

## The Nuclear Dimension of Hybrid Warfare

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It is often said that generals prepare to fight the next war as they fought the last war. The same is often said about the United States' nuclear deterrence strategy and policy, with the military often accused of failing to shed its Cold War mindset. Today's environment, however, is much different than it was three decades ago when the Cold War came to an end. With a nuclear peer in Russia and a rapidly expanding and modernizing China? The United States is finding itself in a world where it must face two nuclear peers. When a nuclear North Korea and a near-nuclear Iran are added to the milieu, the challenge facing the United States becomes even more difficult.

Today, the United States risks failing to adapt to its adversaries' understanding of warfare and failing to grasp the corresponding implications for nuclear deterrence. In 2016, former Chairman of the Joint Chiefs of Staff, General Joseph Dunford, declared, "We're already behind in adapting to the changing character of war today, in so many ways."<sup>1</sup> In February 2022 there was a reticence from some to believe Russian President Vladimir Putin would launch a full-scale invasion of Ukraine, despite the obvious Russian troop build-up and US warnings.<sup>2</sup> Now, more than 200 days into the war, Ukraine, expected to suffer defeat within a week, is driving Russian forces from Ukraine through the innovative use of new technologies and hybrid warfare.<sup>3</sup>

Early in the war, with Russian forces performing poorly, Putin threatened to use nuclear weapons against the North Atlantic Treaty Organization (NATO)—perhaps in expectation that the threat would cause NATO member states to end their material support of Ukraine.<sup>4</sup> The threat did not have the desired effect. In the shadow of Putin's nuclear threat, Ukraine is waging a successful hybrid war that includes conventional conflict, asymmetric conflict, and a large-scale effort to maintain Western support. Russia's dis/misinformation campaign failed relatively early in the war, but the threat of nuclear use remains.

Events in Ukraine are, of course, all playing out at the same time as China is ratcheting up military pressure on Taiwan as the People's Liberation Army (PLA) challenges Taiwanese sovereignty. According to Hsiao Bi-khim, Taiwan's unofficial ambassador to the United States, Taiwan is facing unprecedented "gray zone," "cyber," and "economic" challenges.<sup>5</sup> For the United States, the "Arsenal of Democracy" is facing growing pressure from two peer authoritarian regimes that desperately want to change the global status quo.<sup>6</sup> Although neither Russia nor China are conventional military peers of the United States, Russia is a nuclear peer and expert in hybrid warfare. The People's Republic of China (PRC) is an economic peer and rapidly moving to nuclear parity. The PRC's prowess in hybrid warfare is also significant.<sup>7</sup> For both Russia and

China, avoiding a conventional conflict with the United States is paramount, which makes nuclear weapons attractive for their capacity to deter American conventional military power. Hybrid warfare is similarly attractive in its ability to skirt that same conventional power, but at the other end of the conflict spectrum.<sup>8</sup>

The extended conflict in Ukraine, pre- and post-invasion, offers an opportunity to reflect on the nuclear dimensions of hybrid conflict. There are a number of questions deserving assessment. First, what roles will nuclear weapons play in hybrid warfare? Second, what types of change can we expect to see as the international system moves to tripolarity? Third, how can the United States minimize the risk of nuclear escalation, or manage it should adversaries opt to employ nuclear weapons in support of strategic objectives? The following pages will seek to address these questions.

### **Hybrid Warfare: Definitions and Intersection with Nuclear Deterrence**

The Department of Defense does not precisely define the term “hybrid warfare.”<sup>9</sup> The 2016 *Joint Operating Environment 2035* mentions a trend of competitor states likely employing “hybrid stratagems using a confusing combination of direct and indirect approaches to contest U.S. global interests.”<sup>10</sup> According to the document, these approaches “will be designed to avoid overt commitment to major foreign operations, minimize the risk of escalation, provide plausible deniability, and avoid the costs of direct involvement.”<sup>11</sup> They “will feature regional nuclear deterrence in support of conventional military operations and a desire to build ‘off ramps’ to avoid escalation with the United States.”<sup>12</sup>

The 2018 *National Defense Strategy* mentions capabilities “designed to help us compete more effectively below the level of armed conflict.”<sup>13</sup> The 2017 *National Security Strategy* states that “adversaries and competitors became adept at operating below the threshold of open military conflict and at the edges of international law.”<sup>14</sup> The specific advantage that these actors possess is the faster ability to integrate “economic, military, and especially informational means to achieve their goals.”<sup>15</sup> The *National Security Strategy* emphasizes the unique role of the law enforcement and intelligence communities in countering actors using these tactics, as well as the need for the United States to develop operational concepts and capabilities “to win without assured dominance in air, maritime, land, space, and cyberspace domains.”<sup>16</sup> The 2021 *Interim National Security Strategic Guidance* does not refer to these concepts at all.<sup>17</sup>

### **Bipolarity**

Russia and China benefitted from American failure of imagination in the early 1990s, namely the assumption that American primacy will remain uncontested for decades.

They also benefited from the United States' focus on counterinsurgency operations and wars in Iraq and Afghanistan—post-September 11, 2001. The post-9/11 period was particularly important for Russia and China because both closely observe the American way of war, and were able to develop asymmetric capabilities designed to target American weaknesses.<sup>18</sup> They also modernized their nuclear arsenals, because, as Matthew Kroenig points out in *The Logic of American Nuclear Strategy*, strategic superiority matters in a crisis between nuclear-armed adversaries.<sup>19</sup> In essence, the American focus on violent islamic jihadism, preventing terrorism, and other US policies at the time, gave Russia and China time and space to reach a level of strategic (Russia) and economic (China) parity with the United States. Thus, America's unipolar moment was short-lived and quickly followed by the current tripolar period.<sup>20</sup>

While a detailed discussion of Russia's and China's strategy and force posture is beyond the scope of this article, we will highlight aspects that are most relevant for American nuclear deterrence and force posture and most different from the Cold War bipolar strategic environment. We argue that the United States must improve its understanding of Russian and Chinese strategic thinking and develop detailed profiles of their respective senior leaders, values, and decision-making structures. Identifying influential players—avoiding the mirror imaging that plagued nuclear deterrence efforts vis-à-vis the Soviet Union—is also a critical need for the US government. American decision-makers can no longer assume that Russian or Chinese leaders have similar values to their own. This means no presidential administration can assume nuclear weapons are distinct. They must instead view them as enablers across all domains and levels of conflict.

The United States' strategic problems are magnified by the fact that after the end of the Cold War it largely stopped thinking about the role of nuclear weapons in national security strategy and focused on their reduction and elimination. Four consecutive presidential administrations, Democrat and Republican, let the nuclear enterprise atrophy and withdrew from competition in nuclear weapon systems.<sup>21</sup> American withdrawal from competition emboldened adversaries to exploit the opportunity. Over time, it induced American adversaries to develop a variety of nuclear weapons for use on lower levels of the escalatory ladder, giving them escalation options unavailable to the United States. Where, for example, over the past decade, Russia developed more than a dozen short-, medium-, and intermediate-range delivery vehicles for ultra-low and low-yield nuclear weapons, the United States developed the W76-2 low-yield warhead for the Trident D-5 submarine-launched ballistic missile.<sup>22</sup> The W76-2 is hardly an effective counter for Russia's diverse options. The same can be said for China's variety of warheads and delivery vehicles.

Distinguishing between strategic and non-strategic nuclear weapons makes sense, depending on the circumstances. As Jacek Durkalec points out in the context

of Russia's 2014 invasion of Ukraine, "The credibility and effectiveness of this hybrid warfare campaign was backed up by Russia's potential to use its full spectrum of military capabilities, including conventional and nuclear forces."<sup>23</sup> Durkalec goes on to detail an increase in Russia's signaling activities across the spectrum of its nuclear weapon capabilities following Russia's 2014 invasion of Ukraine, which started out as hybrid warfare to buy Russia time to accomplish its objectives before the West could politically and militarily mobilize to help Ukraine meaningfully counter it.<sup>24</sup> The remark is reminiscent of Paul Nitze's comment that the "atomic queens may never be brought into play; they may never actually take an opponent's pieces, but the position of the atomic queens may still have a decisive bearing on which side can safely advance a limited war bishop or even a Cold War pawn."<sup>25</sup>

The use of a nuclear weapon in conflict would signal warfare's transition to a new phase and out of a purely hybrid war. In this context, it is important to note that the United States judges for itself what constitutes "gray zone" conflict and hybrid warfare.<sup>26</sup> While the judgment of what constitutes "below the threshold" activities might be straightforward in some cases, in others those judgments are subject to domestic politics, the evolution in threat perceptions, and the willingness to risk escalation to counter an adversary. Because American decision-makers perceive hybrid warfare as less malign than a direct military conflict, adversaries seek to rely on ambiguity as a screen for operations that undermine American interests. The United States must be careful that its perception of adversary action is informed by the view of allies, particularly allies under assault from Russian and/or Chinese hybrid operations.<sup>27</sup>

Russia does not use the term hybrid warfare. In its understanding the "non-military non-linear hybrid segment is embedded within Russia's more broadly conceived and fully integrated conflict spectrum and relies on the leveraging or actual employment of conventional, unconventional and nuclear forces."<sup>28</sup> This is an important point because Russian doctrine does not have a phasing construct as is so prevalent in American thinking.<sup>29</sup> Where *Joint Publication 5-0: Joint Planning* has long discussed distinct phases in conflict and a clear distinction between peace and war, neither the Russians nor the Chinese see such distinctions and phases.<sup>30</sup> Should Russia or China use a nuclear weapon, there is reason to believe that, much like efforts to counter the United States with hybrid warfare, they will use nuclear weapons in such a way that an American nuclear response is difficult. The use of a single low-yield weapon in a remote location, for example, may not readily see an American nuclear response.<sup>31</sup> The desire to create ambiguity, even in nuclear weapon use, remains.<sup>32</sup>

### **Tripolarity**

The following section discusses the main distinctions between hybrid warfare's nuclear dimension in a bipolar and a tripolar environment. These distinctions are, in

part, speculative because the tripolar strategic environment is still young and has no real predecessor.

American nuclear forces are not sized to deter two peer strategic nuclear competitors with a counterforce strategy. This disparity can lead to adversaries employing hybrid tactics more aggressively, believing that the United States fears escalation to nuclear use. Both adversaries see the United States as susceptible to hybrid tactics.<sup>33</sup>

During the Cold War, the United States sized its nuclear forces to maintain nuclear parity with the Soviet Union. The Department of Defense's Fiscal Year 1975 Annual Report discussed the importance of "essential equivalence" with the Soviet Union not just for American deterrence goals, but also for "third audiences," including allies.<sup>34</sup> It assumed that solving the deterrence problem with the Soviet Union translated into being able to solve the deterrence problem with China, which deployed a comparatively smaller number of nuclear weapons. Such a simple calculation is no longer possible.

The nuclear equation is changing, with the United States only slowly waking to the new and unfavorable reality. Not only is China's rapidly expanding nuclear arsenal concerning, but Russia's large arsenal of non-strategic weapons makes both a regional and strategic nuclear conflict more difficult to deter for the very reasons explained by Kroenig—strategic superiority carries the day in a nuclear crisis.<sup>35</sup> With both Russia and China sustaining a capable nuclear weapons production complex that United States may not be able to match, the nation is at risk of leaving gaps in its nuclear forces. Scenarios involving Ukraine and Taiwan are most prescient.

With the recent discovery of China building 300 new silos for its intercontinental ballistic missile (ICBM) force, it is plausible that China reaches nuclear parity with the United States by the end of the decade, emboldening Chinese President Xi Jinping to act more assertively in challenging the United States.<sup>36</sup> This is exactly what occurred when the Soviet Union reached parity with the United States in the second half of the 1970s. Georgy Shakhnazarov, a member of the International Department of the Central Committee of the Communist Party of the Soviet Union, remarked, "How was it [the situation in 1977-1979] different from the previous years? It was different because the Soviet Union entered that period at the peak of its military might. Never before did we have such a powerful military force. And it had to fire, it was seeking to find a use for itself."<sup>37</sup> In what ways might China's force contemplate asserting itself?

The magnitude of China's rapid nuclear expansion calls into question whether the American nuclear force is sufficient to address China and Russia's use of nuclear coercion. Under the New Strategic Arms Reduction Treaty (New START), the latest strategic arms control agreement between Russia and the United States, each party is limited to 1,550 operationally deployed strategic nuclear weapons on 700 delivery vehicles.<sup>38</sup> Each party can retain up to 800 accountable deployed and non-deployed strategic launchers and

heavy bombers.<sup>39</sup> While the United States can alter its strategy from one of counter-force to one of counter-value and seek to achieve deterrence against both China and Russia, a strategically inferior United States could fail to achieve its objects in a crisis.<sup>40</sup> Given Russia's proximity to both Europe and China, President Putin can rely on non-strategic nuclear weapons to achieve deterrence, leaving his strategic arsenal focused on the United States, where the United States cannot do the same because of distances to targets. Likewise, China can use its non-strategic nuclear weapons to deter Russia, while deploying its strategic arsenal to deter the United States.

Although the United States can rapidly retarget its strategic nuclear arsenal to face the pressing threat, it will soon find it impossible to maintain numbers parity with both adversaries. Given Russia's long history of cheating on treaties it has signed, the United States may suddenly find itself in a weaker position than anticipated.<sup>41</sup> When the Obama Administration stated that large-scale cheating would not have an effect on an American second-strike, there were no indications China would launch a large-scale build-up of its nuclear forces.<sup>42</sup> It is not clear whether New START considered Russia's violations of the Intermediate-Range Nuclear Forces Treaty and its subsequent deployment of these forces. Similarly, American nuclear force posture may be challenged soon by Russia's development of its so-called exotic nuclear systems.<sup>43</sup>

The reality is America's adversaries are blending and blurring the difference between conventional and nuclear weapons. They are developing dual-capable systems that make it more difficult for the United States and allies to discern whether they are facing nuclear-armed or conventional systems. China co-locates its non-strategic nuclear and conventional forces. In both the Russian and Chinese cases, the hybrid warfare-like tactic is designed to increase ambiguity and deter American action.

There should be little doubt within the United States that it is the nation's conventional military superiority that is driving adversaries to rely on both hybrid warfare and nuclear weapons to alter the global status quo while deterring an American military response. The turn to nuclear weapons was only natural because the United States ceded superiority to any competitor willing to devote the resources to a large and advanced arsenal. This does not mean that Russia and/or China will reach for a "nuclear hammer" first, nor that they prefer a nuclear solution to a conventional one. (After all, they continue to invest in conventional military capabilities.) But America's adversaries, even those relatively weaker than the United States, namely Russia, might conclude that a relative asymmetry of stakes makes risks associated with nuclear weapon use a risk worth taking. They might exploit nuclear weapons in ways that are not available to the United States and signal a willingness to escalate further.<sup>44</sup>

Russia may take from its experience in Ukraine that its use of hybrid warfare in Crimea and Eastern Ukraine was much more successful than its use of large-scale conventional force backed by nuclear threats.<sup>45</sup> While America's adversaries cannot be

certain they will win a protracted war against the United States, there is potential for protracted hybrid conflicts backed by strong nuclear arsenals.<sup>46</sup> Should either a hybrid or conventional strategy fail, the ever-present internal instability of autocracy might increase the pressure on Russia and/or China to use nuclear weapons. An adversary may assume given limited American non-strategic nuclear weapons capability, a limited strike with ultra- or low-yield weapons is a safe bet.

Another challenge for the United States is China's anti-access/area-denial strategy aimed at denying American forces the ability to deploy conventional forces rapidly to the Indo-Pacific. Although Russia would like to employ a similar strategy, European geography presents a challenge. Thus, Russia, and, to some extent, China, are exploiting reflexive control (perception management) and influence operations against the United States and its allies.<sup>47</sup> These operations are both part of a hybrid strategy and have a nuclear dimension.

Russia and China are exploiting modern technologies to undermine the American-led alliance system. Russia has a long history of doing so and expended great effort to vilify Ukraine's government early in the war and drive wedges between NATO member states.<sup>48</sup> Russia's efforts on this front utilize the concept of reflexive control, which involves manipulation of a target nation's view of itself and an adversary—making it hard to discern fact from fiction. In doing so, Russia tries to incentivize the target's decision-making in Russia's favor without the decision-maker knowledge of the manipulation. Russia perfected the concept in the 1960s and 1970s when the Soviet Union realized it could not win a competition with the United States on equal footing.<sup>49</sup>

It is prudent to assume that Russia and China are thinking about information operations strategies that accompany attacks against American or allied forces. As Keith Payne appropriately writes, "The conditions of the Cold War facilitated the expectation that the United States would recognize if an attack had occurred, by whom, and with what. Armed with such knowledge, the United States could identify the likely opponent in advance and bring to bear its specified retaliatory deterrence threat."<sup>50</sup> Influence operations may be tailored to make such straightforward identification more difficult and challenge tacit assumptions that the United States and allies are able to recognize they are under attack and from whom. Attribution becomes particularly important in this context.

There are a myriad of ways in which influence operations can complicate a response in a regional hybrid conflict. For example, Russia might obscure its role at the beginning of conflict, just long enough to gain a first-mover advantage and put the United States and its allies on the defensive. Influence operations were an integral part of Russia's invasion of Ukraine in 2014 and remain an important aspect of its foreign policy. President Putin communicated he "was ready for nuclear alert" during the 2014 invasion.<sup>51</sup>

It is not just during a conflict that the United States must worry about influence operations. Russia and China are conducting campaigns aimed at undermining the United States' trustworthiness as an ally—questioning American commitment.<sup>52</sup> Russia and China are also using influence operations to counter American deployments to allied countries that threaten their influence. A concrete example of this phenomenon is Russia's influence operations in the Czech Republic when the Czech Republic was invited to host an element of a US missile defense system from 2007-2009.<sup>53</sup> Another example is when China applied a host of coercive measures, primarily economic, to dissuade the Republic of Korea from deploying a Terminal High Altitude Area Defense (THAAD) system.<sup>54</sup> The United States has not been effective in countering these efforts.

It is worth keeping in mind that influence operations are not a regional phenomenon. Both Russia and China are actively engaged in influence operations in the United States.<sup>55</sup> These hybrid efforts seek to undermine American society by inflaming existing social tensions. In a more targeted fashion, they also seek to slow or stop nuclear modernization by attempting to control the narrative on the effects and dangers of modernization. In seeking to shape a domestic narrative, Russia and China counter the defense of American interests in regional scenarios where they seek to undermine American nuclear and conventional postures in a region. In short, Russian and Chinese influence operations at home can affect American freedom of action abroad.

Aside from the question of Russian and Chinese nuclear capabilities and willingness to threaten their use—to preserve freedom of action at lower levels of conflict—the United States struggles to distinguish between military operations and grey zone provocations (what some strategic documents call “below the threshold” of armed conflict).<sup>56</sup> It is worth keeping in mind that it is in Russia's and China's interest to rely on grey zone tactics to convince the United States and its allies that they are engaging only in something less than armed conflict. Both Russia and China understand the American reluctance to recognize that they are broaching a “gray zone” threshold to engage in acts of war that require a response. In the case of both Russia and China it is for economic interests (Russian oil and gas for Europe and Chinese manufactured goods) that these conflicts are allowed to continue.

There is some evidence that Russia and China are justified in thinking that the United States lacks the willingness to take retaliatory action in these “grey-zone” conflicts. For example, China steals an estimated \$200-600 billion of intellectual property each year.<sup>57</sup> Yet the US has taken no significant public action in retaliation. Establishing credibility in the grey zone—demonstrating a willingness to respond to relatively limited actions—has direct consequences for credibility further up the escalation ladder. The United States needs a credible plan for dealing with (at a minimum) two parallel hybrid contingencies perpetuated by distinct actors in different geographical regions.<sup>58</sup>

The challenge might be compounded by adversaries' nuclear superiority on lower



levels of escalation because the United States may be self-deterred from responding with a nuclear weapon given its lack of symmetrical nuclear capabilities. For example, the United States lacks short-, medium-, and intermediate-range ballistic missiles with ultra- and low-yield warheads. Russia has these options and sees them as a tool for using nuclear weapons in a theater conflict without escalating to strategic nuclear conflict. Thus, they appear, at least to the Russians, to provide a potential *fiat accompli* option.<sup>59</sup>

This problem is made worse because the United States now faces Russia and China simultaneously—while maintaining important alliances. Politics in NATO, for example, increase the complexity because the United States and NATO member states might have different thresholds for action in hybrid scenarios, particularly when nuclear threats or use is involved. What would constitute a mild provocation not particularly worth responding to for the United States might generate grave concerns and a need to respond on the part of an ally. Solidarity with allies is an important element of deterring hybrid threats.<sup>60</sup>

The problem of reliably communicating is magnified by modern technologies, their low costs and accessibility. Russia, for example, is actively waging information campaigns across Europe for the purpose of finding and exploiting cracks in the NATO alliance. As mentioned previously, fracturing NATO has long been a top priority for Vladimir Putin. Thus, using modern forms of communication to undermine solidarity (hybrid tactics at work), particularly as they relate to the nuclear issue, is important for Russia. There is a parallel development in advancing technologies that make some aspects of hybrid warfare cheaper and more potent than they were during the Cold War—the utilization of social media for information operations. These developments provide opportunities to adversaries and allies alike, but given Russia's long history of propaganda operations, it has a level of experience missing in most Western nations.<sup>61</sup>

A separate problem is obtaining reliable information in the middle of conflict and protecting the integrity of American and allied command, control, and communications (C3) networks. In the nuclear context, the need for selective employment might impose additional requirements on nuclear command, control, and communications (NC3) networks as well as on operational planning. It is certainly the plan of Russia and China to disrupt these networks and confuse the image of the battlefield, making it harder to have accurate situational awareness and, thus, decide.<sup>62</sup>

A key challenge for the United States is fighting a limited war while preventing nuclear escalation, including on the strategic level. Maintaining reliable communications with adversaries is a requirement for preserving the ability to offer off-ramps.

## Conclusion

Early in the War in Iraq, Secretary of Defense Donald Rumsfeld was questioned by Soldiers about their lack of armored vehicles. He famously responded, “As you know, you go to war with the Army you have, not the Army you might want or wish to have at a later time.”<sup>63</sup> The United States is at a similar point in the new tripolar era. The United States is clearly behind Russia in both hybrid warfare tactics and nuclear modernization. China is rapidly catching the United States in the latter. Any significant force posture change in the American arsenal takes time. This generates another asymmetry. Even if the United States has strategic parity with both Russia and China simultaneously on all levels of conflict, its delaying of nuclear modernization implies its nuclear weapons and warhead infrastructure is less capable than Russia’s and China’s infrastructure that has been actively modernizing for two decades and, at least in the case of Russia, has modernized eighty-nine percent of its nuclear systems.<sup>64</sup>

The nuclear modernization deficit is driven by both choice and politics. Even limited efforts to train the upcoming generation of nuclear warhead designers under the aegis of the Stockpile Stewardship Program face congressional opposition due to concerns over developing new nuclear weapons.<sup>65</sup> The United States has not deployed a new warhead design since the late 1980s leaving it with warheads tailored to a strategic competition with the Soviet Union. Are there nuclear warhead designs that the United States could explore to counter adversaries’ hybrid approaches? American politics is not ready to debate this question.

Countering Russia and China across a full spectrum of conflict requires the United States to ask some rather uncomfortable questions. Are Cold War warhead designs best suited to the current competition? Do they accommodate developments in new materials and defensive capabilities? Are self-imposed restraints, in areas like yield-producing experiments, worth the costs? Answering these questions and many others like them are beyond the scope of this article, but the need to fundamentally rethink the size, composition, and capability of the American nuclear arsenal is clear. The new strategic environment facing the United States should leave no doubt that simply building newer versions of remnant Cold War systems is sufficient. With Russia and China looking to wage hybrid warfare to avoid large scale conventional war—all backed by nuclear threats—it is time to consider afresh the nation’s nuclear arsenal requirements.

Brad Roberts, Director of Global Security Research at Lawrence Livermore National Laboratory, recommends a sensible three-step process to counter adversaries’ respective theories of victory, “‘Go to school’ on Red the way Red has gone to school on Blue; develop a generic counter to the generic Red theory of victory; and tailor that model to specific regional contexts.”<sup>66</sup> This is a good intellectual start, but worthless unless followed up by specific program and policy changes. These changes must be implemented in time to make a difference in the Russian and Chinese calculus. Both

states are actively employing hybrid tactics and engaged in attacks on American interests.

Competition with Russia and China is intensifying. On September 21, 2022, President Putin, in advance of illegitimate plebiscites in Eastern Ukrainian provinces declared, “In the event of a threat to the territorial integrity of our country and to defend Russia and our people, we will certainly use all means available to us.”<sup>67</sup> The clear implication is that Russia will defend the newly annexed provinces with nuclear weapons should Ukraine—aided by the West—seek to restore them to Ukraine. Putin’s threats make it clear, nuclear weapons are returning to prominence. Effective deterrence during hybrid conflicts will require the United States match Russian and Chinese capabilities at both the high and low end. Ignoring both Russian and Chinese threats endangers the effectiveness of deterrence.

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#### **Notes**

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26. There may be disagreement within the military. For example, "U.S. Special Operations Command and Army officials characterized the Russia-Georgia conflict as conventional warfare, while Air Force officials considered it a hybrid conflict." Government Accountability Office, *Hybrid Warfare*, Briefing to the Subcommittee on Terrorism, Unconventional Threats and Capabilities, Committee on Armed Services, House of Representatives (September 10, 2010), 14 and 17, <https://www.gao.gov/assets/gao-10-1036r.pdf>.
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prior to the Russian invasion, a “grey zone” conflict, it was hardly “grey zone” for the Ukrainian government. In a potential conflict, the United States should be aware of the disparity and communicate with allies to ensure perceptions of conflict align.

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32. For example, a non-state actor uses a dirty bomb out of material provided by a state actor. The target could be in the United States, in an allied country, or even in an aggressor’s country as a part of a deception operation intended to increase ambiguity and buy time to conduct a large-scale operation.

33. See Jeffrey Bristol, “Hybrid War and What to Do About It,” *The Strategy Bridge*, April 21, 2021, <https://thestrategybridge.org/the-bridge/2021/4/21/hybrid-war-and-what-to-do-about-it>; and Luke O’Brien, “Let’s Get Something Straight about Nuclear Weapons,” *The Modern War Institute*, March 26, 2019, <https://mwi.usma.edu/lets-get-things-straight-nuclear-weapons/>.

34. United States Department of Defense, *Annual Defense Department Report FY1975* (Arlington, VA: Department of Defense 1974), 6.

35. Matthew Kroenig, *The Logic of American Nuclear Strategy*, 198-203.

36. Matthew Loh, “Researchers Say China Is Constructing 300 Possible Missile Silos, Which Could Make Its Nuclear Arsenal Bigger than Russia’s or America’s,” *Insider*, November 3, 2021, <https://www.insider.com/china-300-nuclear-missile-silos-beyond-russia-us-fas-2021-11>.

37. Svetlana Savranskaya and David A. Welch, eds., *Global Competition and the Deterioration of U.S.-Soviet Relations, 1977-1980* (Washington, DC: National Security Archive, 1995), 38.

38. United States Department of State, *New START Entry Into Force*, February 5, 2011, <https://2009-2017.state.gov/r/pa/prs/ps/2011/02/156037.htm>.

39. *Ibid.*

40. We again highlight the findings of Kroenig as he demonstrates that strategic inferiority leads to failure in crisis between two nuclear-armed adversaries.

41. Hearing, *The New Strategic Arms Reduction Treaty (START) Treaty* (Treaty Doc. 111-5): Views from the Pentagon, Committee on Foreign Relations, U.S. Senate, 111th Cong., 2nd Sess., June 16, 2010, <http://www.foreign.senate.gov/hearings/the-new-start-treaty-treaty-doc-111-5-views-from-the-pentagon>.

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43. See Matthew Kroenig, Mark J. Massa, and Christian Trotti, *Russia’s Exotic Nuclear Weapons and Implications for the United States and NATO* (Washington, DC: Atlantic Council, 2020).

44. Michael Rühle raises an example of Argentina attacking the United Kingdom over the Falklands in Michael Rühle, “The (Incomplete) Return of Deterrence,” in Amelia Morgan and Anna Péczeli, eds., *Europe’s Evolving Deterrence Discourse* (Livermore, CA: Center for Global Security Research, 2021), 18.

45. Kateryna Zarembo and Sergiy Solodkyy, *The Evolution of Russian Hybrid Warfare: Ukraine* (Washington, DC: Center for European Policy Analysis, 2021), <https://cepa.org/the-evolution-of-russian-hybrid-warfare-ukraine/>.

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47. Timothy Thomas, "Russia's Reflexive Control Theory and the Military," *Journal of Slavic Military Studies*, 17, (2004), 237-256.
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49. For a more detailed elaboration on the concept, see Daniel Bagge, *Unmasking Maskirovka: Russia's Cyber Influence Operations* (New York, NY: Defense Press, 2019).
50. Keith Payne, *How Much Is Enough? A Goal-Driven Approach to Defining Key Principles for Measuring the Adequacy of U.S. Strategic Forces* (Fairfax, VA: National Institute for Public Policy, 2010), 3.
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53. Michaela Dodge, "Russia's influence operations in the Czech Republic during the radar debate," *Comparative Strategy*, 39, no. 2 (March 2020), 162-170.
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60. Vytautas Keršanskas, *Deterrence: Proposing a More Strategic Approach to Countering Hybrid Threats* (Helsinki: The European Centre of Excellence for Countering Hybrid Threats, 2020), 18-21.
61. See Thomas Rid, *Active Measures* (New York: Farrar, Straus, and Giroux, 2020). Rid offers one of the most complete and concise histories of what the Russians call *Dezinformatsiya*.
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