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WINNING SPACE

HOW AMERICA REMAINS
A SUPERPOWER

BRANDON J. WEICHERT

on a strategic ladder ascending to the total dominance of the United States from space. The United States must make its existing satellite constellations, military and civilian alike, more survivable; this appeals to the survival school. The US must then threaten rival forces with certain doom if they attack US space assets; this is a deterrent policy and, therefore, falls under the rubric of space control/space superiority. Once these things are accomplished, though, Washington must redefine its strategic parameters from simply being equal to any power in space to becoming the undisputed master of space, as it was before the 2000s. Once the United States loses its vaunted position as the preeminent space power, which it very much is in danger of today, all will be lost.

It will require far more effort, with far greater risks, to reacquire from a determined enemy than most in the United States will be willing to support. From a cultural perspective, as you will see, since the 1960s, the martial prowess of the United States has been severely reduced by sociopolitical developments. In essence, America's culture has been gutted since the 1960s to the point that no one knows who we are anymore. Such a culture will be unable to take back something as important as space once it is lost to a more determined foe. It is, therefore, best to simply prevent a determined foe from displacing the American position in space in the first place.

President Trump is the only politician seeing clearly on the matter of space policy. It is high time that Washington worked to fully implement his plan—before it is too late. The creation of the US Space Force is not the end of the plan. It is the beginning. Presently, US rivals are working hard to gain superiority over the United States. Washington will prevent them from doing so by completely changing the way it views space and behaves in that vital strategic domain.

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2022: THE YEAR “SPACE PEARL HARBOR” HAPPENS

THE RUSSIAN CO-ORBITAL SATELLITE, known as a “space stalker,” is a devilish little machine. It is smaller and much less advanced than an ordinary satellite, designed to lurk in the darkness of space and tailgate quietly behind a large, undefended, and critical US military satellite in geosynchronous orbit, the highest orbit away from Earth's equator, and the orbit in which most of America's sensitive military satellites operate. Yet, the small size and fast movement of the space stalker would make it hard for the US military to track. Unlike other satellites, the space stalker is a cannibal, a devourer of other satellites. What's more, they are very cheap to produce and launch, meaning that many space stalkers can easily be placed in Earth's orbit.

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The space stalker is much like the old German U-boat from the First and Second World Wars. It is a prowler, designed to lurk in distant depths and strike out against critical infrastructure in stealthy and devastating ways. The U-boats of old hid beneath the cold depths of the North Atlantic and stalked important Allied transports, sinking them to harm the Allied war effort in Europe. Similarly, the space stalkers of today are designed to hunt critical US satellites and disable them to grant the forces of a country, like Russia or China, key advantages over the technological wizardry of the US military. The US military overwhelmingly depends on satellite constellations to function. For America's various, lower-tech enemies to have a chance at beating US forces in combat, any first strike against the potent US military would have to be sudden. For such a lightning attack to succeed, though, an attacking force would have to reduce the ability for the US military to quickly recover from such a surprise attack.

Russian space stalkers will have spent years trailing behind one of the satellites that composed the US military's highly sensitive Wideband Global Satcom (WGS) satellite constellation. The WGS constellation is a collection of highly expensive and hard-to-replace satellites that formed the backbone of the US military's global communications network. Beginning in 2019, the United States Congress had authorized the funding of additional WGS satellites to augment the existing constellation, but they would not be deployed until 2024.¹ The vaunted US military superiority in places such as Europe, therefore, was a technological Potemkin Village: it was outwardly menacing but, remove enough of its vulnerable satellite linkages, and the entire force was rendered ineffective. Despite necessary legislation having been passed allowing for the creation of a US Space Force as far back as 2020, many of the necessary reforms to America's satellite constellations will not

¹ "New WGS-11 Satellite to Offer Greater Coverage, Efficiency Than Predecessors," *Aerotech News*, 27 December 2019. <https://www.aerotechnews.com/blog/2019/12/27/new-wgs-11-satellite-to-offer-greater-coverage-efficiency-than-predecessors/>

be enacted before 2030. It is more than likely that the Russians, given their increasing hostility toward the West, would not simply wait for the United States to plug the strategic gaps in its space defenses. The year 2022, when there is sure to be another contentious midterm election in the United States—when sociopolitical divisions inside the United States would be high—might be a pristine moment for Moscow to attack Europe and therefore US forces charged with helping to defend vulnerable European states along the Russian border.

US-Russian relations are at crisis levels. There are strategic priorities that Moscow has, and Washington has simply abandoned any pretense of working diplomatically to ameliorate Russia's concerns. Russia's autocratic president, Vladimir Putin, had hoped to get a comprehensive deal with President Donald Trump over key issues, ranging from Ukraine to overall NATO expansion to sanctions relief. Despite President Trump's more sympathetic stance toward Putin's Russia, though, he will have been dogged by domestic American politics even in his second term, which will prove to be insurmountable. Thus, Trump will never fully realize his desire for the United States to enjoy healthier relations with Russia. Meanwhile, Moscow simply kept pushing its luck in its dealings with the West, causing levels of tension so great that it was only a matter of time before a war erupted. Both Trump and Putin were in a prickly situation: neither really wanted to go to war with each other, yet both were locked into conflict. After all, neither the Russian nor the American government could back down from their decades of increased hostility toward each other without one appearing weak to the rest of the world. And for a country like Russia—with a nationalist-imperialist leader like Vladimir Putin—appearing weak was more dangerous, at times, than courting war with the West.

Many words have been used to describe Vladimir Putin. "Stupid" is not one of them. "Desperate" is also not a word often associated with the Russian strongman, who loves bearing his exposed chest to all while on staged hunting expeditions in the Russian wilderness. Yet, Putin *is* desperate. In fact, he's one of the most desperate world leaders there is.

On top of being desperate, Putin has a relatively well-armed military with tons of nukes and an axe to grind with Russia's European neighbors. What's more, Russia's population is shrinking.² The Russian economy has also been impacted by American sanctions, though it is likely that the impact of Western sanctions has been to further militate Russia against the United States rather than to change Russian misbehavior.³ Even without sanctions having been imposed, though, Russia's GDP is roughly equivalent to that of Italy and it is entirely subject to the unpredictable swings of the global price of oil, since fossil fuel is a key driver of its entire economy. Overall, Russia lacks the prestige it once had—a fact that Moscow's leaders, specifically Vladimir Putin, are all too aware of, which is a primary motivator for Russia's continued aggression against the West.⁴ As the largest country in the world, in terms of sheer landmass, with a rapidly shrinking population and turgid economy, Russia *cannot* maintain its current defensive perimeter over the long run.⁵ If Russia is to ensure its territorial integrity, it must redraw its borders—particularly to its west, in nearby Europe. Putin must act within the next decade to decisively rejigger the European map to better favor his designs—namely, to more easily defend Moscow and the Russian “core” that sits adjacent to Europe's borders.⁶ If Moscow cannot accomplish these ends peacefully, it will resort

² “Russia's Natural Population Declines for 4th Straight Year—Audit Chamber,” *Moscow Times*, 7 November 2019. <https://www.themoscowtimes.com/2019/11/07/russias-natural-population-declines-for-4th-straight-year-audit-chamber-a68066>

³ Andrew Chatzky, “Have Sanctions on Russia Changed Putin's Calculus?” Council on Foreign Relations, 2 May 2019. <https://www.cfr.org/in-brief/have-sanctions-russia-changed-putins-calculus>

⁴ Oliver Bullough, “Vladimir Putin: The Rebuilding of ‘Soviet’ Russia,” BBC, 28 March 2014. <https://www.bbc.com/news/magazine-26769481>

⁵ Peter Zeihan, “The Russian Grab,” YouTube, 21 April 2017. <https://www.youtube.com/watch?v=rkuhWA9GdCo>

⁶ Boris Toucas, “Russia's Design in the Black Sea: Extending the Buffer Zone,” Center for Strategic and International Studies, 28 June 2017. <https://www.csis.org/analysis/russias-design-black-sea-extending-buffer-zone>

to force. And since Putin is staring down another round of Russian general decline over the next decade, Russia's grand strategy will have a play clock rapidly counting down on it, much as a quarterback in American-style football has. Either Putin makes a bold play soon to move the strategic ball down the field or he cedes the initiative—and, therefore, the future—to his Western rivals. A more apt comparison for Putin would be judo, a sport that Putin is a master of. In that sport, two fighters wrestle and wrangle with each other; each making minute changes to his position, until the one side exposes a weakness—allowing for the other (in this case, Putin) to exploit that weakness. Once properly exploited, the attacker can then flip his opponent and pin him to the ground, beating him. Since at least 2007, when Vladimir Putin went to Munich and gave a speech in which he accused Europe of being a vassal to an American imperium bent on global domination, Russia and the United States have been engaged in an intense judo match. Washington has failed to exploit inherent Russian weaknesses, whereas Moscow has exploited American vulnerabilities with maximal effect. That trend in the 2020s will become more pronounced and will ultimately reach its inevitable, violent end.

Under present conditions, though, no amount of Russian military spending or reform could defeat the United States military in combat. To achieve a herculean task, like retaking Russia's lost European territories, Russian forces would first need to defeat the US military stationed in Europe. Short of an all-out nuclear exchange, Russian forces would be unable to accomplish such a feat. Russian forces could, however, potentially beat an American force that was deprived of its technological accoutrements by first debilitating the US military in space—which is something the Russians have been strategizing about for years.⁷

Without warning, in 2022, Russian space stalkers tailgating behind

⁷ Kyle Mizokami, “Trump's Space Force Isn't the Only Military Space Program: Here's What China and Russia Are Up To,” *Jalopnik*, 25 February 2019. <https://foxtrotalpha.jalopnik.com/as-trump-s-space-force-ramps-up-what-are-russia-and-ch-1832772367>

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sensitive US military satellites, such as those belonging to the WGS, receive coded signals from their controllers on Earth. The engines of the small space stalkers pulse to life. The tiny space devils in the cold, black, soundless void of space menacingly extend their strong robotic claws outward, vectoring in toward the American satellites they had been tailgating behind, in some cases for years—at full speed—and smashing into dozens of those sensitive US satellites, sending the cumbersome American satellites out of their orbits, and crashing them toward Earth's surface. For years, Moscow has been signaling their intentions to place space stalkers in orbit and to make ready for a devastating attack on American systems in orbit at a time of their choosing.⁸ The Americans, despite knowing how critical access to satellites in a time of military crisis would be, did little to prepare for such an attack. Bureaucratic inertia and the banality of domestic US politics prevented timely defenses from being erected.

Within minutes of Russia's space attack, US military units globally would not be able to coordinate or communicate with their combatant commands—or each other. Everything would have slowed down for US military forces worldwide. Slowing America's military down is critical for an American adversary. Once the American military defenders could not coordinate with each other, much less effectively respond to a Russian invasion, the Russian victory on the ground would be assured. After such a thrashing, with America's military capabilities shattered, Moscow would assume that Washington and Brussels would negotiate with the Kremlin. Rather than risk escalating into nuclear war, Moscow believes Washington and Brussels would instead negotiate and agree to create a new political order in eastern Europe that favored the Russians. After all, to restore the status quo in Europe, Washington would have to wage another world war that it is hardly prepared to fight. And

⁸ "Mysterious Russian Space Object Could Be the Return of Istrebitel Sputnikov—the 'Satellite Killer,'" *National Post*, 19 November 2014. <https://nationalpost.com/news/mysterious-russian-space-object-could-be-the-return-of-istrebitel-sputnikov-the-satellite-killer>

according to Russia's nationalist-imperialist leaders, the West, as led by the United States, was "declining and decadent, though still hegemonically inclined." Putin's aim, therefore, would be to disabuse the West of its hegemonic inclinations. As Vladimir Putin himself has argued (and he is not entirely incorrect in this assessment), "We can see how many of the Euro-Atlantic countries are actually rejecting their roots, including the Christian values that constitute the basis of Western civilization. They are denying moral principles and all traditional identities: national, cultural, religious, and even sexual."⁹

Setting the cultural arguments aside, from a strategic standpoint, the United States might not win such a war against a foe like Russia. In fact, "after about nine months of intense peer conflict, attrition would grind the US armed forces down to something resembling the military of a regional power."¹⁰ This is precisely what the strategists in Russia are hoping for, since this set of circumstances would allow for them to rewrite the geopolitical boundaries in what they view as their spheres of influence—while avoiding a total war with the United States, though such a gambit on the part of Russia would be risky. But fortune favors the bold, and such a move on the part of Putin would only be proof of how desperate his current geopolitical situation is.

WHEN RUSSIA STRIKES AMERICAN SATELLITES

It would not only be the Wideband Global Satcom constellation of satellites that Russia would target. Russia would use a variety of weapons to debilitate US space systems, though space stalkers are probably the most efficient mode of surprise attack, since they are already near their targets and can avoid causing collateral damage to other satellites

⁹ Marc Champion, "Putin Is Trump's Brother from Another Motherland," *Bloomberg Businessweek*, 9 July 2018. <https://www.bloomberg.com/news/articles/2018-07-09/putin-is-trump-s-brother-from-another-motherland>

¹⁰ Mark Cancian, "Long Wars and Industrial Mobilization: It Won't Be World War II Again," *War on the Rocks*, 8 August 2017. <https://warontherocks.com/2017/08/long-wars-and-industrial-mobilization-it-wont-be-world-war-ii-again/>

operating in nearby orbits. As you will see later in this book, Russian forces have perfected their ability to jam America's Global Positioning System (GPS). Also, a Russian first strike against US forces would not only occur in space. Russian forces are trained to use cyberspace as a zone of attack against the United States as well as the electromagnetic (EM) spectrum. The point of the Russian attacks would be to *degrade* US military capabilities to such a point that they are rendered combat ineffective—which, given the systems Russia is targeting and the methods they plan to use against American forces, they likely will be able to do to any US or NATO force arrayed against them.

For example, most US military weapons and forces rely on GPS to navigate. Russian forces might also target US early warning missile launch satellites in geosynchronous orbit. Further, Russian attacks on American nuclear command and control satellites would effectively degrade America's vaunted nuclear counterstrike capabilities. This would be a key Russian move to better protect invading Russian forces in the aftermath of a Russian surprise attack against American forces in Europe. Ultimately, both Russia and America possess ungodly levels of nuclear weapons. Should things deteriorate too much between the two sides, the nuclear genie might just be let out of the bottle. Yet, removing American command and control capabilities—as well as their early missile warning abilities—will give Russia key advantages over their American rivals. Another critical piece in the US military technological house of cards will have been removed, causing more of it to collapse. In effect, US forces could not communicate with each other, could not see any incoming attacks, and could not operate the lethal speeds at which they were trained to operate. This would allow for the larger, though less sophisticated, Russian forces to have decisive advantages over the Americans and their European allies.

The Russians have long employed misdirection in their military operations. Russia desires to take dominance over the Baltic states. Yet, Russia also seeks greater influence over northwestern Europe as much as they seek dominion over central and eastern Europe. While not as

strategically important for Moscow, Russia and Finland do share a long history of conflict with each other. And in times of larger conflict, such as during the Second World War, the Soviets under Joseph Stalin's leadership conspired to not only take the Baltic states from the Nazi forces but to keep their German foes off-balance by first striking hard into Finland. In 1944, German intelligence had determined that Stalin was readying to attack German positions in Belarus. Yet, Hitler disagreed. He believed that Stalin would first strike to the south, taking the rich oil fields of Romania. Both German intelligence and Hitler were ultimately wrong. Stalin instead chose to nab the low-hanging fruit that was Finland, keeping his rival uncertain as to his wider strategic goals while forcing Germany to spend more time and precious resources—with far fewer troops than the Soviets had—trying to defend a large area of Europe. After taking key parts of Finland, Stalin would turn the bulk of his forces against the more important Baltic states.¹¹

Something similar may be at play today. No, the United States and its NATO allies are not the Nazis (neither is Putin's Russia, for that matter). But the West is in a strategic position similar to what Germany was in by 1944 on the Eastern Front. Instead of the Soviet Union, the Russian Federation today is pressing hard against European territories to Moscow's west. And there are insufficient levels of Western forces arrayed against the hulking Russians. There is a handful of places where the Russians might attempt to attack. Just as during the Second World War, the Baltic states are the most obvious targets. Yet, as recent history has proven, the Russians do not like to take the most obvious path of attack. While coveting the Baltic states more than any other part of Europe, Russia might decide to initiate an attack on Finland just as they did in 1944. Since Finland today is not a NATO member, any Russian move against Finland (or, at least parts of Finland) would likely have the same effect that Russian moves against Georgia in 2008 and Ukraine

¹¹ Jonathan Martin, *World War II In Colour*, episode 8, December 31, 2010, IMDB, <https://www.imdb.com/title/tt2101277/>

in 2014 had: they would not provoke the Western allies to direct military action against Russia. Moscow's moves would so greatly confound NATO and exacerbate its internal divisions that it would inherently weaken the alliance at a time when Russia was yet again on the march. Additionally, an attack on Finland would ultimately enhance Russian power in Europe relative to that of the United States.¹² Each Russian slice of the European salami fulfills Russia and starves the United States.

American and NATO forces would be reeling from the dazzling attacks on US satellite constellations as Russian tanks rolled into Finland. US, Finnish, and other NATO elements have been deployed to Finland. But their numbers are far smaller than what the Russians will send against them. The Western defenders have long relied on finesse and technological wizardry to offset any of their numerical disadvantages. With Russia having degraded or entirely removed the technological advantage with a space attack, though, finesse would be insufficient to deter the far more numerous Russian heavy infantry that would bombard Finland. More dauntingly, Russia's Finland attack would not be their main thrust into Europe. Inevitably, the Russians would push deeper into the Baltics—even risking a wider war as they targeted NATO members, the more emboldened Russia was by Western weakness. With the reliability of the US security umbrella in doubt, the idea of NATO would have been destroyed while the real impact would be that Moscow would have defeated the West. Whatever happened next, Russia would have shown the world that the United States can be beaten, that the technology its military has relied upon for decades—what the Chinese refer to as “American magic”—is vulnerable, and exploiting that vulnerability is the key to victory against US forces.

The Russian attack in space will be the most devastating attack conducted on American forces since either Pearl Harbor or 9/11. Just like Pearl Harbor, the attackers will have enjoyed a series of early victories

¹² Kevin Ponniah, “How Pragmatic Finland Deals with Its Russian Neighbour,” BBC, 27 July 2017. <https://www.bbc.com/news/world-europe-40731415>

that would fundamentally reorient the geopolitical map in the attackers' favor. If, as Carl von Clausewitz once argued, war is the extension of politics through other means, Russia will have decisively beaten their technologically superior American rivals in Europe. Returning things to the status quo thereafter would mean a costly American effort and would risk nuclear confrontation with the Russians. Many Russian leaders believe the Americans have an irrational fear of nuclear war. With America's nuclear weapons command and control capabilities degraded by Russian attacks in space, the Russian forces might gain “escalation dominance” over the American forces.¹³ For their part, the Americans would not merely sit on their proverbial hands. Even as the United States lost its satellite capabilities, it would have retained some ability to respond in kind to the Russian space attacks. Parts of America's force that were not totally impacted by the Russian space Pearl Harbor would target Russian satellite constellations and destroy them. At that point, both sides might risk an endless escalation in space where, inevitably, the two sides end up targeting civilian systems. Soon thereafter, the entire global economy and communications network will have been thrown into disarray. Yet, should the combatants stop just shy of causing such unmitigated global chaos, any in-kind American attack on Russian military satellite constellations would not be as devastating to Russian forces. After all, the Russian military is not as reliant on satellites as the American forces are. And the Russian government has been endeavoring to condition their citizens and soldiers to exist—and survive—in an environment of long-term technological degradation. In 2020, for example, the Russian government successfully tested their ability to disconnect the entirety of Russia from the American-dominated internet.

¹³ Aaron Miles, “Escalation Dominance in America's Oldest New Nuclear Strategy,” *War on the Rocks*, 12 September 2018. <https://warontherocks.com/2018/09/escalation-dominance-in-americas-oldest-new-nuclear-strategy/>

Instead, Russia became home to the world's largest intranet.¹⁴ While a successful Russian disconnection from the American-dominated global internet will remove key opportunities for Russia's civilian economy, in a time of warfare, it would further degrade America's ability to retaliate against a Russian attack (US strategists have viewed cyberspace as a key area to retaliate against Russia for any potential attack on the West).¹⁵

Of course, the Trump administration has consistently stood firm against Russian aggression. So, even if the odds were slim for America to truly win a war against Russia, it is unknowable whether President Trump would endure the sheer humiliation that Putin's surprise attack in space would visit upon his presidency. Perceived slights against Trump's ego are dangerous. After all, the president infamously questioned the manhood of a Republican presidential challenger in 2016 by mocking the size of his challenger's hands. It, therefore, remains unclear whether Trump would allow himself—or his country—to be humiliated by a Russian attack. What's more, the president has consistently proven himself to care for US forces. When Russian mercenaries threatened a group of US Special Forces operators in eastern Syria, Trump ordered the destruction of the Russian mercenary force. As a result, nearly two hundred Russians were killed. Should American forces in Europe be threatened by Russian attack—or should some American troops be killed or captured by an invading Russian force—Trump just might rally the country and give the Russians a fight, no matter the cost.

At the same time, though, the president has proven himself to be unwilling to risk a nuclear war. In his previous dealings with the nuclear-arming North Korean regime, President Trump shocked the world by embracing a more accommodating stance toward the nuclear

¹⁴ Catalin Cimpanu, "Russia Successfully Disconnected from the Internet," *ZD Net*, 23 December 2019. <https://www.zdnet.com/article/russia-successfully-disconnected-from-the-internet/>

¹⁵ Ryan Johnston, "Report: Obama Admin Planted Cyber 'Bombs' Inside Russian Infrastructure," *Cyber Scoop*, 23 July 2017. <https://www.cyberscoop.com/report-obama-planted-cyber-bombs-inside-russian-infrastructure/>

rogue state. This occurred even after Kim Jong-un, North Korea's leader, publicly mocked and embarrassed the president. The president gave peace a chance rather than risk a nuclear war, however limited, with North Korea. Given Russia's much larger nuclear arsenal, and the fact that Russia will have likely achieved a major victory and taken much of its desired territories in Europe following an effective surprise attack on American satellites by the time US forces could conceivably counterattack, it is possible that President Trump might sue for peace with Russia. By that point, President Trump's business background would enter into his strategic calculus. He might conduct a simple cost-benefit analysis and determine that the short-term buy-in costs to restoring the status quo in Europe after a successful Russian strike would simply be too high for whatever long-term benefits existed. At the very least, this is the Trump that Putin is likely hoping to deal with, although Putin should remember that Trump is also a successful entrepreneur who took great risks throughout his business career. Should the cost-benefit Trump go up against the judo-playing Putin, though, Russia will likely get what it wants in Europe.

Thus, a new paradigm would have been birthed in Europe. With the termination of America's once-dominant position in Europe, the US dominant place in space would also be removed. This would have profoundly negative long-term implications for the United States globally, as other actors—including Russia—would rush to replace the American position in orbit. Meanwhile, Americans would have to reel from the fact that their undefeated military would have been thoroughly routed by a less advanced, though more strategically innovative, Russian foe.

WHY WOULD RUSSIA EVER DO SUCH A THING?

The Kremlin believes that Russia, not the United States, should be the dominant force in Europe. What's more, Russia's leaders believe that American power in Europe is declining. Russia's leaders do not think it would take much to sweep away the detritus of the post-Cold War,

US-led Liberal International Order in Europe.¹⁶ To achieve this ultimate goal of Russian strategic dominance over Europe, though, the Kremlin must break apart NATO and fundamentally weaken the European Union. Moscow believes that once these organizations are gone, the influence and power of the United States in Europe will be removed also.¹⁷

To convince the Americans and their European allies that NATO has died and the EU is useless, Russia must deal a humiliating blow to the Americans. If the myth of American military superiority is shattered, Moscow believes that European states will then seek an accommodation with Russia. This will allow for Moscow to fundamentally rewrite the territorial boundaries of the region in Russia's favor. Given Russia's incredibly shrinking population and military force, a new defensive perimeter in Europe that incorporates natural barriers, such as the Baltic Sea and the Carpathian Mountains, will allow for that shrinking Russian force to better defend Russia's European border, as there will be fewer gaps for Russian forces to plug.

Before Russia would opt to conduct its devastating surprise attack on US satellite constellations in 2022, though, Moscow will have likely engaged in a series of escalations with most of their neighbors. For example, it is likely some terrifying war of words between Putin's regime and Poland's leaders would occur at some point, as Russian forces expanded on the other side of Poland's border. There's a strong possibility that Moscow would engineer a coup in Belarus in order to justify a permanent increase of Russian forces in that country. The Belarusian coup could be conducted by Russian intelligence operatives who would impersonate "'Belarusian' ultranationalists to stoke the fires of radicalism and compromise nonviolent resistance against the

¹⁶ Arkto, "Alexander Dugin: 'Eurasian Mission' (Arkto, 2014)," YouTube, 13 April 2015. <https://www.youtube.com/watch?v=xuVcwNUWncQ>

¹⁷ Strategy Stuff, "The Strategy of Eurasianism," YouTube, 15 February 2019. <https://www.youtube.com/watch?v=5Z98moTOa7Y>

dictatorship."¹⁸ This manufactured Russian ultranationalist resistance would see the autocratic ruler of Belarus call on his bigger Russian ally for help in snuffing out the attempted coup.¹⁹ For the last decade, Russian leaders have spoken of their need to reabsorb Belarus. Given the cultural linkages and the geographical proximity, Russia's reclamation of Belarus is a question of *when* rather than *if*. Soon thereafter, Russian forces could more reliably use Belarus as a highway into Europe, just as Soviet forces had done during the twentieth century—ultimately building up along the borders of the Baltic states and/or Finland.

Debates would soon divide NATO about whether both Finland and neighboring Sweden should be brought into the NATO alliance. Moldova, another Russian target in the Baltics, is also not in NATO, but its neutrality is enshrined in its constitution. Plus, the presence of large numbers of Russian-speaking Moldovan citizens would likely prevent Moldova from joining NATO, even if it wanted to. The eastern Europeans would think the inclusion of Finland and NATO was a no-brainer—especially since Finland is set to join the alliance by 2025. Sweden would likely be interested in joining NATO, as they have spent the last several years dealing with Russia's renewed naval threat in the North Sea.²⁰ Finland might balk at joining the alliance before 2025, though. Finnish leaders have tried to keep tensions with Russia relatively low over the years, although Finland has developed a potent defensive capability that would be able to inflict maximum damage on any invading Russian force. Despite these Finnish military preparations,

¹⁸ Paul Goble, "There Is an 'Operation Trust' in Belarus—but Not What Regnum Editor Describes," *Window on Eurasia—New Series*, 25 March 2017. <http://windowoneurasia2.blogspot.com/2017/03/there-is-operation-trust-in-belarus-but.html>

¹⁹ Marek Jan Chodakiewicz, "Business as Usual in Belarus: The Alternance Dance," *The Weichert Report*, 5 April 2017. <https://theweichertreport.com/2017/04/05/business-as-usual-in-belarus-the-alternance-dance/>

²⁰ David Crouch, "Swedish Navy Returns to Vast Underground HQ Amid Russia Fears," *Guardian*, 30 March 2019. <https://www.theguardian.com/world/2019/sep/30/swedish-navy-returns-to-vast-underground-hq-amid-russia-fears>

however, Finland does not have the numbers or strategic depth to withstand the kind of pounding that Russia was planning to inflict on them. NATO has a wide range of territory to defend and nowhere near enough troops or political unity to defend it all. Moscow has preferred to keep their NATO opponents off-kilter by pushing tensions to their boiling point with more than one of Russia's European neighbors. This has forced NATO to spread its forces along a wide territory, thinning the numbers of those defensive forces. Many Western analysts have assuaged concerns about Western defensive vulnerabilities in Europe by proclaiming the glories of the magical elixir that is American high technology. But not even the hallowed American *wunderwaffe* would be effective against the kind of attack Russia was planning to conduct—any more than the US military was prepared to prevent either the Japanese attack on Pearl Harbor or al-Qaeda's attacks on September 11, 2001.

Russia has the capability to rapidly winnow down NATO forces charged with defending Europe once the American technological advantages have been neutralized. Plus, the Russians may have quietly reconstituted their *limited* nuclear first-strike policy from the Soviet era.²¹ Essentially, this policy was not a total nuclear first-strike policy. The Russians, after all, have never shared the American view of nuclear weapons. Since the 1960s, American leaders from both political parties have viewed atomic weapons in apocalyptic terms.²² These weapons are nation destroyers. Russian military planners, though, have viewed nuclear weapons—particularly, smaller, tactical nukes—as nothing more than big artillery pieces to soften up the NATO defensive lines at the start of a major Russian offensive into Europe.²³

²¹ Brandon J. Weichert, "Russia's Preemptive Nuclear War Doctrine," *The Weichert Report*, 14 October 2016. <https://theweichertreport.com/2016/10/14/russias-preemptive-nuclear-war-doctrine/>

²² "Russian/Soviet Doctrine," Federation of American Scientists, 4 September 2000. <https://fas.org/nuke/guide/russia/doctrine/intro.htm>

²³ Mark B. Schneider, "The Russian Nuclear Threat," *Real Clear Defense*, 28 May 2019. https://www.realcleardefense.com/articles/2019/05/28/the_russian_nuclear_threat_114457.html

What's more, under these conditions, the US forces deployed to defend Europe are too small. The NATO forces that would stand against a Russian invasion would either be quickly overrun or encircled by larger, armored Russian forces. US and NATO forces deployed to several Baltic states and Finland are nothing more than so-called tripwires, intended to prevent the Russians from attacking those lands. The concept of a tripwire goes back to the Cold War and was something that NATO used to keep the Russians from attacking them.²⁴ Yet, any American decision to increase its tripwires in Europe will not deter Russia in 2022, as similar American actions had throughout the Cold War. Moscow's strategic calculus is simply different today from what it was during the Cold War. Russian leaders believe they are vulnerable along their border with Europe—and that their current boundary is entirely indefensible compared to what it was during the Cold War. Therefore, Russia intends to secure the area where Moscow believes it is most vulnerable at all costs—while Russia still has the capabilities to do so. Washington simply does not understand the strategic importance of a European buffer zone to Russian leaders.

SATELLITES: AMERICA'S ACHILLES' HEEL

By crippling the Americans' military technology in space, Russia will have thrown the Americans back to a pre-1970s era of warfare. Russian troops could fight and win with pre-1970s-era technology because that was precisely the level of advancement that most of Russia's forces operated at. Could the Americans? *Likely not.*

Lacking the advantages that satellites provided, the relatively small American forces in Finland and the Baltics could not call in for effective airstrikes or long-range artillery strikes. Their numbers were too small to offer direct, effective resistance against the Russians. And what US

²⁴ Dianne Pfundstein Chamberlain, "NATO's Baltic Tripwire Forces Won't Stop Russia," *The National Interest*, 21 July 2016. <https://nationalinterest.org/blog/the-skeptics/natos-baltic-tripwire-forces-wont-stop-russia-17074>

forces were in Finland and the Baltics would prove unable to mass into an effective counterattacking force against the Russians. Writing of his experiences in the Napoleonic Wars, Carl von Clausewitz, one of the fathers of the modern, Western way of warfare, said, "To achieve victory we must mass our forces at the hub of all power and movement. The enemy's 'center of gravity.'" This center of gravity "is always found where the mass is concentrated most densely."²⁵ American forces being so relatively small must first mass together, using technology to amplify their strength, and punch through larger, though less advanced, forces. The Russians, as well as America's other rivals, like the Chinese, have used Clausewitz for their own purposes. They have identified the satellite linkages that make the massing process of US Armed Forces possible.

In 2019, the Mitchell Institute for Aerospace Studies and the MITRE Corporation issued a report claiming that "when it comes to nuclear modernization, NC3 [nuclear command, control, and communications] is the least expensive, yet perhaps the most critical." Should this NC3 capability be degraded or destroyed, then Washington could not "provide convincing nuclear deterrence." Two of the critical elements for America's nuclear response and defense are the Space Based Infrared System (SBIRS) and the Air Force's Advanced Extremely High Frequency (AEHF) satellites. These two satellite constellations, which support America's NC3 capabilities, are highly vulnerable to attack. They are also very expensive and unwieldy. Should any of them go down in an anti-satellite attack, replacing them in a timely fashion would be onerous. During the time these systems were off-line, an American rival, like Russia, would have an unprecedented advantage over the United States. While the US military is already planning for a more survivable SBIRS, for example, this upgraded and better-defended system will not be available until 2029 or 2030. In effect, then, the United States'

²⁵ Joseph L. Strange and Richard Iron, "Center of Gravity: What Clausewitz Really Meant," *Joint Forces Quarterly*, no. 35 (2004): p. 22. https://theforge.defence.gov.au/sites/default/files/adfwrc06_strange_and_iron_-_clausewitz.pdf

critical NC3 functions will be seriously vulnerable to foreign attack throughout the 2020s.²⁶ This was why I chose 2022 for the hypothetical Russian space attack and invasion of Europe. Moscow would wait to see what President Trump might do at the start of his second term. Any failure to reset the US-Russia relationship, thereby assuaging Russian concerns about their vulnerability in Europe, would set Putin on this most destructive course. And there are limits to what deals the United States can make with Moscow before it loses all credibility globally.

The scenario detailed above is the nightmare scenario that so many defense experts, going back to the now-forgotten Report of the Commission to Assess United States National Security, Space Management, and Organization that was led by Donald Rumsfeld in 2000, had warned a succession of American policymakers about.²⁷ Yet, no one in power took this threat seriously. It was all just too theoretical—especially after the horrendous 9/11 attacks occurred, forcing Washington to spend an inordinate amount of time focusing on global terrorism and the threat of nuclear-arming rogue states. Back in the 2000s, most Americans would stare in bafflement at any policy analyst who dared to bring up the threat of space warfare to them. Of course, given the group-think model that dominates in Washington, few policy experts would waste their time—or risk their careers—worrying about such future threats when everyone was obsessing about preventing another 9/11.

BLACK SWANS AND GREY RHINOS: UNDERSTANDING STRATEGIC SURPRISE

A black swan event is an unforeseen event with extreme and unpredictable outcomes. Since September 11, 2001, the world has been concerned

²⁶ David A. Deptula, William A. LaPlante, and Robert Haddick, "Modernizing U.S. Nuclear Command, Control, and Communications," *The Mitchell Institute for Aerospace Studies*, February 2019, pp. 25–33. <http://www.mitchellaerospacepower.org/nc3>

²⁷ "Report of the Commission to Assess United States National Security Space Management and Organization," U.S. Government Printing Office, 28 March 2001. <https://www.govinfo.gov/content/pkg/CHRG-107shrg81578/html/CHRG-107shrg81578.htm>

about another black swan event on the magnitude of the terrorist attacks on 9/11. Contrary to popular opinion, though, 9/11 was not a black swan event. It was, in fact, foreseen by several people. Those few who warned about the dangers al-Qaeda posed to the United States, unfortunately, were often marginalized and ignored by an uninventive national security bureaucracy. When viewed through this prism, then, it becomes clear that 9/11 was more akin to a "grey rhino" event. According to Michele Wucker, this is a "highly probable, high impact yet neglected threat . . . Grey rhinos are not random surprises, but occur after a series of warnings and visible evidence."²⁸ And just like actual rhinos, a grey rhino event can trample a country that ignores the stampede headed its way for too long. Ignoring a grey rhino event tends to be a common pattern throughout America's history, whether referring to the Pearl Harbor attacks, the Cuban missile crisis, or the 9/11 attacks.

The 9/11 attacks, being the worst grey rhino event in American history, should have served as a wake-up call to US leaders about the threat posed by asymmetrical warfare. The response to 9/11 should have engendered among US policymakers more willingness to think outside the box regarding the identification of potential threats. This is especially true when you consider that al-Qaeda was not the only actor that desired to strike the United States in a spectacular manner during the post-Cold War era. In fact, China had first written the book on how to attack the United States unconventionally in order to win a future conflict against the American superpower. That book, *Unrestricted Warfare*, was published in the late 1990s by two senior colonels in China's People's Liberation Army. Beijing referred to this as "informatized warfare."²⁹ *Unrestricted Warfare* outlined how and why

²⁸ Kelsey Munro, "China Cabinet: Black Swans, Grey Rhinos, an Elephant in the Room," *The Interpreter*, 24 January 2019. <https://www.lowyinstitute.org/the-interpreter/china-cabinet-black-swans-grey-rhinos-elephant-room>

²⁹ "China Military Power: Modernizing a Force to Fight and Win," Defense Intelligence Agency, 2019. https://www.dia.mil/Portals/27/Documents/News/Military%20Power%20Publications/China_Military_Power_FINAL_5MB_20190103.pdf

the Chinese military would use asymmetrical warfare to overpower the conventional military dominance of the United States.³⁰

The Chinese paved the way. Not long thereafter, when Vladimir Putin rose to power in Russia, Moscow also began to view US military power as a potential threat. Moscow had disagreed with Washington's decision to attack the Balkans throughout the 1990s. The Russian government had opposed the "double expansion" of the European Union and the North Atlantic Treaty Organization (NATO) into what Moscow viewed as its traditional sphere of influence. What's more, the Russians, having been laid low by the fall of the Soviet Union at the end of the Cold War, were powerless to stop the Western advance. The Russian foreign policy elite began talking about the need to create a multipolar world, wherein there would be many great powers—all balancing against each other—while endeavoring to preserve spheres of influence near their own territories. In Russia's case, this meant ensuring that they were the unchallenged regional hegemon in both eastern Europe and central Asia.³¹ Just as the Chinese strategic planners have understood since the late 1990s, Russian strategists today comprehend that they could never challenge the United States in a conventional war—not without the proverbial tables being tipped in their favor. So, Russia has striven to turn those strategic tables to their favor. Either the West would treat them as a fellow great power and respect Russian wishes, or Moscow under the Putinist regime would *make* the Western powers treat Russia with respect.

Since 2013, Russian strategic doctrine has explicitly embraced unconventional military power. Yes, Russia has a robust nuclear force. And it's true that Russia's tank forces still outnumber the Western tank

³⁰ "PLA Colonels on 'Unrestricted Warfare': Part I, A November 1999 Report from the U.S. Embassy Beijing," Federation of American Scientists, accessed 5 November 2019. <https://fas.org/nuke/guide/china/doctrine/unresw1.htm>

³¹ Jeffrey Mankoff, *Russian Foreign Policy: The Return of Great Power Relations* (New York: Rowman and Littlefield, 2009), 14.

forces that would be arrayed against any potential Russian invasion of Europe.³² At the same time, though, Russia did not simply want parity with the United States in their “near-abroad.” They wanted to dominate the regions closest to their border in the same way the United States dominates the Western Hemisphere. If the West would not allow for this at the diplomatic table, Russia would have little recourse but to create its sphere of influence by force. All of Russia’s relevant strategic doctrines made copious references to waging short, sharp conflicts—sort of a modern-day blitzkrieg—into enemy territory to achieve attainable, tangible strategic results.³³

Shockingly, the generation of American leaders who had come up in the wake of the horrific 9/11 attack ignored the blatant threats that rival countries, like Russia or China, posed to American satellite constellations. Following the 9/11 attacks, the United States vowed to “Never Again” allow for a similar, horrible attack to recur. The country waged a costly global “war on terrorism,” predicated in part, on the idea that the United States would be proactive in preventing such threats from rising ever again. The United States, meanwhile, has long pursued a policy of preventing any rival power from coming to dominate the Eurasian landmass. Somehow, though, the Russian and Chinese military threats have been completely missed. That both China and Russia told the world of their revanchist intentions to strike boldly, in unconventional ways for decades—and that the United States did little to prepare to withstand such asymmetrical attacks—will be a pox on all the mansions of America’s political elites.

And just as it did with 9/11, the US government has some idea that something big is coming down the pike. Al-Qaeda had been around for

³² David A. Shlapak and Michael W. Johnson, “Outnumbered, Outranged, and Outgunned: How Russia Defeats NATO,” *War on the Rocks*, 21 April 2016. <https://warontherocks.com/2016/04/outnumbered-outranged-and-outgunned-how-russia-defeats-nato/>

³³ Dara Massicot, “Anticipating a New Russian Military Doctrine in 2020: What It Might Contain and Why It Matters,” *War on the Rocks*, 9 September 2019. <https://warontherocks.com/2019/09/anticipating-a-new-russian-military-doctrine-in-2020-what-it-might-contain-and-why-it-matters/>

at least a decade before 9/11 occurred. In fact, it could trace its roots back to the Mujahideen anti-Soviet resistance in Afghanistan, which US intelligence supported. Al-Qaeda had engaged in what was clearly an escalating global offensive against the United States—even attacking the World Trade Center in 1993 with a truck bomb. Osama bin Laden declared his *fatwa* against the United States, where he outlined in clear terms, for all people to comprehend, his problems with the West. Bin Laden also explicitly stated his intentions to wage unrelenting warfare upon the West until his politico-strategic aims were met. Elements of the US intelligence community tracked some of the soon-to-be 9/11 hijackers coming from a terrorist powwow in Malaysia in the summer of 2000 and into California.³⁴ The CIA had failed to alert the FBI in a timely manner of what those al-Qaeda suspects were doing in the United States. America’s unresponsive, post-Cold War bureaucratic system, coupled with an unwillingness to grasp the significance of an unconventional threat, like al-Qaeda, was mostly to blame for the attacks on September 11, 2001. In fact, in August 2001, just as then president George W. Bush was readying to leave Washington, DC, for his home in Crawford, Texas, the intelligence agencies issued a report with the explicit declaration that “Bin Laden [was] determined to strike in [the] US.”³⁵

Of course, many insist that the necessary questions of “When? Where? How?” were woefully unanswered by the infamous August 2001 memo. These partisans insist that the lack of context in that memo prevented the George W. Bush administration from responding effectively to those warnings. This, as they say in my home state of Florida, is hogwash. September 11 was a grey rhino event that was completely avoidable. Defenders of the Bush administration and the intelligence agencies insist

³⁴ John Lehmann, “CIA Bungle: Agents Tracked Hijackers but Told No One,” *New York Post*, 3 June 2002. <https://nypost.com/2002/06/03/cia-bungle-agents-tracked-hijackers-but-told-no-one/>

³⁵ Andrew Glass, “George W. Bush Receives Bin Laden Memo: Aug. 6, 2001,” *Politico*, 6 August 2009. <https://www.politico.com/story/2009/08/george-w-bush-receives-bin-laden-memo-aug-6-2001-025834>

that sufficient warning never came. These people are either lying or they are wrong. To compound matters for anticipating future crises, many of the same people are—and will be for some time—still employed by the US government. America's national security bureaucracy, despite hosting a bevy of conferences on the subject since 9/11, has never properly internalized its failures leading into—and on that—terrible September day. Due to this, America's national security bureaucracy remains incapable of identifying and preventing another 9/11-like grey rhino event.

This same mentality pervades US government officials about the possibility of a sudden and devastating attack against US satellite constellations. So, in the war game scenario presented above, it makes perfect sense that US forces would get their asses handed to them by a Russian or Chinese attack on inadequately defended US satellite constellations. Of course, ultimately, 9/11 was particularly heinous because it targeted not only a military site (the Pentagon), but civilians as well. In fact, most of the victims and targets of the 9/11 attacks were civilians divorced from the US military machine that bin Laden and his fanatical followers loathed.

A sudden attack on US space systems, on the other hand, especially by a state, like Russia, would likely be confined (at least initially) to the military realm. In this way, then, the term, "Space Pearl Harbor" is far more apt than a "space 9/11," since Russia would first target only US military satellites in orbit before they tried to disrupt civilian systems. Only if the US government refused to negotiate with Russia after they conducted Space Pearl Harbor and then invaded parts of Europe would Moscow entertain notions of disrupting civilian life in the United States.

SIMILARITIES BETWEEN RUSSIA IN THE 2020S AND JAPAN IN THE 1940S

The situation between Russia and the United States is far more akin to that of the United States and imperial Japan leading into the Second World War. Of course, the strategic cultures are distinct. What's more, they are separated by geography and time. But the rationale is eerily

the same. Ideologically, Russia believes that it has an inherent right to extend its sphere of influence into territories that it has historically dominated. By dominating these European territories, as you've seen, Russia's leaders believe they could create a smaller and more easily defensible border compared to their current territorial boundaries. Japan wanted to accomplish something similar with their Co-Prosperity Sphere in Asia. Moscow has even created the Eurasian Economic Union, which is a thinly veiled attempt at reestablishing the Russian Empire of old using the language of postmodern Western technocrats. Therefore, the similarities between the Japanese situation in 1941 and those of Russia by 2022 should not be ignored. Despite all evidence to the contrary, US policymakers refused to take seriously either Japan's strategic intentions or their capabilities. Few in the US intelligence community truly believed that Japan would strike out against the larger and more distant United States.

Though Russia is larger than the United States, on paper, it is nowhere near as powerful in either the economic or conventional military domains. Plus, many observers believe that the presence of large arsenals of nuclear weapons on both sides would prevent any conflict between the two sides from occurring. These analysts are wrong. The fact is, Moscow and Washington do not share the same opinion on the efficacy of nuclear war. This is evident in the fact that, since the Obama administration's New START Treaty with Russia in 2011, the Russians have not only modernized their nuclear arsenal, but they have also enhanced the abilities of their tactical nuclear weapons arsenal.³⁶ These smaller nuclear weapons would be used to "soften up" the defenses of any NATO force that stood against a Russian invasion of Europe.³⁷ The

³⁶ Mark B. Schneider, "The Russian Nuclear Weapons Buildup and the Future of the New START Treaty," *Real Clear Defense*, 1 November 2016. https://www.realcleardefense.com/articles/2016/11/02/the_russian_nuclear_weapons_buildup_110294.html

³⁷ Christopher Woody, "Russia Reportedly Warned Mattis It Could Use Nuclear Weapons in Europe, and It Made Him See Moscow as an 'Existential Threat' to the US," *Business Insider*, 14 September 2018. <https://www.businessinsider.com/russia-warned-mattis-it-could-use-tactical-nuclear-weapons-baltic-war-2018-9>

United States, meanwhile, has fallen woefully behind in the nuclear arms race because most American leaders believe that nuclear warfare is an irrational endeavor and, therefore, it should not be contemplated.³⁸

That is why few in Western circles believe Moscow would dare lash out against the United States in the military realm. Yet, that is precisely what Moscow's leadership intends to do, the more untenable that diplomacy with the US-led Western alliance becomes. There exists in the West a strategic schizophrenia: on the one hand, few want to fight Russia. On the other hand, few want to concede anything to Russia at the diplomatic table. In the meantime, the institutions that would be most capable to deter Russia, NATO and the EU, are increasingly weak. NATO has enjoyed some increases in support since the rise of Donald J. Trump to the presidency. Yet, under current conditions, by the time 2022 rolls around, NATO will still be unable to deter any Russian invasion into Europe without concerted backing—and bloodshed—from the United States. The EU, meanwhile, is fragmenting and teetering toward collapse. As this occurs, most Western strategists fail to acknowledge that Moscow will not simply sit idly by while Washington and Brussels decide whether to treat Russia as a friend or foe.

As Roberta Wohlstetter wrote in her history of the Pearl Harbor attack:

The [US war planners] envisaged a strong possibility [in June 1940] of concerted offensive action by Japan and the Soviet Union in the Far East. On American participation in the war as a belligerent, they argued in no uncertain terms that it would be quite "unreasonable" in light of the "long-range national interests of the United States. Our readiness to meet such [totalitarian] aggression on its own scale is so great, so long as the choice is left to us, we should avoid the contest until we can be adequately prepared."³⁹

³⁸ Paul Bracken, *The Second Nuclear Age: Strategy, Danger, and the New Power Politics* (New York: Henry Holt, 2012), 216–24

³⁹ Roberta Wohlstetter, *Pearl Harbor: Warning and Decision* (Stanford, CA: Stanford University Press, 1962), 84.

During this period, the War Department was incensed that President Franklin D. Roosevelt insisted on sending munitions to the British in their fight against the Axis powers at the expense of US military readiness and the president's decision to allow for the US Pacific Fleet to be moved from California to the forward base of Pearl Harbor in Hawaii. Wohlstetter continued by pointing out that "the War Department staff believed that such a show of strength . . . might be taken by the Japanese government as a *casus belli*. It would act as a deterrent 'only so long as other manifestations of government policy do not let it appear that the location of the fleet is only a bluff.'"⁴⁰ As Wohlstetter assessed, "apparently, to the planners, it was a bluff. America, they believed, was totally unprepared to meet a hostile Japanese reaction [to the Pacific Fleet being deployed to Pearl Harbor]. The president and the State Department, however, were favorably disposed to demonstrations of apparent strength."⁴¹ Today, Russia increasingly believes—correctly, in many cases—that NATO's force is hollow and that the Americans are bluffing about their intentions to militarily defend Europe.

Of course, Japan *did* take the American movements in the Pacific as a sign that US foreign policy toward Japan was becoming increasingly antagonistic.⁴² At that point, the United States had enacted onerous economic sanctions against Japan for the illegal invasion of Manchuria and the "Rape of Nanjing" massacre. At that time, China was viewed as an area of strategic interest to the United States. Japanese aggressions there were seen, especially by the State Department, as a direct threat to US national interests in the region.⁴³ When Nazi-occupied France

⁴⁰ Wohlstetter, 84.

⁴¹ Wohlstetter, 85.

⁴² Ian W. Toll, "A Reluctant Enemy," *New York Times*, 6 December 2011. <https://www.nytimes.com/2011/12/07/opinion/a-reluctant-enemy.html>

⁴³ "China Lobby, Once Powerful Factor in U.S. Politics, Appears Victim of Lack of Interest," *New York Times*, 26 April 1970. <https://www.nytimes.com/1970/04/26/archives/china-lobby-once-powerful-factor-in-us-politics-appears-victim-of.html>

allowed for Japan to annex its former colonies in Indochina, Japanese power in Asia increased considerably, becoming a greater threat to both the declining British Empire and the distracted United States. In response, President Franklin D. Roosevelt froze "all Japanese assets in America. Britain and the Dutch East Indies followed suit. The result: Japan lost access to three-fourths of its overseas trade and 88 percent of its imported oil. Japan's oil reserves were only sufficient to last three years, and only half that time if it went to war and consumed fuel at a more frenzied pace." Ultimately, Japan was placed into a use-it-or-lose-it mentality. Either they could "back off of [their] occupation of Southeast Asia and hope the oil embargo would be eased—or seize the oil and further antagonize the West, even into war."⁴⁴ This, more than anything, was a decision that locked Japan into conflict with the United States.⁴⁵ Japan, a small country with few natural resources and grand regional ambitions, needed an ever-increasing array of natural resources to fuel its rise. Oil was the sine qua non for Japan's budding "Co-Prosperity Sphere" across Asia.

By depriving Japan of oil and international trade, Washington did not deter Japan from greater hostile action. Instead, Washington inspired Japan into becoming more aggressive—and reckless. American strategists at the time were more convinced that Japan would attack either the Soviet Union or the British-held Singapore long before Japan could muster the forces needed to strike against far-flung American holdings—particularly those in Hawaii. What few policymakers realized was how committed Japan's ruling war party was to territorial expansion. US policymakers were also insensitive to the fact that with each new embargo and economic sanction (or humiliation), Washington

⁴⁴ History.com Editors, "United States Freezes Japanese Assets," History, 16 November 2009, <https://www.history.com/this-day-in-history/united-states-freezes-japanese-assets>

⁴⁵ Sebastien Roblin, "Study This Picture: This Is Why Japan Attacked Pearl Harbor (and Dragged America Into World War II)," *The National Interest*, 2 December 2018. <https://nationalinterest.org/blog/buzz/study-picture-why-japan-attacked-pearl-harbor-and-dragged-america-world-war-ii-37712>

empowered the radical militarists in Japan, often at the expense of those who strove for more peaceful and stable relations with the United States.⁴⁶ The American economic sanctions, coupled with the move of the US Pacific Fleet from its base in California out to Hawaii in 1940, Tokyo assumed that the Americans were readying to strike. Given Tokyo's interpretation of these American moves, the Japanese leadership intended to strike first before the American juggernaut could be fully stirred from its slumber. Japan's target, ultimately, were the US Navy and Army Air Corps facilities on the Hawaiian Islands.

Yes, some civilians were killed during the Pearl Harbor raid. But the Japanese targets were primarily military in nature. And the Japanese targeted the facilities that would provide the logistical support for any sustained American military campaign in the Pacific against Japan. Shortly after their assault on Pearl Harbor, the Japanese quickly turned their ire to the US holdings closer to their territory, such as the Philippines. Japan even managed to land forces on Alaska's outlying Aleutian Islands.⁴⁷ The goal was to roll back the *military* reach of the United States from territory that the Japanese wanted to hold, in order to give Japan the time it needed to make minced meat of their local rivals, who were no match for Japan's hardened military. The Russians today (or, in 2022) share similar ambitions and territorial concerns that the Japanese of 1941 held. Russia believes their expansion is warranted to create greater strategic depth in order to better protect the "core" of their country. The core of Russia is the cities very near the present European border, like their capital of Moscow or St. Petersburg.

Given Russia's long history of foreign invasion, such Russian territorial ambitions should not surprise American policymakers. The fact

⁴⁶ "The Failed Attempt to Avert War with Japan, 1941," Association for Diplomatic Studies and Training, 27 November 2013. <https://adst.org/2013/11/the-failed-attempts-to-avert-war-with-japan-1941/?fbclid=IwAR3kkbL1PAuPe400nood-eDdepz8EkbfnWFJgwtbErnyI08tRuBKC-lac8>

⁴⁷ Mark Thiessen and Mari Yamaguchi, "75 Years Later, 'Forgotten' WWII Battle on Alaskan Island Haunts Soldiers," *Army Times*, 27 May 2018. <https://www.armytimes.com/veterans/2018/05/27/75-years-later-forgotten-wwii-battle-in-alaska-haunts-soldiers/>

that most US policymakers appear unable or unwilling to acknowledge Russian territorial concerns should be worrying to all. Just as with the Japanese empire in the run-up to the Second World War, US foreign policy toward Russia is aggravating, not ameliorating, the threat posed to US national interests in a key strategic region. By the 2020s, the policies of the United States will likely be seen as direct threats to Russian national security, and the Russian leadership will decide to strike the Americans with uncompromising vigor. For their part, the Russian leadership has sent clear signals for decades about their concerns over US actions in Europe. Further, Moscow had made plain their intentions to pursue a policy of regional hegemony in Europe, the Middle East, and central Asia. And the US intelligence community knew how Russia would behave in response to consistent US policies of economic sanctions and perceived Western hostility near Russia's borders.

Of course, like the United States at Pearl Harbor, American policymakers will still be caught by surprise when Russia drops the hammer on Europe. American policymakers simply ignored the years of warnings coming from Moscow. Or they refused to acknowledge that Russia would actually strike back, after Washington's continued provocations—just as Washington refused to comprehend that Tokyo would not abide by strong American diplomatic and economic pressure placed on their rising empire. Evoking Wohlstetter again:

If our intelligence system and all our other channels of information failed to produce an accurate picture of Japanese intentions and capabilities, it was not for want of the relevant materials. Never before have we had so complete an intelligence picture of the enemy. And perhaps never again will we have such a magnificent collection of sources at our disposal.⁴⁸

America's leaders had the most accurate portrayal of Japanese strategic intentions and general capabilities before the Japanese attack

⁴⁸ Wohlstetter, 382.

on Pearl Harbor. Of course, US leaders did not understand that the Japanese would effectively push the limits of their technological capabilities in order to achieve what they hoped would be a knockout blow to the larger, though distracted, Americans. Just as US forces today have been constantly rubbing up against Russian forces, whether it be at sea, in the air, in cyberspace, or on land—notably along Europe's border and within chaotic Syria—American units were having increasing hostile contact with Japanese forces, notably in the southern Pacific well before Japan attacked the United States. Yet, Washington refused to acknowledge that Japan was bristling under the weight of American sanctions. Whatever heinous actions Japanese forces had taken in China (and they were particularly gruesome), as the War Department assessed at the time, it did not serve US national interests to antagonize Japan—which is precisely what Washington was doing by insisting upon its policy of heavy-handed sanctions coupled with intensified military deployments to the Pacific. Washington did this while seeking a diplomatic resolution with Japan. These actions, especially against a militarized foe with a long history of aggression, like Japan, had the opposite of their intended effect.

THE CRISIS OF THE 2020S AND AMERICAN STRATEGIC VULNERABILITY

The only way for the United States to avoid a Space Pearl Harbor, then, is to take President Trump's reforms for the creation of a space force more seriously and support an influx of federal funding for *all* space-related projects. There is a new space race occurring, in which America still retains a lead, but that lead is withering away due to the strategic indifference on the part of several previous American presidential administrations and Congresses. This consistent strategic indifference on the part of American leaders on space policy has deprived the Pentagon, NASA, and a coterie of other agencies charged with America's expansive space operations of vital innovation and leadership at the institutional level. As time progresses, American rivals continue enhancing their space

capabilities—and the threat to American space systems—relative to those capabilities the United States possesses. If trends progress as they have, then, strategic disaster for the United States in space is assured.

A few years ago, I asked a friend at the National Geospatial Intelligence Agency (NGA) why the government was so indifferent about defending America's satellite constellations—and what might be done to better defend these critical systems in orbit. He looked away for a moment and then shook his head, saying he did not know. I knew him well enough to know he was uneasy with the discussion. Still, I pressed him for his opinion on the matter. After a few sips of his scotch, my friend glumly replied, "It's going to take getting our asses kicked up there to wake people up." So, in effect, the organizations that were created to anticipate grey rhino events are now fostering the conditions for such catastrophes to happen. And as I told my friend who worked at the NGA: judging from the "reforms" imposed on the national security state following 9/11, there's no guarantee that the government's response to a Space Pearl Harbor will be any more effective than what the Bush administration's nonsolutions to preventing another 9/11 were. After Pearl Harbor, the United States marshalled its energy and went on to defeat the Japanese empire that had attacked the United States in a few bloody but short years. After 9/11, however, America simply created more stifling bureaucracy in response to those attacks—and the global war on terror continues unabated after twenty years.

The president has signed into law the creation of a sixth, independent branch of the United States military dedicated to space. Some in the Pentagon have responded as best they can to heed President Trump's calls. Even among Trump's allies, though, the concept is often met with scorn. Representative Dan Crenshaw (R-TX) told me at an event in early 2019 that he was skeptical of the creation of a space force because he did not think it was necessary to "create more bureaucracy." But reorganizing the US military so that there is a dedicated branch committed only to defending the United States in space is desperately needed. It is the equivalent of God telling Noah to build the ark *before* the rains began.

To prevent a Space Pearl Harbor, then, the Pentagon must ensure it has the ability to protect existing satellites and then replace them with more survivable ones. Sadly, both the Russians and the Chinese have already reorganized their space forces. The militaries of both Russia and China are prepared to fight—and win—the next space war. America's forces are unprepared. We are exposed. *Vulnerable*. Because America is vulnerable in space, US rivals increasingly seek to exploit that vulnerability. Thus, a Space Pearl Harbor is coming. It's simply a question of when and who. As you've seen in this chapter, Russia is the most immediate threat to American space systems because of their current strategic situation.

THE CASE FOR SPACE

IN THE 1920S, the first modern, chemical-propelled rocket was launched by Robert Goddard in the United States. Soon, the Soviet Union would begin testing its own rockets. Ultimately, despite their initial investments in chemical-propelled rockets, neither the United States nor the Soviet Union fully embraced the technology until after the Second World War ended in 1945. It was Nazi Germany that came to respect the potency of rockets as a strategic weapon. In time, both the United States and the Soviet Union would regret not having invested more fully in this technology before the outbreak of the Second World War, as it created a massive gap in their defenses.

Noted German scientist Werner von Braun was the father of the Nazi V-2 rocket and similar systems. Yet, the Nazis were never able to fully realize the strategic potential of rockets in time to alter the outcome of the Second World War for them. For his part, Werner von Braun is reported to have agonized that his rockets worked brilliantly, but they were landing on the wrong planet!¹ Von Braun, like so many scientists who would succeed him, envisaged using massive chemical-propelled rockets to transport men to the Moon (and beyond). Unfortunately for the scientific community, though, the desire for manned space exploration could never be fully divorced from strategic and military reality. Rather than being two distinct missions, as the Cold War between the United States and Soviet Union would soon prove, space exploration and space defense were fused; one could not happen without the other.

Recognizing that they had come to the rocket game too late, the Americans and Soviets engaged in an epic race to acquire as much data, materiel, and scientists from the recently defeated Nazi Germany—the world's only real rocket power at that point—as they could. This became known as “Operation Paperclip” in the United States. Once Moscow and Washington had amassed the knowledge they had taken from the defeated Nazi Germany, the two sides immediately understood that rocket technology could transform their militaries. What's more, the two competing powers realized that whoever got advanced rocket technology first would have the capability to place personnel and weapons high above Earth—giving that side a potent advantage over the other. Ultimately, rockets would be used to launch nuclear weapons, satellites, and astronauts into space. They were the backbone of both the American and the Soviet strategies for fighting—and winning—the Cold War.

Rockets became doubly more important with the advent of nuclear weapons. Initially dropped from bombers, nuclear weapons after the

¹ Alejandro De La Garza, “How Historians Are Reckoning with the Former Nazi Who Launched America's Space Program,” *Time*, 18 July 2019. <https://time.com/5627637/nasa-nazi-von-braun/>

Second World War were married to rockets of various ranges. Soon, the United States built an entire arsenal of medium-to-long-range ballistic missiles. By 1949, the Soviet Union had acquired their own nuclear weapon. And from that point, the great nuclear arms race was on. While the Americans had better quality weapons at the start of the Cold War, the Soviets were committed to building higher quantities of such devastating weapons.

Rocket science, though, required a different skill set than the previous age of industrial warfare. Rather than creating more workers to man the factories, the Soviets needed to educate more scientists to build rockets and other newfangled pieces of technology. In the 1950s, Moscow began training as many of their citizens as possible in areas of science and math. The Soviets believed that if they could produce more scientists of better quality than their Western rivals, then they could ultimately produce better technology. This technology would allow the Soviet Union to win the nuclear arms race *and* the space race—all of which would grant Moscow total victory in the Cold War.

With the creation of rockets and the advent of nuclear weapons, the basis for space travel was established. It would only be a matter of time before humanity took to the stars with as much élan as it had traveled the high seas, flown through the air, or crossed large tracts of land. In the famous baseball film *Field of Dreams*, Kevin Costner's character is compelled to build a baseball field to save his community. In what turns out to be a message from God, Costner is told that if he "builds it, they will come." This proved to be true in the film. Similarly, I believe that if humans can get somewhere, they will eventually go there. And once humans go somewhere, they will eventually fight over that place. It is, after all, human nature. Since human nature is flawed but fixed, eventually, a war in space will occur—it's a question of when, not if.

YEAR ZERO

October 4, 1957, is Year Zero in what would become known as the space race. It was on this fateful day that the USSR launched humanity's

first satellite, Sputnik. The satellite was intended for military purposes; it demonstrated that the Soviet Union had a new and (at that point) unmatched strategic capability that many Americans had feared would directly threaten the United States. Outright panic about Soviet space capabilities and intentions soon gripped the American people.² Then President Dwight D. Eisenhower had to address the issue—and he needed to have a long-term plan at the ready in a short period of time.

Many military strategists grew concerned that Sputnik was just the start of a new Soviet military push to acquire the all-important strategic high ground of space. The United States had benefited from its dominance in air. But space was physically higher than the blue skies over Earth. American planners began worrying that the Soviets would place weapons systems in orbit or other military equipment with which to threaten the United States. How would the United States respond? Could the United States respond without risking open warfare—a war that the United States might lose, no less? Space, after all, made geographical distances that once favored the United States less important. At that time, the Soviet Union, which ordinarily could not threaten the territorial security of the United States, could launch nuclear missiles into space. Those missiles would, within a few minutes after launch, return to Earth over a target somewhere in the United States and wreak untold amounts of devastation—with little warning and little in the way of defense.

For example, while Sputnik was a basic communications satellite, the Soviets intended to do more with their space program than simply place communications satellites in orbit. Sputnik was merely a proof of concept: Moscow wanted to demonstrate that they could do things that would not only threaten the United States but that the United States could not defend or counter. The Reds had designs to place nuclear weapons platforms in orbit; they even infamously tested

² Eric Mack, "How NASA Was Born 60 years Ago from Panic over a 'Second Moon,'" *C-NET*. 29 July 2018. <https://www.cnet.com/news/how-nasa-got-its-start-60-years-ago-sputnik-eisenhower/>

nuclear weapons in low-Earth orbit in the 1960s.³ The Soviets also designed a battle station for Earth orbit in the form of the Almaz space station program. In fact, the Soviet Union's space program produced a variety of concepts that, had it not been for the unstable economic system of the USSR, would have seriously threatened the United States.⁴

THE SPACE RACE WAS A RACE FOR BRAINS

When public outcry over the Sputnik launch reached a crescendo, President Dwight D. Eisenhower addressed the American people with a plan of his own for competing with the Soviets in the newly discovered strategic domain of space. From that point forward, President Eisenhower encouraged American young people to study math and science in order to better compete with the Reds. The US government copiously invested taxpayer money into creating scholarships and public-private partnerships, as well as building a large network that bridged the scientific community, public education, and national security, all in an effort to coordinate and synthesize a strong response to the Soviet advances in rocketry and space technology.

In one famous speech made in November 1957, President Eisenhower decried the lack of American students studying science and math relative to their Soviet rivals. In his speech, Eisenhower argued:

The Soviet Union now has—in the combined category of scientists and engineers—a greater number than the United States. And it is producing graduates in these fields at a much faster rate. Recent studies of the educational standards of the Soviet Union show that this gain in quantity can no longer be considered offset by lack of quality.

³ Callum Hoare, "WW3: Why US Feared Soviet Nuclear Missile Attack from SPACE After Secret Launch," *Express*, 19 May 2019. <https://www.express.co.uk/news/world/1128487/ww3-nasa-sputnik-us-soviet-union-nuclear-space-war-eisenhower-khrushchev-spt>

⁴ Boris Egorov, "What Weapons Did the Soviet Union Plan to Use in a Space War?" *Russia Beyond*, 12 April 2018, <https://www.rbth.com/science-and-tech/327998-weapons-soviet-union-space>

This trend is disturbing. Indeed, according to my scientific advisers, this is for the American people the most critical problem of all. My scientific advisers place this problem above all other immediate tasks of producing missiles, of developing new techniques in the Armed Services. We need scientists in the ten years ahead. They say we need them by thousands more than we are now presently planning to have.⁵

The United States struggled to compete in the opening phases of the space race precisely because it lacked an integrated strategy for creating the next generation of scientists to propel the United States further ahead of the Soviets in the rocket age. Early investments that the Soviets had made into their space program paid off well, placing the Americans back on their proverbial heels. Not only did the Soviet Union deploy the world's first satellite, but they also launched the first human into space: cosmonaut Yuri Gagarin. Beginning with the Eisenhower administration through that of President Lyndon B. Johnson, the United States poured billions of taxpayer dollars and resources into recruiting, educating, and developing the world's best scientific minds for use in its space program.

Yet, it was always time that the United States seemed to be running out of. The United States was playing a game of perennial catch-up with its Soviet rivals in space, where the stakes were unbelievably high and the margin for error was painfully small. This was a strange place for the American people to have found themselves in, just a few short years after having soundly defeated the Axis powers in the Second World War.

Besides, although the Soviets were making their historic strides in space, the size of the Soviet Union's economy was a fraction of the size of the American economy. Unlike the United States, the Soviet Union was still recovering from the devastation that the Second World War had

⁵ Dwight D. Eisenhower, "Radio and Television Address to the American People on 'Our Future Security,'" American Presidency Project. 13 November 1957. <http://www.presidency.ucsb.edu/ws/?pid=10950>

wrought on their territory. After all, with the exception of Pearl Harbor and the battle of the Aleutian Islands off the Alaska coast in 1943, the physical destruction of the Second World War had not affected the United States the way that it had damaged the rest of the world—notably the Soviet Union. Plus, the Soviet system was driven by a tyrannical, central authority that dictated the daily lives of all who fell under its control. And under the hyper-paranoid rule of Joseph Stalin, the Soviet Union had suffered an immense brain drain, as Stalin either imprisoned or murdered some of the Soviet Union's greatest leaders and thinkers. But after Stalin had died, his successor, Nikita Khrushchev, was nowhere near as paranoid as Stalin had been. Khrushchev was committed to ensuring that the Soviet Union not only caught up with their American rivals, but that the USSR, not the USA, ruled the high ground of space.

From this victory, the Soviets had the all-important first-mover advantage in space. In economics, according to the website *Investopedia*, “a first mover is a service or product that gains advantage by being the first to market. Being first typically enables a company to establish strong brand recognition and customer loyalty before competitors enter the arena.”⁶ A similar concept can be applied to geopolitics—particularly in the area where geopolitics meets technological innovation. In the case of the space race during the Cold War, the Soviet launch of Sputnik enabled the USSR to be the first to enter into an unclaimed, strategically important domain. It had also granted immense prestige to the Soviet Union, which, until that point, had been viewed as a turgid, backward, desolate place—which, of course, it was. From that moment, the Soviets were able to leverage their initial move into space with a succession of other events that enhanced Soviet power relative to the United States. This, in turn, made the United States and its allies more vulnerable.

Of course, there is also the “first mover *dis*-advantage.” As *Investopedia* outlines, “Other businesses can copy and improve upon first movers’

⁶ *Investopedia*, s.v. “first mover,” accessed 15 September 2018, <https://www.investopedia.com/terms/f/firstmover.asp>

products, thereby capturing first movers’ share of the market. Also, often in the race to be the first out of the gate, a company may forsake key product features to expedite production. If the market responds unfavorably, later entrants capitalize on first movers’ failures to produce a product that aligns with consumer interests.” This was what happened with the Soviet space program, although it only became a disadvantage *after* the United States fully committed itself to catching up to the Soviets in space. A series of technical setbacks and political changes in Moscow allowed for the United States to inevitably take the lead in the space race by landing on the Moon first. However, the Soviet space capabilities continued to be enhanced over the years. In fact, after losing the Moon race, the Soviets focused entirely on developing space station capabilities. Because of their focus on space station operations, the Russians cultivated an expertise in building and developing space stations that they retain even today, long after the Soviet Union collapsed.

THE FANTASY OF SPACE AS A WEAPONS-FREE SANCTUARY

Despite the military implications of space exploration, many Americans sought to marginalize the militarization of space in favor of focusing on the civilian aspects of the scientific exploration of space. Even though Washington opted to focus on the peaceful side of space exploration by forming NASA, the strategic need for a military space program in the United States was ever-present—especially in the midst of the Cold War. Strangely, though, most American elites refused to acknowledge that space was, in fact, a place of strategic competition.

For example, the head of RAND Corporation’s missile division, James Lipp, famously argued in 1949 that dropping bombs from orbiting satellites or space stations would be impractical as an offensive measure.⁷ At that time, Lipp, like many American elites, did not understand that satellites were not the end of human military activity

⁷ James Lipp, “Conference On Methods for Studying the Psychological Effects of Unconventional Weapons,” RAND Corporation, pp. 93–97, <http://www.dtic.mil/dtic/tr/fulltext/u2/108425.pdf>

in space. They were the *start* of human military actions in space. Even President Eisenhower, who understood that space had strategic value in the Cold War, embraced the Lipp notion that space should be viewed as a weapons-free sanctuary—simply because space activities were so expensive and technically difficult at that time. This was why Eisenhower supported the initial creation of the civilian NASA program as opposed to simply letting the Air Force manage all space policy.

Naturally, at the same time that many US leaders and scientists wanted to keep space as a weapons-free sanctuary, the Soviets were increasing their investment in the militarization of space, prompting the Americans to begrudgingly do the same. The Soviets tested a nuclear weapon in space, stoking fears that the Reds were planning to place nukes in orbit. This forced the United States to reciprocate. With each hostile act in space, it stoked an equal—or greater—hostile reaction in space from the other side of the Cold War. In the process, each side's space capabilities were enhanced. Over time, whether Washington's policymakers liked it or not, the United States could do more in space than they previously thought possible.

Senator John F. Kennedy (D-MA), like Republican President Eisenhower, was skeptical of the costs and utility of the nascent American space program. But by the time JFK campaigned for the presidency in the election of 1960, even he had become an ardent supporter of an active American space program. As both the Soviets and Americans invested their considerable resources into developing space capabilities, the more space became militarized, the less relevant the sanctuary view of space became.

So, though American elites have tried to prevent the militarization of space over the years, American policymakers could never fully divorce the civilian-run NASA from its military roots. It is in humanity's nature to compete and war with itself. We know this from thousands of years of recorded human history. Attempting to prevent such natural human actions in space was a painfully shortsighted position. The sanctuary view of space has hamstrung the necessary development of space as

an economic and strategic asset for decades. This was an especially damaging outlook to take at the same moment that the Soviets were embracing a more robust military capability in space.

The United States never fully realized its military potential in space because many powerful interests within government and academia bought into the utopian view that space was a weapons-free sanctuary. Thus, these powerful, aligned interests not only helped to stymie attempts to militarize space, but they also prevented a timely American weaponization of space. As you will see in this book, these utopians supported treaties and programs that were designed to stunt, rather than expand, America's military space capabilities—even as the Soviets exploited loopholes in those treaties, or outright ignored the agreements for their own ends! Had it not been for the internal failures of the Soviet political and economic system, it is likely that the Cold War in space would have played out far differently—and more dangerously for the West—than it had.⁸

Today, such utopian thinking still pervades the space policy community and has needlessly complicated the ability for the United to defend itself from newer threats, like that of China. For example, when the Soviet Union fell and the Cold War ended, the United States military advocated for what was known as space dominance. American military leaders strove to enhance America's inherent advantages in space. Yet, despite presidential rhetoric, the US government took little initiative in ensuring that the United States remained the most dominant force in space. Because of this weakness, America's rivals today are able to threaten American space systems, such as the intricate satellite networks that orbit the planet, and there is little that the United States can presently do about it.

In fact, the United States is susceptible to a 9/11, or Pearl Harbor-type surprise attack in space even more so than it was during the heady days of the Cold War.

⁸ Dwayne A. Day and Robert G. Kennedy III, "Soviet Star Wars," *Air and Space*, January 2010, <https://www.airspacemag.com/space/soviet-star-wars-8758185/>

SATELLITES: ALL OF AMERICA'S STRATEGIC EGGS IN ONE BASKET

Since the utopian sanctuary view of space has been so influential in American space policy planning, the United States increasingly relied on satellites while giving little thought about how to defend them from attack. Something similar transpired with the internet: Americans rely on the internet today. Yet, it is an increasingly unsecured domain. Satellites are also instrumental for things like navigation—think of the Global Positioning System, or GPS. They allow for instantaneous financial transactions to occur. Some satellites provide for key weather monitoring around the world. But the most important feature that satellites provide is bandwidth. In an increasingly signals-dependent global society, one can never have enough bandwidth. The loss of bandwidth would slow down both military and civilian life and bring them to a halt.⁹ It is no stretch to argue that without America's satellite constellations in orbit, our modern society would not function today.

Meanwhile, America's human spaceflight capability has been erased. In 2011, the Obama administration presided over the last NASA space shuttle flight. After that final flight, not only did the space shuttle program end, but so too did America's manned spaceflight program. While America still trains astronauts today for space travel, it has no replacement vehicle for the space shuttle. Thus, in order to send astronauts to the International Space Station (ISS), the United States is forced to rent seats on Russian spacecraft. Not only is this a strategic weakness for American rivals to exploit, but it is also hugely embarrassing. Imagine if, at the height of the British Empire, London began dismantling its potent navy to save some money and instead relied on the French navy to protect its interests and transport its citizens to Britain's various colonies. It would have been unfathomable.

⁹ "What Are Satellites Used For?" Union of Concerned Scientists, 15 January 2015, <https://www.ucsusa.org/resources/what-are-satellites-used>

But that is precisely what the former Obama administration did in 2011 when it ended the space shuttle program. While NASA's space shuttle program was a problematic investment (only because it prevented the development of other spaceships that could have gone farther into the solar system), it cost the taxpayer a meager \$1.6 billion per launch, and \$209 billion over the course of thirty years!¹⁰ Compare this figure to the cost of America's inconclusive Mideast wars, \$5.9 trillion, and you see that \$209 billion over thirty years is a much better investment than \$5.9 trillion over twenty years.¹¹ The space shuttle program allowed the United States to maintain a strategic capability that few other states possessed: the ability to place its own personnel and equipment into the strategic domain of space at will. Today, after seven years of not having an indigenous manned spaceflight capability, the United States has created a critical strategic gap for itself in space. This is a gap that American rivals are racing to exploit. Meanwhile, despite the Trump administration's renewed focus on space, little has been done in the way of building a replacement spacecraft for the space shuttle. There is much talk coming from Washington, as there always is, and little real action.

Because American policymakers have disincentivized the development of space, there has been little interest in investing limited resources in developing space beyond satellites. This has also had a stultifying effect on scientific research, the fount of economic opportunity today.¹²

¹⁰ Mike Wall, "NASA's Shuttle Program Cost \$209 Billion—Was It Worth It?" Space.com, 5 July 2011, <https://www.space.com/12166-space-shuttle-program-cost-promises-209-billion.html>

¹¹ Neta C. Crawford, "United States Budgetary Costs of the Post-9/11 Wars Through FY2019: \$5.9 Trillion Spent and Obligated," Brown University Watson Institute of International and Public Affairs, 14 November 2018, https://watson.brown.edu/costsofwar/files/cow/imce/papers/2018/Crawford_Costs%20of%20War%20Estimates%20Through%20FY2019.pdf.

¹² "Why Are Science and Technology Critical to America's Prosperity in the 21st Century?" in *Rising Above the Storm: Energizing and Employing America for a Brighter Economic Future* (Washington, D.C.: The National Academies Press, 2007), accessed December 30, 2019. <https://www.nap.edu/read/11463/chapter/4>

After all, there is a direct correlation between the decline in federal research and development funding since the end of the Cold War, and the decline of America's once-dominant position in space. More troublingly, at the precise moment that the United States has abandoned the strategic high ground of space, the Chinese have expanded their investment in developing space as a strategic asset for China's overall push to become the new global hegemon by 2049.

As Ye Peijian, the head of China's moon program, said in 2019:

The universe is an ocean, the moon is the Diaoyu Islands [better known as the Senkaku Islands in the West], Mars is Huangyan Island. If we don't get there now even though we're capable of doing so, then we will be blamed by our descendants. If others go there, then they will take over, and you won't be able to go even if you want to. This is reason enough [to go to the moon and beyond].¹³

China has invested so heavily into advanced technologies capable of supporting a powerful space program that KPMG's recent quadrennial innovation tech hub survey predicted that Shanghai, not Silicon Valley, would be the world's leading technological innovation hub by 2020.¹⁴ Should the United States lose its innovation advantage to China, it will inevitably lose its dominant position in the high tech-dependent strategic domains of space and cyberspace. If those trends continued unabated, ultimately, China would become the world's superpower. Beijing's moves in the technology sector, international finance, and the world's economic realm are increasingly essential to understanding the nature of China's threat to the US-led world order.

¹³ Brendon Hong, "China's Looming Land Grab in Outer Space," *Daily Beast*, 22 June 2018, <https://www.thedailybeast.com/chinas-looming-land-grab-in-outer-space?ref=scroll>

¹⁴ "U.S. and China Lead Tech Innovation and Disruption, Even as Innovation Spreads Globally: KPMG Report," PR Newswire, 5 March 2017, <https://www.prnewswire.com/news-releases/us-and-china-lead-tech-innovation-and-disruption-even-as-innovation-spreads-globally-kpmg-report-300418042.html>.

Today, the United States finds itself in a similar position that it found itself on October 4, 1957, when the Soviets launched Sputnik into orbit. The only difference is that most Americans have failed to recognize how dangerous a position the country is in. Much like the Soviets, the Chinese are steadfastly committed to gaining strategic parity with the United States in orbit. And ultimately, China hopes to displace America as the dominant space power on the planet. Whereas the United States responded immediately to the Soviet threat in space, the American response to the Chinese in space has been one of abject ambivalence. As Matthew McConaughey's character in the 2014 film, *Interstellar*, bemoaned, we in the United States "used to look up at the sky and wonder at our place in the stars. Now we just look down and worry about our place in the dirt."

Since 2003, when a Chinese *taikonaut* performed China's first space walk, the rising world power has consistently developed robust space capabilities. Such capabilities are being created explicitly for military purposes. The Chinese are committed to exploiting space as a means of spreading its strategic influence across the Earth. Further, just to prove that the United States is in a second space race, Beijing has developed the capability to deny the United States access to space in the event of a conflict between China and the United States, with what's known as "counterspace" tactics. This is the real nature of the second space race: to degrade and destroy America's space capabilities in order to deny American forces access to the surveillance and communications satellites they require to effectively fight the Chinese military in any conflict, which would undoubtedly be waged near Chinese territory in the Asia-Pacific.

In fact, one can pinpoint Year Zero in the second space race. That would be January 11, 2007. On that fateful day, China launched what was known as an anti-satellite (ASAT) weapon into orbit from the Xichang Satellite Launch Center in the Sichuan Province. The target was a derelict Chinese weather satellite. It was destroyed by a missile. Beijing did not alert other countries that had satellites nearby, violating

international legal agreements outlining the safe use of space. Not only was the Chinese action irresponsible, but it has had lasting impacts on spaceflight operations around the world. Because nothing ever stops moving in space, the debris the ASAT weapon test created remains orbiting the Earth. According to experts, it is the largest single debris field ever created by human activity in orbit. It has become a permanent threat to safe space operations.

The Chinese leadership knew that their ASAT test was dangerous. Beijing's leaders also understood that their refusal to alert the world's space powers of their ASAT test raised the risk to the satellites of other countries in orbit. China did not care. With their destructive ASAT test, the Chinese military signaled to the United States that they had the capabilities to threaten any American system in orbit. What's more, Beijing was implying that they were reckless enough to risk damage from any attack cascading and impacting the satellites of other states, in the event of a conflict between China and the West. In essence, Beijing was telling Washington (and the world) that, no matter what, they were aggressively moving into orbit, and they would do so according to their own rules rather than the agreed-upon international rules for space operations. The ASAT test in 2007, though, was but the start of China's expansion into the strategic high ground of space.

Although Washington has responded to China's provocations with ASAT tests of their own, merely responding with in-kind weapons tests will not dissuade the Chinese from trying to conquer space. In fact, the American response often looks weak in the eyes of the Chinese leadership. It encourages Beijing to redouble its attempts to displace the United States in space, as they assume America's leaders will always tie one strategic arm behind their back while China is free to implement their strategies for space dominance without any real hindrance. Today, China has successfully placed and maintained two space stations. On those stations, Tiangong 1 and Tiangong 2, China conducted experiments with radical technology that have direct military applications. Beijing plans on having an even more complex and permanent military

space station in orbit by 2020.¹⁵ Meanwhile, China intends to place a laser on their space station.¹⁶ Many legal scholars argue that such a system would violate the Outer Space Treaty of 1967, which prohibits offensive weapons from being placed in orbit. But it is believed that a laser in orbit could help clear dangerous debris that now orbits the Earth after decades of human activity there.¹⁷ Of course, like all space technology, such a system is dual use in nature. While it can theoretically be used to provide greater safety for humans, satellites, and spacecraft in orbit in case of the outbreak of war, such a system can also be used to target critical American satellite constellations, which is precisely what the Chinese intend on using it for.¹⁸ Many analysts, such as Peter Singer, remain skeptical that the Chinese will place a laser powerful enough to disrupt the normal functions of American satellites in orbit. Yet, the Chinese government (as well as others, such as Russia, as you will see in later chapters) routinely lie about their strategic intentions in space. The fact is, once placed in orbit, the United States could not guarantee that the Chinese did, in fact, place a laser in orbit only strong enough to remove dangerous debris.

All of this has occurred at a time when America's space policy was adrift, which is why the Trump administration has (thankfully) publicly acknowledged the threat to American systems in space and shepherded the creation of an independent Space Force. The bureaucracy in Washington, though, continues giving short shrift to the Trump

¹⁵ Andrew Jones, "Successful Long March 5 Launch Opens Way for China's Major Space Plans," *Space News*, 27 December 2019, <https://spacenews.com/successful-long-march-5-launch-opens-way-for-chinas-major-space-plans/>

¹⁶ Brandon J. Weichert, "Space Weapons Trump Peace with Russia," *American Spectator*, 18 July 2018, <https://spectator.org/space-weapons-trump-peace-with-russia/>

¹⁷ Quan Wen, et al., "Impacts of Orbital Elements of Space-Based Laser Station on Small Scale Space Debris Removal," *Optik* 154 (February 2018): 83–92.

¹⁸ Jeffrey Lin and P. W. Singer, "Is China's Space Laser for Real?" *Popular Science*, 15 February 2018, <https://www.popsci.com/china-space-laser#page-2>

administration's more expansive space policy agenda.¹⁹ Meanwhile, bureaucratic inertia appears to be slowing down the necessary movement toward making satellites harder to destroy, let alone placing actual weapons systems in orbit that might defend the United States from nuclear-armed rogue states, like Iran or North Korea.²⁰ Even with the creation of a space force—an essential first step on any path to ensuring America's continued dominance of space—a much longer-term plan for national technology research and development is needed.

With the United States' once-dominant position as the undisputed master of space now in question, even allied countries, like India, are militarizing space. As you will see in later chapters, in 2019, an Indian ASAT test in orbit also created a "mess" in Earth's orbit akin to the one the Chinese had created.²¹ Other states, like France and Japan, are also getting more involved in military space operations, clearly assuming that there is an advantage for them to gain in space, as the United States appears to be losing its status as the preeminent space power. The US became the gatekeeper of access to space after the Cold War ended. Over thirty years, though, the gates are open, and the flood waters are rising to dangerous levels for the United States.

It would have been as if President Eisenhower's response to the Soviet Union's launch of Sputnik was to make a few speeches but not follow through with actual policies meant to make the United States more competitive against the Soviets in space. Or worse, for Eisenhower to have made a few speeches calling for more action to

¹⁹ Brent Ziarnick, "Defense Department Status Quo Is a Weak Argument Against Space Force," *The Hill*, 29 September 2019, <https://thehill.com/opinion/national-security/463558-defense-department-status-quo-is-a-weak-argument-against-space>.

²⁰ Bill McLoughlin, "Iran vs. US: Tehran Could Hit America with a 'Dirty Bomb Terror Attack' Warns Expert," *Daily Express*, 21 June 2019, <https://www.express.co.uk/news/world/1143301/Iran-news-terror-oil-tanker-attack-US-drone-middle-east-latest>.

²¹ Phil Stewart, "U.S. Studying India Anti-Satellite Weapons Test, Warns of Space Debris," *Reuters*, 27 March 2019, <https://www.reuters.com/article/us-india-satellite-usa/u-s-studying-india-anti-satellite-weapons-test-warns-of-space-debris-idUSKCN1R825Z>.

respond to the growing Soviet threat in space, only to have his dreaded military-industrial complex opt to ignore or undermine his presidential directives to take greater action.²² When the Soviets launched Sputnik, the United States responded with a full-throated effort to fund scientific education programs, to encourage public-private cooperative agreements to build better space systems, and to create the institutional capacity for ensuring the United States was not left behind in space. As America did this, it also sped up the launch of its own satellites and personnel into orbit—ultimately launching men to the Moon before the Soviets could get there. The plan was to follow up the Apollo missions with an even greater, more sustained mission set. These plans were never realized, as Washington (wrongly) believed it had other priorities. Even after the collapse of the Soviet Union, when the United States was the unquestioned global hegemon, America's space program lurched directionless from mission to mission, rarely accomplishing anything remotely as impressive—or meaningful—as it had during the heady days of the Cold War.

What few recognize is the fact that, without a sustained effort to maintain and increase America's presence in space, both at the civilian and military level, the capability is extremely hard to get back once policymakers reverse their decision to cancel a program. This is why few space programs manage to be reconstituted once a political decision is made to cancel them. Just think about it logistically: when a program is canceled, all of the support elements are mothballed with it, with few exceptions. This means that not only are engineers lost, but so too are the people and industries that create the support for these precious space programs. When the space shuttle program was nixed in 2011, my home state of Florida—along what's known as the "Space Coast," where Cape Canaveral is located—lost hundreds of thousands of jobs.²³

²² Dwight D. Eisenhower, "Military-Industrial Complex Speech, Dwight D. Eisenhower, 1961," The Avalon Project, https://avalon.law.yale.edu/20th_century/eisenhower001.asp

²³ Denise Chow, "Shuttle Workers Face Big Layoffs as NASA Fleet Retires," *Space*, 22 July 2011, <https://www.space.com/12391-space-shuttle-program-nasa-workers-layoffs.html>

These were not only the NASA engineers and scientists who worked on the space shuttle, but the local service industries, as well as the attendant suppliers who specialized in maintaining the shuttle program. Once these capabilities were gone, bringing them back becomes a costly, time-consuming endeavor. NASA is learning this hard truth today as it struggles to bring forward a new generation of manned spacecraft.²⁴

This post-Cold War, bipartisan listlessness has become entrenched throughout the bureaucracy to the point that Washington's response to China's *even more* aggressive actions in space over the last decade have been timid. Not only is the US government's investment into scientific research and development at historic lows, but America's spaceflight capabilities have yet to be revitalized. Go back to the previous paragraph and think about the gutting of the space shuttle program and its support industries. It takes years to build up such capabilities and to craft a reliable logistical supply chain and to maintain the human capital needed to run the program. We will be recouping those losses for years to come, especially as Washington refuses to prioritize America's space program.²⁵ Whereas China has invested over the last twenty years in the scientific fields needed to create the next generation of scientists and thinkers, the United States has opted instead to do the opposite.²⁶ We are all set to pay the price for this dithering.

Beijing has determined that space and its supporting high-tech industries are an inextricable component of their goal for global

²⁴ Alex Stuckey, "A Few Good Men," *Houston Chronicle*, 2 May 2019, <https://www.houstonchronicle.com/local/space/mission-moon/article/NASA-is-stalled-Apollo-era-legends-13788864.php>

²⁵ Loren Grush, "Lawmaker Who Helps Fund NASA Questions the Agency's Need to Get to the Moon by 2024," *The Verge*, 16 October 2019, <https://www.theverge.com/2019/10/16/20917171/nasa-artemis-program-moon-jose-serrano-jim-bridenstine-budget-2024>

²⁶ David P. Goldman, "The Digital Age Produces Binary Outcomes," *American Affairs* 1, no. 1 (Spring 2017), <https://americanaffairsjournal.org/2017/02/digital-age-produces-binary-outcomes/>

hegemony by 2049.²⁷ China has moved boldly toward overtaking the United States in both space and the high-technology sector.²⁸ Yet, the United States has ignored China's space and technology ambitions and the ambitions of others for too long. Had Eisenhower and his presidential successors not maintained a steadfast commitment to competing with—and defeating—the Soviets in the first space race, the Cold War might have ended differently. Today, the quasi-war with China will end badly for the United States unless American leaders recognize the threat posed by China in space and take active, drastic measures to counteract the Chinese in the strategic high ground of space.

Just as an American, Robert Goddard, created the first chemically propelled rocket, so too has the United States created the technology needed to dominate space. Yet, just as with the rocket before the Cold War, the United States did not understand the importance of space technology—and how easily the United States can be knocked off its dominant place in orbit. Losing space to China or another hostile power, like Russia, would have even more dangerous ramifications for America's dominant position on Earth. The Soviets almost took space in the Cold War. Now, the Chinese appear poised to accomplish the task.

American primacy in space is not a fait accompli. Like everything, it requires will and knowledge to remain dominant. Thus far, America's leadership has expressed neither the will nor the knowledge to ensure its strategic dominance of space. If the situation is not reversed as drastically as Eisenhower reversed America's position in 1957, Americans will be threatened by an array of Chinese weapons, economic opportunities in space will be lost to China, and the world will be forced to make itself comport with the preferences of the Chinese Communist Party.

²⁷ Namrata Goswami, "Waking Up to China's Space Dream," *The Diplomat*, 15 October 2018, <https://thediplomat.com/2018/10/waking-up-to-chinas-space-dream/>

²⁸ Associated Press, "China Lands on the Moon's 'Dark Side' in a Move to Become a Space Power," *Washington Post*, 3 January 2019, https://www.washingtonpost.com/lifestyle/kidspost/china-lands-on-the-moons-dark-side-in-a-move-to-become-a-space-power/2019/01/03/aa9ea21a-0f69-11e9-831f-3aa2c2be4cbd_story.html

To paraphrase Ye Peijian, if we don't make a greater investment now into space, even though America is capable of doing so, then we will be blamed by our descendants for not having done so. And if others, such as the Chinese, go into space without the United States, then Americans will not be able to go there even if they wanted to. Some readers may argue that it is dangerous to view space and technology in such zero-sum terms, although US rivals, notably China, view space and technology development in such zero-sum ways. And the enemy *always* gets a vote.

CHINA ADDS OUR TECHNOLOGICAL DISTINCTIVENESS TO THEIR OWN

IF YOU HAVEN'T BEEN ABLE TO TELL BY NOW, I'm a total science fiction nerd. (Who else could dedicate themselves to writing a full book on the potential for a real space war?) One of my favorite television series of all time was *Star Trek: The Next Generation*. And in my opinion, one of the best story lines on that television series was the Borg story line. At the end of the show's third season, the crew of the USS *Enterprise-D* encounters a race of cyborgs who fly around the galaxy, target advanced alien races, and assimilate the advanced technology of those various alien races into the Borg's own technology. What's soon discovered is that the Borg also assimilate the alien races themselves, turning them into mere