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Strategic Lessons from the Russia-Ukraine Conflict

Marc J. Berkowitz
Marc J. Berkowitz is a former Vice President for Strategic Planning at Lockheed Martin. Previously, he served as Assistant Deputy Under Secretary of Defense for Space Policy.

Introduction

The 1991 Persian Gulf conflict was called the first "space war" because of the extent to which space systems influenced its course and outcome. Now the Russia-Ukraine conflict is being called the first "commercial space war" as well as the first "social media war" for similar reasons. Indeed, Ukraine has effectively leveraged both commercial space capabilities and social media services to help defend itself against Russia's unlawful aggression.

Every war is a combat laboratory that provides an opportunity to learn lessons about the consequences of the threat or use of armed force in international relations. What lessons can be learned (or relearned) from the latest interstate conflict in Europe that can be applied to help deter or prevail in future wars? While the ongoing war's outcome is currently uncertain, there are evident takeaways. This article examines both general and space-related strategic lessons from the Russia-Ukraine conflict.

General

Nearly all the fundamental strategic lessons from the conflict have been learned (or observed) before. Perhaps the most important, as philosopher George Santayana stated, is that "those who fail to learn from the past are condemned to repeat it."[1] This is, of course, not the first time the world has had to deal with the reality that *the use of violence as a political instrument is an*

enduring characteristic of international relations. As political scientist Hans Morgenthau asserted, "international politics, like all politics, is a struggle for power."[2]

Moreover, it is not the first time the world's democracies have learned that *autocracies with revanchist or irredentist aspirations will endanger international peace and security.* In fact, they should have learned from the vast amount of blood and treasure expended by the Grand Alliance to defeat the Axis powers during World War II that *appeasement and isolationism are ineffective policies to achieve security*. While acquiescence to Russia's annexation of Crimea in 2014 likely emboldened Putin, formerly neutral Finland and Sweden moved to join the NATO Alliance after the recent invasion. A similar lesson is that *while diplomacy, arms control, and deterrence are important instruments of statecraft, they are unreliable tools to prevent armed conflict.*

Russia obviously abrogated its security assurances to respect Ukraine's territorial integrity and political independence when Ukraine denuclearized and joined the Non-Proliferation Treaty in 1994. (In the wake of the Soviet Union's dissolution, Ukraine possessed much of its nuclear weapons, delivery systems, and associated industrial base.) It can only be surmised that Russia might not have invaded if Ukraine still had nuclear arms.

Perhaps President Vladimir Putin was "beyond deterrence" in his quest to achieve a political legacy. He said, "the breakup of the Soviet Union was the greatest geopolitical tragedy of the 20th century."[3] Putin's desire to restore the Great Russian empire's "near abroad" and risk-taking propensity were evident in Russia's use of force against Georgia in 2008 and annexation of Crimea. He clearly articulated his disdainful views regarding Ukraine's sovereignty in the run up to the invasion. In this regard, it is edifying to recall the Greek historian Thucydides' observation that the causes of war are "fear, honor, and interests."[4]

When other instruments of statecraft failed to change Ukraine's independent direction, Putin turned to armed force. Prussian General and military theorist Carl Von Clausewitz wrote, "*war is an act of violence to compel the opponent to do our will*."[5] While Putin attempts to enforce his will, he and others are relearning another of the lessons taught by Clausewitz; that is, "*war is the realm of uncertainty…and chance*."[6] Russia's hopes of its "special military operation" achieving a swift victory were thwarted and the outcome is now undecided.

Furthermore, Ukraine's effective self-defense against Russia's initial military plan is instructive. A clear takeaway is that *continuity of government preparation is essential to avoid leadership decapitation*. Ukraine's ability to block Russian efforts to assassinate President Volodymyr Zelensky and install a puppet regime were vital to its survival. They were directly related to a key lesson regarding *the criticality of the cognitive domain and human factors such as leadership, political resolve, social cohesion, and morale in warfare*. Indeed, the courage and fortitude of President Zelensky and the Ukrainian people enabled them to the gain the respect and admiration necessary to *enlist allies and international partners as a prudent way to offset the state's deficiencies in power.*

A few additional general strategic lessons are apparent. The first is that *credible, timely, and accurate intelligence is a comparative advantage* (to achieve victory or prevent the enemy from achieving its war aims). The strategic indications and warning provided by the United States was critical in convincing Ukraine's leadership as well as America's allies and friends about

Russia's malign intentions and the imminence of invasion. Sharing and declassifying intelligence about Russia's war plans was important for maintaining the cohesion of the NATO Alliance as well as associated domestic and international political support in aiding Ukraine.

In addition, *nuclear weaponry and escalation risks are prominent considerations in conflict involving a nuclear power.* Putin effectively instilled caution in the United States and its allies with nuclear saber-rattling. Western decision-making about both its own military activities and assistance to Ukraine have been influenced by the desire to avoid risks that might escalate either the conflict's scope (widening the war into NATO-Europe) and intensity (nuclear weapons use). At the same time, Putin's risk calculus has been influenced by the U.S. and NATO nuclear deterrents. While brandishing threats for brinksmanship, he too has avoided a direct military confrontation with NATO.

Finally, *large-scale conventional interstate-conflict is a test of industrial capacity and logistics.* Both the Russian and Ukrainian arsenals were depleted of munitions and needed to be resupplied. In fact, Russia has had to turn to Iran for the armed drones it is using against Ukraine's civilian population and infrastructure.

Space

While space systems increasingly have been integrated into the planning and conduct of military operations, there is little operational experience with hostilities to, in, and from space. Consequently, the empirical evidence from the Russia-Ukraine conflict provides an important basis from which to confirm or draw new space-related strategic lessons. First, *space is a now a complex operating environment like the terrestrial domains.* It is populated with thousands of spacecraft used for myriad defense, intelligence, civil, and commercial applications. They are owned and operated by governments, international consortia, and private enterprises. Space technology and know-how have spread around the world and reduced launch costs have lowered the barrier to explore and use space. Moreover, non-governmental organizations, companies, and individuals now have access to space services.

Second, *space operations have meaning only in relation to the course and outcome of terrestrial conflict.* As Lieutenant General John Shaw, Deputy Commander of U.S. Space Command, aptly put it "astropolitics is about geopolitics."[7] Ukraine has effectively leveraged commercial space and social media capabilities to contribute to its security and defense in the face of Russian aggression. Commercial broadband satellite internet, communications, remote sensing, analytics, and cloud computing services are being used for diplomacy, strategic communications, intelligence support, planning and executing combat operations, and critical infrastructure.

Space is not a sanctuary from armed conflict because of the value of space assets to Ukraine's self-defense. Indeed, history demonstrates that no domain will remain a sanctuary once it is exploited for political, military, or economic benefit. *The decision to extend hostilities to space was made by the adversary*; it was not made by political leaders in Kyiv, Washington, or Brussels. *Russia targeted the weakest (cyber, terrestrial, or space) link or node to counter the space systems*

employed by Ukraine. It primarily employed cyber-attacks and electronic warfare with reversible or temporary effects. The targets included, for example, Viasat's and SpaceX's Starlink satellite internet and communications systems. Given that both are American companies with international users, Russia demonstrated that *adversaries are likely to be insensitive to targeting U.S. sovereign property in space, even if used by many countries*.

A related lesson is that *third party space assets not owned or operated by either combatant may influence the course and outcome of armed conflict*. Ukraine has been able to leverage commercial space services and innovate with agility to employ space-enabled intelligence and warfighting applications. Consequently, another lesson is that *commercial space assets have dual uses with value for security and defense.* This will likely have significant future political, economic, and military implications. As a result, *commercial space assets may be considered legitimate military targets and thus attacke*d. In fact, a senior Russian foreign ministry official asserted (in an ex post facto justification) that commercial satellites "may become a legitimate target for retaliation."[8]

In response to threats to the freedom of passage through and operations in space, the U.S. Government has expressed interest in leveraging commercial space capabilities for national security, including integrating such goods and services into "hybrid" architectures with both government and private sector capabilities. Doing so may provide an asymmetric advantage in future conflict. Commercial space assets may add capability, capacity, robustness, and resilience that contribute to deterrence and warfighting. However, *leveraging commercial space capabilities for security and defense will heighten the risk to such assets in crisis and wartime*. Consequently, *America needs policy, guidance, and rules of engagement regarding protection of U.S. citizens, property, commercial assets, non-U.S. forces, and foreign nationals or property in space*. Additionally, resources may need to be allocated to modify and protect such commercial assets or indemnify them.

The spread of space-enabled remote sensing, associated analytics, and satellite internet services is profoundly affecting the world in general. Regarding the Russia-Ukraine conflict, *space-enabled information creates unprecedented transparency*. A picture is worth a thousand words and commercial imagery products provided by Maxar, Planet, and other commercial remote sensing operators and value-added analytic providers are playing a unique role in observing and understanding the battlespace. Ubiquitous remote sensing and internet communications have provided, among other things, valuable unclassified imagery of Russian force dispositions and battle damage. The high degree of *transparency increases the operations security challenge and raises the strategic communications stakes*. Transparency has helped to counter Russian secrecy and prevent Moscow's false narratives from unduly influencing public international opinion.

Two additional lessons regarding the ongoing conflict are pertinent to the future structure and posture of national security space capabilities. First, even in a conflict between states with contiguous borders mainly involving land and air forces, the value of space capabilities and persistent surveillance is apparent. Activity intelligence enabled by *persistence is essential to maintain custody, tracking, and targeting of mobile and relocatable targets*. This will be important

when confronting an adversary whose order of battle includes significant numbers of strike aircraft, drones, and missiles.

Finally, *increased ambiguity or recoupling of space and nuclear deterrence operations is warranted to complicate an adversary's risk calculus and raise the war as well as space thresholds*. During the Cold War, the United States and USSR had a formal agreement not to interfere with National Technical Means of verification when they were being used to monitor strategic arms control agreements as well as a tacit understanding regarding non-interference with space assets for ballistic missile launch detection and nuclear command, control, and communications because of the attendant risk of igniting the powder trail to global thermonuclear war.

With the end of the Cold War, the increased integration of space capabilities into conventional and irregular warfighting, and the presumed decline of the threat, the U.S. Government decided to "disaggregate" or separate nuclear and non-nuclear missions onto different space platforms. This was based on the theory that it would help to strengthen a "red line" against interfering with space-related nuclear deterrence operations, add a rung in the escalation ladder, and avoid escalation caused by inadvertence, misperception, or miscalculation if a satellite with both nuclear and non-nuclear missions was attacked.

The unintended consequence, however, is to simplify an adversary's targeting challenge, uncomplicate its risk calculus, and lower the threshold for interfering with or attacking space systems. Force designs that pose difficult targeting challenges and complicate an adversary's risk calculus contribute to deterrence and crisis stability. Consequently, proliferation, distribution, and diversification are better passive defense levers to enhance the resilience (and deterrence-by-denial) of space mission and systems architectures than disaggregation. While proliferated satellite constellations in Low Earth Orbit have demonstrated operational utility in this conflict and proliferation may be a useful countermeasure against expensive direct-ascent kinetic energy and directed energy anti-satellite weapons, it would be imprudent to draw the incorrect lesson that it is an effective solution against all threats.

The resilience value of proliferation is largely dependent upon cost-exchange ratio. It is only a prudent design approach if it is less expensive to acquire, deploy, and operate spacecraft than for the adversary to target and engage them. This may not be the case for either cyber-attacks (given that proliferation increases the number of threat vectors) or nuclear detonations (given their prompt and sustained effects).

Conclusion

Important fundamental and space-related strategic lessons can be learned from the ongoing Russia-Ukraine conflict. While many of the general lessons have been observed previously and must be relearned, many of the space-related lessons are new. This is unsurprising given that while the nature of war is enduring, the character of war constantly changes with the introduction of new operations concepts and technology. Nonetheless, both sets of lessons are important since they provide the opportunity to learn about the consequences of the threat or use of armed force in international relations.

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Moreover, these lessons are likely to be learned by America's allies and adversaries alike. It is particularly important to understand and consider what our potential adversaries are learning from the conflict. Similarly, it is essential to avoid learning the wrong lessons or inappropriately extrapolating their relevance. Applying the correct strategic lessons from this interstate conflict can help the United States to deter or prevail in future wars.

[1] George Santayana, *Life of Reason: Or the Phases of Human Progress* (New York, Charles Scribner and Sons, 1905), p. 284.

[2] Hans J. Morgenthau, *Politics Among Nations* (New York: Knopf, 1944), p. 13.

[3] Vladimir Putin, "Annual Address to the Federal Assembly of the Russian Federation," April 25, 2005, available at http://en.kremlin.ru/events/president/transcripts/22931.

[4] Thucydides, *History of the Peloponnesian War*, William A. Smith, trans. (New York: H.W. Derby, 1861), p. 25.

[5] Carl von Clausewitz, *On War*, Michael Howard and Peter Paret, trans. and eds. (Princeton, NJ: Princeton University Press, 1989), p. 90.

[6] Ibid. p. 101.

[7] Lt Gen John Shaw, "Remarks at the National Security Association's Defense and Intelligence Space Conference," Chantilly, VA, January 24, 2023.

[8] Konstantin Voronstov, "Statement at the Thematic Discussion on Outer Space (Disarmament Aspects) in the First Committee of the 77th Session of the UN General Assembly," October 26, 2022, available at https://estatements.unmeetings.org/estatements/11.0010/20221026/5yPwCsESxyBr/N5pGP22K6MRm_en.pdf.

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