

# **SHOULD THE SPACE FORCE HAVE A WARFIGHTING-CENTRIC CULTURE?**

Paula G. Thornhill and Charles Galbreath

*with Introduction and Conclusion by Robin Dickey of The Aerospace Corporation*

Debates on national security space topics often do not enter the public conversation. Too often, these debates are limited to specialists within the space community. This paper is part of a new series the Center for Space Policy and Strategy is publishing called “The Debate Series.” Each of these papers includes two essays written by analysts and pundits external to The Aerospace Corporation. After having written their essays, the external authors had the opportunity to review the opposing essay and offer a rebuttal. Although these essays do not necessarily reflect the views of the Center for Space Policy and Strategy, the center is publishing these essays to clarify debates on national security space issues and to try to make them accessible to a broader audience.

## **Introduction**

*Robin Dickey*

When the United States Space Force (USSF) was formally established in December 2019, questions abounded over how the service would be structured, what capabilities it would control and prioritize, and how it would define and defend U.S. interests in space. In the years since, numerous doctrines and policies have helped provide answers to many of these questions. Some questions, however, cannot be answered in a single document or directive. One such question is: What should or will the culture of the Space Force and its Guardians be? Furthermore, in a world of rapidly changing geopolitics and technology, how will Guardians understand their role in warfighting? To what extent is the identity of “warfighter” essential to Space Force culture?

The past four years have featured a slew of op-eds, think pieces, and senior leader statements providing input and arguments for what the Space Force culture should look like. While cultural topics of debate have ranged from whether Guardians should have naval ranks to whether they should be allowed to have beards, a common implicit and explicit thread in USSF culture discussions is on whether to identify Guardians as warfighters.<sup>1</sup> For some, the rise of adversary space threats and centrality of space to the American way of life and the American way of war necessitates that the organization, training, equipment, and, above all, culture of the Space Force revolve around warfighting.<sup>2</sup> Others point to the remote and highly technical nature of space operations and indicate that

Guardians should prioritize technical skills, innovative mindsets, and collaborative outlooks over trying to emphasize their relationship to violence.<sup>3</sup>

Even though the Space Force is years into its military existence, this debate is ongoing and has no immediate end in sight because culture cannot be established in doctrinal statements or strategies alone. Culture develops over years, even decades, and can be shaped by everything from uniforms to recruitment and training practices to senior leader statements and the day-to-day experiences of conducting Space Force missions.

The Space Force is also not a “blank slate” for culture because Guardians largely have preexisting careers from other services, predominately the U.S. Air Force. This cultural heritage influences how Guardians will see themselves and their relationship to the rest of the Department of Defense and the nation. Then-Lt Col William Sanders, the Chief of Space Control Policy in the Office of the Assistant Secretary of Defense for Space Policy, described four competing traditions shaping the Space Force: engineers, described as “technically minded problem solvers”; operators, who he characterized as “procedurally focused perfectionists”; integrators, or “externally focused practitioners”; and finally warfighters, who he described as “adversary-focused theorists.”<sup>4</sup> The origins of these four traditions go back decades, and sometimes lead to contradicting impulses or inclinations, so, to create an effective and cohesive new military service culture, all of these traditions (and more) must be weighed and balanced.

The following two essays represent contrasting views of how the concept of the “warfighter” should fit into Space Force culture. Paula Thornhill, an Associate Professor of

Practice at the Johns Hopkins School of Advanced International Studies (SAIS) and retired U.S. Air Force brigadier general, argues that the mission and methods of the Space Force do not align with the long-standing paradigm defining warfighters by their direct role in organized violence. Coincidentally, Thornhill had used the term “Guardian” long before it was formally adopted as the name for Space Force servicemembers. She used it to describe a new paradigm that could unify increasingly technical, remote, and innovation-focused forces and correct some of the cognitive dissonance that comes when the language of warfighting and violence fails to fully describe the means by which servicemembers uphold national security.<sup>5</sup> On the other side of the debate, Charles Galbreath, senior fellow for Space Studies at the Mitchell Institute, argues that Guardians are warfighters because they conduct operations and provide services critical to the U.S. military and because they must do so under an increasing range of threats. Galbreath’s recent publications apply this warfighting mindset not only to the near-Earth traditional realm of space operations but also to the cislunar regime and the Moon due to the enduring challenge of great power competition between the United States and China.<sup>6</sup> This combination of high stakes and serious threats drives the debate position laid out by Galbreath, who himself retired from the Space Force as a colonel.

These two authors were chosen because, besides having strongly differing viewpoints, both have a depth of experience and study in what it means to have a warfighting culture and a track record of applying their respective arguments to the Space Force. Their arguments are presented here in no particular or preferential order, followed by the rebuttals.

## ◀ Argument Against a Space Force Warfighting Culture: The Space Force Must Choose

Paula G. Thornhill

The Space Force is not a military service, and should focus on creating a unique, guardian-force organizational culture that allows the force to grow with new technologies and new generations of expertise. In previous pieces, I have repeatedly argued this point, namely that the Space Force is not a military service no matter what the law calls it.<sup>7</sup> What the Space Force does is absolutely vital to America's national security, but it lacks the core relationship to organized violence that defines the other services.<sup>8</sup> Unsurprisingly, this view elicits little support, and, whatever observers like me might assess, the organizational culture that the Space Force ultimately creates will rely on its leadership and uniformed, civilian, and contract personnel. Collectively, this group seems to have adopted a quasi-military culture as its organizational foundation. By almost any measure (e.g., personnel selection and training, and organizational structure), this was the easy, even obvious, choice. However, defaulting to this course of action comes with its own consequences.

Thomas Kuhn's argument in *The Structure of Scientific Revolutions* underscores this point.<sup>9</sup> Kuhn, who conceived of the now ubiquitous "paradigm shift," explained how the scientific community dealt with facts, known as anomalies, that diverged from the traditional theory, or paradigm. Initially, a strong legacy paradigm could be adjusted to accommodate new facts, and a robust paradigm could account for a wide assortment of anomalies. Eventually, however, the legacy theory would become so convoluted in its efforts to explain these anomalies that scientists either had to ignore the anomalies or devise a new theory to explain them. Kuhn used the word *incommensurability* to describe this clash of legacy theory and new, inconvenient facts. He also explained that when the scientific community hit such an incommensurable moment, they either had to accept the new facts and change to a new paradigm or embrace the old one and ignore facts that do not fit into it. Kuhn recognized how much intellectual and emotional power a traditional paradigm carried and understood that for most it was easier and more satisfying to continue to embrace the old rather than shift to the new. The key is that everyone had to choose a paradigm, and not choosing was

itself a choice. There is a universality to Kuhn's argument that helps to explain why and when organizations reach an incommensurable point, and either must change or avoid the accumulating facts. Until they choose, uncertainty, antipathy, and upheaval will shape organizational dynamics. The Space Force is at such a point.

The essence of a military service is its tie to organized violence.<sup>10</sup> The Space Force for the foreseeable future will remain literally and figuratively remote from organized violence. Therefore, trying to build an organizational culture around the components of a military service will only add to the dissonance engendered by this incommensurable moment.

To highlight this point, it is useful to look at the Space Force's parent service, the Air Force, and how it formed its organizational culture. Even prior to the Air Force's formal establishment in 1947, its predecessor organization, the Army Air Forces (AAF), had grown to 2.5 million personnel during World War II. The AAF had a theory of victory tied to fighting in and from the air. To test this theory, the AAF leadership adopted strategies in the European and Pacific theaters that put airmen at great risk over enemy territory. Obviously, the AAF did not win the war by itself, but it helped to win control of the air in both theaters. And, at least in 1945, it took credit for delivering the atomic bombs that brought the war to an end. Any AAF success, however, came at staggering costs in civilian and military lives. For the former, the AAF dealt with repeated charges of terror bombings that unnecessarily killed thousands of civilians. For the latter, the AAF placed its airmen at unbelievable, even pointless, risk to demonstrate the AAF's importance. The Eighth Air Force's casualty rate alone, for example, was so high that in World War II even infantry forces in both theaters had a better chance of survival than 8AF airmen.<sup>11</sup>

After the Second World War ended, controversies persisted surrounding several of the AAF's actions, especially the dropping of the atomic bomb. Nonetheless, there was no doubt among civilian or military leaders that the AAF had demonstrated that the nation needed a military service focused on providing organized violence solutions from and through the air. In the two years preceding the passage of the 1947 National Security Act, the AAF leadership had a major voice in the shape of

postwar force structure and the allocation of budget dollars.<sup>12</sup> In its first four years as an independent military service, from 1947 to 1951, the Air Force was at the center of debates over the role and delivery of nuclear weapons. Then, starting in mid-1950, it struggled to sort out how to maximize the use of airpower in defense of South Korea. The newly independent Air Force might have been cocky and controversial in the first four years of its existence, but historically, organizationally, and culturally it performed as a military service, offering organized-violence options to address national problems.

When one compares the early years of the Air Force to those of the Space Force, the differences are striking. As the Air Force experience suggests, four years is plenty of time for a new military service to settle into its own culture as long as it possesses strong historical and organizational foundations. Yet, four years after its establishment, the Space Force still struggles to articulate its value proposition to the nation as a military service.<sup>13</sup> In part, this reflects the highly crowded and competitive government and private industry space ecosystem, and, in part, it reflects uncertainty about the Space Force's unique expertise within this ecosystem. Its role is largely to monitor the activities in organizations where technical space expertise resides. This means overseeing contracts for commercial entities such as SpaceX and United Launch Alliance and relying in some instances on other government organizations like NASA.

To try to establish a military culture under these circumstances provides an excellent example of Kuhn's incommensurability concept: the theory of a new "military service" and the facts of its history, expertise, operations, and culture diverge too much to reconcile them. But adherence to a traditional military-service paradigm is so strong that any change will come slowly. Despite the Space Force's remoteness from organized violence and its reliance on contractor expertise, this traditional paradigm looks to persist until additional anomalies compel a shift. Until then, the Space Force will remain a quasi-military service, working uncomfortably with the other services and the combatant commanders. In this role, while industry might pander to it, the Space Force will miss a rare opportunity to create an entirely new, guardian force organization — elite, technically unmatched, devoted to the nation but not shaped by organized violence.

Thus, for now, observers should resign themselves to the Space Force's overemphasis on martial characteristics and warfighting and seek instead to find ways to mitigate the consequences of such a culture. This means rather than focus on the Space Force, the time has come to focus on the cultures of the organizations on which the Space Force relies. When one looks at the use of space assets in the Russo-Ukraine War, for example, it is SpaceX's expertise and organizational behavior that demand better understanding. This privately held company thrived in part because of the infusion of billions of U.S. government dollars over the years. Among other things, SpaceX used these resources to build the space-based Starlink communication system.<sup>14</sup> Starlink has been essential to Ukraine's military communications since the start of the war. Yet even as Ukraine's reliance increased, SpaceX threatened to remove access.<sup>15</sup> It made this threat without any consultation with U.S. civilian or military leadership. How is it that the United States can largely fund SpaceX, and then have this privately held company threaten actions contrary to the nation's interest? How have U.S. government dollars given rise to a corporate organizational culture that feels emboldened enough to take actions at odds with national policy, and potentially harmful to the United States and its partners?

It matters deeply that such private space entities have collaborative organizational cultures, are willing to work closely with the U.S. military, and support national policies. In fact, for now, their organizational cultures matter more than those of the Space Force. However, inculcating these private businesses with collaborative qualities could be tough. Looking at unclassified sources, at times it seems that rather than oversee contractors, the Space Force seeks to placate them.<sup>16</sup> From an organizational culture perspective, this is an unhealthy place to be—a quasi-military service that espouses warfighting yet venerates its contractors. Whether it accepts it or not, the Space Force is living in an incommensurable moment. Just as adherents to a Ptolemaic understanding of the universe eventually had to give way to the Copernican view, to fulfill its responsibilities to the nation, the Space Force ultimately must choose the new paradigm and accept it is a guardian force, not a military service. Unfortunately, it looks like a long time before the Space Force will understand this. Hopefully, until then, it can minimize its organizational upheaval as it travels the inevitable path to acceptance.

## ▶▶ **Argument in Favor of a Space Force Warfighting Culture: Are Guardians Warfighters?**

*Charles Galbreath*

Make no mistake, Guardians are warfighters — military personnel organized, trained, and equipped to deliver decisive battlespace effects. In fact, Guardians are exactly the warfighters we need for great power competition with China and beyond. As Marine Corps Lt Gen Matthew Glavy recently explained, “No space, no chance.”<sup>17</sup> This is why the United States Space Force exists — the space capabilities on which both modern coalition operations and modern life depend are threatened and indeed under attack. We need Guardians to proactively protect those capabilities and defend our fielded forces from adversary space-enabled attack. We need Guardians who understand the threats and operational environment, who are trained and ready to employ defensive and offensive space operations, and who understand what’s at stake if they fail. This mission requires a warfighting ethos. It also demands that Guardians be respected as warfighters. Their contribution is essential for securing the capabilities and synchronizing the effects needed to deter a conflict with China, or win a conflict if deterrence fails.

Warfare, and by extension warfighters, has always evolved. Over the centuries, warfare expanded from hand-to-hand combat to engagement at a distance with projectiles, to explosives and firepower, to airpower, and now to spacepower. While more modern forms of warfare can have a devastating asymmetric effect on older forms, these expansions do not invalidate or make obsolete the previous forms of warfare, as even today in Ukraine and Gaza we see hand-to-hand fighting.<sup>18</sup> However, with the passage of time and technology, it is abundantly clear that warfighters are able to have increasingly powerful effects at greater range. Consider the global power inherent via intercontinental ballistic missiles (ICBMs) and, more recently, with remote effects via cyber operations or through remotely operated aircraft able to strike targets around the world thanks to satellite communication. The reality that “space is a warfighting domain now” means it is time to expand our understanding of warfare and warfighters beyond a global scale to include the military professionals organized, trained, and equipped to meet threats in space—Guardians.<sup>19</sup>

Moreover, in the ongoing competition with China, simplistic black and white views of war and peace are insufficient for the complex and nuanced competition continuum we face.<sup>20</sup> The age-old observation of Sun Tzu that “the supreme art of war is to subdue the enemy without fighting” is more relevant than ever.<sup>21</sup> Both sides are now trying to achieve their strategic objectives by taking actions with all elements of national power in every domain, including military actions associated with space. Having a robust space posture with a credible means of projecting defensive and offensive effects to, in, and from space is essential to deterring conflict. By denying our potential adversaries tempting targets and opportunities to exploit vulnerabilities, the Space Force is actively preventing competition from escalating to crisis or conflict.

It is paramount China recognize the warfighting capabilities of Guardians as a credible force with a sufficient capacity to secure victory — this is the bedrock of effective deterrence. The same recognition and respect should also come from members of the U.S. defense establishment and the public at large. Guardians today are delivering decisive effects to disrupt adversary plans and threats. Each architectural and operational adjustment Guardians make denies China’s military planning and strategies to catch the United States off guard or create a window of opportunity for Chinese advantage. Further, giving Guardians options to exercise the ability to project offensive space effects will present complex, cross-domain challenges that would prove too dynamic for an adversary to counter. China understands strength, which means the best way to deter war is for the United States to have the ability to deliver a decisive combination of defensive and offensive space effects capable of winning a space war. Within the United States, recognition and support for the warfighting power of Guardians are also critical to ensure the highest priority is given to the resources and policies the Space Force needs to succeed.

To best deter a major conflict, the national security community must recognize Guardians as more than supporting enablers to other domains. For decades under the U.S. Air Force, when many assumed space was a peaceful domain, space missions became an integral

element to enhance the effectiveness and lethality of warfighters in terrestrial domains. “Integration” was the focus, with little attention paid to “defense” or “protection” of those space services or the ability to attack adversary space systems. Recognizing the tremendous military advantage the U.S. space enterprise presented, adversaries in recent years have developed their own space systems and weapons to attack our space capabilities. Now we must respond to the reality of space as a contested domain. As an independent branch of the military, the Space Force and its Guardians must be unleashed to develop, field, and, when necessary, employ a variety of methods to defend our capabilities and deny China or other adversaries the ability to threaten our fielded forces with space-enabled attacks. Only by exploring a full set of offensive options beyond the current counter-communication system, to include space-to-ground engagement, can we develop the capabilities, tactics, and strategies necessary to win a peer conflict and thus establish our best hope of deterring that conflict.<sup>22</sup> If Guardians are relegated to only providing supporting services to other domain warfighters, those “supporting services” will remain unprotected and tempting targets that would place U.S. forces at greater risk and make a conflict more likely.

To be clear, this is not some desire based on an imagined far-off future: It is a necessity today. China is actively testing against our systems to identify vulnerabilities and responses. Any weakness will bolster China’s perception that attacking space capabilities is the best way to counter the U.S. advantage and ultimately supplant the United States as a global leader. That perception could switch drastically if Guardians are universally viewed as the warfighters they are. Fortunately, the Space Force has recognized this and is establishing the warfighting ethos and capabilities needed through a concerted effort along the traditional service lines of organize, train, and equip. Collectively, these actions better prepare Guardians for conflict and send a clear message to China about the determination and posture of the United States to respond to hostility.

The Space Force is clearly organizing itself with warfighting in mind and recently made organizational adjustments specifically to address the warfighting domain of space. For example, Integrated Mission Deltas (IMDs)

combine some functions of acquisition with operations and are intended to give operational commanders authority over all aspects of mission readiness: personnel, training, equipment, and sustainment.<sup>23</sup> IMDs can also provide an avenue to accelerate the development and fielding of new capabilities for combat-ready forces. Another significant example is the establishment of the 75th Intelligence, Surveillance, and Reconnaissance Squadron as the first Space Force targeting squadron.<sup>24</sup> This unit will enable a joint attack of adversary space systems posing a threat to our forces and interests. Most recently, the Space Force established Space Forces - Space, a dedicated service component to present forces to U.S. Space Command (USSPACECOM), the unified combatant command responsible for operations in the space domain.<sup>25</sup> They have also stood up service components to U.S. Indo-Pacific Command (INDOPACOM), U.S. Forces Korea, U.S. Central Command (CENTCOM), U.S. European Command (EUCOM), and U.S. Africa Command (AFRICOM), with more in various stages of planning.

The Space Force is also training its Guardians to be warfighters. The Space Training and Readiness Command (STARCOM) is leading key efforts on this front. First, they are updating doctrine to highlight the ramifications of space as a warfighting domain.<sup>26</sup> This provides a foundational education as well as an opportunity for Guardians to advance their thinking on the subject. STARCOM is also establishing a combat training range to expose Guardians to warfighting scenarios and threats. Significant investments in Operational Test and Training Infrastructure (OTTI) will allow Guardians to hone their skills and develop new tactics, techniques, and procedures to respond and counter emerging threats.<sup>27</sup>

Finally, the Space Force is focused on equipping Guardians with capabilities designed for a warfighting environment. Unlike the legacy space systems designed for an uncontested domain, the Space Force is demonstrating and fielding new capabilities at unprecedented rates specifically intended for warfighting. Spearheaded by Space Systems Command (SSC), Space Development Agency (SDA), and Space Rapid Capabilities Office (Space RCO), activities like Victus Nox, the Proliferated Warfighter Space Architecture

(PWSA), and the Satellite Communications Augmentation Resource (SCAR) are intended to ensure space capabilities are ready for warfighting missions.<sup>28</sup>

As Lt Gen Glavy emphasized, “I’m telling you right now: We don’t win the space domain? Don’t even bother.”<sup>29</sup> Guardians are warfighters and the very ones we need for the realities of the ongoing struggle with China and other competitors. Respecting this is not an optional endeavor.

This is a core facet of what is needed to deter adversaries and prevail in an overt conflict if necessary. Guardians typify the latest evolution in what it means to be a warfighter, and the Space Force is taking the steps to organize, train, and equip them for war. By demonstrating that the Space Force has the will, capability, and capacity to respond to any threat, Guardians are fighting for peace. Yes, Guardians are warfighters.

## ◀ Rebuttal to the Argument Against a Space Force Warfighting Culture

*Charles Galbreath*

The premise that the Space Force is not a military service due to the lack of a relationship to organized violence is deeply flawed on multiple levels.

First, an “inconvenient fact” is that the paradigm of warfighting and military service *has* changed. Indeed, the character of warfare is constantly evolving because of economic, socio-political, and technical factors. Modern warfare is highly disaggregated, often executed remotely, and involves multi-process kill chains. Ignoring these realities slights not just Guardians but remote vehicle pilots, intercontinental ballistic missile crews, electronic warfare crews, maintenance and logistics crews, and countless other warfighters from every service, all of whom require warfighting skills, ethos, and judgment.

Second, even if one accepts a relationship to organized violence as a prerequisite for consideration into the pantheon of military services, disregarding the role of the Space Force is myopic and ignores the deep linkage of space capabilities in modern kill chains. Further, “violence” in a professional military context is rarely an isolated act by one human against another. Destroying an unmanned radar station with an airstrike is an act of violence and so is disrupting satellite communications with electronic attack. Equally important is averting damage or destruction of a satellite from enemy direct-ascent, co-orbital, or spectrum attacks. The Space Force was established precisely to address the growing assortment of violent kinetic and non-kinetic threats to the capabilities on which we rely.

Third, the argument completely mischaracterizes Guardians as little more than administrators placating large contractors. This is a woefully inaccurate depiction of space acquisition professionals and neglects the warfighting effects Guardians create operating navigation, communication, missile warning, domain awareness, intelligence, and other capabilities.

The truth is, by every measure, the Space Force is legally, literally, figuratively, and inextricably a military service, and its Guardians are warfighters!

## ▶ Rebuttal to the Argument in Favor of a Space Force Warfighting Culture

*Paula Thornhill*

Stating the Space Force is a military service and its personnel warfighters, does not make it so. The purpose of a military service is to master, manage, and employ organized violence on behalf of the nation.<sup>30</sup> Until people fight and die in space, the Space Force, regardless of what it is called in Title X, is not a military service, and, correspondingly, Guardians are not warfighters. However, this does not mean the Space Force is irrelevant nor does it mean the work that Guardians do is unimportant; far from it. As the Russo-Ukraine war has clearly demonstrated, space is critical to enabling combat operations.

What is critical for a healthy Space Force organizational culture is for its leadership to understand why individuals are drawn to it. Anecdotally, when I ask this question, three answers predominate: first, they have a general interest in space; second, they like that the Space Force is safe, and conducive to family life; and third, they find the potential for job offers once they leave the Space Force attractive. These factors all come from informal, off-the-record conversations, and require deeper analysis, but fundamentally, individuals interested in the Space Force seem to be motivated by different factors than those in the other services. This does not make them better or worse, just different.

Guardians are not typically called to serve in order to master, manage, and employ the means of organized violence, but they are interested in all aspects of space, in many cases commercial more than military space. Consider the raucous welcome Elon Musk received at the USAF Academy as an example to better understand the draw of commercial space. Rather than trying to turn Guardians into something they are not (warfighters), it makes sense to accept them for who they are and leverage those interests and talents on behalf of the nation. Guardians are at the vanguard of a new type of organization, one that is not military but is nonetheless crucial to the nation.<sup>31</sup> The sooner the Space Force embraces this reality, the sooner it will realize its amazing potential.



## Conclusion

*Robin Dickey*

The culture of the U.S. Space Force is not a blank slate, but neither is it yet set in stone. The identity of Space Force Guardians and how closely they identify with the label of “warfighter” is still evolving, and the debate will likely continue even as further service cultural artifacts are developed and applied. While both authors agree that the Space Force plays a significant and unique role in securing U.S. national interests in space, they disagree on whether Guardians do so as warfighters or as an alternatively defined core identity based on their technical prowess and relation to other stakeholders.

The debates and rebuttals raised in these two essays ultimately raise an even more fundamental questions: Given the changing means and missions involved in many aspects of warfighting, is it time to reconsider what it means to be a warfighter? What are the values and concepts that should unify all members of the U.S. military and distinguish them from those not in uniform? An increasing number of servicemembers may be involved in dispensing violence without being immediately threatened by it themselves, such as pilots of remote vehicles in all domains. Other facets of war and warfighting are evolving, such as the relationship among military, commercial, and other nonstate actors and the changing role of information and artificial intelligence in conflict. The warfighter question is not a question for the Space Force alone, but it is one that the nation’s newest military service in particular will have to grapple with in the coming years.

## About the Authors

**Charles Galbreath** is a retired U.S. Space Force colonel. He is a senior resident fellow at the Mitchell Institute’s Spacepower Advantage Center of Excellence. In this capacity, he has written extensively on the importance of the Space Force and provided insight on its strategic opportunities and challenges.

**Paula Thornhill** is a retired U.S. Air Force brigadier general. She is a professor at Johns Hopkins University’s School of Advanced International Studies and author of *Demystifying the American Military*.

**Robin Dickey** is a space policy and strategy analyst at The Aerospace Corporation’s Center for Space Policy and Strategy, focusing on national security space. Her prior experience includes risk analysis, legislative affairs, and international development. She earned her bachelor’s and master’s degrees in international studies at Johns Hopkins University.

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