area, a tailored targeting solution that attacks critical nodes with nuclear, conventional, and nonkinetic attacks would be an example of Warden's imposed cost strategy. This type of attack would instantaneously exceed the adversary's ability to resist without causing significant collateral damage or massive civilian casualties.

Of Pape's four strategies, the strategy of risk, or gradual escalation, best applies to tailored targeting. When communicating deterrent threats to a nuclear-inferior adversary, a strategy that holds a single valuable target at risk with a nuclear weapon provides planners with a way to send a credible deterrent message while avoiding immediate escalation to general nuclear war. If deterrence fails, a nuclear attack on a vital target achieves a military objective and demonstrates American resolve without the United States resorting to an escalatory large-scale nuclear attack.

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27. Mattis, *National Defense Strategy*, 45.

28. David S. Fadok, "John Boyd and John Warden: Airpower's Quest for Strategic Paralysis," in *The Paths of Heaven: The Evolution of Airpower Theory*, ed. Phillip S. Meilinger (Maxwell AFB, AL: Air University Press, 1997), 373.

29. Fadok, "Strategic Paralysis," 373.

30. Fadok, 375.

31. Robert A. Pape, *Bombing to Win: Air Power and Coercion in War* (Ithaca, NY: Cornell University Press, 1996), 18.

32. Fadok, "Strategic Paralysis," 375.

For example, detonating a single 5-kiloton nuclear weapon on a notional high-value target in a rural area would send an escalatory message without creating excessive collateral damage or a mass-casualty event, therefore limiting the likelihood of further escalation.

Unfortunately, neither Warden's nor Pape's model perfectly translates to a counterforce continuum of tailored targeting options. Warden advocates for targeting methods that achieve strategic paralysis, a condition where the adversary is unable to further process information or provide command and control to its military forces, while Pape advocates for a strategy of denial that removes the adversary's ability to further pursue a military objective.

Targeting enemy leadership and command and control networks with nuclear weapons is problematic. If the country maintains an alert force for its nuclear weapons, attacking command and control networks induces a high probability of escalation to general nuclear war. This does not mean tailored targeting cannot achieve strategic paralysis, rather it demonstrates the need for tailored solutions unique to the intended adversary. Realizing tailored targeting solutions for tailored deterrence requires a new continuum of counterforce deterrence options that augments the currently available targeting methodologies.

## **Counterforce Deterrence Options: A Continuum**

Counterforce targeting can be reimagined as a continuum of options to achieve effects along the entire spectrum of conflict. Figure 1 displays a counterforce continuum of tailored targeting strategies. First, the tailored targeting strategy must align with the military and political objectives of the campaign. At one extreme is the classic definition of counterforce: an attack on enemy nuclear forces and command and control networks intended to disable the enemy's ability to launch its nuclear forces. At the other extreme is a single, low-yield, precise nuclear detonation.

A coordinated nuclear attack on enemy command and control networks might produce strategic paralysis, while a single nuclear weapon targeting option might hold a critical decisive point at risk. The United States has nuclear forces capable of employing nuclear weapons at any point along this spectrum. But America does not currently message, plan, or exercise options at the lower end of this spectrum.

## **Horseshoes and Hand Grenades**

The American aversion to precise nuclear weapons hinders the implementation of a counterforce continuum targeting strategy. The US military and political systems maintain an enduring argument that advanced nuclear weapons, specifically weapons that increase counterforce targeting capability, are destabilizing—any qualitative or quantitative nuclear advantage provides an incentive for a state to use its nuclear arsenal.<sup>33</sup>

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33. Matthew Kroenig, *The Logic of American Nuclear Strategy: Why Strategic Superiority Matters* (New York: Oxford University Press, 2018), 130.

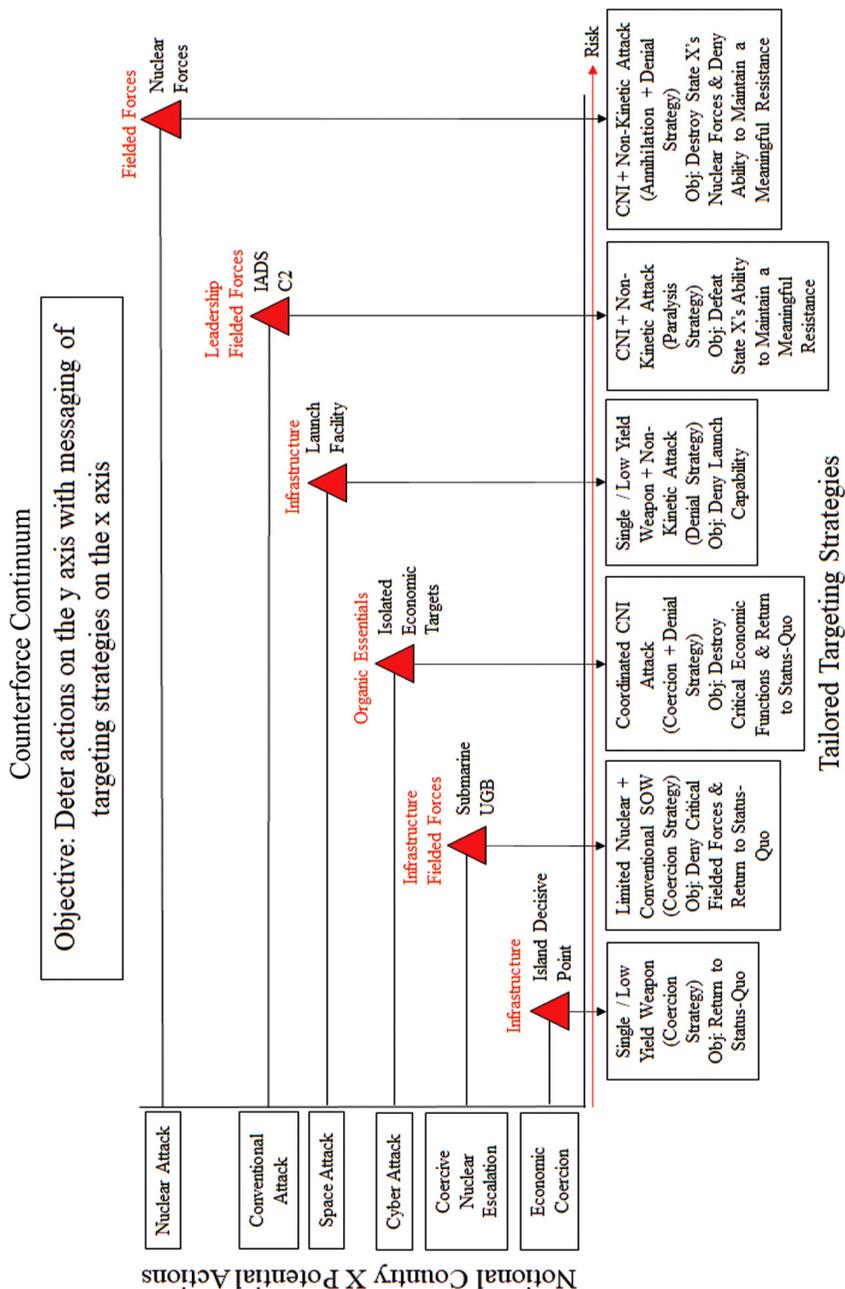


Figure 1. Counterforce continuum of tailored targeting strategies

Paradoxically, the result of avoiding advanced nuclear weapons is a reliance on a countervalue targeting strategy that would produce mass civilian casualties if it were ever employed.<sup>34</sup> America's adversaries do not share this aversion to new nuclear weapons, rapid delivery systems, or precision guidance for nuclear weapons.

Technology and strategy often take years to synchronize. After fielding a nuclear cruise missile, the United States spent 20 years developing long-range conventional precision-strike cruise missiles.<sup>35</sup> The military is currently experiencing the opposite technological lag between high-precision conventional weapons and nuclear weapons. America launched the international precision-targeting revolution in Operation Desert Storm in 1991. But this precision revolution has not yet led to highly precise nuclear weapons. To fully exploit a counterforce continuum targeting strategy, nuclear weapon guidance technology must catch up to conventional weapon capability.

## **Tailored Targeting in Practice**

To implement a counterforce continuum, planners require a method to match targeting strategies with intended effects. Tailored targeting provides this solution. The United States has adopted the concept of tailored deterrence to send specific deterrent messages to different adversaries. Tailored targeting, likewise, provides planners with the ability to achieve a multitude of effects across the entire spectrum of conflict and message tailored deterrent threats to individual adversaries.

In an era of great power competition, tailored targeting supporting a counterforce continuum provides policy makers and planners with a competitive, credible deterrent strategy. The United States must continue to compete with nuclear weapons; a nuclear stalemate is difficult to achieve, and a secure, second-strike capability requires modernization to remain viable. Further, deterring conventional attacks with nuclear weapons requires usable, credible nuclear options.<sup>36</sup> Messaging tailored targeting options to America's adversaries, building credibility with exercises that include nuclear and conventional forces, and moving to real-world operations provide the United States with usable nuclear options.

Simply stated, tailored targeting is a concept that matches adversary vulnerabilities with US political objectives to produce a unique targeting solution. When paired with a deliberate strategic messaging strategy, tailored targeting provides the president with a credible deterrent option (fig. 2). A strategy of multiple tailored targeting solutions for various contingencies creates an effective deterrent strategy for the United States along the entire spectrum of conflict.

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34. Kroenig, *American Nuclear Strategy*, 130.

35. Paul Bracken, *The Second Nuclear Age: Strategy, Danger, and the New Power Politics* (New York: St. Martin's Griffin, 2012), 80.

36. Keir A. Lieber and Daryl G. Press, *The Myth of the Nuclear Revolution: Power Politics in the Atomic Age* (Ithaca, NY: Cornell University Press, 2020), 5.



**Figure 2. Tailored targeting**<sup>37</sup>

### *Messaging*

Conventionally inferior nuclear states or those with an existential threat of catastrophic defeat are more likely to develop coercive nuclear escalation (CNE) tactics, which use the threat of nuclear escalation to counter a conventionally superior state.<sup>38</sup> The United States and NATO employed CNE tactics in the Cold War to deter a superior Soviet Union conventional attack. Today, Russia uses CNE to deter a conventionally superior United States.<sup>39</sup> Tailored targeting solutions on a counterforce continuum seek to achieve deterrence, not coercion, but it would provide the United States a credible deterrent against countries seeking to use CNE tactics to counter American conventional superiority.

Finally, messaging tailored targeting deterrent threats is most credible if the United States maintains nuclear superiority. A secure second-strike capability will deter nuclear aggression against mainland America, but not all nuclear retaliation capabilities are equal.<sup>40</sup> A state that has nuclear superiority over its adversary can increase escalation further than the inferior state.<sup>41</sup> Historically, states with nuclear superiority prevail in crisis situations over states that are nuclear inferior.<sup>42</sup>

The intent of a counterforce continuum of tailored targeting options is not to win a nuclear war, it is to send credible deterrent messages to potential adversaries. Providing American policy makers with credible deterrent threats allows the United States to deter conflict across the full spectrum of warfare. A nuclear superior United States can message deterrent threats that are highly believable to its adversaries, allowing America to increase diplomatic pressure with less risk of escalation to open warfare.

Nuclear weapons can achieve a valid military effect in a proportional way. The problem again lies in messaging. Any ballistic missile attack originating from the United States or an American submarine risks misinterpretation as the start of a massive nuclear attack. Messaging a limited attack requires the United States military to

37. I wish to thank Maj Roni Yadlin for her efforts in creating this figure.

38. Lieber and Press, *Power Politics*, 108.

39. Lieber and Press, 108.

40. Kroenig, *American Nuclear Strategy*, 3.

41. Kroenig, 15.

42. Kroenig, 79.

fly conventional and nuclear assets in exercise situations to demonstrate that America has a credible limited nuclear response option.

### ***Wargaming and Exercises***

To move the concepts of tailored targeting and the counterforce continuum from theory to reality requires testing and validation before incorporation into strategy and doctrine. Wargaming and implementing the ideas of a counterforce continuum of tailored targeting options into military exercises is a logical starting place for this testing and validation. As the United States continues to develop a tailored deterrent strategy for potential adversaries, planners must identify potential target sets for tailored targeting solutions. As this article has argued, tailored deterrence requires tailored targeting solutions that exploit adversaries' vulnerabilities, limit the potential for escalation, and present opportunities to send clear deterrent messages.

Before these concepts are implemented into military contingency plans, they require vetting in wargaming scenarios. The United States must "think about the unthinkable" and simulate fighting wars that include conventional, nuclear, and nonkinetic weapons.<sup>43</sup> Wargaming scenarios with conventional and nuclear elements will compel strategists and planners to start working through the challenges of conventional nuclear integration. Such wargaming is also an excellent way to develop targets that work with the concept of tailored targeting. Identifying critical targets and effects allows the United States to develop a tailored deterrence message for potential adversaries.

After wargaming tailored targeting and the counterforce continuum, the concepts require testing in an exercise situation to work through some of the planning, communication, and execution issues when conventional and nuclear forces operate together. These live-fly exercises will provide valuable training for the Joint force and build the credibility of America's CNI capability. Real-world exercises also provide US policy makers with tangible results they can use to send credible deterrent messages.

### ***Real-World Operations***

Beyond using war games and exercises, CNI tactics, techniques, and procedures, as well as tailored targeting solutions, can be integrated into real-world operations. One possibility that demonstrates capability is a bomber task force mission that includes conventional and nuclear bombers working together with allies to send a clear message of resolve. This is a logical extension of the already flexible and tailored messages of current bomber task force missions.

For example, a nuclear bomber or a dual-capable aircraft might rendezvous with a formation of forward-deployed conventional fighters and bombers to conduct a training mission in an area where a previously identified critical target in a tailored targeting solution exists. This type of bomber task force mission would create a highly visible and credible deterrent message while also demonstrating America's ability to project power.

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43. Bracken, *Second Nuclear Age*, 81.

## Nuclear Posture

There are several counterarguments to increasing the United States counterforce nuclear posture and messaging. The *Interim National Security Strategic Guidance* states the United States “will take steps to reduce the role of nuclear weapons in our national security strategy.”<sup>44</sup> While the interim guidance does not specify how the new administration plans to reduce the role of nuclear weapons, some policy makers have proposed further unilateral reductions to America’s nuclear stockpile and oppose nuclear modernization efforts.<sup>45</sup> Further unilateral decreases in the US nuclear arsenal or a failure to modernize existing forces will force America into a countervalue targeting strategy.<sup>46</sup>

As this article has demonstrated, countervalue nuclear threats are not credible for the United States. Therefore, further reductions and modernization delays will not decrease America’s dependence on nuclear weapons for national security but will decrease America’s ability to respond to a national security crisis with a proportional response. A counterforce continuum of tailored targeting options, however, provides American politicians with options that leverage existing nuclear weapons to make credible deterrent threats.

Others argue any use of nuclear weapons will result in catastrophic damage and massive loss of life. Using this argument, short of retaliation for a nuclear strike on the American homeland, any use of nuclear weapons does not meet the principle of *jus in bello*, the internationally accepted norm of discrimination and proportionality in warfare.<sup>47</sup> This argument is inconsistent with the reality of the effects of nuclear weapons. Hyperbole about the effects of nuclear weapons does not deter their employment. The United States must have proportional response options to deter nuclear use at all levels of conflict.

## Conclusion

The United States must have credible deterrent threats in the multipolar world of great power competition. Countervalue targeting strategies and deterrent threats are no longer credible for US deterrence. A nuclear force pressed into a countervalue targeting strategy due to stagnation or reductions undermines America’s deterrent credibility. Counterforce targeting strategies require decoupling from the idea of a large first-strike option, and technologies such as precision-guided nuclear warheads must be viewed as enhancing deterrent options and not as destabilizing weapons.

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44. Joseph R. Biden Jr., *Interim National Security Strategic Guidance* (Washington, DC: The White House, March 2021), 13, <https://www.whitehouse.gov/>.

45. William J. Perry, “How a US Defense Secretary Came to Support the Abolition of Nuclear Weapons,” *Bulletin of the Atomic Scientists*, December 7, 2020, <https://thebulletin.org/>.

46. Mark Gallagher and Justin Soric, “Considering Alternative Nuclear Targeting Strategies,” *Comparative Strategy* 33, no. 5 (December 2014).

47. Michael Walzer, *Just and Unjust Wars: A Moral Argument with Historical Illustrations* (New York: Basic Books, 1977), 21.

A credible deterrent threat requires a military that can execute realistic conventional nuclear integration operations and give the president options to deter aggression at every level of conflict. Re-envisioning nuclear targeting strategies as a continuum of tailored targeting solutions along with executing realistic CNI training provides the United States with credible deterrent threats in the modern geopolitical landscape. The lessons learned from wargaming and exercising these concepts will allow planners to implement the idea of a counterforce continuum and tailored targeting into future contingency plans to provide senior leaders with credible and tailored deterrence options. **Æ**

# NUCLEAR MODERNIZATION AND THE SENTINEL ICBM

STEPHEN CIMBALA

ADAM LOWTHER

Advocates of disarmament oppose the replacement of the Minuteman III intercontinental ballistic missile with the new Sentinel ballistic missile system. An analysis of US nuclear force structure demonstrates the necessity of modernizing not just the ground-based leg of the US nuclear triad but the submarine and bomber legs as well. In order to successfully deter attacks against US interests, assure Allies and partners, provide options in major conventional or nuclear war crisis management, and support American diplomacy and foreign policy, the United States must exceed the nuclear capabilities and modernization efforts of its adversaries, including modernizing the aging ICBM fleet.

The United States is modernizing the three legs of its nuclear triad of intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), and long-range strategic bombers. While triad modernization is broadly supported in the Department of Defense, Congress, and think tanks, the nuclear disarmament community actively opposes replacement of the Minuteman III ICBM force with the new Sentinel ICBM.<sup>1</sup> For many advocates of disarmament, extending Minuteman III and cancelling Sentinel is premised on the idea that a new intercontinental ballistic missile is too costly and the ICBM leg of the triad is unneeded in the twenty-first century.<sup>2</sup> An examination of the role of ICBM modernization in terms of its implications for nuclear strategy, however, demonstrates that intercontinental ballistic missiles continue to prove a vital and affordable leg of the triad.

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1. See Amy F. Woolf, *U.S. Strategic Nuclear Forces: Background, Developments, and Issues*, RL33640 (Washington, DC: Congressional Research Service (CRS), December 14, 2021), 10–49; and Elisabeth Eaves, “Why Is America Getting a New \$100 Billion Nuclear Weapon?,” *Bulletin of the Atomic Scientists* (February 8, 2021), <https://thebulletin.org/>.

2. Daryl G. Kimball, “Enough Already, No New ICBM,” *Arms Control Today* (March 2021), <https://www.armscontrol.org/>.

## **US Strategic Nuclear Forces under New START**

The New START treaty of 2010 was set to expire in 2021 unless the United States and Russia agreed to extend it for an additional five years. US President Joseph Biden and Russian President Vladimir Putin agreed to the extension in early 2021 ahead of the February expiration deadline.<sup>3</sup> New START-compliant (American) operationally deployed strategic nuclear weapons include 400 ICBMs with one warhead each; 14 fleet ballistic missile submarines (SSBNs) each with 20 SLBM launchers that vary in the number of warheads on each missile; and 60 long-range nuclear bombers that count as one weapon each.<sup>4</sup> Under the terms of the treaty, the total number of operationally deployed strategic nuclear weapons cannot exceed 1,550.

Prior to the Biden administration's extension of New START, the Trump administration was skeptical of the treaty's renewal.<sup>5</sup> Some Trump administration officials wanted to demand stricter measures of compliance from Russia with various aspects of the existing agreement. Others wanted to extend the agreement to include nonstrategic nuclear forces.<sup>6</sup> Russian and American conversations on nuclear arms control had deteriorated badly by 2020, partly as a result of the generally poisoned political atmosphere between the two states. The United States accused Russia of cheating on the Intermediate Nuclear Forces treaty, which led to a decision by the administration to withdraw from the treaty, leaving New START as the sole surviving nuclear arms control agreement between Washington and Moscow.<sup>7</sup>

Putin's agenda for modernizing Russia's strategic nuclear forces includes plans to develop and/or deploy hypersonic weapons, nuclear-powered and nuclear-armed underwater vehicles, and nuclear-powered and nuclear-armed cruise missiles, creating additional concerns about the durability of New START or a successor agreement the Biden administration may seek prior to the 2026 termination of the treaty.<sup>8</sup>

American plans for modernizing the strategic nuclear triad include a new generation of Columbia-class SSBNs with life-extended Trident II D5 missiles; a new, long-

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3. Antony J. Blinken, "On the Extension of the New START Treaty with the Russian Federation," US Department of State, February 3, 2021, <https://www.state.gov/>.

4. Hans M. Kristensen, "First New START Data After Extension Shows Compliance," Strategic Security (blog), Federation of American Scientists (FAS), April 6, 2021, <https://fas.org/blogs/>.

5. Jack Desch and Robbie Gramer, "Trump Moves Closer to Renewing Nuclear Treaty With Russia," *Foreign Policy* (October 2020), <https://foreignpolicy.com/>.

6. Daryl G. Kimball, "Trump's Aim to Go Big on Nuclear Arms Control Should Begin by Extending New START," Just Security, December 9, 2019, <https://www.justsecurity.org/>.

7. Steven Pifer, "The Death of the INF Treaty Has Given Birth to New Missile Possibilities," *National Interest*, September 18, 2019, <https://nationalinterest.org/>.

8. See *To Receive Testimony on United States Strategic Command and United States Space Command in Review of the Defense Authorization Request for Fiscal Year 2022 and the Future Years Defense Program, Hearing before the United States Senate Committee on Armed Services*, 117th Cong. (April 20, 2021) (statement of Charles A. Richard, commander of United States Strategic Command); Vladimir Putin, Presidential Address to the Federal Assembly, March 1, 2018; and Ministry of Foreign Affairs of Russia, Basic Principles of State Policy of the Russian Federation on Nuclear Deterrence, June 8, 2020.

range nuclear bomber (B-21); and the long-range standoff cruise missile, which will replace the current air-launched cruise missile deployed on strategic bombers.<sup>9</sup> The venerable B-52 will continue to undergo upgrades as it remains in service to deliver the long-range standoff cruise missile to targets.

The ground-based strategic deterrent is regarded by the US Air Force and US Strategic Command as a necessary replacement for an aging Minuteman III force that is approaching five decades of service. Air Force analysis contends additional life extension for the Minuteman III is more expensive than recapitalization and less able to respond to emerging technical challenges and threats.

In early 2021, the commander of US Strategic Command, Admiral Charles Richard, described the issue by saying, “Let me be very clear: You cannot life-extend Minuteman III, alright? It is getting past the point of it’s not cost effective to life-extend Minuteman III. You’re quickly getting to the point [where] you can’t do it at all.” He added, “That thing is so old, in some cases, the drawings don’t exist anymore, or where we have drawings, they’re like six generations behind the industry standard.”<sup>10</sup>

Former commander of Air Force Global Strike Command, General Timothy Ray, offered a similar view. “There’s no margin left. . . . We’re just going to run out of time.” Ray went further in his discussion of threats and suggested that “the complexity of threats” makes a more capable ICBM a requirement.<sup>11</sup> Given adversary advances in conventional and nuclear ballistic missile defenses, the Minuteman III is at risk of failing to hit targets without the penetration aids that are expected with Sentinel. Scheduled for introduction in 2028 and fully operational by 2036, Sentinel will possess a number of capabilities that allow reentry vehicles to reach targets in the face of improved Russian and Chinese air defense networks and ballistic missile defense systems.<sup>12</sup>

Outside of government, some analysts support Minuteman upgrades, and still others argue for the elimination of the entire land-based strategic missile force.<sup>13</sup> To the contrary, a modern ICBM is required to match Russian and Chinese ICBM modernization efforts (symmetry matters in deterrence); to hold adversary targets at risk in the face of improved defenses; and to ensure defeating the US nuclear arsenal requires a large-scale nuclear attack on the American homeland.

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9. See Dennis Evans and Jonathan Schwalbe, *The Long-Range Standoff Cruise Missile and Its Role in Future Nuclear Forces* (Baltimore: Johns Hopkins Applied Physics Laboratory, 2017), <https://www.jhuapl.edu/>.

10. Brian W. Everstine, “STRATCOM Welcomes Nuke Review, but Says Minuteman III Life Extension Should Not Be Considered,” *Air Force Magazine* (January 5, 2021), <https://www.airforcemag.com/>.

11. John A. Tirpack, “New GBSD Will Fly in 2023; No Margin Left for Minuteman,” *Air Force Magazine* (June 14, 2021), <https://www.airforcemag.com/>.

12. Richard, *Armed Services*.

13. See Matthew Kroenig, Mark J. Massa, and Christian Trotti, “The Downsides of Downsizing: Why the United States Needs Four Hundred ICBMs,” Issue Brief (Washington, DC: Atlantic Council, March 29, 2021), <https://www.atlanticcouncil.org/>; and Matt Korda, *Alternatives to the Ground-Based Strategic Deterrent* (Washington, DC: FAS, 2021), <https://fas.org/>.

## US Nuclear Strategic Postures

Broadly speaking, the United States has defined its strategic objectives for the use of nuclear forces in a variety of ways during the Cold War and afterward. For over seven decades, American presidents and congressional majorities viewed the purpose of strategic nuclear forces as focused on deterrence, which is the avoidance of war by credible threats to inflict unacceptable retaliatory punishment on any aggressor. But military planners understand that declaratory policy must also have the support of nuclear employment guidance and credible operational capability for nuclear use. Prospective attackers must believe the United States can and will respond to prospective threats if deterrence fails.

Force size is related to the objectives stated in various strategic and nuclear employment policies. Four primary employment policies were advanced by American decisionmakers over the years. First, assured retaliation or assured destruction requires forces to inflict widespread destruction on enemy populations and economic targets.<sup>14</sup> Second, flexible targeting, escalation control, and counterforce equity seek to prevent any opponent from dominating a process of competitive bargaining if an adversary has conventional superiority or following the first use or first strike of nuclear weapons, sometimes referred to as a victory-denial strategy.<sup>15</sup>

Third, a policy of counterforce superiority, escalation dominance, and enduring nuclear command, control, and communications seeks to dominate aggressors at any rung of the escalation ladder and, if necessary, to fight a protracted, albeit limited, nuclear war.<sup>16</sup> This option is often called a countervailing or prevailing strategy.<sup>17</sup> (Of note: this article is less interested in nomenclature than in relative levels of military-strategic ambition and capability for deterrent effect.) Finally, a fourth posture would aim at nuclear preeminence or superiority, including all the elements of posture three plus defenses capable of defeating any enemy retaliatory strike.<sup>18</sup>

In addition to a decision about nuclear strategy and employment policy, the president, supported by senior uniformed and civilian military leaders, must also take into account the political objectives for which forces are developed and deployed. This begs the question, what are the functions for which nuclear weapons are necessary and/or useful?

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14. Fiona S. Cunningham and M. Taylor Fravel, "Assuring Assured Retaliation," *International Security* 40, no. 2 (Fall 2015), <https://direct.mit.edu/>.

15. Francis J. Gavin, "The Myth of Flexible Response: United States Strategy in Europe during the 1960s," *International History Review* 23, no. 4 (December 2001), <https://www.belfercenter.org/>.

16. Keir A. Lieber and Daryl G. Press, "The New Era of Counterforce: Technological Change and the Future of Nuclear Deterrence," *International Security* 41, No. 4 (Spring 2017), <https://direct.mit.edu/>.

17. Louis René Beres, "Tilting Toward Thanatos: America's 'Countervailing' Nuclear Strategy," *World Politics* 34, no. 1 (October 1981), <https://www.jstor.org/>.

18. Matthew Kroenig, *The Logic of American Nuclear Strategy* (Oxford, UK: Oxford University Press, 2018).

First, nuclear weapons support deterrence of attacks on the American homeland, deployed forces, and American interests abroad. Intercontinental ballistic missiles are particularly useful here because they require an adversary to target nearly 450 discreet targets with nuclear weapons.<sup>19</sup> This is no easy task and sets the bar so high for success that adversaries think twice before considering a nuclear strike against the homeland.<sup>20</sup> Related, ICBMs help to deter nuclear blackmail or high-end conventional coercion against American interests because they are on alert 24 hours a day, 365 days a year.

Second, nuclear weapons provide assurances to Allies and partners that the United States will support their own efforts to resist nuclear coercion, attack, or large-scale conventional war. The forward deployment of nuclear-capable bombers is often used to signal American resolve, but it is the ICBM force that is used daily to offer assurance to Allies and partners.

Third, nuclear weapons support American crisis management in situations with the potential to escalate into major conventional or nuclear war. Again, the difficulty of destroying the entire ICBM force in one fell swoop gives any adversary pause when it considers moving from crisis to war and nuclear war.<sup>21</sup> Equally important for crisis management is the fact that ICBMs make it difficult for an adversary to see a clear first-strike advantage—given the alert status of these weapons.

Fourth, and more broadly, nuclear weapons support American diplomacy and foreign policy by conveying a sense of quiet self-confidence. No major international issue related to nuclear weapons can be decided without taking into account American perspectives and interests. It should come as no surprise that the United States regularly launches unarmed Minuteman III intercontinental ballistic missiles from Vandenberg Air Force Base as part of the Air Force's test program.<sup>22</sup> In making the world aware of the test launches, the United States is using the ICBM for diplomatic purposes.

The significance of the last point is far from obvious to many observers. Nuclear weapons are often obscured within a small technical community that understands their physics and effects. These weapons are thus detached from their place within the larger context of deterrence and assurance required of American national security policy.

## Analysis

Given the preceding discussion, how can we evaluate the prospective components of the American nuclear triad and the contrasting performance of each leg under only

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19. Matthew Kroenig, "The Case for the US ICBM Force," *Strategic Studies Quarterly* 12, no. 3 (Fall 2018), <https://www.airuniversity.af.edu/>.

20. Stephen Cimbala and Adam Lowther, "Stable Nuclear Deterrence Requires a Modern Nuclear Arsenal," *Real Clear Defense*, January 7, 2021, <https://www.realcleardefense.com/>.

21. Sean M. Lynn-Jones, Steven E. Miller, and Stephen Van Evera, *Nuclear Diplomacy in Crisis Management* (Cambridge, MA: MIT Press, 1990), 256–82.

22. Glenn S. Robertson, "Mighty Ninety Missileer Participates in GT-239," 90th Missile Wing Public Affairs, F. E. Warren AFB, WY, August 12, 2021, <https://www.warren.af.mil/>.

partly foreseeable circumstances? Toward that end, we conducted an analysis of alternatives for American nuclear force structures for their relative performances in providing surviving and retaliating second-strike warheads against Russian forces—in the event of a Russian counterforce first strike.<sup>23</sup> The formulae used here are derived from a model developed by James Tritten.<sup>24</sup>

The model calculates the results of expected nuclear force exchanges based on alternative assumptions about the performance of strategic nuclear forces under likely operational conditions. For each force component (land-based strategic forces, sea-based strategic forces, and heavy bombers), investigators assigned expected performance parameters based on publicly available data. Thus, results are based on the latest unclassified data and are admittedly an estimation of performance.

The American nuclear force structures used in this analysis are based on projections from the Congressional Budget Office's *Approaches for Managing the Costs of U.S. Nuclear Forces, 2017 to 2046*. Of course, if Russo-American relations deteriorate in the aftermath of the war in Ukraine and arms control regimes falter, these assumptions may need revision in the event of a breakout, which will most likely occur on the Russian side.

The research team ran the model with four nuclear force structures: the current nuclear triad; a dyad with submarines and bombers; a dyad with ICBMs and SLBMs; and a reduced triad with 300 ICBMs, 10 SSBNs, and 60 bombers. The results suggest every American force structure provides enough surviving and retaliating weapons to accomplish the assured retaliation and flexible targeting missions (essentially the requirements of postures one and two above).

Escalation control is uncertain because an adversary's actions can never be predicted with great certainty. The high level of uncertainty also makes escalation dominance for either state difficult to assume. Superficially, it appears that the dyad of American SLBM and bomber-delivered weapons provides for larger numbers of retaliating warheads than the triad of ICBMs, SLBMs, and bombers. This calculation reflects the expected larger second-strike survivability of SSBNs compared to ICBMs, but it is misleading unless more strategic context is provided.<sup>25</sup>

Deterrence is often thought to be more effective if the success of a decapitating first strike is made more challenging through such means as assured second strikes. American ICBMs complicate the attack calculation for an adversary because of the sheer numbers of adversary nuclear weapons required to ensure a high probability of kill.<sup>26</sup>

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23. See *Approaches for Managing the Costs of U.S. Nuclear Forces, 2017 to 2046* (Washington, DC: Congressional Budget Office, October 2017), 33–44, <https://www.cbo.gov/>.

24. Grateful acknowledgement is made to James J. Tritten for use of a model originally designed by him and modified for its use here. See also Steven Cimballa, *War Games: The United States, Russia and Nuclear Arms Control* (Boulder, CO: Lynne Reiner, 2017), Appendix A.

25. Henry D. Sokolski, *Getting MAD: Nuclear Mutually Assured Destruction: Its Origins and Practice* (Carlisle, PA: Strategic Studies Institute, 2004), 99, <https://press.armywarcollege.edu/>.

26. Lauren Caston et al., *The Future of the U.S. Intercontinental Ballistic Missile Force* (Santa Monica, CA: RAND Corporation, 2014), 12.

With 400 operationally deployed ICBMs in hardened launched facilities and approximately 50 launch control centers, conservative plans require 900 warheads dedicated to the American ICBM force alone. Given the ICBM force's high readiness, destroying the American ICBM force is a top priority for any adversary.

Under New START central limits and peacetime deployment conditions, Russia has insufficient numbers of warheads to maintain escalation control and destroy the ICBM force. In contrast, an American dyad of submarines and bombers would require far fewer warheads for a first strike. For example, with the exception of the one ballistic missile submarine on patrol in the Atlantic and one in the Pacific—at any given time—the vast majority of the nuclear force is either in port (Bangor-Kitsap, Washington, or Kings Bay, Georgia) or in a weapons storage area (Minot or Whiteman Air Force Base) and highly susceptible to a first strike and require fewer than 100 warheads to destroy—along with key elements of the nation's nuclear infrastructure and command-control system.<sup>27</sup> In 2021, a former US Strategic Command commander suggested that if the American ICBM force were disbanded, twelve nuclear armed cruise missiles would be sufficient to disable the remaining US nuclear retaliatory force, in addition to much of the American nuclear infrastructure such as weapons laboratories.<sup>28</sup>

Advocates of a strategic dyad argue silo-based ICBMs draw attack on themselves because of their acknowledged first-strike vulnerability.<sup>29</sup> From this perspective, vulnerable ICBMs create pressure for decision makers to commit to launch on warning or even preemption in the face of threatening, but still ambiguous, evidence of enemy attack. Some fear ICBMs are deployed on a “hair trigger” and prepared only for launch on warning due to survivability limitations.<sup>30</sup> Currently, the nation's ICBMs are targeted at open ocean boxes but are quickly retargeted when the order is given. To be clear, launch on warning is not the policy of the United States, contrary to the assertion of many nuclear disarmament advocates.

There is no need for ICBMs to be launched prematurely because they are only part of the nuclear triad. Their survivability depends upon the synergy of the entire triad and the complicated attack calculation it creates. Attackers must choreograph three different kinds of attacks simultaneously against American ICBMs, SLBMs, and bombers in order to escape unacceptable retaliatory destruction. This multifaceted attack scenario would be suicidal for Russian, Chinese, or other attackers even under the worst assumed conditions of enemy attack and American response.<sup>31</sup>

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27. Matthew Costlow, “Safety in Diversity: The Strategic Value of ICBMs and the GBSD in the Nuclear Triad,” Occasional Paper 1, no. 5 (Fairfax VA: National Institute Press, 2021), 33–43, <https://nipp.org>.

28. Remarks of Admiral Cecil D. Haney, USN (Ret.), at the Strategic Triad Conference, 2021.

29. David Wright, William D. Hartung, and Lisbeth Gronlund, *Rethinking Land-Based Nuclear Missiles* (Washington, DC: Union of Concerned Scientists, June 2020), 8, <https://www.ucsusa.org/>.

30. Patty-Jane Geller, “Our ICBMs Are Not on ‘Hair Trigger’ Alert,” *The Daily Signal*, May 25, 2021, <https://www.dailysignal.com/>.

31. Warrior Maven, “Here's the American Gameplan for Nuclear War with Russia,” *National Interest* (blog), January 15, 2022, <https://nationalinterest.org/>.

Although not required, deterrence stability and second-strike credibility are improved if, for example, the future Sentinel ICBM is deployed as a mobile missile. During the Cold War, various alternatives for basing ICBMs were considered but ultimately rejected for technical or policy reasons.<sup>32</sup> But deploying mobile ICBMs, which Russia, China, and North Korea all do, increases deterrence stability by making it harder to hit a mobile target.<sup>33</sup> This challenge is one that perplexes US Strategic Command today.

Road or rail mobile systems are feasible.<sup>34</sup> Road-mobile systems require transporter-erector-launchers continually moving over a broad expanse of territory or remaining stationary until deployed in a “dash-on-warning” format. Rail-mobile systems make use of the large commercial rail network (with appropriate modifications) or employ purpose-built trains and lines dedicated specifically to this mission. If, for example, 100 of 400 ICBMs were mobile, the difficulty of eliminating the ICBM force in a single attack increases significantly.

Another option for increasing deterrence stability and improving second-strike credibility is the fielding of strategic defenses to protect the missile fields, dramatically increasing the number of adversary ICBMs required to ensure a high probability of kill.<sup>35</sup> This option was also considered and rejected during the Cold War, but new and old technologies make defenses affordable. It is worth noting ICBMs do not require complete protection. Raising the attack price from two warheads per silo to four or more suffices and requires more missiles than Russia and China fields combined. Even minimally successful missile defenses create targeting requirements for adversaries that dramatically increase the number of warheads needed for any given target in order to ensure a sufficiently high probability of kill.

A third alternative for improving deterrence stability and second-strike credibility is to deploy at least some proportion of the ICBM force in deep underground basing. This approach was considered for the MX or Peacekeeper ICBM during the 1980s.<sup>36</sup> In this concept, missiles and transporter launchers are buried inside mountains with sufficient protection against nuclear blast. It might take several days after a nuclear attack for these buried missiles and launchers to tunnel out from their hideaways, but that was part of their rationale.

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32. Office of the Deputy Under Secretary of Defense for Research and Engineering, Strategic and Space Systems, *ICBM Basing Options: A Summary of Major Studies to Define a Survivable Basing Concept for ICBMs* (Washington, DC: Department of Defense, 1980), <https://apps.dtic.mil/>.

33. Matthew E. Dillow, “Nuclear Hell on Wheels: Examining the Need for a Mobile ICBM,” Trinity Site Papers (Maxwell AFB, AL: Center for Unconventional Weapons Studies, 2015), 2–4, <https://www.airuniversity.af.edu/>.

34. Barry R. Schneider, “The Case for Mobile ICBMs,” *Air Force Magazine* (February 1988), <https://www.airforcemag.com/>.

35. Kris Osborn, “Will the U.S. Navy Be Able to Shoot Down Incoming ICBMs?,” *National Interest* (blog), November 23, 2021, <https://nationalinterest.org/>.

36. Office of Technology Assessment, *MX Missile Basing* (Washington, DC: US Government Printing Office, 1981), <https://ota.fas.org/>.

Deeply buried missiles are not seen as first-strike weapons but are excellent for secure second strike. This option should reassure arms control advocates and adversaries who fear American ICBMs as first-strike weapons. Although President Ronald Reagan ultimately decided to base the MX in silos, interest in the deep-underground basing option remains of interest to experts.<sup>37</sup>

Each of these alternatives for improving ICBM survivability (mobility, defenses, and deep basing) assumes there is some point to improving survivability for more than one arm of the nuclear triad. How much difference would any of these options really make? The following thought experiment will investigate the outcomes if the entire ICBM force were based on mobile platforms instead of silos. Strategic circumstances are different today than they were 50 years ago when the US government decided to field silo-based ICBMs. Today, for example, Russian ICBMs are believed to be accurate between 30 and 200 meters, a far cry from the half-mile-to-mile accuracy of previous generations of ICBMs.<sup>38</sup> Hypersonic and low-observable cruise missiles are also expected to dramatically change how the United States thinks about credibility and second-strike certainty.<sup>39</sup>

To analyze the utility of mobile ICBMs, the research team reran the model for two of the force structures in the previous example—the current triad and a smaller triad of 300 ICBMs, 10 SSBNs, and 60 bombers—incorporating mobile ICBMs into the arsenal, changing weapon survivability. While the results show significant improvement in American ICBM survivability is achieved by substituting mobile basing for silo basing, American mobile ICBM basing does not change the fundamental character of a Russo-American strategic nuclear exchange. Neither state can escape assured retaliation. In terms of options, additional numbers of survivable American ICBMs provide support for an American strategy that includes flexible targeting and escalation control, in support of intrawar deterrence and war termination (i.e., a victory-denial strategy).

Yet neither the United States nor Russia, under New START deployment limits, has sufficient numbers of survivable weapons and launchers for a prevailing strategy that requires escalation dominance and counterforce superiority. It follows that a strategy of nuclear supremacy or nuclear superiority is even further out of reach, although improving technologies for missile defense combined with newer generations of offensive weapons can change this calculus in the years and decades ahead.

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37. Ivan Oelrich, "Deep Thoughts: How Moving ICBMs far Underground Will Make the Whole World Safer," *Bulletin of the Atomic Scientists*, April 28, 2021, <https://thebulletin.org/>.

38. Amy F. Woolf, *Russia's Nuclear Weapons: Doctrine, Forces, and Modernization*, R45861 (Washington, DC: CRS, 2022), 17, 26–30, <https://sgp.fas.org/>.

39. Adam Lowther and Curtis McGiffin, "America Needs a Dead Hand," *War on the Rocks*, August 19, 2019, <https://warontherocks.com/>.

## The Other Legs

Modernization of the ICBM force is not an end in itself. As noted, the American military planning assumption is that all three legs of the nuclear triad undergo significant replacement and/or upgrades in the next several decades. The sea-based SSBN force remains the most survivable leg of the triad but is expected to face increasing pressure from advanced space-based sensors, an expanding sea-based acoustic network, and a growing fleet of sea-based drones.<sup>40</sup> Cancelling the Sentinel ICBM replacement program would only allow Russia and China to focus their efforts on detecting and defeating ballistic missile submarines—reducing SSBN survivability significantly.

The Trump administration produced the W76-2 low-yield nuclear warhead for deployment on SSBNs in 2020, arguing this was necessary to increase American options across the spectrum of deterrence. This decision was prompted by concerns about a Russian strategy of using limited nuclear strikes to change the direction of a conventional war in Europe without escalating to strategic nuclear war.<sup>41</sup> Whether a low-yield submarine-launched ballistic missile proves an effective deterrent is yet to be seen. It does appear the W76-2 will survive the Biden administration's effort to reduce the nuclear force.

As for the bomber leg of the triad, the B-21 Raider will replace the B-1 and B-2, which are costly to operate and maintain. Not only is the B-21 expected to reduce operations and maintenance costs, but also it will offer improved stealth capability and improved penetration of advanced air defense networks.<sup>42</sup> The Air Force is also developing the long-range standoff cruise missile as a replacement for the air-launched cruise missile.<sup>43</sup> The new missile is expected to have a significantly reduced radar cross-section, improved defenses, and greater accuracy. The bomber force offers unique capabilities with respect to deterrence, including its availability for use in signaling American intent, particularly during a crisis. This is a mission that ICBMs do not perform, making the bomber force important for broader strategic stability and deescalation.

The challenge to bombers comes in the form of improved air defense networks and the vulnerability of bomber bases. Enhanced, low-observable cruise missiles and stealthy airframes are the customary responses to improved air defense systems. Vulnerable bomber bases present a more persistent challenge as adversaries develop long-range options themselves. With only three bomber bases and two weapons-storage areas, the bomber force presents a small number of targets for an adversary to destroy.

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40. Sebastien Roblin, "Underwater Drones Could Be the End of Submarines," *National Interest* (blog), (September 14, 2020), <https://nationalinterest.org/>.

41. Aaron Mehta, "Trump's New Nuclear Weapon Has Been Deployed," *Defense News*, February 4, 2020, <https://www.defensenews.com/>.

42. Kris Osborn, "The B-21 Raider Is Set to Revolutionize Stealth Bombing," *National Interest* (blog), March 31, 2022, <https://nationalinterest.org/>.

43. Adam Lowther, "The Long-Range Standoff Weapon and the 2017 Nuclear Posture Review," *Strategic Studies Quarterly* 8, no. 3 (Fall 2017), <https://www.airuniversity.af.edu>.

Again, this weakness of the bomber force is a strength of the ICBM force and its approximately 450 targets.

With Putin threatening the use of nuclear weapons in Ukraine, some analysts might assume American strategic nuclear forces could be used for selective strikes against Russian forces or installations in Europe in order to compensate for the numerical inferiority and low operational readiness of NATO nuclear forces relative to Russian tactical nuclear forces.<sup>44</sup> But this is a dangerous game to play. The symbolism of an ICBM launched from North America against Russian military forces, even in Ukraine, would be suggestive of American escalation to strategic nuclear war. This means that no matter how much more capable the Sentinel is over the Minuteman III, it is not a fit for every possible circumstance.

The same concern is true for the strategic bomber force. With the B-52 and B-2 designated as strategic delivery systems under New START, it is challenging to send any signal other than escalation if such a platform were used in response to a Russian first use in Ukraine. Moving bombers to European bases does not challenge this calculation. Although the W76-2 was designed as a gap-filler for the United States' lack of low-yield capability in Europe, there is real concern that Russia could mistake a sea-based response for an escalation to strategic nuclear war rather than an effort to move to an off-ramp.<sup>45</sup>

The primary purpose of this brief discussion of a current likely use scenario is simply to illustrate that no single leg of the nuclear triad is well suited for every scenario. The ICBM, bomber, and SLBM are all useful for specific purposes. Each leg's mutually reinforcing strengths is what creates deterrence stability and allows the United States to wage war at the low end of the conflict spectrum.

## Conclusion

Developing and fielding the Sentinel ICBM is a necessary component of the United States' larger strategic nuclear modernization effort. In conjunction with the modernization of the bomber- and submarine-based legs of the triad, the ICBM will provide deterrence for the American homeland, extended deterrence for Allies, and reassurance to partners that the United States will never accept second-tier status for its nuclear arsenal. In a strategic area that is heavily dependent on adversary psychology, how adversaries see the United States is more important than ever before.

Future American nuclear forces, even under New START constraints, should support a strategy of assured retaliation and victory denial, as defined earlier. Current planning for the Sentinel should include a review of options for basing part of the ICBM force on mobile platforms. Just as mobile ICBMs complicate American targeting

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44. Jon Jackson, "Nuclear Weapons Threat Increases as Putin Grows More Desperate," *Newsweek*, April 18, 2022, <https://www.newsweek.com/>.

45. Kyle Mizokami, "A New and Controversial U.S. Nuclear Weapon Goes to Sea," *Popular Mechanics*, January 30, 2020, <https://www.popularmechanics.com/>.

of adversary systems, they will have the same effect on adversaries considering targeting American ICBMs. The deployment of affordable and reliable ballistic missile defenses can also make the math impossible for adversaries contemplating strikes against American ICBM fields.

The analysis here and elsewhere suggests the disarmament community is incorrect in its assessment of ICBMs and their utility in nuclear deterrence. Modernizing the US ICBM force, particularly improving strategic stability and preventing nuclear conflict, is the only response to the corresponding modernization efforts of our adversaries, in which intercontinental ballistic missiles feature prominently. *Æ*

# MULTI-ACTOR DETERRENCE DEFINING THE CONCEPT

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The former Cold War conceptualization of deterrence and complex security realities have diverged over the past three decades. Rather than understand deterrence as a single actor's decision calculus concerning their costs and benefits in a dyadic context, current US strategies and plans must work within a complex, multiplayer scenario that demands analysis through a multi-actor deterrence concept lens. Multi-actor deterrence is a complex system with multiple state and nonstate actors with conflicting and common interests, each with different strengths and weaknesses. These actors operate within a new security environment in which nuclear proliferation, cyber and space threats, and regional and hybrid conflicts simultaneously exist and influence their decision-making processes.

**T**ailoring deterrence strategy based on the assessment of a single actor's decision calculus in a dyadic context is inadequate in today's multipolar world. An improved framework accounting for current empirical trends allows for a better assessment, integration, and execution of deterrence strategy. The realities upon which the post-Cold War conceptualization of deterrence is based have diverged, and the current multipolar power configuration rejects a simplification that struggles to fit every new threat scenario into a two-actor model. The emerging complexity of our new threat-based world is better understood with a multi-actor model.

## Introduction

For much of the last century, deterrence was one of the cornerstones of the international relations field. Situated within the realist paradigm that drew on the practices of the United States and the Soviet Union during the Cold War, deterrence was defined as a theory in which one actor uses credible threats against another actor to persuade it not to take a specific action, either through the imposition of cost or the denial of benefit. Moreover, deterrence was understood as involving two state actors responding to each other mostly in the nuclear domain.

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While the actors and security threats have multiplied since the end of the Cold War, and emerging technologies and new and unconventional domains have dramatically evolved, the core tasks of providing strategic deterrence, crisis management, and cooperative security have remained largely unchanged. In fact, the 2018 *Nuclear Posture Review* continues to argue strategies must be tailored to Russia, China, North Korea, and Iran and rests on the idea that the United States must be prepared to deter catastrophic events produced only through nuclear capabilities.<sup>1</sup>

Yet as the world has witnessed with the Russian invasion of Ukraine, geopolitical situations are broader than two actors, and there is a danger that current deterrence concepts and strategies will continue to handicap US security operations. As emerging great powers seek to alter global power configurations and security environment dynamics, so should we adjust our concepts and strategies.

Scholars of deterrence are often asked to evaluate this multi-actor context and transform it into a dyadic one that eliminates competing interests and simplifies a complex system. Although that might seem like a reasonable suggestion, this proposal assumes it is useful to turn a multi-actor scenario into a dyadic analysis in a complicated security environment. This environment includes nonnuclear states and nonstate actors using new warfighting domains, technologies, and alternative structures to maneuver and achieve strategic goals contrary to US interests.

The commander of US Strategic Command Admiral Charles Richards recently stated, “we can no longer expect our potential adversaries to act within our long-standing, self-imposed constraints based on our rule sets or values, particularly between conventional and nuclear.”<sup>2</sup> Therefore, the US military must think differently about the way it conceptualizes deterrence and plans strategy in the twenty-first century. A considerable volume of scholarship attests to the fact deterrence is not the same as it was during the Cold War.<sup>3</sup> It is no longer appropriate to simply continue tailoring deterrence strategy to specifically assess a single actor’s decision calculus concerning their costs and benefits in a dyadic context.

This article draws attention to the inadequacy of the existing conceptualization and the need to provide a framework for the current empirical trends that would allow for a better assessment, integration, and execution of deterrence strategy. The bipolar-world conceptualization of deterrence and the post–Cold War realities have diverged. As such, concepts need restructuring to better capture recent trends and improve analyses.

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1. Office of the Secretary of Defense (OSD), *Nuclear Posture Review* (Washington, DC: OSD, February 5, 2018), <https://media.defense.gov/>.

2. Charles A. Richards, “Online Event: International Security at the Nuclear Nexus (Day 1),” Center for Strategic and International Studies (website), October 21, 2020, <https://www.csis.org/>.

3. Brad Roberts, “On Adapting Nuclear Deterrence to Reduce Nuclear Risk,” *Daedalus* 149, no. 2 (Spring 2020), <https://www.jstor.org/>; Jeffrey A. Larsen and Kerry M. Kartchner, eds., *On Limited Nuclear War in the 21st Century* (Stanford: Stanford University Press, 2014); Jim J. Wirtz, “How Does Nuclear Deterrence Differ from Conventional Deterrence?” *Strategic Studies Quarterly* 12, no. 4 (Winter 2018); and T. V. Paul, “Nuclear Taboo and War Initiation in Regional Conflicts,” *Journal of Conflict Resolution* 39, no. 4 (December 1995).

The current multipolar power configuration rejects simplification and the reflexive tendency to fit every new threat scenario into a two-actor model. Instead, a multi-actor model provides a framework to start exploring ways to address the emerging complexity of a new, threat-based world. Restricting the understanding of deterrence to two large actors engaged in conflict can limit a deeper understanding of how smaller actors influence the power dynamic. For example, there are situations between the United States and China where Taiwan might influence a negotiation outcome due to their relationship among the larger actors.

## Multipolar World, Multi-Actor Analysis

The realist concept of power has defined much of the Cold War security environment and the way we think about deterrence, particularly during the first wave of literature (1940s to mid-to-late 1950s).<sup>4</sup> As Stephen Quackenbush and Frank Zagare point out, “almost to a theorist, realist thinkers saw a balance of power as the structural condition necessary for peace to prevail—that is, for deterrence to work.”<sup>5</sup> Consequently, despite its initial empirical deficiencies that were addressed by adding the cost-of-war variable, balance-of-power theory has continued to inform much of the nuclear deterrence and strategic thinking in academic and policy-making circles.<sup>6</sup>

As the Cold War ended, the balance of power shifted from a bipolar struggle between two superpowers to a unipolar system, allowing the United States to become an unrivaled actor in global world politics.<sup>7</sup> And in the most recent shift, over the past decade, the strategic security environment has been characterized by the emerging powers actively working against the existing international institutions and the order that was established after the end of World War II.<sup>8</sup>

Such erosion of once well-established security norms by states such as China and Russia are also increasing the risk of regional conflict, including in the Middle East, Europe, and East Asia.<sup>9</sup> But this should not come as a surprise, as some scholars

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4. Hans Morgenthau, *Politics Among Nations: The Struggle for Power and Peace* (New York: Alfred A. Knopf, 1948); and Robert Jervis, “Deterrence Theory Revisited,” *World Politics* 31, no. 2 (January 1979).

5. Stephen L. Quackenbush, and Frank C. Zagare, *Modern Deterrence Theory: Research Trends, Policy Debates, and Methodological Controversies* (Oxford, UK: Oxford University Press, 2016).

6. John A. Vasquez, “The Realist Paradigm and Degenerative versus Progressive Research Programs: An Appraisal of Neotraditional Research on Waltz’s Balance Proposition,” *American Political Science Review* 91, no. 4 (December 1997).

7. John G. Ikenberry, Michael Mastanduno, and William C. Wohlforth, “International Relations Theory and the Consequences of Unipolarity,” *World Politics* 61, no. 1 (January 2009).

8. Philip Cunliffe, “Framing Intervention in a Multipolar World,” *Conflict, Security & Development* 19, no. 3 (June 2019).

9. *Worldwide Threat Assessment of the US Intelligence Community: Hearing Before the Senate Select Committee on Intelligence*, 116th Cong. (January 29, 2019) (Statement for the Record, Daniel Coats, Director of National Intelligence) 116th Cong., January 29, 2019, <https://www.dni.gov/>.

argued the world was entering a new era of multipolarity over a decade ago.<sup>10</sup> In fact, Russia has been openly challenging US hegemony, while multipolarity has become one of its primary ideological goals in international relations as it seeks to dominate Eurasian lands via regional institutional arrangements and recently invaded and claimed territory.<sup>11</sup>

Similarly, ever since the Taiwan Strait crisis in the mid-1990s, China has been committed to multipolarity and increasing engagement at both global and regional levels.<sup>12</sup> These new poles of power with “alternative visions of world order” are simultaneously and directly challenging American supremacy and the Western liberal notions of international governance.<sup>13</sup>

Yet the Cold War construct of great powers and lessons of the dyadic US-USSR interactions continue to inform strategic analysis. Most military decision makers plan *actor-specific* tailored deterrence efforts, basing their arguments on the dyadic game-theoretic models of decision making and realist assumptions dating back to Thomas Schelling and Glenn H. Snyder, in which rational actors conduct cost-benefit analyses when making policy decisions.<sup>14</sup>

Applying this outdated understanding and dyadic logic can mislead: it does not allow the consideration of how additional actors play different roles in a deterrent contest and how that reality impacts outcomes. For example, nuclear states are no longer just deterring other nuclear states. Rather, they are simultaneously interacting in different warfighting domains with decision makers who do not share the same ideas regarding costs and benefits, therefore rendering the deterrent retaliatory threats seemingly ineffective or even impossible.

Although initially some scholars argue this transition from a bipolar to a multipolar international system is not to be feared, today’s multiplicity of resurgent and

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10. Coral Bell, “The End of the Vasco da Gama Era: The Next Landscape of World Politics” (Sydney, Australia: Lowy Institute for International Policy, November 15, 2007); and John Mearsheimer, *The Great Delusion: Liberal Dreams and International Realities* (New Haven, CT: Yale University Press, 2018).

11. Thomas Ambrosio, “Insulating Russia from a Colour Revolution: How the Kremlin Resists Regional Democratic Trends,” *Democratization* 14, no. 2 (April 2007); Elena Chebankova, “Russia’s Idea of Multipolar World Order: Origins and Main Dimensions,” *Post-Soviet Affairs* 33, no. 3 (January 2017); and Paul Stronsky and Richard Sokolsky, “Multipolarity in Practice: Understanding Russia’s Engagement with Regional Institutions” (Washington, DC: Carnegie Endowment for International Peace, January 2020), <https://carnegieendowment.org/>.

12. Jenny Clegg, *China’s Global Strategy: Towards a Multipolar World* (New York: Pluto Press, 2009); and Susan Turner, “Russia, China and a Multipolar World Order: The Danger in the Undefined,” *Asian Perspective* 33, no. 1 (2009).

13. Nathalie Tocci, “Towards a European Security and Defence Union: Was 2017 a Watershed?” *Journal of Common Market Studies* 56, no. 1 (2018).

14. Thomas C. Schelling, *Arms and Influence* (New Haven, CT: Yale University Press, 1966); Schelling, *The Strategy of Conflict* (Cambridge, MA: Harvard University Press, 1960); Glenn H. Snyder, *Deterrence by Denial and Punishment* (Princeton, NJ: Center of International Studies, January 1959); and Chairman of the Joint Chiefs of Staff (CJCS), *Joint Operations*, Joint Publication 3-0 (Washington DC: CJCS, October 22, 2018).

aspiring state and nonstate challengers to US hegemony increases the likelihood of instability.<sup>15</sup> This new world order requires states to increase interactions and consider the interests of other states in each scenario and domain rather than just in the nuclear arena. What was understood as a two-player deterrence game involving the United States versus Russia is now expanding into a multi-actor game scenario. Deterrence must be viewed through the new multipolar system lens rather than a misleading and archaic dyadic logic system.

## Taxonomy of Deterrence: Concepts, Theories, and Strategies

Where does multi-actor deterrence situate in a taxonomy of deterrence terms? Overall, academics and military strategists often confuse deterrence terms; in particular, they ignore the difference between concepts, theories, and strategies of deterrence. According to Patrick Morgan, “deterrence strategy refers to the specific military posture, threats, and ways of communicating them that a state adopts to deter, while the theory concerns the underlying principles on which any strategy is to rest.”<sup>16</sup>

While Morgan’s research is very specific in distinguishing how different the two terms can be, he does not acknowledge the variance of the terms within a theory or strategy.<sup>17</sup> For example, in order for deterrence to be successful, nations need strategies to inform strategic goals and objectives. The strategy details how actions will be executed to produce the desired deterrence effect. Therefore, deterrence concepts and theories apply to the strategy to accomplish operational goals.

Clarifying specific deterrence concepts, theories, and strategies helps identify the differences between important terms within the field that are often confused and situates the multi-actor deterrence concept within a deterrence taxonomy. For example, the concept of multidomain deterrence—recently included in academic and defense circles—is often confused with cross-domain deterrence. But these terms have different purposes that produce distinct policy and operational outcomes.

This much-needed clarification of deterrence concepts, theories, and strategies will eliminate pseudo equivalencies and present multi-actor deterrence as a concept—a general understanding of how multiple actors deter each other within the complex strategic environment. This new and innovative concept will allow scholars and strategists to better measure success of deterrence efforts in a multi-actor environment and eventually provide further case studies and validated tests to elevate this term toward a theory.

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15. Charles W. Kegley and Gregory A. Raymond “Must We Fear a Post-Cold War Multipolar System?” *Journal of Conflict Resolution* 36, no. 3 (1992); Graham Allison, “China vs. America: Managing the Next Clash of Civilizations,” *Foreign Affairs* 96, no. 5 (2017); and Mathew J. Burrows, “Western Options in a Multipolar World,” Issue Brief (Washington, DC: The Atlantic Council, November 2017), <https://www.atlanticcouncil.org/>.

16. Patrick Morgan, *Deterrence Now* (Cambridge, UK: Cambridge University Press, 2003).

17. Quackenbush and Zagare, *Modern Deterrence*.

The following is a taxonomy of deterrence concepts, theories, and strategies that should be compared and differentiated among other terms to help academics and practitioners evaluate how actors interact within deterrence environments:

**Multi-Actor Deterrence** (concept): The notion of a complex system with multiple state and nonstate actors with conflicting and common interests, each with different strengths and weaknesses, and operating within a new security environment in which nuclear proliferation, cyber and space threats, regional and hybrid conflicts simultaneously exist and influence their decision-making processes.<sup>18</sup>

**Space Deterrence** (concept): The notion to prevent adversaries from attacking satellites and other military or economic assets in and through space.<sup>19</sup>

**Cyber Deterrence** (concept): The notion to be responsive and prevent adversaries from attacking technology within cyberspace.<sup>20</sup>

**Deterrence** (theory): The notion to prevent an adversary's action by fear of the consequences. Deterrence is a state of mind brought about by the existence of a credible threat of unacceptable counteraction.<sup>21</sup>

**General or Central Deterrence** (theory): The notion of the existence of a stable balance of power among adversaries.<sup>22</sup>

**Credible Deterrence** (theory): The notion to influence via capabilities that deny an aggressor the prospect of achieving their objectives and the complementary capability to impose unacceptable costs on the aggressor.<sup>23</sup>

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18. Michelle Black and Lana Obradovic, "Multi-Actor Deterrence: Defining the Concept" (conference paper presented at the International Security Studies Section of the International Studies Association and the International Security and Arms Control Section of the American Political Science Association (ISSS-IS) conference, Denver, CO, October 18–19, 2019); and Black and Obradovic, "Multi-Actor Deterrence: Defining the Concept" (conference paper presented at the ISSS-IS conference, Lafayette, IN, November 2018), <https://www.isanet.org/>.

19. Forrest E. Morgan, *Deterrence and First-Strike Stability in Space: A Preliminary Assessment* (Santa Monica, CA: RAND Corporation, 2010), <https://www.rand.org/>.

20. Martin C. Libicki, *Cyberdeterrence and Cyberwar* (Santa Monica, CA: RAND Corporation, 2009), <https://www.rand.org/>.

21. CJCS, *Department of Defense Dictionary of Military and Associated Terms* (Washington, DC: CJCS, 2016), s.v. "deterrence."

22. Justin V. Anderson, Jeffrey A. Larson, and Polly M. Holdorf, *Extended Deterrence and Allied Assurance: Key Concepts and Current Challenges for U.S. Policy* (Colorado Springs, CO: USAF Academy Institute for National Security Studies, 2013), <https://www.usafa.edu/>.

23. Barack Obama, *Sustaining U.S. Global Leadership: Priorities for the 21st Century Defense* (Washington DC: Department of Defense (DOD), January 2012).

**Self-Deterrence** (theory): The notion of self-imposed restraints and caution to avoid any crisis escalation leading to an exchange.<sup>24</sup>

**Immediate Deterrence** (theory): In the face of threats and counterthreats, the notion of actions that forestall conflict that occur in a crisis atmosphere in which the use of force may be imminent.<sup>25</sup>

**Direct Deterrence** (strategy): Goals and objectives will focus on communicating threats to the challenger to prevent an action by inducing fear of the consequences.<sup>26</sup>

**Indirect Deterrence** (strategy): Goals and objectives may attempt to achieve deterrence vis-à-vis that power with the threat to “strike neighboring or nearby states, whether or not they are directly engaged in the ongoing conflict.”<sup>27</sup> An example of this is a regional nuclear power unable to counter-deter (conventional or nuclear) threats by a major power because of technological incapacity and distance factors.

**Deterrence by Denial** (strategy): Goals and objectives will seek to dissuade the adversaries by denying them the ability to achieve their objective or interests. Defenders of the status quo will make it physically impossible to pursue and successfully achieve their objective/interest.<sup>28</sup>

**Deterrence by Punishment** (strategy): Similar to direct deterrence, goals and objectives will focus on dissuading a challenger to the status quo by threatening a punitive response to influence their calculi regarding the potential gains of their objective/interest.<sup>29</sup>

**Extended Deterrence** (strategy): Goals and objectives will focus on an actor providing the threat of force on behalf of another state rather than just itself, usually in assistance to allies to prevent proliferation or costly conventional posture.<sup>30</sup>

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24. Thérèse Delpech, *Nuclear Deterrence in the 21st Century: Lessons from the Cold War for a New Era of Strategic Piracy* (Santa Monica, CA: RAND Corporation, 2012), <https://www.rand.org/>.

25. Richard Lebow and Janice Stein, “Deterrence and the Cold War,” *Political Science Quarterly* 110, no. 2 (1995); and Curtis S. Signorino, and Ahmer Tarar, “A Unified Theory and Test of Extended Immediate Deterrence,” *American Journal of Political Science* 50, no. 3 (2006).

26. CJCS, *DOD Dictionary*, s.v. “extended deterrence”; and Anderson, Larsen, and Holdorf, *Extended Deterrence*.

27. Robert E. Harkavy, “Triangular or Indirect Deterrence/Compellence: Something New in Deterrence Theory?” *Comparative Strategy* 17, no. 1 (1998), <https://doi.org/>.

28. Snyder, *Deterrence by Denial*.

29. Snyder.

30. Anderson, Larsen, and Holdorf, *Extended Deterrence*.

**Minimal Deterrence** (strategy): Goals and objectives aim to possess a limited number of nuclear weapons, no more than is necessary to deter a potential adversary. A minimal deterrence doctrine requires only that nuclear weapons be able to impose sufficient costs on a potential attacker to make the initial nuclear attack appear too costly.<sup>31</sup>

**Horizontal Deterrence** (strategy): Goals and objectives will subscribe to the normal tenets of direct deterrence options but with the additional facet that the deterring activities might occur in a different location and/or through asymmetric means or scale.<sup>32</sup>

**Vertical Deterrence** (strategy): Goals and objectives will use varying levels of threats or domains to influence the challenger but do not use location as a method of execution. Rather, a defender can use conventional capabilities to deter nuclear capability use.<sup>33</sup>

**Triadic Deterrence** (strategy): Goals and objectives will support one state using threats and/or punishments against another state to coerce it to prevent nonstate actors from conducting attacks from its territory.<sup>34</sup>

**Tailored Deterrence** (strategy): Goals and objectives will support an actor-specific set of deterrence capabilities designed to influence a specific leader or leader's group.<sup>35</sup>

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31. Hans M. Kristensen, Robert S. Norris, and Ivan Oelrich, "From Counterforce to Minimal Deterrence: A New Nuclear Policy on the Path toward Eliminating Nuclear Weapons," Occasional Paper no. 7 (Washington, DC: Federation of American Scientists and The Natural Resources Defense Council, April 2009), <https://pubs.fas.org/>.

32. Joshua M. Epstein, "Horizontal Escalation: Sour Notes of a Recurrent Theme," *International Security* 8, no. 3 (Winter 1983–84), <https://doi.org/>.

33. King Mallory, *New Challenges in Cross-Domain Deterrence* (Santa Monica, CA: RAND Corporation, 2018).

34. Boaz Atzili and Wendy Pearlman, "Triadic Deterrence: Coercing Strength, Beaten by Weakness," *Security Studies* 21, no. 2 (2012), <https://doi.org/>.

35. M. Elaine Bunn, "Can Deterrence Be Tailored?," Strategic Forum 225 (Washington, DC: National Defense University, Institute for National Strategic Studies, January 2007), <https://www.hsdl.org/>; Jerrold Post, "Actor-Specific Behavioral Models of Adversaries: A Key Requirement for Tailored Deterrence," in *Tailored Deterrence: Influencing States and Groups of Concern*, ed. Barry Schneider and Patrick Ellis (Maxwell AFB, AL: US Air Force Counterproliferation Center, 2011); Michael Johnson and Terrence K. Kelly, "Tailored Deterrence: Strategic Context to Guide Joint Force 2020," *Joint Force Quarterly* 74, no. 3 (2014); and Jeffrey S. Lantis, "Strategic Culture and Tailored Deterrence: Bridging the Gap between Theory and Practice," *Contemporary Security Policy* 30, no. 3 (2009), <https://doi.org/>.

**Cross-Domain Deterrence** (strategy): Goals and objectives will counter threats in one area (such as space or cyber) by relying on different types of capabilities where operations can be more effective.<sup>36</sup>

**Multi-Domain Deterrence** (strategy): Goals and objectives result from operations that involve mixing and merging military and civilian actions, involvement, operations, and or plans that can act as an influence on another actor or adversary. Includes all capabilities found in cross-domain deterrence, with the addition of political, social, economic/financial, and informational.<sup>37</sup>

## Defining Multi-Actor Deterrence

The multi-actor deterrence concept recognizes that the complex twenty-first-century threat environment includes multiple state and nonstate actors with conflicting and common interests, each with different strengths and weaknesses. These actors operate within a new security environment in which nuclear proliferation, cyber and space threats, and regional and hybrid conflicts simultaneously exist and influence their decision-making processes. It also acknowledges that more than two actors tend to be involved in almost all contemporary threat environments, and those actors may not necessarily be labeled as great powers.

This conceptualization builds on Schelling's argument that "international conflicts are not constant sum-games, but rather variable-sum games," which take all the "sum of the gains of the participants involved."<sup>38</sup> These sums hold different values and meanings for each individual actor. Moreover, Schelling argues conducting deterrence requires "there be both conflict and common interest between the parties involved."<sup>39</sup>

The multi-actor concept, therefore, extends Schelling's conceptualization of deterrence to look beyond the bargaining of just two parties by including other players with interests at stake in the bargaining process. Expanding this concept will shape the discussion on deterrence planning. Multi-actor deterrence forces those who think, plan, and operate within the deterrence enterprise to move past the common dyadic scenario and accept that the international distribution of power has transitioned to a multipolar world order. This will result in multiple complex bargaining situations and influence the range of response options.<sup>40</sup> For example, each actor has its own preferred bargaining situation that will impact possible options defense organizations will need to recognize as they plan operations.

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36. Jon Lindsay and Erik Gartzke, *Cross-Domain Deterrence: Strategy in an Era of Complexity* (Oxford, UK: Oxford University Press, 2019).

37. Michelle Black, "Food for Thought: Multi-Domain Escalation Management" (working paper, NATO Allied Command Transformation, January 2022).

38. Schelling, *Strategy of Conflict*, 5.

39. Schelling, 5.

40. Schelling, 5.

In the United States, defense planners still look at the deterrence concept through the Cold War context lens wherein two actors and their alliances are competing over resources, ideological supremacy, and global political influence. The multi-actor deterrence concept, on the other hand, demonstrates such conceptualization is inadequate in the new multipolar environment. In this environment, each individual player has different priorities, challenges, strengths, weaknesses, strategic cultures, capabilities, and constraints.

The multi-actor deterrence concept should be integrated where appropriate rather than eliminating the traditional dyadic conceptualization. For example, in a deterrence scenario that includes South Korea, North Korea, and the United States, analysis is generally centered on the relationship between North Korea and the United States. Integrating the multi-actor deterrence concept would recognize all relevant actors in the scenario and identify their preferences and interests.

Such a conceptualization would, therefore, expand the number of players to involve North Korea, South Korea, the United States, China, Japan, Russia, Australia, and NATO. The additional actors added to the scenario show the complexity of the geopolitical environment and the relationships that Russia, Australia, and NATO could have within the two-player game.

In other situations such as the High North, the traditional dyadic conceptualization would limit the analysis to only those actors who have equal and near-peer power—US and Russia. The multi-actor deterrence concept, however, would include and evaluate interests of all the actors who have a stake in the Arctic region, such as China, the EU, Norway, Denmark, India, and NATO, to see where potential convergence and divergence of interests would arise.

Previously, power was described as having nuclear power. But the twenty-first-century environment understands the inclusion of different domains can change the power balance, and smaller states with cyber capabilities can influence near-peer powers. The updated conceptualization embodied in multi-actor deterrence helps reveal all actors' preferences and highlight areas of cooperation and conflict, allowing planners to hone and clarify options and strategic messages to meet their deterrence objectives.

Furthermore, it is important to emphasize that the multi-actor deterrence concept contributes to a tailored deterrence strategy by encouraging the inclusion of actor-specific behavior and capability analyses.<sup>41</sup> Most literature on deterrence theory and strategy focuses on assessing the adversary's decision-making process. This is commonly referred to as tailored deterrence—an actor-specific set of deterrence plans or operations (i.e., strategy of deterrence) designed to influence an actor or decision-level group.<sup>42</sup>

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41. Barry R. Schneider and Patrick D. Ellis, eds., *Tailored Deterrence: Influencing States and Groups of Concern* (Maxwell AFB, AL: US Air Force Counterproliferation Center, 2012).

42. Bunn, "Can Deterrence Be Tailored?"; Post, "Actor-Specific Behavioral Models"; Johnson and Kelly, "Tailored Deterrence"; and Lantis, "Strategic Culture."

Tailored deterrence is broken into different parts that generally deal with the actor doing the deterring and the actor being deterred. Tailoring deterrence makes it more effective as actions and messages are custom made and directed toward the intended audience.<sup>43</sup> For this reason, US deterrence planners seek to tailor deterrence by understanding the perspective of the adversary, how it makes decisions, and what influences its decision calculus. Such an approach allows US planners to hold certain items of value at risk or entice the adversary with benefits to influence a decision before it becomes executable and counter to US interests.<sup>44</sup>

The dyadic and tailored deterrence conceptualization is pervasive among military and civilian academic strategists and is often cited in US national security strategy documents as the preferred processes for deterrence strategy.<sup>45</sup> National security documents from the UK Ministry of Defense and NATO include dyadic and tailored deterrence concepts as well, despite not implementing them the same way. This reliance on tailored deterrence is partly due to the scholarly argument grounded in prospect theory, expected utility theory, rational actor theory, cost-benefit analysis, and game theory.

The integration of the decision-making calculus models into tailored deterrence strategy allows defense organizations to examine what an adversary values and presume how it will act when confronted with certain actions or strategies. Once an actor has deconstructed the rationality, perspective, preference, intent, risk-taking, and bargaining of other actors in the form of a decision calculus, a path can be identified to help either deter an actor away from a certain action or assure actors toward a common goal.

For example, if actor A is attempting to understand actor B's intentions regarding a specific scenario, it will need to understand the decision calculus of actor B to find out their interests and intentions. Once the actor A performs the decision calculus analysis of actor B, actor A should be able to discern what actor B will do in a given situation and what their common or divergent interests might be. From there, actor A can devise a deterrence strategy framed by a process of strategic messaging and communication with actor B about what actor A will do if its rules and limits are violated within a bargaining situation. This also allows actor A to adjust when necessary.

Still, the above conceptualization of deterrence is rather limiting as it forces us to look at one scenario from the two actors' points of view. It fails to capture the dynamics of the multipolar world: complexity is added when multiple actors are introduced into the deterrence model simultaneously. A cursory analysis of the Russian invasion of Ukraine through the multi-actor lens reveals other actors participated in the geopolitical situation.

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43. Jonathon Trexel, "Deterring the Democratic People's Republic of Korea: The Role of Japan's Ballistic Missile Defense" (PhD diss., University of Nebraska at Lincoln, 2013), <https://digitalcommons.unl.edu/>.

44. DOD, *Deterrence Operations: Joint Operating Concept* (Washington, DC: DOD, December 2006).

45. OSD, *Nuclear Posture Review*; DOD, *Deterrence Operations*; UK Ministry of Defence (MOD), Joint Doctrine Note 1-19, *Deterrence: The Defense Contribution* (Bristol: MOD, 2019), <https://assets.publishing.service.gov.uk/>; Franklin Miller, "Tailoring U.S. Strategic Deterrence Effects on Russia," in Schneider and Ellis, *Tailored Deterrence*; and George W. Downs, "The Rational Deterrence Debate," *World Politics* 41, no. 2 (1989), <https://doi.org/>.

Initially, it was a Russian-Ukraine deterrence scenario, but an expanded analysis could include NATO, the EU, the UN, Belarus, China, the world banking system, India, and others. Many of these actors participated in the situation but were not regionally located within the conflict situation. Instead, they participated either independently or within alliances, clearly illustrating the complexity of this situation beyond a two-player game. Furthermore, the actors involved engaged other-than-nuclear multi-domain capabilities including financial, space, and political pressure points directed toward Russia. The multi-actor deterrence concept, if further developed, will be crucial to enhancing the tailored deterrence strategy used by the United States.

## **Conclusion: Integrating Multi-Actor Analysis**

Based on an initial presentation of this concept in 2019, NATO sought to find a methodology flexible enough to recognize and understand emerging security challenges that face the Alliance today and in the future. It conducted research to build a seven-step model allowing practitioners to identify actors involved in a deterrence scenario, analyze their decision calculi and possible courses of action, identify overlapping perceptions of actors involved, and develop possible deterrence strategies.<sup>46</sup> At the conclusion of this research in 2021, NATO moved its experimental methodology to an operational level and today continues to incorporate the multi-actor approach into the Alliance's deterrence strategies.

The US national security enterprise, however, has been slow in adapting the antiquated Cold War dyadic deterrence models to address today's more challenging and complex security environment. Incorporating the multi-actor concept into the tailored deterrence strategy would provide US analysts and planners a set of behavior patterns that could be understood across the spectrum of actors and allow them to perform actions within the diplomatic, information, military, and economic spheres of national power.

Currently, when conducting tailored deterrence, US operators enact sanctions or pursue military actions to prevent a certain action of a single and often only near-peer adversary. If other actors are indirectly influenced, this is considered a second- or third-order effect. Planners and strategists in the United States should integrate the expanded taxonomy of multi-actor deterrence and allow operators to investigate and integrate the interests of all actors to find commonalities and/or conflicts among them, informing their tailored deterrence strategy and strategic messaging in a way that influences *all* relevant actors. **Æ**

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46. Michelle Black, "Enabling Coherent Deterrence, a Multi-Actor Approach," research project, NATO Concept Development, June 2019–December 2020.

# NOT CYBERWAR, BUT CYBERBALANCE

DAVID BENSON

Most cyberattacks are not attempts to coerce or deterrence failures, but they are attempts to alter the balance of power. Extant IR theory accepts that states balance internally and externally by increasing domestic capacity and by partnering with other states, respectively. While balancing affects the balance of power by increasing power, states can also affect the balance of power by decreasing their competitors' power, or "handicapping." States wanting to handicap competitors can use certain kinds of information to decrease a competitor's capacity—information is important enough to economic and political processes but sufficiently removed from battlefield defeat to be less likely to provoke escalation. The internet's decreased costs and global scope have moved handicapping from the periphery of statecraft to a central position in international relations.

Theories of coercion, deterrence, and balance of power carry more explanatory power when considering cyberattacks that occur without readily apparent conflict sources. Questions of balance of power pervade the day-to-day machinations of international affairs, and such attacks, unaffiliated with a discernable war and often uncoercive in nature, are better understood as "handicapping." Handicapping aims to alter the balance of power by slowing political growth.

## The Conundrum of Cyberattacks

In mid-January 2022, as tension between Russia and Ukraine escalated, Microsoft's cybersecurity units detected malware targeting Ukrainian computers.<sup>1</sup> How should strategists and planners have analyzed this malware? If the cyberattack heralded Russian tanks rolling across the border towards Kiev, military planners needed to act quickly to repel both the cyberattack and the invasion. Russia preceded invasions with cyberattacks in Georgia (2006) and Ukraine (2014), so anticipating invasion might seem

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1. Microsoft Threat Intelligence Center et al., "Destructive Malware Targeting Ukrainian Organizations," Microsoft Security Blog, January 16, 2022, <https://www.microsoft.com/>.

like a prudent maneuver.<sup>2</sup> But many Russian cyberattacks were not preludes to kinetic attacks, including cyberattacks on Estonia and the United States.<sup>3</sup> Responding to a cyber attack as if it is a military attack risks unnecessary escalation.<sup>4</sup> Not preparing for a war when one is imminent is imprudent.<sup>5</sup>

Many national and international security professionals, scholars, and commentators advocate for treating all cyberattacks as if they are the first blow of military attack. International relations (IR) scholars and foreign policy professionals struggle to understand and respond to cyberattacks, because we try to place them on the spectrum between war and peace. At least one philippic follows every transnational cyberattack calling the attack a “Cyber Pearl Harbor” or a “Cyber 9/11” and demands military retaliation.<sup>6</sup> Some even argue that by not treating cyberattacks like military attacks, we are functionally ceding a military domain to the enemy.<sup>7</sup>

Even if advocates for robust, military-like attitudes toward cyberattacks rarely propose military escalation, using verbiage generally reserved for military combat and war encourages misunderstanding and miscalculation. Focusing on the war/not war binary can lead observers to undervalue or overvalue cyberattacks by inappropriately equating them with categories that hide the attack’s true effects.<sup>8</sup>

For those who ask whether all substantial cyberattacks are not equivalent to war, the question that must be answered is “if some important cyberattacks are *not* equivalent war, then what are they?” While it is an important first step to recognize that cyberattacks are “un-war,” this only tells us what cyberattacks are not.<sup>9</sup> Given the risks of accidental escalation, why would a government allow something as provocative as the cyberattacks during the 2016 US presidential election? Knowing why such attacks happen will allow planners and policy makers to account and prepare for potential future attacks. Equally importantly, scholars and strategists can better develop counter-strategies by understanding what strategic objectives cyberattacks can pursue.

International relations theories of deterrence, coercion, and balance of power better explain many cyberattack campaigns occurring without obvious conflict sources.

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2. Mark Clayton, “Ukraine Election Narrowly Avoided ‘Wanton Destruction’ from Hackers,” *Christian Science Monitor*, June 17, 2014, <https://www.csmonitor.com/>; and Ronald J. Deibert, Rafal Rohozinski, and Masashi Crete-Nishihata, “Cyclones in Cyberspace: Information Shaping and Denial in the 2008 Russia–Georgia War,” *Security Dialogue* 43, no. 1 (2012).

3. Jim Finkle, “Agent.BTZ Spyware Hit Europe Hard after U.S. Military Attack: Security Firm,” Reuters, March 12, 2014, <https://www.reuters.com/>; and Stephen Herzog, “Revisiting the Estonian Cyber Attacks: Digital Threats and Multinational Responses,” *Journal of Strategic Security* 4, no. 2 (June 2011).

4. Robert Jervis, *Perception and Misperception in International Politics*, New Ed. (Princeton: Princeton University Press, 2017).

5. Randall L. Schweller, “Unanswered Threats: A Neoclassical Realist Theory of Underbalancing,” *International Security* 29, no. 2 (2004).

6. See James J. Wirtz, “The Cyber Pearl Harbor Redux: Helpful Analogy or Cyber Hype?,” *Intelligence and National Security* 33, no. 5 (2018).

7. Richard A. Clarke and Robert K. Knake, *The Fifth Domain* (New York: Penguin Publishing Group, 2019).

8. Thomas Rid, *Cyber War Will Not Take Place* (New York: Oxford University Press, 2013).

9. Lucas Kello, *The Virtual Weapon and International Order* (New Haven, CT: Yale University Press, 2017).

According to realist international relations theory, states (or more accurately their governments) jockey for advantage in the international balance of power.<sup>10</sup> Even IR paradigms that claim it is possible to mitigate balance-of-power concerns still accept the balance of power exists and *can* affect some governments' behaviors.<sup>11</sup> Balance of power can sometimes lead to conflict and war, but war is relatively infrequent compared to the pervasive concern over balance of power. Consequently, the phenomena comprising the daily grind of international politics are usually more concerned with the balance of power than with war.

Accordingly, many cyberattacks are attempts to revise the international balance of power—a phenomenon this article calls handicapping. Handicapping are attacks on a competitor that are attempts to revise the balance of power by slowing political growth. Handicapping as a concept rests upon the difference between the logic of coercion and the logic of balance. States may be coercing or balancing using either war or not-war, but coercion and balancing have orthogonal objectives.

Coercion exercises military power to resolve conflict in the state's interest *now*. Because coercion affects current political behavior, the logic of coercion uses (and affects) current power. Balancing develops economic and political power preparing to coerce, deter, or resist coercion *in the future*. Because the balance of power anticipates future conflict, the logic of the balance of power affects power development. Using power and developing power are conflicting objectives because typically, and as in war, using power consumes more resources than it creates.<sup>12</sup>

Making a theoretical distinction between handicapping attacks and coercive attacks opens potential policy options and makes opponent strategies clearer. Balance of power is not a new concept, but theorists and strategists refer to balancing as something a government does internally or by creating alliances.

Degrading competitors' capabilities to adjust the balance of power in your favor is logically consistent with the idea of a balance but nonetheless remains unexplored. When under a destructive attack, leaders do not want to be told, "We don't know what this is, but it is not war." Knowing that not only are many destructive attacks not trying to win a war now, but that those attacks are "handicapping" you for advantage in the future is an answer that illuminates strategies. If there really is time between a handicapping attack and a decisive point, the victim of the attack can pursue temporal strategies to deal with handicapping.

Distinguishing between attacks affecting the balance of power from coercive attacks sets standards allowing decision makers to assess whether escalation is appropriate. Attacks affecting the balance of power can happen any time and for any reason. By

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10. Kenneth Neal Waltz, *Theory of International Politics* (Reading, MA: Addison-Wesley, 1979); and John J. Mearsheimer, *The Tragedy of Great Power Politics*, 1st ed. (New York: Norton, 2001).

11. Robert O. Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy* (Princeton: Princeton University Press, 2005); and Alexander Wendt, *Social Theory of International Politics* (New York: Cambridge University Press, 1999).

12. James D. Fearon, "Rationalist Explanations for War," *International Organization* 49, no. 3 (1995).

contrast, coercive attacks must happen either with clear communication of coercive intent or in a context where coercive intent is somewhat obvious.

Many of the most egregious cyberattacks over the past 10 years have occurred absent obvious coercive intent and without coercive messaging.<sup>13</sup> Leadership in the United States and elsewhere have frequently demurred from treating those attacks as war to the disappointment of some in the cybersecurity community.<sup>14</sup> But expending military power to meet a challenge meant to degrade power would have played into, not defeated, the attacker's strategy.

## **A Potential Instrument for Handicapping**

One need not believe states always care about the balance of power to accept that some states sometimes care about the balance of power and behave accordingly. Rational concerns about the balance of power arise as states maneuver to improve their prospects of prevailing in future conflicts. Information is a vital component of power, so leaders caring about the balance of power can reasonably conclude that interfering with certain information might affect the balance of power. Information's character before the internet made many strategies that *could* affect the balance of power difficult. The internet changed the information topography, making strategies that plausibly affect the international balance of power possible and attractive.

States must care about the balance of power to hedge against future conflict. Interstate conflicts occur when one state attempts to coerce another. Conflict need not be military, but states can resist coercion as long as battlefield victory is possible, making military power and capacity important to balance-of-power concerns.<sup>15</sup> States resist coercion to retain their freedom of action. If coercion escalates to systemic war, the war can be catastrophic even for the victor, and the loser must accommodate itself to a disadvantageous international system.<sup>16</sup> Handicapping is a strategy that hedges against future coercion by impairing a competitor's ability to develop latent power or convert latent power into actual power.

## **Sources of Power**

State power comes from many sources, but governments can only change some sources of power to swiftly affect the balance of power. For example, a 2005 RAND

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13. Jason Chaffetz, Mark Meadows, and Will Hurd, *The OPM Data Breach: How the Government Jeopardized Our National Security for More Than a Generation*, Majority Staff Report, 114th Congress (Washington, DC: US House of Representatives, Committee on Oversight and Government Reform, September 7, 2016), <https://republicans-oversight.house.gov/>.

14. Mearshimer, *Great Power Politics*.

15. Thomas C. Schelling, *Arms and Influence* (New Haven, CT: Yale University Press, 1966); Robert Anthony Pape, *Bombing to Win: Air Power and Coercion in War* (Ithaca, NY: Cornell University Press, 1996); and Daniel L. Byman and Matthew C. Waxman, *The Dynamics of Coercion* (New York: Cambridge University Press, 2002).

16. Robert Gilpin, *War and Change in World Politics* (New York: Cambridge University Press, 1981).

conference identified eight drivers of national power: domestic sociopolitical, international political, population, economic, agriculture, energy, technology, and environment.<sup>17</sup> Governments can affect all eight drivers of national power, but many—including population, energy, and environment—change only slowly, if at all.

Governments can more rapidly affect agriculture and technology, but while governments can easily harm existing agricultural and technological resources, developing such resources from nothing is harder. Therefore, governments must mostly rely on domestic sociopolitics, international politics, and economics to manipulate the balance of power.

The international mechanisms to create national power naturally attract substantial attention in international relations. Treaties are a source of international power and mechanisms for international competition as states jockey to ensure their interests become encoded in international agreements.<sup>18</sup> Joining organizations can allow states more power in international interactions than material power alone and can even set the terms of the international system.<sup>19</sup> Trade and economic exchanges are potential sources of material power and wealth, tools for competition, and mechanisms for cooperation.<sup>20</sup>

Domestic economic and sociopolitical power contribute directly to latent or potential power. Latent power includes the capability or resources to accomplish objectives but not the organizational mechanisms to pursue specific objectives. States with stable and unified political systems create an environment for robust economic growth.<sup>21</sup> Political stability can be a self-reinforcing cycle as increased instability decreases trust in government and political unity, thereby decreasing stability.<sup>22</sup> Domestic sociopolitical divisions make policy implementation more difficult and harm economic growth, whereas internal political stability makes government rent extraction easier.<sup>23</sup>

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17. Gregory F. Treverton and Seth G. Jones, *Measuring National Power* (Santa Monica, CA: RAND Corporation, April 21, 2005), <https://www.rand.org/>.

18. Karolina M. Milewicz and Duncan Snidal, "Cooperation by Treaty: The Role of Multilateral Powers," *International Organization* 70, no. 4 (2016).

19. Christina J. Schneider, "Weak States and Institutionalized Bargaining Power in International Organizations," *International Studies Quarterly* 55, no. 2 (2011); and G. John Ikenberry, *Liberal Leviathan* (Princeton: Princeton University Press, 2012).

20. Stephen G. Brooks, *Producing Security: Multinational Corporations, Globalization, and the Changing Calculus of Conflict* (Princeton: Princeton University Press, 2005); Dale C. Copeland, *Economic Interdependence and War* (Princeton: Princeton University Press, 2014); and Patrick J. McDonald, *The Invisible Hand of Peace: Capitalism, the War Machine, and International Relations Theory* (New York: Cambridge University Press, 2009).

21. Kevin Grier, Shu Lin, and Haichun Ye, "Political Fractionalization and Delay in Fiscal Stabilizations: A Duration Analysis," *Public Choice* 164, no. 1/2 (2015).

22. Marc L. Hutchison and Kristin Johnson, "Capacity to Trust? Institutional Capacity, Conflict, and Political Trust in Africa, 2000-2005," *Journal of Peace Research* 48, no. 6 (2011).

23. Kjetil Bjorvatn and Mohammad Reza Farzanegan, "Resource Rents, Balance of Power, and Political Stability," *Journal of Peace Research* 52, no. 6 (2015).

The domestic sociopolitical system also enables actual power—the mechanisms to enact specific policies. In the realist tradition, actual power is sometimes used synonymously with military power, but in this article, actual power includes all government capacity to directly affect specific and immediate policies. Therefore, deploying the military to separate Panama from Columbia *and* building the Panama Canal both used actual power. Power use imposes economic costs on a state because capabilities and resources normally used to develop latent power are diverted to actual power: steel production is vital to both industry and the military, but every pound of steel used to make tanks cannot be used to make toasters.

Soft power merits special notice as a type of power because it merges domestic sociopolitical structure with international power without reliance on material power capabilities. A state's domestic economic strength creates material capabilities, which are a component of hard power, but soft power may change without underlying changes in capabilities. Soft power arises because another state's government or (more commonly) society is inherently attractive, has desirable social characteristics, or shares social ties with other states' populations. Soft power induces cooperation through social affinity.<sup>24</sup> Soft balancing is the conceptual antithesis of soft power, where governments resist a hegemon's power using nonmaterial means.<sup>25</sup>

## **Entire States Balance, Not Just Governments**

Although the international balance of power is among states, governments are not the only actors in the international system who contribute to or benefit from favorable balances of power. The state is a useful theoretical fiction delineating bases of international power that different international actors can access. Governments have the most direct access to a state's power and are usually the most powerful international actors. Other actors contribute to and draw from a state's power, with or without the government's direction and support. Microsoft increases US power by developing the economy and consolidating rents from abroad. Microsoft also benefits from its position in the most powerful state in the world, being safe from external attack and with the US Government defending Microsoft's intellectual property.

Even in authoritarian regimes, nongovernment economic activity is tremendously important for the overall international political strength of the state. Companies and organizations contribute to or detract from political unity and stability depending upon their disposition toward and relationships with the government and each other. Private organizations affect economic growth as do financial markets. Companies and financial institutions constitute vital aspects of state power. Because civil society is an important part of a state, even self-interested civil society groups may affect state power. American automakers developed industry to compete with other countries'

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24. Joseph S. Nye Jr., *Soft Power: The Means to Success in World Politics*, illustrated ed. (New York: PublicAffairs, 2005).

25. Robert A. Pape, "Soft Balancing against the United States," *International Security* 30, no. 1 (2005).

automakers, not for the glory of the government. Willys, Ford, and Chevrolet were still important components of American power in WWII.<sup>26</sup>

International actors contributing to and benefiting from a state's relative power position can also act to affect a state's relative power. Nongovernment entities can increase production, attempting to offset advantages other states have. Groups able to act internationally can also handicap competitors, fearing future advantages another state's relative power confers on the competing state. The actors responsible for balancing or handicapping do not change handicapping's and balancing's effects on the balance of power. When American economic power eclipsed the UK's economic power, driven as much by industrial development and private territorial expansion as any government policy, the relative importance of government policy versus private initiative did not change the outcome.<sup>27</sup>

Online the boundaries between government and civil society blur so far as to become almost indistinguishable. Many governments of all regime types directly employ cybersecurity professionals not directly responsible to the government. Sometimes relying on nongovernment actors is a strategy to obfuscate government involvement.<sup>28</sup>

Other times, civil society organizations pursue cybersecurity objectives on behalf of a state's citizens without guidance from the government and for their private purposes. For example, Microsoft has taken upon itself the task of improving cybersecurity as part of its mission.<sup>29</sup> Determining which actors are responsible for actions in specific circumstances remains important for policy but is less relevant to understanding overall state behavior. The balance of power changes no matter who makes the decisions.

## Logic of Balancing vs. Logic of Coercion

Coercion is different from balancing because coercion addresses immediate, specific problems but balancing prepares for future problems. Because coercion is attempting to address immediate, discrete, and defined problems, coercion *must* deal directly with a government's ability to exercise actual power. While coercing governments may attack tools that develop latent power to inflict costs, if governments retain the ability to exercise actual power, they retain the ability to resist coercion.<sup>30</sup> Consequently, coercive attacks degrade the institutions, organizations, and resources that governments use to exercise power.

States balance by increasing their own ability to develop power by strengthening domestic sociopolitical institutions, building international relations, and fomenting

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26. David Dalet, *The Jeep: History of a World War II Legend*, 1st ed. (Atglen, PA: Schiffer, 2013).

27. Nathan Rosenberg and L. E. Birdzell Jr., *How the West Grew Rich: The Economic Transformation of the Industrial World*, 1st ed. (New York: Basic Books, 1987).

28. Tim Maurer, "Cyber Proxies and Their Implications for Liberal Democracies," *Washington Quarterly* 41, no. 2 (April 2018).

29. Matt O'Brien, "Microsoft's Anti-Hacking Efforts Make It an Internet Cop," Associated Press, August 21, 2018, <https://apnews.com/>.

30. Pape, *Bombing to Win*.

economic growth. Balancing hedges against future needs to coerce, resist coercion, or deter when there is no immediate need to coerce. States do not need to use force now to want to hedge against security needs in an uncertain future.<sup>31</sup> Even relatively secure states able to relax in the short term might not want to fall so far behind other states—at some point a previously secure state may not be able to defend itself.

Handicapping—as with balancing—also hedges against future threats but does so by degrading a competitor’s ability to develop power. Handicapping is offensive because it attacks the competitor, but the attack targets power development and occurs absent an immediate policy challenge. Degrading economic productivity and socio-political cohesion harms a competitor’s ability to develop power. Handicapping intends to harm power development, whereas in coercion, harming power development is incidental to the attempt to coerce now. Handicapping by degrading a competitor’s power-development capability *before* a crisis improves the likelihood the crisis will resolve in the handicapper’s favor.

Examining edge examples like preventive and preemptive wars highlights the distinction between the logic of coercion and the logic of balance. In preemptive wars the attacker strikes an adversary when the adversary’s attack is imminent. Preemptive wars follow the logic of coercion. The preemptor fears an immediate coercive threat and attacks first to countercoerce its adversary.

In preventive wars, a declining power attacks an ascending power in hopes of arresting the rising power’s ascent. Preventive wars are closer to the logic of balancing but will usually still constitute attempts to coerce. Preventive wars historically have struck at the institutions and organizations established for actual power use, not at those with potential power creation, and are attempts to coerce the rising power into accepting secondary status.

For example, the US-led invasion of Iraq was a preventive war intended to stop Iraq’s ability to develop nuclear weapons to increase its power. Some of the arguments for the Iraq war applied handicapping’s logic—Saddam Hussein’s relative power in the region must be reduced. During the war itself, however, the United States and its Allies and partners attempted to coerce Iraq first to accept UN inspectors, then to change governments.

Handicapping and coercion often look the same from the defender’s viewpoint. It can be impossible to differentiate between handicapping and coercion using most instruments of power. Israel *may* have been handicapping Iraq by bombing the Osirak reactor, but that bombing looked exactly like an attempt to coerce Iraq into accepting Israel’s military superiority.<sup>32</sup> The United States *might* have been attempting to slow Soviet economic growth with embargoes, but it looked to the Soviets exactly like

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31. Evan Braden Montgomery, “Breaking out of the Security Dilemma: Realism, Reassurance, and the Problem of Uncertainty,” *International Security* 31, no. 2 (2006); and Sebastian Rosato, “The Inscrutable Intentions of Great Powers,” *International Security* 39, no. 3 (2015).

32. Richard K. Betts, “The Osirak Fallacy,” *National Interest*, no. 83 (2006): 22–25.

America was attempting to use economic power to coerce the Soviets into changing domestic policy.

Attempting handicapping when the defender is likely to believe it is being coerced risks escalation. Governments acting aggressively can accidentally signal they are revisionist, provoking competitors to react accordingly and triggering a spiral of escalation.<sup>33</sup> Before the internet, most instruments of power were blunt and accidentally affected unintended targets, creating collateral damage the targets of the attack misinterpreted as the primary targets.<sup>34</sup> Even knowing the political organization, social structure, and economic institutions within a competitor's state with enough granularity to differentiate between actual power use and potential power development was outside the capacity of most governments before the internet.

## Information and Power

As information technology develops, information—especially cheap, online information—is increasingly important to power creation and is easier to manipulate from a distance. Cyberattacks can use information to degrade a state's economic, political, and military power-creation capacities.

### *Economic*

Information is crucial to creating latent economic power. Economic growth relies on innovation, which requires information.<sup>35</sup> A major source of economic growth is the development and dissemination of information allowing firms to recognize underserved market sectors.<sup>36</sup> Markets and market development are major engines of economic growth and are—at their core—information aggregation mechanisms.<sup>37</sup> Improved information technology and especially the internet dramatically increase economic development and latent power.<sup>38</sup>

### *Political*

Information is also crucial to government operations. Governments require information to set and implement tax policies, extracting economic power to convert it to actual power. Information allows governments to coordinate efforts and make policy decisions. Governments and leaders share information as a matter of international

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33. Jervis, *Perception and Misperception*.

34. Prashant Dikshit, *Precision Guided Munitions and Reduced Collateral Damage*, IPC S Issue Brief, no. 8 (New Delhi: Institute of Peace and Conflict Studies, May 2003), <https://www.jstor.org/>.

35. Eric D. Beinhocker, *The Origin of Wealth: The Radical Remaking of Economics and What It Means for Business and Society* (Boston: Harvard Business Review Press, 2007).

36. Clayton M. Christensen, *The Innovator's Dilemma* (Boston: Harvard Business Review Press, 2016).

37. F. A. Hayek, "The Use of Knowledge in Society," *American Economic Review* 35, no. 4 (1945).

38. Jonathan L. Zittrain, "The Generative Internet," *Harvard Law Review* 119, no. 7 (2006).

statecraft.<sup>39</sup> Governments must accept international information, analyze it, and determine international policy. Misperception or miscalculation can be catastrophic.<sup>40</sup>

## ***Military***

Finally, information affects military power development and use. As militaries train, plan, and prepare for a potential war, sharing information within the military and with allies is necessary for military operations. In many instances, militaries must also guard against espionage during prewar preparations lest potential adversaries use compromised information to counter preparations. During war, there can be neither command nor control without information flow. Information is, therefore, among the most important commodities flowing through lines of communication.

## **Handicapping and Online Information**

The importance of information in power generation makes handicapping possible. Competitors can chip away at latent power by slowing economic growth. Interfering with government operations can also slow latent power production, harm the conversion of latent power into actual power, and damage perceptions of power at home and abroad. Governments and civil societies use information to create a unified policy front either by aligning government policy with popular preferences or by coercing civil society into accepting government policy. Interfering with economic, government, and political processes and institutions slows a state's latent power creation.

Information has always been important, but before the internet, information's relative scarcity made attacking competitors' information difficult. Pre-internet information was closely held and difficult to obtain and manipulate. When governments attacked information, their strategies and operations were complex, costly, and tailor made. Cracking an opponent's cipher, seeding a political lie in an opponent's mass media, or stealing an opponent's secrets were major coups and could shift the overall balance of power. Such operations were also exorbitantly costly and so haphazardly successful as to preclude constituting a reliable strategy.<sup>41</sup> Governments tried, of course, but were so infrequently successful that scholars and policy makers could afford to outsource concern about information to persons involved in information operations per se.<sup>42</sup>

Effectively using information to harm a competitor's international power requires information about the competitor's domestic political environment. Overseas competitors can collect and analyze mass online data (data analytics) almost as easily as

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39. John J. Mearsheimer, *Why Leaders Lie: The Truth about Lying in International Politics* (Oxford: Oxford University Press, 2013).

40. Robert Jervis, *Why Intelligence Fails: Lessons from the Iranian Revolution and the Iraq War* (Ithaca, NY: Cornell University Press, 2010).

41. Lindsey A. O'Rourke, *Covert Regime Change: America's Secret Cold War* (Ithaca, NY: Cornell University Press, 2021).

42. O'Rourke, *Covert Regime Change*.

domestic groups. The inability to understand domestic political situations hindered pre-internet attempts at informational handicapping.<sup>43</sup> For example, Soviet misunderstandings about the US Civil Rights movement effectively precluded their exploitation of domestic discontent weaken the United States at home.<sup>44</sup> Online information makes understanding competitors' domestic sociopolitical terrain easier. Russian information operations in 2016 identified and exploited salient divides within the electorate.

Competitors can also use deception and computer security vulnerability exploitation to collect information that itself is useful in handicapping. Phishing is a sophisticated version of deception, presenting victims with inauthentic versions of websites to steal security credentials, but deception could be as simple as lying about identities on social media.<sup>45</sup> Overseas actors using extant computer security vulnerabilities can access valuable information by exploiting weaknesses in code or using malware to introduce vulnerabilities to systems to steal privileged information.<sup>46</sup> The internet makes in-person theft more effective because agents' digital storage media store so much more information.

The internet makes information injection in domestic information environments easier. In 1960, most countries had at most a few national newspapers and television or radio networks, but now every outlet potentially spans the globe. Even if getting a story printed in your competitors' domestic media is no easier now than 50 years ago, the proliferation of national outlets increases potential injection points. Social media's global reach allows international actors to draw attention to native media coverage, exploiting social media algorithms to ensure stories they support see increased attention.<sup>47</sup> Most social media platforms offer targeted advertising, essentially allowing adversary governments to outsource their information operations to domestic actors in the target state.

## Potential Handicappers

Governments may actively or passively employ a handicapping strategy online. When governments *actively* handicap adversaries online, government entities attack competing states' power-creation capabilities using cyberattacks. Governments may also passively follow a handicapping strategy by tolerating attacks against competitors'

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43. Arch Puddington, *Broadcasting Freedom: The Cold War Triumph of Radio Free Europe and Radio Liberty* (Lexington: University Press of Kentucky, 2000).

44. Christopher Andrew and Dmitri Mitrokhin, *The Sword and the Shield: The Mitrokhin Archive and the Secret History of the KGB* (New York: Basic Books, 1999), 236–39.

45. See Cedric Pernet and Eyal Sela, "The Spy Kittens Are Back: Rocket Kitten 2," research paper (Irving, TX: Trend Micro, September 1, 2015), <https://documents.trendmicro.com/>.

46. See CrowdStrike Global Intelligence Team, *Use of Fancy Bear Android Malware in Tracking of Ukrainian Field Artillery Units* (Austin, TX: CrowdStrike, December 22, 2016).

47. Jarred Prier, "Commanding the Trend: Social Media as Information Warfare," *Strategic Studies Quarterly* 11, no. 4 (November 2017).

power creation. Tolerating attacks against competitors' power allows a government to deny responsibility for attacks while reaping the competitive benefits.

When states tacitly allow online attacks against competitors' interests, the attackers' immediate goals may not entail the international balance of power but affect the balance nonetheless. The ransomware gangs Russia tolerates (as long as they do not attack Russian targets explicitly) argue their interests are nonpolitical.<sup>48</sup> Insofar as ransomware and other forms of cyberattacks can be lucrative, we need not impute motives absent evidence to explain why such criminal organizations would emerge. Since governments and their domestic civil society groups operate in similar circumstances, interest alignment should not be surprising. If a government controls a state with less relative power than a competitor, the competitor is also usually more wealthy. Wealthy states possess many lucrative targets for criminals.

Entities within states targeted by handicapping also respond absent government impetus for their own reasons. Companies targeted by cyberattacks do not need a government to tell them losing money is bad, and they will respond accordingly. Both the need to secure their own corporate information and the opportunity to make money securing other companies' information drives these organizations to develop cybersecurity defense capabilities. Microsoft, FireEye, or CrowdStrike have sufficient profit motive to counter cyberattacks that they will act independently of the government.

## **The Nature of Handicapping**

Many recent cyberattacks make more sense when thought of as attempts to affect the balance of power. The United States and its allies compete with Russia and China, but there has been no specific conflict and few of the crises that defined the Cold War. Nonetheless, Russia and China have supported or allowed massive cybercampaigns attacking institutions and organizations contributing to national power, including corporations, financial institutions, government organizations, and political institutions. Cyberattacks leach away billions of dollars in direct costs while diverting other resources.<sup>49</sup>

Russian cyberattacks on the United States drew the government's competence into question, potentially destabilizing alliances and governing coalitions, and cost the US economy billions of dollars. In 2009, the Russian worm agent[.]btz infiltrated the NIPR military network in the Middle East and stole military information; Operation Titan Rain expunged a Chinese worm attacking US military networks in 2005; and in the months leading up to the 2016 US presidential election, Russian hackers penetrated the computers of the Democratic National Committee and the Democratic

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48. Graham Cluley, "The DarkSide Ransomware Gang Must Be Shitting Itself Right Now," Graham Cluley (blog), May 11, 2021, <https://grahamcluley.com/>.

49. Phil Goldstein, "Cybersecurity Funding Would Jump in Trump's 2019 Budget," *FedTech*, February 2018, <https://fedtechmagazine.com>.

Congressional Campaign Committee.<sup>50</sup> None of these attacks occurred within the context of ongoing conflicts, but each attacked a component of American power, plausibly harming America's position in the international balance of power.

Attacks on political institutions may have the greatest but most difficult to assess effect on political power. Russian interference in the 2016 election dominates both research and commentary explaining transnational interference attacking political institutions. Russian cyberattacks against electoral institutions in 2016 actually began in 2014—Russian hackers stole information from a wide variety of electoral targets for a span of two years.<sup>51</sup> And although it remains unclear if the hacks changed the outcome of the election, Russian cyberattacks contributed to decline in perceived legitimacy of American elections.<sup>52</sup>

## Handicapping Is Competition, Attacking Is Conflict

Military strategy and international politics must grapple with the challenges of competition among great powers while avoiding conflict. Competition in a world of nuclear weapons may be dangerous, but it is unavoidable. In cyberspace and in the real world, China, Russia, and others *compete* with the US and its allies for preeminence in the international system. In international competition, competing governments pursue their own interests. For example, the United States does not want an international system where governments can militarily realign borders. Russia wants to control parts of Ukraine with its military. Even before Russia invaded Ukraine, it was competing with the United States to achieve its aim.

Conflict is destructive and dangerous. In the nuclear era, conflict may escalate to nuclear exchange. Once citizens start dying, nuclear-armed governments may retaliate with nuclear weapons. In fact, nuclear deterrent strategies like establishing “tripwires” specifically rely on the possibility that deaths may lead to escalation.<sup>53</sup> Governments take even the potential for nuclear exchange seriously and change their behaviors

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50. Anton Cherepanov and Robert Lipovsky, “New TeleBots Backdoor Links Industroyer to NotPetya for First Time,” WeLiveSecurity, October 2018, <https://www.welivesecurity.com/>; Department of Justice (DOJ) Office of Public Affairs, “Six Russian GRU Officers Charged in Connection with Worldwide Deployment of Destructive Malware and Other Disruptive Actions in Cyberspace” (Washington, DC: DOJ, October 19, 2020), <https://www.justice.gov/>; David Alexander, “Pentagon Flash Drive Ban Has Many Exceptions,” Reuters, June 2013, <https://www.reuters.com/>; and Raphael Satter, Jeff Donn, and Chad Day, “Inside Story: How Russians Hacked the Democrats’ Emails,” Associated Press, November 4, 2017, <https://www.apnews.com/>.

51. Public Broadcasting Service (PBS) Newshour, “Reconstructing the Russian Hacks Leading up to the Election,” PBS, December 14, 2016, <https://www.pbs.org/>.

52. Shaun Ratcliffe and Simon Jackman, “State of the United States Poll: Free and Fair? American Attitudes towards Electoral Integrity and Legitimacy” (Sydney, Australia: United States Studies Centre, November 3, 2020), <https://www.ussc.edu.au/>.

53. Schelling, *Arms and Influence*.

accordingly.<sup>54</sup> Despite the possibility of nuclear weapons use, conflict has erupted from time to time, sometimes even between nuclear-armed countries.

Competition is part of normal politics, but conflict is war. No two governments, not even Allies, have a perfect harmony of interests. Even the United States and the United Kingdom—a treaty ally—competed with each other in pursuit of their own interests. Competition over fishing rights in the North Atlantic almost exclusively involved NATO allies. During the Cold War, the United States and the Soviet Union openly competed across many venues but never openly fought one another. Both governments were aware that once conflict broke out, neither government would like the ultimate outcome.

Differentiating between competitive handicapping and coercive war in strategy and lexicon reduces the risks of accidental escalation. Had the United States responded to the revelation that Russian hackers had infiltrated the SolarWinds supply chain like it would if Russia had been flying bombers in US airspace, the consequences could have been catastrophic.<sup>55</sup> Even using such language risks miscommunicating national intent to partners, competitors, and even subordinates who might act as if war is imminent. A shifting balance of power is at least as important as being coerced, but it is not imminent. Using the language of balance of power conveys the grave situation without the added immediacy that can lead to rash decisions.

Knowing some cyberattacks are part of a long-term strategy rather than a short-term coercive burst opens a world of potential responses unavailable when resisting coercion. Because coercion is immediate, the only options available are to either accede to coercive demands or use the tools you have available at that moment. Dealing with shifting balances of power allows policies and strategies that take more time. Governments can counterhandicap, of course, but outbound handicapping need not take the same form as inbound handicapping.

States may simply attempt to outgrow the effects of handicapping rather than respond to it directly, compensating for any reduced power by replacing it with more power. Hardening institutions and systems against cyberattacks is an appropriate response to both handicapping and coercion, but these actions are more valuable when dealing with balance-of-power concerns. Handicapping may happen any time, so hardening against it pays off all the time.

## Conclusion

Handicapping in international relations explains one of the more inscrutable online state behaviors—rampant transnational attacks absent coercive or deterrent issues. States, long concerned with their relative power, continue to compete online as they have in the real world. Russia developed offensive cybersecurity capabilities to handicap

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54. Vipin Narang, *Nuclear Strategy in the Modern Era: Regional Powers and International Conflict* (Princeton, NJ: Princeton University Press, 2014).

55. Molly Crane-Newman, "Russia Could Cut Off U.S. Food and Water Supply in Next Cyberattack, Romney Says," *NY Daily News*, December 20, 2020, <https://www.nydailynews.com/>.

the United States and its alliance structure to shift the balance of power in its favor. We now know for certain that humbling Ukraine has long been among Russia's goals.

The polemical rhetoric sometimes applied to energize political leaders and members of society to take cybersecurity seriously is misdirected but not wrong. Cyberattacks are a serious problem and cybersecurity is a major venue for international competition, but not all cyberattacks are acute problems with immediate solutions. International competitors recognize the potential to use online information to affect adversary national power and act accordingly.

Declining relative power is in many ways a more severe problem than merely being coerced. Governments at a disadvantage in the balance of power are subject to repeated adverse coercion, not just the single incident in question. Alarming rhetoric missteps by equating immediate events that will matter now with the long, slow march of international strategy.

Handicapping also shows cyberattacks are more important than sometimes argued because they are an issue of international statecraft. Failure to treat cyberattacks with appropriate gravity risks underbalancing. Scholars and observers outside information security and cybersecurity circles are sometimes skeptical of cyberattacks' importance, because they rightly perceive their immediate effects as limited.

No cyberattack so far is as immediately physically destructive as a single joint direct attack munition (JDAM), but handicapping cyberattacks can have effects with longer-term consequences than the physical destruction bombs create. Indeed, handicapping cannot be as destructive as a JDAM, because such destruction almost assuredly provokes escalation and retaliation. Transnational cyberattacks are therefore less akin to one runner drugging the other to win a single race than they are to the same athlete altering another's diet to induce diabetes and removing the competitor as a challenge altogether. Acute problems may be frightening, but chronic problems are often far worse.

Handicapping also creates a useful frame for understanding the national security interest in issues like Huawei's involvement in 5G or information collected by companies under Russian or Chinese government influence. It is improbable companies like Huawei or Bytedance could acquire actionable intelligence relevant for military operations, or helpful in coercing democracies, while scraping random user data. This article shows how companies under a government's control could collect information deleterious to democratic and free-market institutions.

TikTok and Chinese telecoms are collecting the same kind of information Walmart wanted to collect on TikTok's American users and that SolarWinds collects from its customers. China and Russia are now using the information collected by TikTok and Chinese telecoms to handicap.<sup>56</sup> Assurances that information is secure ring hollow when the people who control access live under authoritarian regimes. In 2020, three

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56. Joseph Pisani and Tali Arbel, "What Does Walmart See in Tiktok?," *TechExplore*, August 30, 2020, <https://techxplore.com/>; and Stephanie Kirchgaessner, "Revealed: China Suspected of Spying on Americans via Caribbean Phone Networks," *Guardian*, December 15, 2020, <https://www.theguardian.com/>.

miscreants used nothing more than a telephone to trick Twitter employees into surrendering access to some of the highest-profile Twitter accounts in the world.<sup>57</sup>

When Russia positioned forces along the Ukrainian border during an international political crisis, leaders had good reason to think early attacks were coercive and should have treated the attacks as a preparation for war. Russia did eventually invade Ukraine, and the only thing the Ukrainians could do was resist coercion. Fortunately, there are more options to respond to handicapping than merely resisting, and the United States and its allies retain those options in the face of Russian handicapping. Regardless of how the war in Ukraine ends, international competition and handicapping will continue. If the United States preserves its position in the balance of power using the many resisting strategies available, Russia and other revisionist states' handicapping will fail. **Æ**

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57. Catalin Cimpanu, "How the FBI Tracked down the Twitter Hackers," ZDNet, August 1, 2020, <https://www.zdnet.com/>.

## BOOK REVIEWS

*An Open World: How America Can Win the Contest for Twenty-First Century Order*

By Rebecca Lissner and Mira Rapp-Hooper. Yale University Press, 2020, 202 pp.

In *An Open World*, professor Rebecca Lissner of the US Naval War College and Mira Rapp-Hooper of the Council on Foreign Relations respond to a yawning gap in the debate on American grand strategy.

After the 2020 presidential election and inauguration of Joe Biden, Rapp-Hooper advised the US State Department's policy planning staff, raising the chances that ideas in *Open World* will survive long enough outside the Ivory Tower to influence US policy in the 2020s. Whether those subsequent decisions serve the national interest and improve the US position in the world may depend critically on a national resource that nevertheless receives scant attention in *Open World*. That resource is America's reputation for strategic competence, especially after more than a decade of dueling US administrations tearing one another to pieces.

Competence will be at a premium because our authors advocate a pragmatic recipe that leaves much to the professional judgment of those in charge. To achieve an open world, policy makers must carefully select the best ingredients from two different strategic outlooks. The retrenchment camp, coming out of international realism, sees the United States after the post-9/11 Global War on Terror overcommitted in the Middle East and somnolent regarding developments in Europe: specifically, several US allies have increased capacity to provide for their own defense.

Also, the United States is burdened by debt too heavy to match China's rising influence in the Indo-Pacific, ship-for-ship or missile-for-missile. Several prominent realists counsel a strategy akin to Britain's nineteenth-century off-shore balancing, limiting US expense to prudent, calibrated interventions, themselves designed to prevent those concentrations of power abroad that would threaten US survival as a vibrant democracy in the Western Hemisphere.

In contrast to retrenchment, engagement demands a wider scope for economic investment and military risk to expand liberal international order. The future of this order depends on the free exchange of goods and capital. As the global economy becomes more efficient and more productive, the pressure increases for the free move-

ment of other factors such as labor and lower transaction costs as might be achieved with a common currency or compatible fiscal policies.

At some point, liberal grand strategy challenges the tradition of state sovereignty, appending obligations to universal human rights so that diverse states worldwide become enmeshed in international organizations, orchestrated if not sponsored by the United States. Principled engagement thus leads toward costly economic and military involvement, despite American anti-imperialist heritage and rhetoric, in the internal affairs of geographically remote states stubbornly operating far from the liberal-democratic ideal.

Lissner and Rapp-Hooper fairly warn that public debate between retrenchment and engagement has gone sterile. The drawbacks of both positions have emerged so clearly since the end of the Cold War that neither strategy is likely any longer to earn enduring support from the American people or their congressional representatives. To avoid what Johns Hopkins University dean Eliot Cohen called *strategic nihilism*, that is, no strategy at all, our authors offer their pragmatic compromise. An “open-world” strategy, like the collective security of the 1930s, draws a clear distinction at the sovereign boundary.

Unlike its isolationism between the world wars, the United States must protect global lines of transport and communication. It must dedicate a significant share of its resources, shoring up international agreements to regulate the external behavior of other states so they remain responsible stakeholders in global exchange. The Lissner/Rapp-Hooper compromise strategy fails if rival powers manage to close off spheres of influence, snatching them out of the reach of US leadership. Still, it may be sustainable if vast, resource-rich areas of the world remain open for liberal capitalism and cultural convergence at the level of global civil society, that is, without necessitating endless military intervention to rearrange the domestic affairs of troubled states.

The compromise, then, grasps at the best aspects of retrenchment and engagement. When it succeeds, it avoids the worst pitfalls—either a world shut off from American commerce and liberal human security values or the American people saddled with enormous losses of blood and treasure in endless twilight wars. Yet, the prescription of *Open World* may not have much potency, for there are at least two well-known limitations to this blend of realism and international liberalism that made similar trials in the past difficult to navigate.

Especially for the United States, without an orthodox empire or a colonial service, the character of internal regimes influences the perceptions of external behavior from economic and security partners. Secondly, the strategies to expand openness are not neutral to target states so engaged. The great power or hegemon that writes the rules wields institutional power and indirectly controls the distribution of benefits in an open system.

On the first issue, it is hard to name a significant case of the hard sovereign boundary from last century’s rise to globalism—spanning the expansion of US influence in Latin America, postwar engagement with Europe, Asia, and the Middle East, and the management of unipolarity after the Cold War. This is because when the United States

pried open a part of the world, it routinely became involved, economically, politically, socially, and in many cases militarily, shaping domestic regimes.

Our authors highlight that rebuilding the domestic politics of Afghanistan and Iraq as thriving democracies has not succeeded, but there may be no easy way forward. It may not be possible to draw China, Russia, and Iran into open global cooperation—even with club benefits at international institutions such as the United Nations Security Council or the World Trade Organization—without reforms that would soften up their domestic regimes for American interference. In fact, all three authoritarian regional rivals express acute sensitivity to this very possibility. Though occupying lower-power positions globally, all three have punctuated their annoyance by attempting to turn the tables on the United States, manipulate foreign public opinion, and destabilize American democracy.

*Open World* also underestimates the difficulty of liberalizing international exchange for goods, services, and ideals without entangling the United States in exhausting contests over the distribution of benefits. During the 1980s, policy debates questioned whether American-sponsored institutions could support economic cooperation and free trade in the West after Vietnam and the decline of US influence. UCLA's Arthur Stein and others argued persuasively that openness was not a neutral feature of efficient system governance but an intentional bug, a thinly veiled instrument of hegemonic power.

A leading economic and military power like Great Britain in the nineteenth century or the United States in the twentieth set the rules under which open exchange occurred according to its preferences. Free trade, for example, when no other country could compete with British industry, expanded the market for dominant British manufacturing and finance; relative economic gains from an open world favored Britain.

Alternatively, after World War II, the United States could fortify Japan as a bulwark against communism in East Asia by bringing its economy into the Western capitalist world while facilitating technology transfer and allowing Japan to protect its infant industries. Relative economic gains of openness, in this instance, favored Japan. But concerning the closed Soviet sphere and bipolar competition in Asia, the political consequences of the open-world strategy compensated the United States and reinforced American hegemony.

Should the United States further reduce foreign military commitments after its withdrawal from Afghanistan and pursue grand strategic principles laid out in *Open World*, potential partners and competitors alike will not help but note the distributional consequences from openness. Nor will they ignore how American resources grant the US government certain influence over who, down to particular political parties, benefits most from an open world.

American diplomats entice cooperation from other countries, even emerging rivals, by demonstrating how a rising tide lifts all boats. Still, an open-world strategy can hardly function without the United States burnishing its reputation for competence and social responsibility before the international community. In theory, a bril-

liant grand strategy still must fit national culture and outlook to mobilize the energy of a free people and work as advertised.

Unfortunately, Americans are turning their back on scientific discipline and public-spirited professions, including engineering, medicine, law, and diplomacy. Instead of supporting visionary national strategy in these times, public opinion regularly vilifies its experts, especially those in a position to shape policy, as fools and knaves. The pursuit of an open world might someday untie the knot and cure America's strategic paralysis between retrenchment and engagement. Before Open World has a chance of succeeding, though, American democracy will need to restore trust in institutions and faith in its scientific enterprise.

Damon Coletta, PhD

*Justifying Revolution: The American Clergy's Argument for Political Resistance, 1750–1766*

By Gary L. Steward. Oxford University Press, 2021, 221 pp.

It is safe to assume that the American Revolution was an unassailable good event for today's average American. In seeking to strip the American colonies of their rights and liberties, the British Crown justly reaped what it sowed.

But as historians have grappled with the American Revolution, particularly the American clergy's role, not all consider the American Revolution as airtight ethically or theologically as some might assume. For instance, in the last couple of decades, notable Christian historians such as Mark Noll, George Marsden, and John Fea argued that American clergy in the colonies were swayed by secular notions of freedom and political resistance that are out of keeping with the Bible and Protestant tradition teachings.

Gary Steward, a Colorado Christian University assistant professor of history, steps into the fray with his new book, *Justifying Revolution*. He has a doctorate in church history and historical theology from Southern Baptist Theological Seminary and served as a Baptist pastor in Canada. So Steward is well prepared to make the case that many patriot clergies in the American Revolution era have been deeply misunderstood.

Steward's thesis is straightforward: "the patriot clergy justified political resistance in continuity with the long-standing tradition of Protestant resistance activities and arguments asserted by their theological predecessors on both sides of the Atlantic" (2).

Starting in 1750 and working his way to 1776, Steward shows how numerous American clergy reaffirmed a long-standing Protestant conviction of political resistance in facing unjust rulers. Like the Protestant tradition from which they emerged, these ministers believed that Biblical passages such as Romans 13 were not to be understood as demanding absolute submission to every ruler. Instead, as Steward notes, "If a civil authority abandons his duty to seek the public good and his role as a minister of God, he is no longer to be treated as such; instead, he is to be resisted" (14).

As the book unfurls and time advances toward the Revolution, Steward shows how these long-held Protestant convictions in political resistance were articulated afresh

by clergy on both sides of the Atlantic. As new crises arose, such as the Stamp Act of 1765, the threat of American Episcopal bishops or growing political absolutism and hostility from England in the 1770s, clergy from the theological spectrum affirmed the fundamental rightness of self-defense and political resistance for the preservation of civil and religious liberties. Moreover, Steward repeatedly demonstrates how these clergy drew inspiration and guidance from their Protestant forefathers, who also engaged in political resistance as far back as the time of the Reformation.

In summary, Steward firmly advocates for there being “no compelling evidence for interpreting the resistance thought of the American clergy during the American revolution as marking any sharp deviation in theological, philosophical, or ethical thought” (129). Many of the American clergy and even some British clergy, steeped in Protestant tradition and teachings, were simply applying old principles to new problems.

Steward’s thesis and argumentation are clear and repeatedly reinforced by his thorough use of primary sources. Early in the book, Steward states his aim was to “recreate the theological and intellectual context” of the American patriot clergy and allow the reader to “understand the clergy on their own terms” (2). Steward largely accomplishes this by quoting from a wide array of American and British clergy, some well known, like John Witherspoon, and others most would not know today.

To his credit, Steward also deftly weaves in counterpoints to his arguments by quoting from clergy such as Thomas Bradbury Chandler and John Wesley, who were not in favor of political resistance to England. Steward also provides a treasure trove of footnotes and bibliographic resources for those who want a deeper dive.

Steward’s book is not without some weaknesses, though. For instance, the author repeatedly references important events or figures in English history such as the Glorious Revolution of 1689 or the Stuart monarchs. But for the uninitiated, there is not enough explanation to fully grasp the dynamics of these critical turning points.

*Justifying Revolution* would benefit from a brief appendix giving the reader a crash course in pertinent British history. Also, while Steward quotes many American and British clergy on the topic of political resistance, some readers may wish for more insight into how the colonial clergy exegeted the Biblical text to arrive at their conclusions. Yes, the political resistance they advocated for was in keeping with their Protestant tradition, but how specifically did they build a case for that from Scripture to shepherd their local churches?

Overall, *Justifying Revolution* is a well researched, tightly argued, and fascinating exploration of the doctrine of political resistance advanced by Revolutionary-era clergy. Readers interested in a deeper understanding of the religious motivations behind the American Revolution would do well to pick up this book.

Joshua Ortiz

*The Afghanistan File*

By Prince Turki al-Faisal al-Saud. Arabian Publishing, 2021, 272 pp.

Reviewing a book about the history of Afghanistan in early 2022 is an effort steeped in memory, tragedy, and regret. Winter grips the country, leaving millions at risk of starvation. The Taliban continue to reimpose its brutal, misogynistic ideology and conflict between the Taliban and radical organizations like the Islamic State-Khorason Province. The few remaining moderate anti-Taliban groups threaten to plunge Afghanistan back into a cycle of warlordism and internal bloodletting.

Six months after the United States' withdrawal, the haunting feeling is not one of conclusion but of history repeating itself. Just 33 years ago, another failed war in Afghanistan ended and left a shattered country, impoverished and depopulated, along with the ticking bomb of transnational Islamist extremism that grimly exploded on September 11, 2001, and triggered 20 years of failed American military adventurism.

This war, the Afghan-Soviet War of 1979–89, is the subject of Prince Turki al-Faisal al-Saud's *The Afghanistan File*. Turki, a senior member of the Saudi royal family, was the head of the General Intelligence Department (GID), Saudi Arabia's foreign intelligence service, throughout the Afghan-Soviet War and its immediate aftermath and played a significant role in his country's first covert and then, later, more open support of the Afghan mujahideen fighting to expel the Soviets. *The Afghanistan File* details these efforts and Saudi Arabia's attempt to shape events in a post-war Afghanistan still rife with internecine conflict between its "victorious" mujahideen factions. Ultimately, however, in the words of King Abdullah bin Abdulaziz al-Saud (1924–2015) who encouraged Prince Turki to write the book, *The Afghanistan File* is a defense of the Kingdom's actions during and after the Afghan-Soviet War. The book is an opportunity for "Saudi Arabia [to] give its version of events" after other works and histories from the war's participants "had blamed Saudi Arabia for much of what went wrong" (15).

*The Afghanistan File's* 15 chapters can be divided into four primary sections. The first introductory section, comprised of chapters 1–2 ("Invasion—and Response" and "A Troubled Independence"), details the history of Afghanistan as a nation before the Soviet invasion. It also introduces Turki and describes the Soviet invasion of 1979 and the immediate activities taken by Saudi Arabia, Pakistan, the United States, and others in response to the invasion.

The second section, which comprises the bulk of the book, is about the Afghan-Soviet War itself: (1) the "birth" of the various Afghan mujahideen groups (chapter 3); (2) the development of the funding and arms "pipeline" to anti-Soviet Afghan forces by Saudi Arabia, Pakistan, and the United States (chapter 4); (3) the role of charitable contributions and Arab volunteers in the conflict (chapter 6); (4) the influence of Abdullah Azzam, the Palestinian Islamic scholar who would found a key guest-house for Arab volunteers coming to Afghanistan (and who was a mentor of Osama bin Laden) (chapter 7); and (5) the basic historical progression of the war.

The latter led ultimately—due in no small part to the international support provided by the Saudis, Americans, and others—to the Soviet withdrawal (chapters 5 and 8). The book's third section, made up of chapters 9–12 ("The Loya Jirga at Rawal-

pindi,” “Interlude—The Kuwait Crisis,” “The Fall of Dr. Najibullah,” and “Bringing Home the Volunteers”), details the immediate aftermath of the war. This includes attempts by Saudi Arabia and Pakistan to broker a power-sharing agreement between the “victorious” mujahideen factions, the failure of these attempts, the descent of Afghanistan into civil war, and the Saudi government’s efforts to repatriate Saudi citizens who went to Afghanistan to fight against the Soviets or participate in the civil war.

The fourth and final section includes chapters 13, 14, and 15 (“The Rise of the Taliban,” “The Taliban and Bin Laden,” and “Aftermath”). This section draws Turki’s time as head of the GID and his narrative to a close with an account of the Taliban’s abrupt rise from a small group of Islamist students to the ruling power over the majority of Afghanistan, Saudi Arabia’s failed attempts to persuade the Taliban to extradite Osama bin Laden, and Turki’s thoughts on the post-9/11 efforts to battle terrorism and extremism.

Throughout these sections, the tale told by Turki is largely a familiar one, at least to those with even a moderate knowledge of the history of modern Afghanistan. The reader will encounter the full cast of players in this tragic period of Afghan history: “heroes” (to the extent the history of the Afghan-Soviet War and its aftermath allows the use of such a moniker) like militant commander Ahmad Shah Massoud (the “Lion of Panjshir”), Burhanuddin Rabbani, Presidents Jimmy Carter and Ronald Reagan, key American supporters of the Afghan mujahideen like Texas Congressman Charlie Wilson, and (the reader cannot help but infer) Turki himself as the Saudis’ primary agent in bankrolling the mujahideen.

The villains are no less familiar: the Soviet political leadership that authorized the invasion of Afghanistan; increasingly ruthless Soviet occupation forces, who brutalized the country’s population and contributed to both the breakdown of its traditional institutions and the Hobbesian rise of its soon-to-be “ruling class” of militant commanders; the perfidious Gulbuddin Hekmetyar (leader of the Hezb-i Islami militant group and a chief rival of Massoud and Rabbani); Pakistan’s Inter-Services Intelligence Agency (ISI); the Taliban; and, of course, Osama bin Laden, the renegade son of one of Saudi Arabia’s wealthiest construction magnates who would, ultimately, upend the post-Cold War international order with his acts of Islamist terrorism. The overarching storyline of the book—the Soviet invasion, mujahideen response, and Soviet withdrawal, followed by the descent of Afghanistan into civil war and brigandage and the rise of the Taliban and al-Qaeda—is also well known.

Still, with King Abdullah’s stated goal in mind, Turki weaves his narrative from the Saudi perspective, attempting to put the best spin, so to speak, on certain unpleasant undercurrents of the war. He describes the “religious zealots” from the Arab world seeking to get involved in the conflict as “a nuisance” (74) and claims that “official” Saudi financing largely excluded the most radical of the militant groups. Turki postulates private individuals in Saudi Arabia may have provided personal contributions to more radical extremists. Saudis, it seems, are “less institutionally minded than people in the Western world” and “like to get involved in . . . all sorts of areas of life on a direct person-to-person basis” (67)

Similarly, no doubt with the post-Afghan-Soviet War rise in militant Islamism in mind, Turki seeks to absolve Saudi Arabia from the blame for the radicalization trend of certain areas of the Islamic world. “[T]he Saudi State in the last hundred years,” he insists, “has not tried as a matter of formal policy to spread Unitarian beliefs [Turki’s description of Saudi Arabia’s Wahhabi form of Islam] to other Muslim countries,” and “[m]ost Saudi support for building mosques around the world has been in response to requests from Muslim governments or Muslim communities in non-Muslim countries” (71). Turki euphemistically notes that “Unitarian beliefs are spread in these communities” as a result of Saudi aid—an brief aside that is left without examination of its larger implications (71).

For its partisan undertones and reexaminations of familiar ground, however, *The Afghanistan File* is not without moments of fascination. These primarily come when Turki describes his personal experiences interacting with other players in the Afghan drama or is actively involved in attempting to shape events. This reviewer found Turki’s descriptions of his two meetings with the mysterious, mercurial Taliban leader Mullah Muhammad Omar the highlight of his narrative, but his work with Pakistani intelligence (chapters 4, 5, and 9), his efforts at peacemaking at the postwar Loya Jirga (chapter 9), and his personal interactions with Osama bin Laden (chapters 7 and 10) were also extremely interesting.

There is little doubt that Turki’s narrative aims to explain Saudi Arabia’s perspective on the Afghan-related events from the late 1970s through the early 2000s. His narrative also attempts, to some degree, to absolve the Kingdom of the blame for some of the more tragic aspects of these events (the arming and funding of more radical Afghan mujahideen groups, the post-Soviet Afghan civil war, the rise of the Taliban, and, ultimately, the September 11 terrorist attacks and rise of transnational Islamic terrorism).

That said, the book remains a valuable addition to the historical literature of the Afghan-Soviet War and its aftermath. King Abdullah’s words to Prince Turki are no less true because they are partisan. As a key player in the drama that unfolded in Afghanistan during and after the 1980s, Saudi Arabia deserves to tell its version of those events. With his first-hand experience as director of the GID, Turki is just the person to do so on behalf of his country.

Major Jeremy J. Grunert, USAF

***Mobilizing Force: Linking Security Threats, Militarization, and Civilian Control***

Edited by David Kuehn and Yagil Levy. Lynne Rienner, 2021, 287 pp.

*Mobilizing Force: Linking Security Threats, Militarization, and Civilian Control* is an anthology of works edited by David Kuehn and Yagil Levy focused on the comparative studies of civil-military relations in Western democracies.

As the subtitle suggests, the book focuses its works on qualitatively linking perceived security threats, the level of militarization for that specific country, and the

ability or inability of the democratic, civilian government to control the military's ability to mitigate those threats. With 10 case studies, *Mobilizing Force* has two major sections.

The first section includes the four nations with a predominantly external threat perception. The second section covers the six nations with a predominantly internal threat perception. All 10 (Israel, Japan, South Korea, the United States, Colombia, El Salvador, Senegal, France, South Africa, and Spain) are defined as democracies. But Kuehn and Levy intentionally picked democracies of varied ages and development to help create a more diverse set of data.

The 10 case studies each address militarization in their subject country. In the introduction, Kuehn and Levy define militarization as "the process that legitimizes the use of military force, actually or potentially." This provides a sound start for further analysis as each nation's history, government organization, cultural inclinations, and threat perception confound any linear analysis between case studies. Militarization and its antithesis, demilitarization, are not uniform when faced with similar influences.

In some cases, higher perceived external threats directly correlate to militarization. Simultaneously, higher militarization generates greater civilian control, whereas less existential but persistent threats may drive less civilian control as militarization levels effectively normalize. Regardless of overlapping trends, what stands out is that extraordinary amounts of variables influence each case study. As a result, trends cannot be easily quantified or even correlated without further substantive research in each case.

Militarization is provided as a qualitative definition from the outset, and the book does a great job linking perception of threats with militarization and subsequent control of military actions. It generates a rough framework for determining how perceived threats will or will not result in greater or lesser civilian control as a function of militarization, mobilization, and the historical legacies of both. While this is a great first step, and the authors allow that it is a preliminary model, it does not intrinsically link historical actors with mobilization and deployment, nor does it categorize militarization as it relates to perceived internal or external threats. This, again, is noted by the authors.

While not absolutely required, a basic understanding of civil-military relations theories helps augment the works in this book as not every country adheres to the traditional US military preference for Huntington's theory of objective control. This is at its core a comparative study, understanding that not every country actively tries to pursue the same organization as the United States and its relationship between civilian and military leadership.

*Mobilizing Force* is a book that will expand understanding of how, why, and to what end states will respond to threats. It is a great book to help augment any student's understanding of civil-military relations. The authors are varied and insightful. Their case studies offer insights into other democracies' struggles with civilian control in persistent and often dynamic threat environments.

**Major James D. Corless, USAF**

***To Boldly Go: Leadership, Strategy, and Conflict in the 21st Century and Beyond***

By Jonathan Klug and Steven Leonard. Casemate, 2021, 286 pp.

What can we learn about leadership from the science fiction classics *Ender's Game* or *Starship Troopers*? Can *Star Trek: Deep Space Nine* provide insights into naval warfare? How about whether we should fear artificial intelligence as seen in *Battlestar Galactica*, or will artificial intelligence simply find humans tedious as in the *Murder-bot* series?

For those who have pondered such questions over cigars while deployed in the desert, with friends and a glass of scotch, or even in their deepest musings while commuting through traffic, there is finally a book with the answers you seek! Jonathan Klug and Steven Leonard's *To Boldly Go* tackles serious issues through a medium loved by many: science fiction. The collection of essays broaches surprisingly complex contemporary issues and mines the farthest reaches of our imaginations for answers that are not only entertaining, but also legitimately thought-provoking.

On the surface, *To Boldly Go* suggests a nerdy exposé of obscure sci-fi concepts with little appeal to the common military reader. The book clearly seeks to capitalize on the significant overlap between strategy nerds and sci-fi nerds. Those that fall into the former but not the latter category would still do well to explore some of the essays, as most are accessible even to those unfamiliar with the source material. In fact, the essays that pull from unknown sources are often the most interesting to read.

The book consists of 35 essays crafted by some of today's best-known science fiction authors and military strategists. It is broken into six sections focusing on leadership and command; strategy; ethics and diversity; competition and conflict; humanity and technology; and finally, the dark side of toxic leadership. The essays are quick reads and easily digestible over lunch, a commute, or during your kid's soccer practice. But that does not mean they are light reading!

The book excels at exploring complex issues of interest to modern military leaders and thinkers. The use of science fiction allows the authors and the readers to break free from known conventions and explore the ideas from new angles. The book is well timed to coincide with the growing acceptance of science fiction in popular culture through massive hits such as *Star Wars* and *Dune*.

My early critique of the book was that I only connected with the essays that pulled from franchises I was familiar with or held prior interest in. But by the second section, I widened my aperture as the quality of the essay's analysis increased. I could connect with stories I did not know and seriously ponder the lessons and questions posed by the authors. By the third section, I was hooked, and I could appreciate familiar content with the happy heart of a fan boy while also adding several series to my read and watch lists. I went into the book expecting beer-drinking-level discussions and left it with the mentally tired but happy feeling that comes from a productive college class from a favorite subject.

I would recommend this book to anyone who enjoys military strategy, leadership, or the role of future technology in our lives who also appreciates science fiction. I would tell them to come for the comfort of topics and franchises they love and stay for

the new worlds and thoughts it will help them discover. If nothing else, it will breathe new life into many water cooler discussions.

Lieutenant Colonel Ian Bertram, USAF

*Two Centuries of US Military Operations in Liberia: Challenges of Resistance and Compliance*

By Niels Hahn. Air University Press, 2020, 381 pp.

Niels Hahn's *Two Centuries of US Military Operations in Liberia: Challenges of Resistance and Compliance* makes an ambitious promise to reframe the history of US-Liberia relations.

For Hahn, Liberia's history has been dominated by the US military, and its recent past exemplifies modern US policy making across Africa. He leverages substantial documentary evidence and interviews with Liberian policy makers and former fighters to proceed chronologically through the history of Liberia. Hahn's book, for all its imperfections, highlights the importance of examining Liberian history through the lens of US policy.

The opening chapters trace Liberia's history up to 1980. Hahn argues that the American Colonization Society, which spearheaded the effort to establish settlements in Liberia, was not truly a philanthropic organization and sought to remove freed slaves from the United States to mitigate the risk of uprisings like the Haitian Revolution. Hahn pays particular attention to the US Navy's role in Liberia's early history from violently coercing local leaders to give up their land to using Liberia as the base from which to patrol the West African coast.

The beginning of the twentieth century was characterized by American industrial efforts to establish the world's largest rubber plantation. The Firestone company, aided by the US government, engaged in deeply exploitive practices to gain labor for rubber production and influence Liberian elites to give the company favorable terms. Meanwhile, World War II drove the US government to establish bases in Liberia to project power further into Africa and, as the Cold War developed, to use Liberia as a bulwark against Pan-Africanism. With US support, the Liberian government created international organizations to counter Pan-African leaders such as Kwame Nkrumah, while the US government used Liberia as a springboard for operations across Africa.

Subsequent chapters follow the presidencies of William Tolbert and Samuel Doe. Tolbert broke from previous Liberian leaders by aligning himself with the Eastern Bloc and left-leaning African nations. He also implemented protectionist measures to develop Liberian industry and secure fairer terms from international corporations. Hahn argues that US opposition to Tolbert's foreign policy and domestic agenda led to unrest and the eventual removal of Tolbert in a coup led by Samuel Doe. Unlike Tolbert, Doe leaned heavily on US support in the initial stages of his government to secure his regime.

Hahn argues that after 1986 US-Liberian relations deteriorated as the United States pressured Doe for financial reform, Doe looked to the Soviet Union for relief. As rebel groups fought Doe with growing success, the US Department of Defense (DOD) and Department of State were at loggerheads over how to proceed as many policy makers wanted Doe to leave power peacefully to forestall further violence, and others were mistrustful of prominent rebel leader Charles Taylor. Hahn asserts that the US government established and supported the West African-led ECOMOG mission to Liberia as a proxy force and that the eventual killing of Doe was tacitly sanctioned by ECOMOG and the US government.

The concluding chapters cover the period from Doe's death in 1990 to the present. Foreign powers including much of West Africa, the United States, France, and Libya supported different actors, leading to a series of unsuccessful negotiations and prolonged conflict. Hahn astutely points out that the 1997 election that brought Charles Taylor to power against the wishes of the United States and others was unfairly portrayed by the international community as the result of Liberian irrationality.

Hahn argues more-or-less convincingly that the state of academic and policy discourses in the late 1990s and early 2000s justified intervention in countries like Liberia without considering the role of the international community in fomenting instability in the first place. Hahn asserts that the international community hobbled Taylor's Liberia by leveraging his support for the RUF in Sierra Leone and involvement in the diamond trade to levy sanctions. The final chapters are also where Hahn explores the role of China in Liberia in the most detail. Liberia, like many African nations, found China's nonintervention principles attractive and Chinese construction, aid, and influence have grown considerably.

Hahn concludes the book by calling for more international relations research to include outside actors in studies of conflict. Hahn successfully argues that philanthropic narratives were mobilized throughout Liberia's history to justify outside intervention. Lastly, Hahn argues that foreign-imposed neoliberal policies, particularly during the post-Taylor reconstruction, alienate Liberian officials.

Unfortunately, the author missed several opportunities. Hahn fails to deliver what was promised in terms of demonstrating the role of the US military in Liberia. While the US military is mentioned frequently, the description of the US military's operations in Liberia is shallow. A closer look at US operations in Liberia, such as the DOD assistance to Liberia's military, would have helped readers understand the scope and impact of the military's role in Liberia. Few former or current US officials are interviewed.

As a result, some claims about US activities are only sourced to interviews with Liberian sources. For instance, Hahn's claim that UK and US firms hired thousands of Liberians as mercenaries to fight in Iraq and Afghanistan is sourced solely to the Liberian Minister of Labor. Given that Hahn decries the use of "secondary sources or partial informants" by other works about Liberia, it is confusing why he accepts some claims without triangulating (239).

The book would have benefited from more of Liberia's recent history. The narrative abruptly cuts off around 2010, which stunts the discussion of current US-Liberia rela-

tions. Addressing discourses on China in Africa up to 2018–19 would have been an opportunity to relate US policy in Liberia to its broader behavior toward China in Africa.

Overall, *Two Centuries of US Military Operations in Liberia* covers an understudied topic and provides a readable account of US-Liberia relations for a general audience, but its shortcomings make it difficult to recommend to readers interested in rigorously exploring US operations in Liberia and the case's wider applicability to the continent.

Marcel Plichta

*Deterrence by Denial: Theory and Practice*

*Edited by Alex S. Wilner and Andreas Wegner. Cambridge University Press, 2021, 282 pp.*

The rise of nuclear-armed superpower adversaries during the Cold War prompted theorists to produce a rich body of literature on the concept of deterrence. But they favored the study of deterrence through punishment by nuclear weapons to the point that other forms of deterrence, notably deterrence by denial, went under-theorized.

Amid a geostrategic environment in which deterrence has taken on new salience, Alex S. Wilner and Andreas Wegner have produced a volume of essays that is a timely addition to the theory of deterrence by denial. To advance the study of the concept beyond its infancy, they assembled an international group of scholars of political science, international relations, and strategy.

At the start of the volume, the editors and distinguished theorist Patrick Morgan explain what ostensibly is a straightforward concept. Whereas deterrence by punishment attempts to influence a challenger's decision calculus by imposing costs for that action beyond what the challenger is willing to pay, deterrence by denial affects the other side of the balance; it denies the proposed action's benefits. The concept is seemingly useful in our era of great power competition where security threats thrive but do not rise to the threshold of nuclear exchange.

Nevertheless, without the overwhelming clarity of mutual assured destruction, theorists have been ambiguous about its application and effects. The case studies in the volume illustrate the challenge of identifying a cause-and-effect relationship between a defender's denial efforts and a challenger's decision refrain from action, casting doubt on the utility of the concept as it is formulated by the volume's contributors.

Dima Adamsky's article on Israeli concepts of deterrence exhibits the difficulty of parsing out the concept's working from the tangle of actions and counteractions taken by opponents in real-world conflicts. The thrust of Adamsky's chapter is that in their conflict with the Arabs, the Israelis shifted from punitive deterrence to static defense once it became clear to Israeli strategists that punitive operations were losing their deterrent effect.

He claims that deterrence by denial became more prominent after the Israelis made the shift. Yet, his descriptions of Israeli missile defense and civil defense advances are not connected by argument to enemy decisions to abandon intended attacks. He does

not analyze the enemy's decision calculus or its interpretation of Israeli actions. Lost in his discussion is a cause-and-effect analysis that shows the intentionality of Israeli deterrence by denial, how the deterrent message was understood by enemies, and how that understanding shaped their actions. Jonathan Trexel's article on Japanese ballistic missile defense vis-à-vis North Korea suffers from a similar lack of evidence-based argumentation.

While Adamsky and Trexel are unconvincing in showing the action of the concept in their case studies, James J. Wirtz hampers the editors' goal of gaining "a better understanding of the conceptual distinction and relationship between defense, deterrence by denial, and deterrence by punishment" (212). In a chapter on the strategy of deterrence by denial, Wirtz blurs the theoretical distinction between defense and deterrence. He posits an idiosyncratic typology that makes deterrence a subset of defense. Writing of "defense by deterrence," he makes deterrence instrumental to something from which the editors hope to distinguish it (124, 140).

He may have in mind a grander conception of defense, such as that implied by the title of the Department of Defense, but he refrains from defining it. Regarding deterrence by denial, he recommends to US policy makers a sort of second-order strategy of denying challengers' attempts to circumvent American deterrence efforts. In essence, Wirtz recommends defending US deterrence activities from attacks by adversaries. The suggestion, again, conflates defense and deterrence. Overall, Wirtz's chapter gets lost in its layers of abstraction, obscuring rather than clarifying the concept.

The best chapters in the volume evaluate deterrence by denial critically. John Sawyer, who analyzes its applicability to counterterrorism, and Martin Libicki, who evaluates its relevance in cyberwar, each provide insights into the broad concept that extend beyond the circumscribed subjects of their chapters.

Sawyer analyzes the logic by which deterrence by denial functions and finds it should be reclassified as "dissuasion by denial." Sawyer begins by defining three approaches to preventing or mitigating terrorist attacks: offense, defense, and influence. Deterrence falls under the influence approach, which is, in turn, subdivided into "bundling" and "dissuasion" logics. On the one hand, bundling consists of if-then relationships between adversaries, for example, "if you do x, I will respond with y," "if you stop doing x, I will not do y," and so on.

On the other hand, dissuasion seeks to alter the attacker's perception of status quo as it pertains to the costs and benefits of a prospective attack. Sawyer argues that deterrence by punishment is an example of bundling; but, in contrast, deterrence by denial fits under the logic of dissuasion. It is better classified as dissuasion by denial: "manipulating perceptions of the ability to access and attack a given target using a given tactic" (109).

By removing deterrence by denial from the if-then logic within which it does not fit, Sawyer makes it a more useful concept. Dissuasion by denial becomes more than the other side of the cost-benefit equation. Instead, it operates on the present environment, not in the future, and it operates independently of the defender's threats. By grouping dissuasion by denial with other forms of dissuasion, Sawyer opens the way

for the fruitful application of denial to a larger dissuasion effort. Furthermore, he clarifies the logic of the concept, which up to this point, he correctly notes, has been “an untenable and confusing mishmash of the bundling, dissuasion, and offense logics” (108–9).

In his chapter, Martin Libicki makes points about information and understanding that transcend his subject of deterrence by denial in cyberspace. He argues that militating against it is the difficulty of opponents to know each other’s capabilities when contemplating attack or defense. Opponents struggle to discern the deterrent effect of a defense and attackers can only know if a target is impenetrable by attempting to penetrate it (196). They often do not know the scope of a defender’s defenses or if an attack succeeded and, if so, what the consequences are.

A study of military history would demonstrate such uncertainty on the part of an attacker to be the case of any conflict. Moreover, Libicki shows that in cyberwar, a challenger front-loads costs so that its chances for success against a defense will be good when it is time to strike. Therefore, it is the challenger’s perception of his own preparations, not the quality of the defender’s defenses, that determine if the challenger will strike. The result, Libicki concludes, is that the prospects for deterrence by denial are dim in cyberspace. Overall, Libicki’s work indicates fruitful paths for research on deterrence in other domains.

The editors of the volume intend it for “policy makers, practitioners, analysts, and academics,” but it is likely of marginal value for officials seeking to translate theory into plans (281). The volume as a whole elaborates and expands the concept of deterrence by denial without giving it greater power to guide decision-making. The contributors lack a common lexicon and typology to discuss it.

Their various analyses are often unclear about who is being deterred, what action is being deterred, or when deterrence starts or ends. They do not offer evidence that would assure those seeking to practically apply the concept. To make progress, analysts should generate longer and richer narratives that illustrate the concept’s impact on events and why it was deterrence by denial and not some other contingency that shaped the course of a given conflict.

All the same, the book is a contribution to the growing literature on this concept. In elaborating the theory and in its short case studies, it serves as a guidepost for the work that needs to be done in developing this concept, which is of salience amidst today’s great power competition.

Richard Marsh, PhD

***The Light of Earth: Reflections on a Life in Space***

By Al Worden with Francis French. University of Nebraska Press, 2021, 150 pp.

Astronaut memoirs tend to fall into two categories. The first is a straightforward career narrative, as a super-motivated super-achiever does increasingly bigger and better things that culminate in being selected as an astronaut, followed by one or more amazing voyages into outer space.

The second, typified by Chris Hadfield's *An Astronaut's Guide to Life on Earth* and Nicole Stott's *Back to Earth: What Life in Space Taught Me about Our Home Planet—And Our Mission to Protect It*, use an astronaut's experiences to teach a broader lesson. Al Worden, the command module pilot of Apollo 15, wrote the first kind of memoir in his 2011 book *Falling to Earth: An Apollo 15 Astronaut's Journey to the Moon* with the assistance of Francis French. With the authors being intelligent, well-educated, and articulate people who have accomplished fascinating things, both kinds of astronaut books are worth reading.

Worden's second book, also written with Francis French, is a different kind of book. Essentially it is a collection of essays, with each chapter standing alone. In *The Light of Earth*, the topics include his views on his Apollo astronaut colleagues, the claim that the moon landings were hoaxes, the space shuttle, risk and death, his poetry about space travel, and his thoughts about the greater purpose of the space exploration.

Worden's descriptions of some of the other Apollo astronauts are detailed and personal. This was an extraordinary group of men who happened to be at the right time and place to do historic and extraordinary deeds. Most of his descriptions are laudatory. He had differences with some of his fellow astronauts, but Worden does attempt to be fair. In general, those who are well-read in the literature of Apollo will not be surprised by the vignettes. At the time, the Apollo astronauts appeared to be cut from the same mold, but, in fact, they were distinct individuals.

"I Never Liked the Space Shuttle" is the title of Worden's chapter about that vehicle, and that sums up his perspective. He admits that it was "unimaginably impressive" and "an absolutely great machine" but regards it as conceptually flawed: inherently complex, dangerous, and expensive. With the benefit of retrospective, it is hard to argue. Note that the new generation of spacecraft for human spaceflight have a family resemblance to their predecessors in the 1960s and not the winged space shuttle.

Worden's musings on risk and death will be no surprise to many readers of this review, whose chosen professions of military service and aviation expose them to a higher degree of risk than the typical American. To Worden, risk is something that can be accepted to the degree that the reward is commensurate with the risk. He is open about how his approach to risk contributed to the collapse of his first marriage.

In Worden's view, the ultimate purpose of space exploration is the survival of the human species. A species that is limited to a single planet is less likely to survive than one that is spread across the universe. Worden believes that the Chinese will land humans on Mars before the Americans do because of America's calcified bureaucracy.

*The Light of Earth: Reflections on a Life in Space* is thoughtful book by an author with an interesting perspective. **Æ**

**Kenneth P. Katz**

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