# 1NC

## 1

#### Interpretation: “Appropriation of outer space” by private entities refers to the exercise of exclusive control of space.

TIMOTHY JUSTIN Trapp 13, JD Candidate @ UIUC Law, ’13, TAKING UP SPACE BY ANY OTHER MEANS: COMING TO TERMS WITH THE NONAPPROPRIATION ARTICLE OF THE OUTER SPACE TREATY UNIVERSITY OF ILLINOIS LAW REVIEW [Vol. 2013 No. 4]

The issues presented in relation to the nonappropriation article of the Outer Space Treaty should be clear.214 The ITU has, quite blatantly, created something akin to “property interests in outer space.”215 It allows nations to exclude others from their orbital slots, even when the nation is not currently using that slot.216 This is directly in line with at least one definition of outer-space appropriation.217 [\*\*Start Footnote 217\*\*Id. at 236 (“Appropriation of outer space, therefore, is ‘the exercise of exclusive control or exclusive use’ with a sense of permanence, which limits other nations’ access to it.”) (quoting Milton L. Smith, The Role of the ITU in the Development of Space Law, 17 ANNALS AIR & SPACE L. 157, 165 (1992)). \*\*End Footnote 217\*\*]The ITU even allows nations with unused slots to devise them to other entities, creating a market for the property rights set up by this regulation.218 In some aspects, this seems to effect exactly what those signatory nations of the Bogotá Declaration were trying to accomplish, albeit through different means.219

#### Private appropriation of extracted space resources is distinct from appropriation “of” outer space. Despite longstanding permission of appropriation of extracted resources, sovereign claims are still universally prohibited.

Abigail D. Pershing 19, J.D. Candidate @ Yale, B.A. UChicago,’19, "Interpreting the Outer Space Treaty's Non-Appropriation Principle: Customary International Law from 1967 to Today," Yale Journal of International Law 44, no. 1

II. THE FIRST SHIFT IN CUSTOMARY INTERNATIONAL LAW’S INTERPRETATION OF THE NON-APPROPRIATION PRINCIPLE Since the drafting of the Outer Space Treaty, several States have chosen to reinterpret the non-appropriation principle as narrower in scope than its drafters originally intended. This reinterpretation has gone largely unchallenged and has in fact been widely adopted by space-faring nations. In turn, this has had the effect of changing customary international law relating to the non-appropriation principle. Shifting away from its original blanket application in 1967, States have carved out an exception to the non-appropriation principle, allowing appropriation of extracted space resources.53 This Part examines this shift in the context of the two branches of the United Nation’s customary international law standard: State practice and opinio juris. A. State Practice The earliest hint of a change in customary international law relating to the interpretation of the non-appropriation clause came in 1969, when the United States first sent astronauts to the moon. As part of his historic journey, astronaut Neil Armstrong collected moonrocks that he brought back with him to Earth and promptly handed off to the National Aeronautics and Space Administration (NASA) as U.S. property.54 Later, the USSR similarly claimed lunar material as government property, some of which was eventually sold to private citizens. 55 These first instances of space resource appropriation did not draw much attention, but they presented a distinct shift marking the beginning of a new period in State practice. Having previously been limited by their technological capabilities, States could now establish new practices with respect to celestial bodies. This was the beginning of a pattern of appropriation that slowly unfolded over the next few decades and has since solidified into the general and consistent State practice necessary to establish the existence of customary international law. Currently, the U.S. government owns 842 pounds of lunar material.56 There is little question that NASA and the U.S. government consider this material, as well as other space materials collected by American astronauts, to be government property.57 In fact, NASA explicitly endorses U.S. property rights over these moon rocks, stating that “[l]unar material retrieved from the Moon during the Apollo Program is U.S. government property.”5 The U.S. delegation’s reaction to the language of the 1979 Moon Agreement further cemented this interpretation that appropriation of extracted resources is a permissible exception to the non-appropriation clause of Article II. Although the United States is not a party to the Moon Agreement, it did participate in the negotiations.59 The Moon Agreement states in relevant part: Neither the surface nor the subsurface of the moon, nor any part thereof or natural resources in place, shall become property of any State, international intergovernmental or nongovernmental organization, national organization or nongovernmental entity or of any natural person.60 In response to this language, the U.S. delegation made a statement laying out the American view that the words “in place” imply that private property rights apply to extracted resources61—a comment that went completely unchallenged. That all States seemed to accept this point, even those bound by the Moon Agreement, is further evidence of a shift in customary international law.62 B. Opinio Juris: Domestic Legislation Domestic law, both in the United States and abroad, provides further evidence of the shift in customary international law surrounding the issue of nonappropriation as it relates to extracted space resources. Domestic U.S. space law is codified at Section 51 of the U.S. Code and has been regularly modified to expand private actors’ rights in space.63 Beginning in 1984, the Commercial Space Launch Act provided that “the United States should encourage private sector launches and associated services.”64 The goal of the 1984 Act was to support commercial space launches by private companies and individuals.65 It did not, however, specifically discuss commercial exploitation of space. The first such mention of commercial use of space appeared in 2004, with the Commercial Space Launch Amendments Act.66 This Act specifically aimed at regulating space tourism but did not explicitly guarantee any private rights in space.67 The most significant change in U.S. space law came with the passage of the Spurring Private Aerospace Competitiveness and Entrepreneurship (SPACE) Act in 2015. As incorporated into Section 51 of the Code, this Act provides: A United States citizen engaged in commercial recovery of an asteroid resource or a space resource under this chapter shall be entitled to any asteroid resource or space resource obtained, including to possess, own, transport, use, and sell the asteroid resource or space resource obtained in accordance with applicable law, including the international obligations of the United States.68 Whereas the idea that private corporations might go into space may have seemed far-fetched to the drafters of the Outer Space Treaty, the SPACE Act of 2015 was the first instance of a government recognizing such a trend and officially supporting private companies’ commercial rights to space resources under law. With the new 2015 amendment to Section 51 in place, U.S. companies can now rest assured that any profits they reap from space mining are firmly legal—at least within U.S. jurisdictions. Although the United States was the first country to officially reinterpret the non-appropriation principle, other countries are following suit. On July 20, 2017, Luxembourg passed a law entitled On the Exploration and Utilization of Space Resources with a vote of fifty-five to two.69 The law took effect on August 1, 2017.70 Article 1 of the new law states simply that “[s]pace resources can be appropriated,” and Article 3 expressly grants private companies permission to explore and use space resources for commercial purposes.71 Official commentary on the law establishes that its goal is to provide companies with legal certainty regarding ownership over space materials—a goal that the commentators regard as legal under the Outer Space Treaty despite the non-appropriation principle.72 The next country to enact similar legislation may be the United Arab Emirates (UAE). According to the UAE Space Agency director general, Mohammed Al Ahbabi, the UAE is currently in the process of drafting a space law covering both human space exploration and commercial activities such as mining.73 To further this goal, in 2017 the UAE set up the Space Agency Working Group on Space Policy and Law to specify the procedures, mechanisms, and other standards of the space sector, including an appropriate legal framework.74 C. Opinio Juris: Legal Scholarship Other major space powers are also considering similar laws in the future, including Japan, China, and Australia. 75 Senior officials within China’s space program have explicitly stated that the country’s goal is to explore outer space and to take advantage of outer space resources.76 The general international trend clearly points in this direction in anticipation of a potential “space gold rush.” 7 Mirroring the shift in State practice and domestic laws, the legal community has also changed its approach to the interpretation of the nonappropriation principle. Whereas at the time of the ratification of the Outer Space Treaty the majority of legal scholars tended to apply the non-appropriation principle broadly, most legal scholars now view appropriation of extracted materials as permissible.78 Brandon Gruner underscores that this new view is historically distinct from prior legal interpretation, noting that modern interpretations of the Outer Space Treaty’s non-appropriation principle differ from those of the Treaty’s authors.79 In contrast to earlier legal theory that denied the possibility of appropriation of any space resources, scholars now widely accept that extracting space resources from celestial bodies is a “use” permitted by the Outer Space Treaty and that extracted materials become the property of the entity that performed the extraction.80 Stressing the fact that the Treaty does not explicitly prohibit appropriating resources from outer space, other authors conclude that the use of extracted space resources is permitted, meaning that the new SPACE Act is a plausible interpretation of the Outer Space Treaty.81 However, scholars have been careful to cabin the extent to which they accept the legality of appropriation. For instance, although Thomas Gangale and Marilyn Dudley-Rowley acknowledge the legality of private appropriation of extracted space resources, they nonetheless emphasize that “[o]wnership of and the right to use extraterrestrial resources is distinct from ownership of real property” and that any such claim to real property is illegal.82 Lawrence Cooper is also careful to point out this distinction: “[t]he [Outer Space] Treaties recognize sovereignty over property placed into space, property produced in space, and resources removed from their place in space, but ban sovereignty claims by states; international law extends this ban to individuals.”83 Although there remain some scholars who still insist on the illegality of the 2015 U.S. law and State appropriation of space resources generally,84 their dominance has waned since the 1960s. These scholars are now a minority in the face of general acceptance among the legal community that minerals and other space resources, once extracted, may be legally claimed as property. 85 Taken together, the elements described above—statements made in the international arena, de facto appropriation of space resources in the form of moon rocks, the adoption of new national policies permitting appropriation of extracted space resources, and the weight of the international legal community’s opinion— indicate a fundamental shift in customary international law. The Outer Space Treaty’s non-appropriation clause has been redefined via customary international law norms from its broad application to now include a carve-out allowing appropriation of space resources once such resources have been extracted.

#### Space mining isn’t appropriation – its not permanent and OST consensus.

Hofmann and Bergamasco 19 [Mahulena Hofmann (SES Chair in Space, SatCom and Media Law at the University of Luxembourg) and Federico Bergamasco (PhD Researcher in aviation, telecommunication and space law University of Luxembourg). “Space resources activities from the perspective of sustainability: legal aspects”. Global Sustainability. 9 December 2019. Accessed 12/18/21. <https://www.cambridge.org/core/services/aop-cambridge-core/content/view/DF153F4A77970AC9E12444EC2B001F8A/S2059479819000279a.pdf/div-class-title-space-resources-activities-from-the-perspective-of-sustainability-legal-aspects-div.pdf> //Xu]

However, the purpose of space mining activities is considered to be neither any ‘appropriation’ of parts of outer space nor of space resources in situ. Instead, the sole aim of any such activities is their extraction, use and commercialization, without any territorial demands or titles as to the celestial bodies (or parts thereof) concerned (Mizushima et al., 2017). The argument, which sees in the use or exploitation of a space mineral by one subject a limitation of the same right of another subject, is difficult to contest by other means than analogy with space exploration. As has been recognized by the drafters of the OST in its Articles IX and XII, a purely scientific project in one area of outer space could de facto prevent research at the same site by a subject from another State. To avoid such situations, the Treaty pre-envisages a system of international consultations aimed at avoiding any harmful interference with operations.

#### OST is the standard for space law.

Wikipedia No Date [Wikipedia. “Outer Space Treaty.” No Date. Accessed 12/18/21. <https://en.wikipedia.org/wiki/Outer_Space_Treaty> //Xu]

The Outer Space Treaty, formally the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, is a multilateral treaty that forms the basis of international space law. Negotiated and drafted under the auspices of the United Nations, it was opened for signature in the United States, the United Kingdom, and the Soviet Union on 27 January 1967, entering into force on 10 October 1967. As of February 2021, 111 countries are parties to the treaty—including all major spacefaring nations—and another 23 are signatories.[1][5][note 1]

#### Semantics o/w –

#### A - Precision – they can arbitrarily jettison words which decks ground and preparation because there is no stasis point

#### B - Jurisdiction – the judge doesn’t have the authority to vote aff if it wasn’t legitimate

#### Violation: the aff only ends asteroid mining – that’s distinct from broadly banning sovereignty of outer space.

#### Standards:

#### 1 - Limits—their interp means that affs about any outer space activity are topical: tourism, photography, sending rovers, collecting ice cores, launching satellites, deflecting debris, can’t sell rocks on EBAY, etc. This explodes neg prep burdens since affs are pushed to the fringes of the topic where no neg lit exists.

#### 2 - Ground—they shift the controversy from sovereign domination to minute activity. The topic literature is grounded in a debate over sovereign control over space, which means core neg generics are space ownership bad, space democracy bad, not temporary resource extraction or expeditions. Their interp minimizes link uniqueness because our impacts will never be overcome the advantage.

#### Paradigm:

#### Fairness – Debate is a competitive activity governed by rules. You can’t evaluate who did better debating if the round is structurally skewed, so fairness is a gateway to substantive debate.

#### DTD – Time spent on theory cant be compensated for, the 1nc was already skewed, and its key to deterring abuse.

#### Prefer Competing interps -

#### 1. reasonability is arbitrary and invites judge intervention.

#### 2. it Causes a race to the bottom where debaters push the limit as to how reasonably abusive, they can be.

#### No RVI’s -

#### 1. Chills some debaters from reading theory against abusive postions.

#### 2. incentivizes theory baiting where you can just bait theory to win.

## 2

#### Russia’s international ambitions are low now due to space sector failures.

AFP 19 5/28/19 (Agence France-Presse - international news agency headquartered in Paris, “Moscow, we have a problem: theft plagues Russia’s space sector,” https://www.scmp.com/news/world/russia-central-asia/article/3012088/moscow-we-have-problem-theft-plagues-russias-space)

With millions of dollars missing and officials in prison or fleeing the country, Russia’s space sector is at the heart of a staggering embezzlement scheme that has dampened ambitions of recovering its Soviet-era greatness. For years, Moscow has tried to fix the industry that was a source of immense pride in the USSR. While it has bounced back from its post-Soviet collapse and once again become a major world player, the Russian space sector has recently suffered a series of humiliating failures. And now, massive corruption scandals at state space agency Roscosmos have eclipsed its plans to launch new rockets and lunar stations. “Billions (of roubles) are being stolen there, billions,” Alexander Bastrykin, the powerful head of Russia’s Investigative Committee – Russia’s equivalent of the FBI – said in mid-May. Investigations into corruption at Roscosmos have been ongoing “for around five years and there is no end in sight,” he added. In the latest controversy, a senior space official appears to have fled Russia during an audit of the research centre he headed. Yury Yaskin, the director of the Research Institute of Space Instrumentation, left Russia for a European country in April where he announced his resignation, the Kommersant paper reported. He feared the discovery of malpractice during an inspection of the institute, according to the newspaper’s sources. Roscosmos confirmed that Yaskin had resigned but did not clarify why. His Moscow institute is involved in developing the Russian satellite navigation system GLONASS designed to compete with the American GPS system. Corruption has particularly affected Russia’s two most important space projects of the decade: GLONASS and the construction of the country’s showpiece cosmodrome Vostochny, built to relieve Moscow’s dependence on Baikonur in ex-Soviet Kazakhstan. Almost all major companies in the sector, including rocket builders Khrunichev and Progress, have been hit by financial scandals that have sometimes led to prison sentences for large-scale fraud. Russia’s Audit Chamber, a parliamentary body of financial control, estimated that 760 billion roubles (around US$11.7 million) was misappropriated from Roscosmos in 2017, or nearly 40 per cent of the total misappropriated from the entire economy that year. Roscosmos said that “eradicating corruption” is one of its “primary goals”, adding that it regularly cooperates with investigations by the authorities. In mid-April, President Vladimir Putin stressed the need to “progressively resolve the obvious problems that slow down the development of the rocket-space sector.” “The time and financial frameworks to realise space projects are often unjustified,” the Russian leader Rebooting the space sector is a matter of prestige for the Kremlin. It symbolises its renewed pride and ability to be a major global power, especially in the context of increased tensions with the United States.

#### We stopped appeasing Russia – they’ll pocket concessions from coop and increase aggression – tensions aren’t the result of understandings but hardened differences.

Haddad **and Polakova** 18 [Benjamin Haddad Director, Future Europe Initiative - Atlantic Council. Alina Polyakova Director, Project on Global Democracy and Emerging Technology Fellow - Foreign Policy, Center on the United States and Europe. Don’t rehabilitate Obama on Russia. March 5, 2018. https://www.brookings.edu/blog/order-from-chaos/2018/03/05/dont-rehabilitate-obama-on-russia/]

Obama’s much-ballyhooed “Reset” with Russia, launched in 2009, was in keeping with optimistic attempts by every post-Cold War American administration to improve relations with Moscow out of the gate. Seizing on the supposed change of leadership in Russia, with Dmitry Medvedev temporarily taking over the presidency from Vladimir Putin, Obama’s team quickly turned a blind eye to Russia’s 2008 war with Georgia, which in retrospect was Putin’s opening move in destabilizing the European order. Like George W. Bush before him, Obama vastly overestimated the extent to which a personal relationship with a Russian leader could affect the bilateral relationship. U.S.-Russia disagreements were not the result of misunderstandings, but rather the product of long-festering grievances. Russia saw itself as a great power that deserved equal standing with the U.S. What Obama saw as gestures of good will—such as the 2009 decision to scrap missile defense plans for Poland and the Czech Republic—Russia interpreted as a U.S. retreat from the European continent. Moscow pocketed the concessions and increasingly inserted itself in European affairs. The Kremlin was both exploiting an easy opportunity and reasserting what it thought was its historic prerogative. Though Russia’s invasion of Ukraine in 2014 was the final nail in the coffin of the Reset, President Obama remained reluctant to view Moscow as anything more than a local spoiler, and thought the whole mess was best handled by Europeans. France and Germany spearheaded the Minsk ceasefire process in 2014-2015, with U.S. support but without Washington at the table. The Obama administration did coordinate a far-ranging sanctions policy with the European Union—an important diplomatic achievement, to be sure. But to date, the sanctions have only had a middling effect on the Russian economy as a whole (oil and gas prices have hurt much more). And given that sanctions cut both ways—potential value is destroyed on both sides when economic activity is systematically prohibited—most of the sacrifice was (and continues to be) born by European economies, which have longstanding ties to Russia. In contrast, the costs of a robust sanctions policy have been comparatively minor in the United States; Obama spent little political capital to push them through at home. The Obama administration also sought to shore up NATO’s eastern flank through the European Reassurance Initiative (ERI), which stationed rotating troops in Poland and the Baltics while increasing the budget for U.S. support. Nevertheless, the president resisted calls from Congress, foreign policy experts, and his own cabinet to provide lethal weapons to Ukraine that would have raised the costs on Russia and helped Kyiv defend itself against Russian military incursion into the Donbas. As Obama told Jeffrey Goldberg, he viewed any deterrent moves by the United States as fundamentally not credible, because Russia’s interests clearly trumped our own; it was clear to him they would go to war much more readily that the United States ever would, and thus they had escalatory dominance. Doing more simply made no sense to Obama. This timid realpolitik was mixed up with a healthy dose of disdain. Obama dismissed Russia as a “regional power” that was acting out of weakness in Ukraine. “The fact that Russia felt it had to go in militarily and lay bare these violations of international law indicates less influence, not more,” Obama said at the G7 meeting in 2014. This line has not aged well. Obama’s attitudes on Russia reflected his administration’s broadly teleological, progressive outlook on history. Russia’s territorial conquest “belonged in the 19th century.” The advance of globalization, technological innovation, and trade rendered such aggression both self-defeating and anachronistic. The biggest mistake for America would be to overreact to such petty, parochial challenges. The 2015 National Security Strategy favored “strategic patience”. But was it patience… or passivity? As its actions in 2016 proved, Russia is very much a 21st century power that understands how to avail itself of the modern tools available to it, often much better than we do ourselves. The same intellectual tendencies that shaped Obama’s timid approach to Ukraine were reflected in his administration’s restrained response as evidence of Russian electoral interference began to emerge in the summer of 2016. Starting in June, intelligence agencies began reporting that Russian-linked groups hacked into DNC servers, gained access to emails from senior Clinton campaign operatives, and were working in coordination with WikiLeaks and a front site called DCLeaks to strategically release this information throughout the campaign cycle. By August, Obama had received a highly classified file from the CIA detailing Putin’s personal involvement in covert influence operations to discredit the Clinton campaign and disrupt the U.S. presidential elections in favor of her opponent, Donald Trump. That fall through to his departure from the White House, the president and his key advisers struggled to find an appropriate response to the crime of the century. But out of all the possible options, which included a cyber offensive on Russia and ratcheted up sanctions, the policy that was adopted in the final months of Obama’s term was, characteristically, cautious. Obama approved additional narrow sanctions against Russian targets, expelled 35 Russian diplomats, and shut down two Russian government compounds. It’s true that Obama faced a difficult political environment that constrained his ability to take tougher measures. Republican opponents would have surely decried any loud protests as a form of election meddling on Hillary Clinton’s behalf. Donald Trump was already flogging the narrative that the elections were rigged against him. And anyway, Clinton seemed destined to win; she would tend to the Russians in her own time, the thinking went. But just as with the decision to not provide weapons to Ukraine, the Obama administration also fretted about provoking Russia into taking even more drastic steps, such as hacking the voting systems or a cyber attack on critical infrastructure. In the end, the administration’s worries proved to be paralyzing. “I feel like we sort of choked,” one Obama administration official told the Washington Post. Much ink has been spilled over President Trump’s effusive praise for Putin and his brutal regime. “You think our country’s so innocent?” candidate Trump famously replied to an interviewer listing the many human rights abuses of Putin’s Russia, including the harassment and murder of journalists. Obama, on the other hand, never had any ideological or psychological sympathy for Putin or Putinism. By the end of his second term, the two men were barely on speaking terms, the iciness of their encounters in full public view. For most of Obama’s two terms, however, this personal animosity did not translate into tougher policies. Has the Trump administration been tougher on Russia than Obama, as the president claims? Trump’s own boasting feels like a stretch, especially given how he seems to have gone out of his way to both disparage NATO and praise Putin during the course of his first year in office. Still, many of his administration’s good policies have been obscured by the politics of the Mueller investigation and the incessant furor kicked up by the president’s tweets. As Tom Wright has noted, the Trump administration seems to pursue two policy tracks at the same time: the narrow nationalism of the president’s inflammatory rhetoric openly clashing with the seriousness of his administration’s official policy decisions. These tensions are real, but all too often they become the story. Glossed over is the fact that President Trump has appointed a string of competent and widely respected figures to manage Russia policy—from National Security Council Senior Director Fiona Hill to Assistant Secretary of State for European affairs Wess Mitchell to the Special Envoy for Ukraine Kurt Volker. The Trump administration is, in fact, pursuing concrete policies pushing back on Russian aggression that the Obama administration had fervently opposed. The National Security Strategy of 2017, bringing a much-needed dose of realism to a conversation too often dominated by abstractions like the “liberal world order”, singles out both China and Russia as key geopolitical rivals. During Trump’s first year, the administration approved the provision of lethal weapons to Ukraine, shut down Russia’s consulate in San Francisco as well as two additional diplomatic annexes, and rather than rolling back sanctions, Trump signed into law additional sanctions on Russia, expanded LNG sales to a Europe dependent in Russian gas imports, and increased the Pentagon’s European Reassurance Initiative budget by 40 percent. (A president who berated U.S. investments for European defense has actually dramatically increased American military presence on Europe’s threatened borders.) While many of these policies may have been implemented despite rather than because of the president—on the expansion of sanctions in particular, Trump faced a veto-proof majority in Congress—credit should be given where credit is due. The Trump administration’s sober policy decisions should not excuse the president’s praise for Vladimir Putin, nor his reckless undermining of America’s stated commitment to enforcing Article 5 during his first speech in front of NATO. But the fact remains that the U.S. is taking concrete steps to strengthen Europe against Russian aggression. And let’s not be coy about it: if the president’s strident complaining about unequal burden-sharing in NATO finally snaps European allies out of their complacency and helps spur military investment on the continent, this won’t be good news for Russia either. Indeed, he will have succeeded in moving the needle on an issue that has frustrated every one of his predecessors since 1989. Has Trump’s bluster, especially on Article 5, been cost-free? Hardly. Nevertheless, talking to diplomats around town suggests that after initial months of uneasiness, most Europeans have learned to deal with the Trump administration in a dispassionate and pragmatic manner that stands in stark relief with much of the hysteria that passes for commentary in the U.S. Each administration should be judged on what it has achieved. At the end of the Obama’s two terms, Putin had elevated Russia to a credible revisionist power on the international stage. Russia annexed Crimea and occupied much of Eastern Ukraine; by successfully propping up the degenerate Assad regime, the Kremlin gained a veto on any possible political solution to Syria, and got a meaningful foothold in the broader region for the first time since Sadat threw Soviet advisors out; and its populist allies and fellow-travelers were on the rise in Europe, fueling both anti-Americanism and illiberalism; and most damning of all, it managed to meddle, almost unopposed, in U.S. politics—all on Obama’s watch. There is plenty left to criticize in how the Trump administration has done things in its first year. The Trump administration’s apparent unwillingness to take steps to deter hostile foreign powers from meddling in American politics is inexcusably irresponsible. And in the Middle East, the Trump administration seems hell-bent on following Obama’s myopic policy of retreat and narrow preoccupation with fighting ISIS to the exclusion of all else. But despite the president’s campaign promises, his administration has been the first in the post-Cold War era to not try for a “Reset” with Moscow. If Vladimir Putin wanted to sow chaos and confusion in Washington, he has succeeded beyond his wildest dreams. If he wanted a pliant ally in America, he has abjectly failed.

#### Space cooperation massively boosts prestige for Russia.

Juul 19 - Senior policy analyst at the Center for American Progress Peter Juul, “Trump’s Space Force Gets the Final Frontier All Wrong,” Foreign Policy. March 20, 2019. <https://foreignpolicy.com/2019/03/20/trumps-space-force-gets-the-final-frontier-all-wrong/>

--Space is k2 national prestige – we control it now because people remember Apollo and ISS but that won’t last forever – strong NASA leadership is key

--Autocracy link – working with Russia and China gives them diplomatic leverage because it treats them as co-equal despite HR violations

--Competition is key – drives all countries to try to outperform the others

But funding isn’t everything, and in the new geopolitical context, democracy must be seen to work effectively. When it comes to space exploration, that means ratcheting back U.S. space cooperation with Russia as well as forgoing any equally intimate cooperation with China and its secretive space agency. The fact that the [head of Russia’s space agency remains under U.S. sanctions](https://spacenews.com/nasa-postpones-rogozin-visit/) for his role in Moscow’s military intervention in Ukraine illustrates the hazards involved in working with autocracies in space. Deep cooperation with autocratic powers in space gives autocracies a major point of diplomatic leverage over the United States, and more generally allows them to poach unearned international prestige by working on goals set and largely carried out by the United States. In today’s world, there’s no reason for the United States to give Russia or China this sort of standing by association.

Cooperation between the United States and Russia won’t grind to an immediate halt, though. With the International Space Station in orbit until at least 2024—if not longer—it will take time to disentangle the web of functional ties that have bound NASA and its Russian counterpart over the last quarter century. Significant cooperation with China should be avoided altogether, especially given its [notoriously opaque](https://www.merics.org/en/blog/chinas-space-program-about-more-soft-power) and [military-run](https://www.theatlantic.com/science/archive/2017/01/china-space/497846/) space program. The space programs and agencies of other nations—NASA, the European Space Agency and its member-nation agencies, the Japan Aerospace Exploration Agency, and even Russia’s Roscosmos—remain led and run by civilians.

#### Specifically - conciliatory policies present an image of weakness and appeasement - Russia seizes on it.

Payne 17 – Served in the Department of Defense as the Deputy Assistant Secretary of Defense for Forces Policy Dr. Keith B. Payne, “Russian strategy Expansion, crisis and conflict,” Comparative Strategy, 2017. <https://www.tandfonline.com/doi/pdf/10.1080/01495933.2017.1277121?needAccess=true>

Unless a fundamental change occurs in Russian leadership and strategy, conciliatory actions by the West to avoid confrontation seem likely to present an image of weakness and irresolution, and thereby invite further Russian expansionist policies and belligerence. How then should the West begin to formulate its response to this potential threat? In particular, how should the West neutralize the Russian threat of nuclear first use to “de-escalate” a conflict? Recent reports analyzing Russian incursions have not dealt in a comprehensive manner with this issue. Commentators typically propose either to proceed cautiously and avoid confrontation because of Russian nuclear threats or match Russian threats and actions.40 Developing a comprehensive strategy to combat Russia’s nuclear first-use strategy is a critical, albeit complex undertaking. A first step is to outline the myriad objectives of an effective strategy to be employed by the United States and allies to confront and negate this threat. The discussion below offers an initial broad outline of suggested objectives for this important first step.

#### Putin soft power is low now, and that prevents Baltic adventurism that goes nuclear - legitimizing him gives him an opening to make information warfare succeed.

Kagan 19 - American resident scholar at the American Enterprise Institute, and a former professor of military history at the U.S. Military Academy at West Point, less famous brother of our favorite neighborhood neocon Robert Kagan Frederick W. Kagan, “CONFRONTING THE RUSSIAN CHALLENGE: A NEW APPROACH FOR THE U.S.,” Institute for the Study of War. June 2019. <https://www.politico.com/f/?id=0000016b-6eef-dc80-a3ff-ffff778c0000> \*\*\*Apologies for it being super condensed - it’s a 90 pg article

Impact:

--Russia needs to use nuclear threats in adventurism bc of conventional inferioty

--Wld detonate tac nukes to dare us to go to strategic nukes – either we give up and lose NATO or retaliate

--Causes countervalue strikes that kill everyone

IL:

--Russia adventurism relies on hybrid/info warfare – need to be able to sell a narrative to succeed

--Legitimacy is key – putin’s opportunistic and strikes if he thinks people will buy his narratives

--He’ll view the plan as an opportunity – views multipolarity as legitimating and will see it as recognition of his right to seize soviet states

--Nostalgia link – his sopo strat is based on reminiscence about the old USSR days – space achieves that

UQ:

1] now key – Putin in frozen conflicts and not condoned or condemned – plan is viewed sa ex post facto condoning Ukraine which justifies future incursions – it says putin is fine to seize territory bc we’re willing to work with him anyway!

2] His foreign policy strat is failing now – states are’t aligned with him

3] SoPo low bc he’s been called out – he paid a high price for incursions and the US has shunned him – that means his actions are delegitimized and called out so he won’t try it, but the plan flips it

The Russian threat’s effectiveness results mainly from the West’s weaknesses. NATO’s European members are not meeting their full commitments to the alliance to maintain the fighting power needed to deter and defeat the emerging challenge from Moscow. Increasing political polarization and the erosion of trust by Western peoples in their governments creates vulnerabilities that the Kremlin has adroitly exploited. Moscow’s success in manipulating Western perceptions of and reactions to its activities has fueled the development of an approach to warfare that the West finds difficult to understand, let alone counter. Shaping the information space is the primary effort to which Russian military operations, even conventional military operations, are frequently subordinated in this way of war. Russia obfuscates its activities and confuses the discussion so that many people throw up their hands and say simply, “Who knows if the Russians really did that? Who knows if it was legal?”—thus paralyzing the West’s responses. Putin’s Program Putin is not simply an opportunistic predator. Putin and the major institutions of the Russian Federation have a program as coherent as that of any Western leader. Putin enunciates his objectives in major speeches, and his ministers generate detailed formal expositions of Russia’s military and diplomatic aims and its efforts and the methods and resources it uses to pursue them. These statements cohere with the actions of Russian officials and military units on the ground. The common perception that he is opportunistic arises from the way that the Kremlin sets conditions to achieve these objectives in advance. Putin closely monitors the domestic and international situation and decides to execute plans when and if conditions require and favor the Kremlin. The aims of Russian policy can be distilled into the following: Domestic Objectives Putin is an autocrat who seeks to retain control of his state and the succession. He seeks to keep his power circle content, maintain his own popularity, suppress domestic political opposition in the name of blocking a “color revolution” he falsely accuses the West of preparing, and expand the Russian economy. Putin has not fixed the economy, which remains corrupt, inefficient, and dependent on petrochemical and mineral exports. He has focused instead on ending the international sanctions regime to obtain the cash, expertise, and technology he needs. Information operations and hybrid warfare undertakings in Europe are heavily aimed at this objective. External Objectives Putin’s foreign policy aims are clear: end American dominance and the “unipolar” world order, restore “multipolarity,” and reestablish Russia as a global power and broker. He identifies NATO as an adversary and a threat and seeks to negate it. He aims to break Western unity, establish Russian suzerainty over the former Soviet States, and regain a global footprint. Putin works to break Western unity by invalidating the collective defense provision of the North Atlantic Treaty (Article 5), weakening the European Union, and destroying the faith of Western societies in their governments. He is reestablishing a global military footprint similar in extent the Soviet Union’s, but with different aims. He is neither advancing an ideology, nor establishing bases from which to project conventional military power on a large scale. He aims rather to constrain and shape America’s actions using small numbers of troops and agents along with advanced anti-air and anti-shipping systems. Recommendations A sound U.S. grand strategic approach to Russia: • Aims to achieve core American national security objectives positively rather than to react defensively to Russian actions; • Holistically addresses all U.S. interests globally as they relate to Russia rather than considering them theater-by-theater; • Does not trade core American national security interests in one theater for those in another, or sacrifice one vital interest for another; • Achieves American objectives by means short of war if at all possible; • Deters nuclear war, the use of any nuclear weapons, and other Weapons of Mass Destruction (WMD); • Accepts the risk of conventional conflict with Russia while seeking to avoid it and to control escalation, while also ensuring that American forces will prevail at any escalation level; • Contests Russian information operations and hybrid warfare undertakings; and • Extends American protection and deterrence to U.S. allies in NATO and outside of NATO. Such an approach involves four principal lines of effort. Constrain Putin’s Resources. Russia uses hybrid warfare approaches because of its relative poverty and inability to field large and modern military systems that could challenge the U.S. and NATO symmetrically. Lifting or reducing the current sanctions regime or otherwise facilitating Russia’s access to wealth and technology could give Putin the resources he needs to mount a much more significant conventional threat—an aim he had been pursuing in the early 2000s when high oil prices and no sanctions made it seem possible. Disrupt Hybrid Operations. Identifying, exposing, and disrupting hybrid operations is a feasible, if difficult, undertaking. New structures in the U.S. military, State Department, and possibly National Security Council Staff are likely needed to: 1. Coordinate efforts to identify and understand hybrid operations in preparation and underway; 2. Develop recommendations for action against hybrid operations that the U.S. government has identified but are not yet publicly known; 3. Respond to the unexpected third-party exposure of hybrid operations whether the U.S. government knew about the operations or not; 4. Identify in advance the specific campaign and strategic objectives that should be pursued when the U.S. government deliberately exposes a particular hybrid operation or when third parties expose hybrid operations of a certain type in a certain area; 5. Shape the U.S. government response, particularly in the information space, to drive the blowback effects of the exposure of a particular hybrid operation toward achieving those identified objectives; and 6. Learn lessons from past and current counter-hybrid operations undertakings, improve techniques, and prepare for future evolutions of Russian approaches in coordination with allies and partners. The U.S. should also develop a counter-information operations approach that uses only truth against Russian narratives aimed at sowing discord within the West and at undermining the legitimacy of Western governments. Delegitimize Putin as a Mediator and Convener. Recognition as one of the poles of a multipolar world order is vital to Putin. It is part of the greatness he promises the Russian people in return for taking their liberty. Getting a “seat at the table” of Western-led endeavors is insufficient for him because he seeks to transform the international system fundamentally. He finds the very language of being offered a seat at the West’s table patronizing. He has gained much more legitimacy as an international partner in Syria and Ukraine than his behavior warrants. He benefits from the continuous desire of Western leaders to believe that Moscow will help them out of their own problems if only it is approached in the right way. The U.S. and its allies must instead recognize that Putin is a self-declared adversary who seeks to weaken, divide, and harm them—never to strengthen or help them. He has made clear in word and deed that his interests are antithetical to the West’s. The West should therefore stop treating him as a potential partner, but instead require him to demonstrate that he can and will act to advance rather than damage the West’s interests before engaging with him at high levels. The West must not trade interests in one region for Putin’s help in another, even if there is reason to believe that he would actually be helpful. Those working on American policy in Syria and the Levant must recognize that the U.S. cannot afford to subordinate its global Russia policy to pursue limited interests, however important, within the Middle East. Recognizing Putin as a mediator or convener in Syria—to constrain Iran’s activities in the south of that country, for example—is too high a price tag to pay for undermining a coherent global approach to the Russian threat. Granting him credibility in that role there enhances his credibility in his self-proclaimed role as a mediator rather than belligerent in Ukraine. The tradeoff of interests is unacceptable. Nor should the U.S. engage with Putin about Ukraine until he has committed publicly in word and deed to what should be the minimum non-negotiable Western demand—the recognition of the full sovereignty of all the former Soviet states, specifically including Ukraine, in their borders as of the dates of their admission as independent countries to the United Nations, and the formal renunciation (including the repealing of relevant Russian legislation) of any right to interfere in the internal affairs of those states Defend NATO. The increased Russian threat requires increased efforts to defend NATO against both conventional and hybrid threats. All NATO members must meet their commitments to defense spending targets—and should be prepared to go beyond those commitments to field the forces necessary to defend themselves and other alliance members. The Russian base in Syria poses a threat to Western operations in the Middle East that are essential to protecting our own citizens and security against terrorist threats and Iran. Neither the U.S. nor NATO is postured to protect the Mediterranean or fight for access to the Middle East through the eastern Mediterranean. NATO must now prepare to field and deploy additional forces to ensure that it can win that fight. The West should also remove as much ambiguity as possible from the NATO commitment to defend member states threatened by hybrid warfare. The 2018 Brussels Declaration affirming the alliance’s intention to defend member states attacked by hybrid warfare was a good start. The U.S. and other NATO states with stronger militaries should go further by declaring that they will come to the aid of a member state attacked by conventional or hybrid means regardless of whether Article 5 is formally activated, creating a pre-emptive coalition of the willing to deter Russian aggression. Bilateral Negotiations. Recognizing that Russia is a self-defined adversary and threat does not preclude direct negotiations. The U.S. negotiated several arms control treaties with the Soviet Union and has negotiated with other self-defined enemies as well. It should retain open channels of communication and a willingness to work together with Russia on bilateral areas in which real and verifiable agreement is possible, even while refusing to grant legitimacy to Russian intervention in conflicts beyond its borders. Such areas could include strategic nuclear weapons, cyber operations, interference in elections, the Intermediate Nuclear Forces treaty, and other matters related to direct Russo-American tensions and concerns. There is little likelihood of any negotiation yielding fruit at this point, but there is no need to refuse to talk with Russia on these and similar issues in hopes of laying the groundwork for more successful discussions in the future. INTRODUCTION The Russian challenge is a paradox. Russia’s nuclear arsenal poses the only truly existential threat to the United States and its allies, but Russia’s conventional military forces have never recovered anything like the power of the Soviet military. Those forces pose a limited and uneven threat to America’s European allies and to U.S. armed forces, partially because many U.S. allies are not meeting their NATO defense spending commitments. Russia is willing and able to act more rapidly and accept greater risk than Western countries because of its autocratic nature. Its cyber capabilities are among the best in the world, and it is developing an information-based way of war that the West has not collectively properly understood, let alone begun developing a response to. That information-based warfare has included attempts to affect and disrupt elections in the U.S. and allied states. The complexity and paradoxical nature of the Russian threat is perhaps its greatest strength. It is one of the key reasons for the failure of successive American administrations and U.S. partners around the world to develop a coherent strategy for securing themselves and their people and advancing their interests in the face of Russian efforts against them. The West’s lack of continuous focus on the Russian challenge has created major gaps in our collective understanding of the problem—another key reason for our failure to develop a sound counter-strategy. American concerns about Russia are bifurcated, moreover. Many Americans see the Russian threat primarily as a domestic problem: Moscow’s interference in the 2016 presidential election, attempts to interfere in the 2018 midterm election, and efforts to shape the 2020 elections. The U.S. national security establishment acknowledges the domestic problem but is generally more concerned with the military challenges a seemingly reviving Russia poses to U.S. NATO allies and other partners in the Euro-Atlantic region; with Russia’s activities in places like Syria and Venezuela; and with Russia’s outreach to rogue states such as North Korea and Iran. Even that overseas security concern, however, is pervaded by complexity and some confusion. The recommendations of the current U.S. National Security Strategy (NSS) and National Defense Strategy (NDS) are dominated by responses to much-trumpeted Russian investments in the modernization of conventional and nuclear forces. At the same time, those documents acknowledge the importance of Russian capabilities at the lower end of the military spectrum and in the non-military realms of information, cyber, space, information, and economic efforts. Americans thus generally agree that Russia is a threat to which the U.S. must respond in some way, but the varying definitions of that threat hinder discussion of the appropriate response. Russia has entangled itself sufficiently in American partisan politics that conversation about the national security threat it poses is increasingly polarized. We must find a way to transcend this polarization to develop a strategy to secure the U.S. and its allies and advance U.S. interests, despite Russian efforts to undermine America’s domestic politics. AMERICAN INTERESTS—WHAT IS AT STAKE The Ideals of the American Republic The stakes in the Russo-American conflict are high. Russian leader Vladimir Putin seeks to undermine confidence in democratically elected institutions and the institution of democracy itself in the United States and the West.1 He is trying to interfere with the ability of American and European peoples to choose their leaders freely2 and is undermining the rules-based international order on which American prosperity and security rest. His actions in Ukraine and Syria have driven the world toward greater violence and disorder. The normalization of Putin’s illegal actions over time will likely prompt other states to emulate his behavior and cause further deterioration of the international system. Moscow’s war on the very idea of truth has been perhaps the most damaging Russian undertaking in recent years. The most basic element of the Russian information strategy, which we will consider in more detail presently, is the creation of a sense of uncertainty around any important issue. Russia’s strategy does not require persuading Western audiences that its actions in Ukraine’s Crimean Peninsula or the Kerch Strait, which connects the Black Sea and the Sea of Azov, for example, were legal or justified.3 It is enough to create an environment in which many people say simply, “who knows?” The “who knows?” principle feeds powerfully into the phenomena of viral “fake news,” as well as other falsehoods and accusations of falsehoods which, if left unchecked, will ultimately make civil discourse impossible. The Kremlin’s propaganda does not necessarily need its target audiences to believe in lies; its primary goal is to make sure they do not believe in the truth. This aspect of Putin’s approach is one of the greatest obstacles to forming an accurate assessment and making recommendations. It is also one of the most insidious threats the current Russian strategy poses to the survival of the American republic. The good news is that the war on the idea of truth does not involve military operations or violence, though it can lead to both. The bad news is that it is extraordinarily difficult to identify, let alone to counter. Yet we must counter it if we are to survive as a functioning polity. American Prosperity The debate about the trade deficit and tariffs only underscores the scale and importance of the role Europe plays in the American economy. Europe is the largest single market for American exports and the second-largest source of American imports, with trade totaling nearly $1.1 trillion.4 American exports to Europe are estimated to support 2.6 million jobs in the U.S.5 Significant damage to the European economy, let alone the collapse of major European states or Europe itself, would devastate the U.S. economy as well. American prosperity is tightly interwoven with Europe’s. American prosperity also depends on Europe remaining largely democratic, with market-based economies, and subscribing to the idea of a rulesbased international order. The re-emergence of authoritarian regimes in major European states, which would most likely be fueled by a resurgence of extremist nationalism, would lead to the collapse of the entire European system, including its economic foundations. European economic cooperation rests on European peace, which in turn rests on the continued submergence of extremist nationalism and adherence to a common set of values. Russian actions against Western democracies and support for extremist groups, often with nationalist agendas, reinforce negative trends emerging within Europe itself. These actions therefore constitute a threat to American prosperity and security over the long term. The American economy also depends on the free flow of goods across the world’s oceans and through critical maritime chokepoints. Russia posed no threat to those chokepoints after the Soviet Union fell, but that situation is changing. The establishment of what appears to be a permanent Russian air, land, and naval base on the Syrian coast gives Russia a foothold in the Mediterranean for the first time since 1991. Russian efforts to negotiate bases in Egypt and Libya and around the Horn of Africa would allow Moscow to threaten maritime and air traffic through the Suez Canal and the Red Sea.6 Since roughly 3.9 million barrels of oil per day transited the Suez in 2016, to say nothing of the food and other cargo moving through the canal, Russian interference would have significant impacts on the global economy—and therefore on America’s economy.7 Russia’s efforts to establish control over the maritime routes opening in the Arctic also threaten the free movement of goods through an emerging set of maritime chokepoints.8 Those efforts are even more relevant to the U.S. because the Arctic routes ultimately pass through the Bering Strait, the one (maritime) border America shares with Russia. Russian actions can hinder or prevent the U.S. and its allies from benefiting from the opening of the Arctic. Russia is already bringing China into the Arctic region through energy investment projects and negotiations about the use of the Northern Sea Route, despite the fact that China is a state with no Arctic territory or claims.9 NATO The collective defense provision of the NATO treaty (known as Article 5) has been invoked only once in the 70-year history of the alliance: on September 12, 2001, on behalf of the United States. NATO military forces provided limited but important assistance to the U.S. in the immediate wake of the 9/11 attacks, including air surveillance patrols over the United States, and have continued supporting the U.S. in the long wars that followed. NATO established military missions in both Iraq and Afghanistan in the next two decades, deploying tens of thousands of soldiers to fight and to train America’s Iraqi and Afghan partners. American allies, primarily NATO members, have suffered more than 1,100 deaths in the Afghan war, slightly under half the number of U.S. deaths.10 The non-U.S. NATO member states collectively spent roughly $313 billion on defense in 2018—about half the American defense budget.11 The failure of most NATO members to meet their commitment to spend 2 percent of their GDP on defense is lamentable and must be addressed. But the fact remains that the alliance and its members have spent large amounts of blood and treasure fighting alongside American forces against the enemies that attacked the U.S. homeland two decades ago, and that they provide strength and depth to the defense of Europe, which remains of vital strategic importance to the United States. The U.S. could not come close to replacing them without significantly increasing its own defense spending and the size of the U.S. military—to say nothing of American casualties. NATO is also the most effective alliance in world history by the standard that counts most: it has achieved its founding objective for 70 years. The alliance was formed in 1949 to defend Western Europe from the threat of Soviet aggression, ideally by deterring Soviet attack, and has never needed to fight to defend itself. The United States always provided the preponderance of military force for the alliance, but the European military contribution has always been critical as well. American conventional forces throughout the Cold War depended on the facilities and the combat power of European militaries, and the independent nuclear deterrents of France and Great Britain were likely as important to deterring overt Soviet aggression as America’s nuclear arsenal. The Soviets might have come to doubt that the U.S. would risk nuclear annihilation to defend Europe, but they never doubted that France and Britain would resort to nuclear arms in the face of a Soviet invasion. Has NATO become irrelevant with the passing of the Cold War and the drawdown of U.S. forces from Iraq and Afghanistan? Only if the threat of war has passed and Europe itself has become irrelevant to the United States. Neither is the case. Europe’s survival, prosperity, and democratic values remain central to America’s well-being, as noted above, and today’s global environment makes war more likely than it has been since the collapse of the Soviet Union. It is not a given that Europe will remain democratic and a part of the international rules-based order if NATO crumbles. The U.S. can and should continue to work with its European partners to increase their defense expenditures and, more to the point, military capabilities (for which the percent of GDP spent on defense is not a sufficient proxy). The U.S. must also recognize the centrality of the alliance to America’s own security, as both the National Security Strategy and the National Defense Strategy do.12 The maintenance and defense of NATO itself is a core national security interest of the United States. Cyber Russia is one of the world’s leading cyber powers, competing with the U.S. and China for the top spot, at least in offensive cyber capabilities. Russian hacking has become legendary in the U.S. thanks to Russia’s efforts to influence the 2016 presidential campaign, but Russia has turned its cyber capabilities against its neighbors in other damaging ways. Russia attacked Estonia in 2007 with a massive distributed denial-of-service attack. It attacked Ukrainian computers with the NotPetya malware in 2017, which eventually caused billions of dollars in damage, including in the Americas.13 It also employed cyberattacks in coordination with its ground invasions of Georgia in 2008 and Ukraine in 2014. Fears of Russian cyber capabilities are warranted. This report does not consider the Russian cyber challenge in detail because others with far more technical expertise and support are actively engaged in combating it, defending against it, and deterring it. Our sole contribution in this area will be to consider it in the specific context of information operations support for hybrid operations in the recommendations section below. This approach stems from the recognition that the Kremlin’s cyber operations largely serve as enablers for its larger campaigns, rather than as a main effort. One must note, however, that while deterrence with conventional and nuclear forces prevents attacks, the United States is subject to cyberattack every day and has not established an effective means of retaliation, and thus deterrence. Weapons of Mass Destruction Russia’s nuclear arsenal is large enough to destroy the United States completely. The U.S. currently has no fielded ability to defend against a full-scale Russian nuclear attack—nor can Russia defend against a U.S. nuclear attack. American missile defense systems, by design, do not have the characteristics or scale necessary to shoot down any important fraction of the number of warheads the Russians have aimed at the U.S. from land- and sea-based launch platforms. America’s security against Russian nuclear attack today rests on the same principle as it has since the Russians first acquired nuclear weapons: deterrence. Russia also lacks the ability to shoot down American land- or sea-launched missiles and may not even be able reliably to shoot down U.S. nuclear-armed fifth-generation bombers. Deterrence is extremely likely to continue to work against Putin, who is a rational actor without the kinds of apocalyptic visions that might lead another leader to opt for annihilation in pursuit of some delusional greater good.14 The U.S. must pursue necessary modernization of its nuclear arsenal to sustain the credibility of its nuclear deterrent forces, but there is no reason to fear that deterrence will fail against Putin if it does so.15 It is less clear that Russia will continue to abide by its commitments to abjure chemical weapons, however. Russian agents have already conducted several chemical attacks, bizarrely using distinctive, military-grade chemical agents in attempted assassinations in the United Kingdom.16 Putin has also given top cover to Syrian President Bashar al-Assad’s use of chemical weapons against his own people, despite Russia’s formal role in guaranteeing Assad’s adherence to his 2013 promise to destroy his chemical weapons stockpile and refrain from any such use.17 Periodic Russian-inspired “rumors” that Western military personnel and Ukraine—which has no chemical weapons program—were planning to use chemical weapons on Ukrainian territory raise the concern that Russian agents provocateurs might conduct false flag operations of their own.18 Russia has the capability to produce chemical weapons at will—as does any industrialized state—but it is now showing that it may be willing to do so and to use them. The Soviet Union also maintained a vibrant biological weapons program. Russia has not thus far shown any signs of having restarted it or of having any intent to do so. The completely false claims that the U.S. has built biological weapons facilities in Russia’s neighboring states raise some concern on this front, since they could theoretically provide cover for the use of Russia’s own biological weapons, but they are more likely intended to influence the information space and justify other Russian actions.19 Terrorism Russia poses several challenges to any sound American approach to counter-terrorism. In addition to Iran, the world’s most prolific state sponsor of terrorism, Moscow’s preferred partners in the Middle East are those whose actions most directly fuel the spread of Salafi-jihadi groups. Russia encouraged and supported systematic efforts to eliminate moderate, secular opposition groups in Syria to the benefit of the Salafi-jihadi groups. Putin aims to expel or constrain the U.S. in the Middle East and establish his own forces in key locations that would allow him to disrupt American efforts to re-engage.20 Russia is the co-leader of a political and military coalition that includes Iran, Lebanese Hezbollah, the Assad regime, and Iranian-controlled Iraqi Shi’a militias.21 Russia provides most of the air support to that coalition in Syria, as well as special forces troops (SPETSNAZ), intelligence capabilities, air defense, and long-range missile strikes.22 That coalition’s campaign of sectarian cleansing has driven millions of people from their homes, fueling the refugee crisis that has damaged Europe.23 The coalition seeks to reimpose a minoritarian ‘Alawite dictatorship in Syria and a militantly anti-American and anti–Sunni Arab government in Iraq.24 The atrocities Russian forces themselves have committed, including deliberate and precise airstrikes against hospitals, have increased the sense of desperation within the Sunni Arab community in Syria, which Salafi-jihadi groups such as ISIS and al Qaeda have exploited.25 Russia supported Assad’s campaign to destroy the non-Salafi-jihadi opposition groups opposing him—particularly those backed by the U.S.—to aid the narrative that the only choices in Syria were Assad’s government or the Salafi-jihadis.26 That narrative was false in 2015 when Russian forces entered the fight but has become much truer following their efforts.27 Russia backed this undertaking with military force, but even more powerfully with information operations that continually hammered on the theme that the U.S. itself was backing terrorists in Syria and Russia was fighting ISIS.28 The insidiousness of the Russian demands that the U.S. remove its forces from Syria is masked by the current U.S. administration’s desire to do exactly that.29 One can argue the merits of keeping American troops in Syria or pulling them out— and this is not the place for that discussion—but the choice should be America’s. At the moment it still is. The consolidation of Russian anti-access/ area-denial (A2/AD) systems in Syria, however, together with the prospect of the withdrawal (or expulsion) of American forces from Iraq (or the closure of Iraqi airspace to support U.S. operations in Syria), could severely complicate American efforts to strike against terrorist threats that will likely re-emerge in Syria over time.30 The more the U.S. relies on an over-the-horizon strategy of precision strikes against terrorists actively planning attacks on the American homeland, the more vulnerable it becomes to the potential disruption of those strikes by Russian air defense systems, whether operated openly by Russians or nominally by their local partners. RUSSIA’S OBJECTIVES Mention of Putin’s objectives or of any systematic effort to achieve them almost always elicits as a response the assertion that Putin has no plan: Putin has no strategy; there is no Russian grand strategy, and so on. The other extreme of the debate considers Putin a calculated strategist with a grand master plan. The question of whether Putin has a plan, however that word is meant by those who assert that he does not, has important consequences for any American strategy to advance U.S. interests with regard to Russia. The trouble is that it is not clear what it would mean for Putin to have a plan or to lack one. We must first consider that more abstract question before addressing whether he has one. To have a plan usually means to have articulated goals, specific methods by which one will seek to achieve those goals, and identified means required for those methods to succeed. Goals, methods, and means can range from very specific to extremely vague and can be more flexible or more rigid. Specificity and flexibility can vary among the elements of this triad, moreover—goals may be very specific and rigid, methods general and flexible, means specific and flexible, or any other logical combination. When considering the question of Putin’s plan, therefore, we must break the discussion down into these four components: Does he have goals? Has he determined methods of achieving his goals? Has he specified resources required for those methods? How specific and how flexible are his goals, his methods, and the resources he allocates? Putting this discussion in context is helpful. Does a U.S. president have “a plan”? Not in any technical or literal sense. Every U.S. administration produces not a plan, but a National Security Strategy that is generally long on objectives—often reasonably specific—and very short on details of implementation (methods). Different national security advisers oversee processes within the White House to build out implementation details to greater or lesser degrees, but the actual implementation plans (methods) are developed by the relevant Cabinet departments. Those departments are also generally responsible for determining the resources that will be needed to implement their plans. The White House must then approve both the plans themselves and the allocation of the requested resources—and then must persuade Congress actually to appropriate the resources in the way the White House wishes to allocate them. This entire process takes more than a year from the start of a new administration and is never complete—the world changes, personnel turn over, and annual budget cycles and mid-term elections cause significant flutter. The one thing that does not happen is that a president receives and signs a “plan” with clear goals, detailed and specified methods, and the specific resources required, which is then executed.31 Putin does not have more of a plan than the U.S. does. It is virtually certain that he also lacks any such clear single document laying out the goals, methods, and means that he and his ministers are executing. But does he have as much of a plan as Presidents George W. Bush, Barack Obama, and Donald Trump have had? By all external signs, he does. Putin has clearly articulated a series of overarching objectives and goals for Russia’s foreign policy and national security. Putin has been continuously communicating them through various media, including Russia’s doctrinal documents, regular speeches, his senior subordinates, and the Kremlin’s vast propaganda machine for the past two decades. Russia has a foreign policy concept similar in scope and framing to the U.S. National Security Strategy, a military doctrine similar to the U.S. National Defense Strategy, and a series of other strategies (such as maritime, information security, and energy security) relating to the other components of national power and interest.32 These documents remain very much living concepts and have gone through multiple revisions in the decades since the fall of the Soviet Union. Through regular speeches, Putin consistently communicates his goals and the key narratives that underpin Russian foreign policy. He makes an annual speech to the Russian Federal Assembly that is similar in some respects to the U.S. president’s State of the Union address. Putin’s addresses tend to be even more specific (and much more boring) in presenting the previous year’s accomplishments and an outline of goals and intentions for the next year.33 Russia’s doctrines and concepts match Putin’s speeches closely enough to suggest that there is some connection between them. Putin also makes other regular speeches, including at the UN General Assembly, the Valdai Discussion Club, the Munich Security Conference at times, and during lengthy press conferences with the Russian media. These remarks are usually rather specific in their presentation of his objectives and sometimes, some of the means by which he intends to pursue them. Such speeches are neither less frequent nor less specific than the major policy speeches of American presidents. The widespread belief that Putin is simply or even primarily an opportunist who reacts to American or European mistakes is thus erroneous. Nor is Putin’s most common rhetorical trope—that he is the innocent victim forced to defend Russia against unjustified Western aggression—tethered to reality.34 Putin’s statements, key Russian national security documents, and the actions of Putin’s senior subordinates over the two decades of his reign cannot be distilled into a “plan,” but rather represent a set of grand strategic aims and strategic and operational campaigns underway to achieve them. Putin has remained open and consistent about his core objectives since his rise to power in 1999: the preservation of his regime, the end of American “global hegemony,” and the restoration of Russia as a mighty force to be reckoned with on the international stage. Some of his foreign policy pursuits are purely pragmatic and aimed at gaining resources; others are intended for domestic purposes and have nothing to do with the West. Putin has articulated a vision of how he wants the world to be and what role he wishes Russia to play in it. He seeks a world without NATO, where the U.S. is confined to the Western Hemisphere, where Russia is dominant over the former Soviet countries and can do what it likes to its own people without condemnation or oversight, and where the Kremlin enjoys a veto through the UN Security Council over actions that any other state wishes to take beyond its borders.35 He is working to bring that vision to reality through a set of coherent, mutually supporting, and indeed, overlapping lines of effort. He likely allows his subordinates a great deal of latitude in choosing the specific means and times to advance those lines of effort—a fact that makes it seem as if Russian policy is simply opportunistic and reactive. But we must not allow ourselves to be deluded by this impression any more than by other Russian efforts to shape our understanding of reality. Putin’s Domestic Objectives Maintaining relative contentment within his power circle is a key part of regime preservation. Putin has a close, trusted circle of senior subordinates, including several military and intelligence officials who have been with him for the past 20 years.36 His power circle has several outer layers, which include—but are not limited to—major Russian businessmen, often referred to as “oligarchs.” The use of the term “oligarch” to describe those who run major portions of the economy is inaccurate, however. Those individuals have power because Putin gives it to them, not because they have any inherent ability to seize or hold it independently. He shuffles them around—and sometimes retires them completely—at his will, rather than in response to their demands.37 They do not check or control Putin either individually or collectively, and they rarely, if ever, attempt to act collectively in any event. Putin controls Russia and its policies as completely as he chooses. This situation is different from the way in which the Soviet Union was ruled after Joseph Stalin’s death in 1953. The post-Stalin USSR really was an oligarchy. Politburo members had their own power bases and fiefdoms. They made decisions—including selecting new members, choosing new leaders, and even firing one leader (Stalin’s successor, Nikita Khrushchev)—by majority vote. There is no equivalent of the Politburo in today’s Russia, no one to balance Putin, and certainly no one to remove him. Putin seeks to keep the closest circle of subordinates and the broader Russian national security establishment content, as they form one of the core pillars of his power. He thus seeks to maintain a relative degree of contentment within various layers of his power structures, including among the “oligarchs.” For example, the Kremlin offered to help mitigate sanctions-related consequences for Russian businessmen.38 Kremlin-linked actors, in another example, reportedly embezzled billions of dollars in the preparations for the 2014 Winter Olympics in Sochi, Russia—the $50 billion price tag of which was the highest for any Olympic games.39 Putin can still retire any of the “oligarchs” at will without fear of meaningful consequences—yet his regime is much more stable if they collectively remain reasonably satisfied. This reality will drive Putin to continue to seek access to resources, legal and illegal, with which to maintain that satisfaction. Maintaining popular support is a core objective of Putin’s policies. Putin is an autocrat with democratic rhetoric and trappings. Putin’s Russia has no free elections, no free media, and no alternative political platforms. He insists, however, on maintaining the “democratic” façade. He holds elections at the times designated by law (even if he periodically causes the law to be amended) and is genuinely (if decreasingly) popular. Nor is his feint at democratism necessarily a pose. The transformation of the Soviet Union into a democracy was the signal achievement of the 1990s.40 Putin played a role in that achievement, supporting St. Petersburg mayor Anatoliy Sobchak, then Boris Yeltsin, in their battles against attempts by communists to regain control and destroy the democracy, and then by an extreme right-wing nationalist party to gain power.41 Putin has called out many weaknesses of the Yeltsin era—but never the creation of a democratic Russia. Putin has not yet shown any sign of formally turning away from democracy as the ostensible basis of his power, although he has constrained the political space within Russia to the point that the elections are a sham. However, were he to abandon the democratic principles to which he still superficially subscribes, he would need fundamentally to redesign the justification of his rule and the nature of his regime. Nevertheless, he can only maintain even the fiction of democratic legitimacy if he remains popular enough to win elections that are not outrageously stolen. He has not been able to fix the Russian economy, despite early efforts to do so. The fall of global oil prices from their highs in the 2000s, as well as the Western sanctions imposed for his actions in Ukraine, among other things, are causing increasing hardship for the Russian people.42 Putin has adopted an information operations approach to this problem by pushing a number of core narratives, evolving over time, to justify his continued rule and explain away the failures of his policies. He has also grown the police state within Russia for situations in which the information operations do not work to his satisfaction. Putin’s justification of his rule has evolved over time. He first positioned himself as the man who will bring order. The 1990s was a decade of economic catastrophe for Russia. Inflation ran wild, unemployment skyrocketed, crime became not only pervasive but also highly organized and predatory, and civil order eroded. Putin succeeded Yeltsin with a promise to change all that. His “open letter to voters” in 2000 contained a phrase fascinating to students of Russian history: “Our land is rich, but there is no order.” That phrase is similar to one supposedly sent by the predecessors of the Russians at the dawn of Russian history to a Viking prince who would come to conquer them: “Our land is rich, but there is no order. Come to rule and reign over us.” By using the first part of that line, Putin, like Riurik, the founder of Russia’s first dynasty, cast himself as the founder of a new Russia in which order would replace chaos.43 Putin’s initial value proposition to his population was thus order and stability. He did, indeed, attempt to bring order to Russia’s domestic scene. Putin strengthened government institutions and curbed certain kinds of crime. He restored control over the region of Chechnya through a brutal military campaign. He tried to work with economic technocrats to bring the economy into some kind of order. The task was immense, however—Soviet leaders had built the entire Russian industrial and agricultural system and economic base in a centralized fashion. Undoing that centralization and creating an economy in which the market really could work was beyond Putin’s skill and patience. He largely abandoned the effort within a few years, both because it was too hard and because it seemed unnecessary.44 The rising price of oil in the early 2000s fueled the Russian economy and filled the government’s coffers on the one hand.45 The genuine structural reforms and innovation that were needed, on the other, also became antithetical to Putin’s ability to maintain control, as government corruption is a powerful tool of influence in Russia. Putin began to erode civil liberties in that period offering the unspoken but clear exchange: Give me your liberties and I will give you prosperity and stability. The 2008 global financial crisis collapsed oil prices, and the post-2014 sanctions regime removed the patches and workarounds Putin had used to offset his failure to transform Russia’s economy. Continuing low oil prices (and sanctions) have prevented it from recovering with much of the rest of the global economy, even as Putin has continued to eschew any real effort to address the systemic failings holding Russia’s economy back. Putin has therefore refocused on a different value proposition: Give me your liberties and I will give you greatness. He is increasingly linking the legitimacy of his own autocracy with Russia’s position on the world stage and with Russia’s ability to stand up to American “global hegemony.”46 Putin has simultaneously erected a narrative to deflect criticism for Russia’s problems onto the West. The West, supposedly fearful of Russia rising and determined to keep Russia down, has thwarted its rightful efforts to regain its proper place in the world at every turn. Putin claims the Russian economy is in shambles because of unjust and illegal sanctions that have nothing to do with Russia’s actions and are simply meant to keep “the Russian bear in chains.”47 Putin has also consistently fostered a complex narrative that combines diverse and—from the Western perspective—often conflicting elements, including Soviet nostalgia, Eastern Orthodoxy, Russian nationalism, and the simultaneous emphasis on Russia’s multiethnic and multireligious character. The importance Putin gives this narrative is visible in things large and small. He has named Russia’s ballistic missile submarines after Romanov tsars and Muscovite princes.48 He issued a decree in 2009 mandating the introduction of religious education in Russian schools, which began in 2012.49 He continues to place a major emphasis on Soviet-era achievements. Putin and his information machine take these various elements, refine and tailor them, and produce a mix of ideas to cater to various parts of the Russian population. We can expect Putin’s narratives to continue to shift to accommodate changing realities, but the current rhetorical linkage between Russia’s position on the world stage and the legitimacy of Putin’s domestic power is concerning. It suggests that Putin may be more stubborn about making and retaining gains in the international arena than he was in the first 15 years of his rule, as he seeks ways to bolster his popularity, which is flagging, and on which his mythos relies. Blocking a “color revolution” in Russia is the overarching justification Putin gives for the erosion of political freedom and the expansion of Russia’s police state. Revolutions overturned post-Soviet governments in Georgia (the Rose Revolution in 2003), Ukraine (the Orange Revolution in 2004), and Kyrgyzstan (the Tulip Revolution in 2005). Putin blamed all of them on efforts by the West, primarily the U.S., to undermine pro-Russian governments, even though all three emerged indigenously and spontaneously without external assistance. He regarded the Ukrainian EuroMaidan Revolution of 2014 as an extension of this phenomenon.50 The rhetoric Putin and other Russian officials and writers use about “color revolutions” is extreme. It paints them as part of a coherent Western effort aimed ultimately at overthrowing the Russian government itself. It is quite possible that Putin believes that there is such an effort underway and that the events that rocked the post-Soviet states were a part of it. Even if he did not believe this when he started to talk about it, he may well have convinced himself of it after 15 years of vituperation on the subject. The notion of a “color revolution” conspiracy against Russia is also a convenient way for Putin to discredit any opposition, an easy way to tar political opponents as foreign agents and traitors, to control and expel foreign non-governmental organizations, and generally to justify the erosion of civil liberties, human rights, and free expression in Russia. It externalizes resistance to Putin’s increasing autocracy while simultaneously providing scapegoats to blame for Russia’s problems. It also creates the narrative basis for casting any Western efforts to constrain Russian actions anywhere as part of a larger effort to set preconditions for a “color revolution” in Moscow. It fuels a narrative to which Russians are historically amenable: that Russia is surrounded and under siege by hostile powers trying to contain or destroy it. Putin can cast almost any action foreign states take of which he does not approve as part of this effort.51 The net effects of this narrative are threefold. First, it tends to consolidate support behind Putin as he presents himself as the defender of Russia against a hostile world—and his near-total control of the information most of his people receive makes it difficult for many to hear and believe any other side. Second, it constantly confronts the West with the suspicion that someone really is trying to orchestrate a conspiracy to cause “regime change” in Russia. Although no state or alliance has had any such objective since the fall of the Soviet Union in 1991, the negative connotations of even the idea of attempting regime change create opposition to policies labeled in this way. Third, it also creates opposition to a potential peaceful change in the nature of the Russian regime from within, as Putin has associated the idea of political change with the “color revolution” prism of chaos, destruction, and an inevitably worsening economy. Putin presents his people a simple (but false) choice between the prospect of going back to something like the chaos and poverty of the 1990s ... or Vladimir Putin. Using the bogey of the “color revolution” conspiracy theory and other narratives, Putin is expanding the already-significant state control over his people’s communications and moving to a more rigid authoritarian model. He has prevented the emergence of any significant political opposition party or leader. Key opposition figures have been murdered, imprisoned, poisoned, and otherwise attacked.52 Putin’s regime suppresses—sometimes brutally— political dissent in the form of peaceful street protests or demonstrations, despite their small sizes.53 The political environment in Russia today is not markedly different from that of the Soviet Union in its last decade. Putin has brought the overwhelming majority of significant Russian media outlets into line with his own desired narratives, presenting the Russian people with a coherent stream of propaganda virtually without deviation. He appears to have decided that even this level of information control is insufficient, however, and has recently begun to assert even greater technical and policy control over Russians’ access to the internet.54 He has not yet matched these activities with recreation of an internal security apparatus on the scale needed to control the population through coercion, intimidation, and force, but he has been steadily expanding the internal security services during his two decades of rule. He has centralized some elements of the internal security apparatus under the control of a loyal lieutenant, but he would need to expand it considerably to be able to rely on it to maintain order by force beyond Moscow and St. Petersburg.55 In assessing whether Putin aims to shift the basis of his rule to more overt dictatorship, one of the key indicators to watch for is further expansion of that apparatus. It is also an indicator of the degree to which he sincerely believes that any sort of “color revolution” is in the offing. Expansion of the Russian economy remains an important component of Putin’s ability to sustain and grow his assertive foreign policy, popular support, and the resources subsidizing his close circle. Putin seems largely to have given up the idea of reforming the economy and has thus set about at least two major undertakings to improve it without reform. Undermining the Western sanctions regime. The imposition of major sanctions on Russia following the invasion of Ukraine and the annexation of Crimea in 2014 has inflicted great damage on the Russian economy. Putin has launched a number of efforts to erode and break those sanctions, both in Europe and in the U.S. Despite repeated declarations about the ineffectiveness of sanctions, Putin clearly believes that nothing would improve the economy more dramatically and rapidly than their elimination. The Mueller Report amply documents Putin’s fear of new sanctions after the 2016 elections and his efforts to deflect them or have them nullified.56 He even went so far as to promise not to retaliate against the sanctions the Obama administration imposed, in hopes of persuading the incoming Trump administration to reverse or block them. His efforts failed, however, as Congress insisted on new sanctions and President Trump did not stop them. Russian activities in Europe have aimed in part to suborn one or more members of the European Union (EU) to refuse to renew the sanctions imposed following Russia’s 2014 invasion of Ukraine. Openly pro-Russian governments in Budapest and now Rome, along with other states that have indicated greater reluctance to continue the sanctions regime, have not yet cast the vote to stop the renewal of sanctions. Putin has not given up, however, and continues to work to shape the political, informational, and economic environment in Europe to make it safe for one country to vote against sanctions renewal—and one vote is all he needs in the consensus-based EU model. The collapse of the sanctions regime and a flood of foreign direct investment into Russia could dramatically increase the resources available to support Putin’s foreign and defense efforts, even without fundamentally addressing the problems of the Russian economy. Putin would likely use those resources to return to the aggressive conventional military buildup he was pursuing before the imposition of sanctions in 2014 and to supercharge his economic efforts to establish Russian influence around the world. Developing new revenue streams is another obvious approach to bringing cash into the Russian economy and government. Russia is at a disadvantage in this regard because of the structural weaknesses of its economy. Its principal exports are almost entirely in the form of mineral wealth—oil, coal, and natural gas, as well as other raw materials. Weapons and military training services are the major industrial export. The use of private military companies (PMCs) such as the Wagner Group is a foreign policy tool for the Kremlin, but also one of the main exportable “services.” Civilian nuclear technology is a niche expertise that Putin is willing to sell as well. Putin has worked hard to expand Russia’s economic portfolios in all these areas. He has pushed both the Nord Stream II and the Turk Stream natural gas pipelines to make Europe ever more heavily dependent on Russian natural gas and to eliminate Russia’s dependency on the Ukrainian gas transit system. His lieutenants are actively negotiating deals throughout the Middle East and Africa to sell civilian nuclear technology. This generates continuous revenue because the states that commit to using Russian nuclear reactor technology will likely become dependent on Russian equipment and expertise to keep it running.57 Russia’s military activities in Syria can be described as a massive outdoor weapons exposition.58 The Russian armed forces have ostentatiously used several advanced weapons systems that were not required for the specific tactical tasks at hand.59 The Russian military staged these displays with the informational and geopolitical aim of demonstrating Russia’s renewed and advanced conventional capabilities. They also showed the effectiveness of weapons and platforms whose export versions are for sale. Russian military hardware salesmen are active throughout the Middle East and are having success. Turkish President Recep Tayyip Erdogan seems committed to purchasing the S-400 air defense system, despite vigorous American and NATO opposition and the threat that the U.S. will refuse to complete planned sales of the F-35 stealth aircraft to Turkey.60 The U.S. should certainly not deliver the F-35 to Turkey if Erdogan proceeds with purchase of the S-400. A Turkish trade of the F-35 for the S-400 would nevertheless be a significant victory for Putin in both economic and political terms. Putin’s efforts to steal arms business from the U.S. would also be assisted by legislation or executive decisions blocking the export of weapons systems to Saudi Arabia over the conduct of the war in Yemen. Income from such sales is a trivial percentage of American net exports, to say nothing of U.S. GDP, but would be much larger in the Russian ledgers, where totals are more than an order of magnitude smaller. The proliferation of Russian PMCs is another potential source of revenue—in addition to being a Kremlin foreign policy tool—although it is hard to assess its significance because of the secrecy surrounding the entire PMC enterprise. The reported numbers of mercenaries deployed by various Russian PMCs are generally in the low hundreds here and there—not large enough, in principle, to suggest that the income from them would be very great. There is no knowing the terms of their contracts, however, or what other activities they might engage in while stationed in poorly governed states rife with corruption and organized crime. None of these activities is likely to generate floods of money into Russia’s coffers in the near term, which is likely why Putin remains so heavily focused on sanctions relief. Putin has no other viable options for obtaining resources on a large scale. A significant increase in the price of hydrocarbons—either oil or natural gas—would once again flood Russia with cash. But Putin has no obvious way of directly causing such an increase in the price of oil, since Russia’s share of the oil market is not large enough to allow him to force price increases on OPEC. His ability to manipulate the price he charges Europeans for natural gas is also constrained. If he raises it too high, he could drive the Europeans to search harder for alternative sources of fuel or, given the Trump Administration’s willingness to export American liquefied natural gas (LNG), to rely on the U.S. instead of Russia. Such a European turn away from Russian gas would be a disaster for Russia. Without the ability to export LNG on a large scale, Russia can only sell gas where the pipelines go—and right now, they go to Europe. Russia could expand cooperation with China to create another major source of cash. Putin is very likely aware of the long-term risks of growing Chinese influence over Russia and its neighbors, yet he still may pursue greater economic ties with Xi Jinping’s China, given the likely calculation that he can control this relationship in the near term. Even so, Chinese cash usually comes with a heavy non-cash price, and Putin is savvy enough to be wary of becoming too dependent on Beijing’s largesse. Russia’s economy is therefore likely critical but stable. None of the economic efforts Putin has put into effect will fix the Russian economy’s fundamental structural flaws. All are palliatives with half-lives. Putin lacks a meaningful plan in this sense—nothing he is saying or doing will create a stable economic basis for Russia’s future. Neither, on the other hand, is Russia heading for a crash. The current level of economic stagnation is likely stable and sustainable—a constraint on Putin’s ability to expand his conventional capabilities and use economic instruments of power abroad, but not a threat to his rule. Russia has been a relatively poor country for much of its history. Yet it has proved capable of asserting itself on the European or global stage for most of that time. Russians are used to being a “poor power”; this is a normal state. These realities do not undercut the value of Western economic pressure on Russia; they should, rather, help set the proper objectives and expectations in applying such pressure. Retaining power constitutionally and managing a succession are the last major domestic campaigns in which Putin is engaged. Putin faces a significant watershed when his current presidential term ends in 2024, as he is constitutionally prohibited from running for re-election again in that cycle. He faced this dilemma in 2008 and chose then to allow Dmitrii Medvedev to become president while he retained effective control of Russian policy from the post of prime minister. He could pursue a similar model in 2024, but it is unlikely that he will do so. Among other things, Medvedev appears to have made at least one decision of which Putin violently disapproved—the failure to veto the UN resolution authorizing intervention in Libya against Moammar Ghaddafi—but he chose not to stop or reverse it. His ability to continue to control Russian policy and, even more, manage his succession from a position nominally subordinate to even a puppetlike president could also become more problematic as he ages. Putin could always cause the Duma to adjust the constitution again to let him run for another term, but he has not been laying the groundwork for such an approach (although it is admittedly early days yet for such an action). He might be pursuing an effort that offers a more interesting potential resolution to the dilemma in the form of further implementation of the Union Treaty with Belarus. He has been actively “negotiating” with Belarusian President Alexander Lukashenko to create a full integration of the Russian and Belarusian armed forces and security services, bringing Belarus nearly completely back under de facto Russian control.61 Belarus would nevertheless remain a nominally independent sovereign state. The integrated forces would function under the rubric of a union of the two states, which would naturally have a president. Putin might shift to that role, retaining full control over the security apparatuses of both states, as well as the dominance he holds by virtue of his control of Russia’s economy and kleptocracy. He could then allow a puppet to take over as Russia’s president but now in a role subordinated to him rather than nominally superior to him. External Objectives Putin has been as explicit as it is possible to be in his overarching foreign policy aims: he seeks to end American dominance and the “unipolar” world order, restore “multipolarity,” and reestablish Russia as a global force to be reckoned with. He identifies NATO as an adversary and a threat and clearly seeks to weaken it and break the bonds between the U.S. and NATO’s European members. Breaking Western unity is thus one of Putin’s core foreign policy objectives. Three major lines of effort support this undertaking: invalidating the collective defense provision of the North Atlantic Treaty (Article 5), weakening or breaking the European Union, and destroying the faith of Western societies in their governments and institutions. Article 5 of the North Atlantic Treaty states that an attack on one member of the alliance is an attack on all, with the requisite defense commitments. The provision’s activation is far from automatic, however. A member state under attack must request support from the alliance whose political body, the North Atlantic Council (NAC), must then vote unanimously to provide it. The alliance has activated Article 5 only once, as noted above, and on behalf of the United States. Putin is working to ensure that it is never activated again. Putin can achieve this by creating a situation in which one or more member states votes against a request to activate Article 5, or in which a member state under attack does not request such a vote for fear that it will fail. If a state under Russian attack does not seek or fails to secure the alliance’s support, then the collective defense provision that is the bedrock of the alliance will have been weakened badly if it has not collapsed entirely. Putin’s efforts to secure Hungarian and also Italian support to end the renewals of EU sanctions help him in this undertaking as well, since both Hungary and Italy are NATO members. Hungary’s Viktor Orban in particular is so overtly pro-Russian that he could well seize on any doubt about the reality of a Russian hybrid intervention to refuse to vote for an Article 5 activation. Putin has acquired a potentially more interesting route to Article 5 nullification, moreover, in his entente with Turkey, also a NATO member, over Syria. His noteworthy failure to respond to the downing by the Turkish Air Force of a Russian fighter that crossed the Turkish border in 2015 has paid dividends. His efforts to sell the Turks the S-400 system are also advancing the aim of driving a deep wedge between Ankara and Washington. Erdogan’s suspicions that the U.S. backed the failed 2016 coup against him make very real the possibility that he would come before even Orban in refusing to vote for an Article 5 action in the case of a hybrid campaign in Latvia, for instance. The question of how much Putin seeks to destroy the collective defense provisions of the NATO treaty rather than simply to regain formerly Soviet territories should loom large in considerations of possible military scenarios. The direct deployment of regular, uniformed Russian armed forces personnel in one of the Baltic states would make it very difficult for any NATO member state to refuse to honor a request to invoke Article 5. Erdogan, Orban, or some other leader might still find a way, but the pressure to show alliance solidarity in such a situation would be intense. A Crimea-type scenario, then, in which the hybrid war starts with “little green men” (Russian soldiers out of uniform) but then escalates quickly to the use of conventional Russian military personnel, with their equipment and insignia, is much less likely if Article 5 is the target. A better Russian approach in that case would be the model Putin used in eastern Ukraine: Russian soldiers out of uniform work with local proxies, some already existing, others created as they go along, and try hard never to show themselves overtly.62 Russian information operations work around the clock to obfuscate emerging evidence of any Russian military presence, while the Kremlin praises the brave warriors of the Russianspeaking patriots within the target state, who are surprisingly well armed and well led. In such a case, Putin is more likely to attempt to leverage an insurgency (which he probably created) to break the government and create chaos of some sort than to move to overt deployment of conventional forces—at least until he is as sure as he can be that even such a deployment would not rouse the alliance to invoke Article 5 at the last moment. He might well accept or even prefer an ostensible “failure” to gain control of the target country (at that time) in return for making obvious to all that NATO is dead. After all, once the collective defense provisions of the alliance and the Western will to defend the Baltics are destroyed, Putin can pick them off at his leisure. Weaken or break the European Union. Putin has been energetically supporting Euroskeptic parties for many years—his financial aid to Marine Le Pen in France is the most ostentatious example, but there are numerous others.63 He stands to benefit from weakening or breaking the European Union in several ways. First, the EU is an exclusive economic club that Russia will be unable to join in Putin’s lifetime. The corruption and opacity of the Russian economy are too deeply established for Putin to imagine a time when Russia might meet the standards for EU membership—and Putin relies on this corruption and opacity, as we have noted, for continued control over the major economic actors in Russia. Nor is he likely to desire such membership. Sitting around a table on an equal basis with Luxembourg and Belgium is not appealing to a man who aspires to be one of the poles in a multipolar world. But the EU collectively wields great economic power through its ability to control trade with the bloc and impose sanctions. Putin would do much better in a Europe where he could negotiate and pressure individual states on a bilateral basis—and a Europe that was unable to impose multilateral sanctions on him and require all member states to abide by them—and he appears to understand that. Second, the Euroskeptic parties are generally extremely nationalistic. The reemergence of nationalism within Europe poses an enormous challenge to the stability of intra-European relations and could even undermine the long peace that has held in Western Europe since 1945.64 It would likely translate into conflict at the North Atlantic Council and could well drive increased tensions between individual European countries and the United States. Putin appears to be untroubled by the prospect of a reemergence of German nationalism, even though that ideology historically has targeted Russia. He may believe that the benefit of shattering the Western bloc outweighs risks that he likely expects to be able to handle in other ways. Weakening Western will and trust in democratic institutions is another line of effort Putin is pursuing to break the Western bloc. His interference in the Western political systems and information space is intended to destroy Westerners’ trust in their governments and in the idea of democracy, as much as to bring about the election or defeat of particular candidates—if not more so.65 He is explicit in his attacks on the Western political system: “Even in the so-called developed democracies, the majority of citizens have no real influence on the political process and no direct and real influence on power,” he said in 2016, adding that “it is not about populists … ordinary people, ordinary citizens are losing trust in the ruling class.”66 This effort benefits from trends in Western societies that were already undermining popular faith in institutions. Americans’ confidence in institutions generally has dropped by about 10 percent from its post–Cold War high in 2004.67 The Iraq War, the 2008 financial crisis, and revelations of classified U.S. surveillance programs, among other things, have eroded Americans’ trust in institutions almost across the board. The military is a remarkable exception to this trend. The massive, unauthorized release of classified materials by Edward Snowden was particularly important in this regard, as it has cemented the erroneous impression that the U.S. government was listening to the phone calls and reading the e-mails of all its citizens and those of many other countries. That impression has widened the wedge between some major technology companies and the government, hindering the development of a national cyber-defense capability and even the government’s ability to contract for advanced software.68 It is not surprising that Snowden ended up in Moscow or that Putin has granted him asylum. Snowden advanced a major Russian line of effort, apparently without any orders from Putin. These negative trends in the West have created openings that Putin is working to exploit by compromising elections, supporting extremist candidates, and pursuing aggressive information operations that stoke divisions and mistrust within Western societies. Establishing Russian suzerainty over the states of the former Soviet Union is a second major foreign policy objective. Suzerainty is “a dominant state controlling the foreign relations of a vassal state but allowing it sovereign authority in its internal affairs.”69 It is the most precise way of capturing Putin’s aims vis-à-vis the former Soviet states and the limitations of those aims. He is not attempting to reconquer the lost territory nor to govern it directly from Moscow. He has asserted, rather, that the world must recognize that post-Soviet states have only a truncated sovereignty over their own affairs. They may not freely join alliances such as NATO or economic blocs such as the EU without Moscow’s permission, for example. Putin further claims that Russia has the right to protect Russian speakers in those states against oppression or discrimination (as defined and determined by Putin), and that it may use military force to do so. Assertion of the right to defend Russian speakers abroad is not Putin’s innovation. Boris Yeltsin’s government articulated it in the early 1990s, but Yeltsin never acted on it.70 Opposition to NATO’s expansion also originated in the Yeltsin era, and the 1997 National Security Concept identified such expansion as a “national security threat.”71 But whereas Yeltsin nevertheless continued to try to work with NATO and establish a relationship with it, Putin has been frankly antagonistic toward the alliance. The actual expansion of NATO to include the three Baltic states as well as Romania, Bulgaria, Slovakia, and Slovenia in 2004 was likely a tipping point in Putin’s attitudes. The critical nuance to consider is that Putin has always been more concerned about the loss of control over Russia’s perceived sphere of influence than an actual NATO threat to Russia.72 NATO expansion coincided with the first of the “color revolutions” in Ukraine, which clearly fueled Putin’s fears that the former Soviet states were at risk of slipping entirely out of Moscow’s orbit. Putin initiated active efforts to regain control over the former Soviet states shortly after he took office in 1999-2000, but it took several years before he adopted a more combative tone and aggressive policies. Putin’s speech before the Munich Security Conference in 2007 and then his invasion of Georgia in 2008 underscored this overt turn.73 He has clearly made it a priority to ensure that no more former Soviet states join NATO or the EU, while working to undermine the bonds linking the Baltic states to the alliance. Putin’s claims to suzerainty over the former Soviet states have been met with ambivalence in the West. Russia experts and others often defend the assertion of a unique Russian sphere of influence over those states on historical or geopolitical bases.74 Even the seizure and annexation of Crimea has been presented as somehow ambiguous. Putin’s argument—that Soviet Communist Party secretary general Nikita Khrushchev’s transfer of the region from Russia to Ukraine was an internal matter that should not have led to the peninsula’s inclusion in an independent Ukraine—has gotten a surprising amount of traction in the expert community.75 Examined closely, however, Putin’s claims over the former Soviet states are completely indefensible. All 15 of the Soviet Socialist Republics, including Russia, were recognized as sovereign states after the USSR collapsed, and they were admitted to the UN on an equal basis with all other UN member states. The Russian Federation recognized them all and their UN accessions without reservations. The subsequent complaints by Yeltsin’s foreign minister, Yevgenii Primakov, and then Putin, about the folly of Yeltsin’s decisions to do so does not change or invalidate those decisions.76 The 15 former Soviet states thus have all the same rights as every other member of the UN—including the right to make such alliances and join such blocs as they choose without needing the permission of another power, and the right to govern their own people, including minorities, as they wish. It is ironic, to say the least, that Putin vigorously defends Assad’s right to conduct horrifying atrocities against his own people on the grounds of sovereignty, while claiming that alleged discrimination against the use of Russian language in post-Soviet states justifies his own military intervention in those states. Russia can certainly decide that the shift of post-Soviet states into the NATO or EU orbit poses such a significant threat to its security and interests that it must use force to stop or reverse it, just as any sovereign state can see threats in the actions of its neighbors and decide that it must respond with force. But the resort to force in such circumstances is aggression, not a defensive move, and must be regarded and treated as such by the international community. Accepting the Russian argument that Moscow has an inherent right to intervene, including militarily, in its neighbors based on their treatment of their Russian minorities or their intentions to join alliances is a truncation of their sovereignty that undermines the entire basis of international law and the UN Charter. Putin is actively working to establish precisely that principle as a matter of international norm and is making a distressing amount of progress. Both Yeltsin and Putin have retained Russian suzerainty over some post-Soviet states in legal and legitimate ways as well. Russian ground and air forces have remained in Armenia, Tajikistan, and Kyrgyzstan almost continuously since the fall of the Soviet Union at the invitation of the governments of those states. A small Russian military contingent also remains in Moldova in more ambivalent circumstances. The government in Chisinau does not welcome its presence and the parliament has called on it to depart, but the Moldovan government has not formally ordered the Russians to leave.77 These deployments give Russia significant influence in the Caucasus, eastern Central Asia, and Moldova. The deployment in Tajikistan also creates a platform for Russian engagement and interference in Afghanistan. The situation in Belarus is the most worrisome of the legal reconsolidation efforts because of the strategic impacts it could have on NATO’s ability to defend the Baltic states (see Appendix I for a more detailed consideration of this problem). Negotiations currently underway could lead to the merging of the Russian and Belarusian armed forces and the technical subordination of the governments of Russia and Belarus to some new Union State. It is tempting, as we have noted, to imagine Putin taking control of this new combined polity after the end of his current presidential term, thereby finding an elegant solution to the constitutional problems of extending his reign. Returning Russia to the status of a global power shaping the international system is the last major external objective Putin is pursuing. Several lines of effort support this objective: Regain a global military footprint. Putin has been working to regain parts of the Soviet global military position lost in the late 1980s. A principal aim of this undertaking is to impose increasing costs on America’s efforts to continue operating around the world as it chooses and to offset part of the huge financial deficit holding Putin back from pursuing his larger aims. It is not meant to create platforms for global or even major regional wars, still less to advance an ideology (one of the Soviet objectives in creating the footprint in the first place). Putin’s establishment of a long-term air and naval base in Syria was the first significant step in this effort.78 He has also been cultivating the leaders of other states that were formerly Soviet clients and partners, including Egypt, Libya, Iraq, Sudan, and Cuba.79 In addition, he has recently added to the list by deploying Russian mercenaries (at least) in Venezuela and solidifying an entente with Iran that the Soviet Union never had.80 The Russian armed forces and/or mercenaries are now openly operating out of bases in Syria, Ukraine, and Venezuela. Russian PMCs have also reportedly been operating in Sudan, Central African Republic, and Libya.81 Russian forces have episodically used bases in Iran as well.82 This footprint is far smaller than the Soviets’, but is a dramatic change from Russian policies and capabilities between 1991 and 2013. Indications are that Putin intends to expand further using the sale of advanced weapons systems as the entry wedge. One major reason the U.S. is unwilling to give Turkey the F-35 if Ankara proceeds with the Russian S-400 air defense system purchase is that Russian technical specialists would be stationed in Turkey with its deployment. For the U.S., the military implications of these efforts are complex. The Russian military does not now have the capability to deploy large enough numbers of advanced offensive conventional weapons systems to bases beyond its borders to challenge a major American military effort to destroy them. The defensive systems, especially advanced A2/AD systems like the S-300, S-400, and Bastion anti-ship cruise missile system pose much greater challenges.83 But the U.S. military could defeat the limited numbers of such systems the Russians have emplaced in Syria and might emplace elsewhere if it chose to allocate the necessary resources. The most immediate consequence of the expanded Russian global conventional footprint, then, is the requirement that the U.S. and its allies ensure the availability of the forces that might be needed to handle the Russian systems. That resource requirement is significant. Neither the U.S. nor NATO has anticipated having to fight in the Mediterranean since the end of the Cold War, and the alliance does not have the necessary assets permanently allocated to respond to such a threat. It has instead generally used the resources that would be needed to counter Russian positions to conduct counter-terrorism operations throughout the Middle East and North Africa (MENA) region. The Russian deployments thus force on the alliance, in the event of an escalation with Moscow, the choice of reducing counter-terrorism operations, reallocating forces from the Indo-Pacific theater (not really an option in the current geostrategic environment), or creating and deploying new forces to deal with the emerging threat. In this context, the loss of Turkey as a reliable U.S. partner is very damaging. The Turkish air force is significant in its own right, although it is still recovering from Erdogan’s post–coup attempt purge, and the ability to use Turkish bases for operations against Russian positions in Syria would be strategically very significant.84 But the burgeoning Russo-Turkish entente means that the U.S. and NATO cannot count on Ankara in a showdown, further raising the requirement to develop and deploy new resources. The Russian deployments in Syria, Venezuela, and elsewhere are, in fact, part of a hybrid operation aimed not at preparing to fight a conventional war, but rather, at persuading the U.S. and its allies to withdraw from the threatened regions or limit their operations. Putin likely aims to increase both the risk and the cost of continuing to conduct military operations in the MENA area to a level at which the U.S. yields to its ever-growing impulse to pull back from the region entirely. This operation is surely also aimed at securing economic resources. Recent Russian deployments to Venezuela have gone to key oil-producing areas, and Putin’s financial interactions with Nicolas Maduro are well reported.85 Russian forces in Syria are also supporting Putin’s efforts to gain at least partial control over the reconstruction resources expected to flow into that country if ever he can persuade the international community to send them.86 Putin’s Syria campaign has already helped leach resources for his inner circle. For example, a Russian company run by Yevgeniy Prigozhin, a close Putin associate central to Russia’s attack on the U.S. political system, secured a stake in Syrian oil and gas fields via the Assad regime.87 It is vital in assessing Russia’s apparent reconstruction of the Soviet global military posture to recognize the essential differences in aims driving Putin from those motivating the Soviets. Putin intends to raise the cost to the U.S. of being a global power to levels higher than he thinks Americans will wish to pay. The U.S. must recognize the limitations of his ambitions in this regard as it develops intelligent responses at reasonable cost, even while being clear-eyed about the real threats Russia’s expanding global footprint present. Normalize Russia’s violations of international law. The Russian cyberattack against Estonia in 2007; invasion of Georgia in 2008, with the subsequent annexation of the Georgian territories of Abkhazia and South Ossetia; invasion of Ukraine in 2014; deliberate attacks against civilians in Syria; defense of Assad’s use of chemical weapons and other crimes against humanity; chemical-weapons attacks on Russian expatriates in the UK; and seizure of Ukrainian naval vessels and personnel attempting to transit the Kerch Strait are all violations of international law. Russia has paid virtually no price for any of them except the invasion of Ukraine. On the contrary, Putin has positioned himself as a mediator in Syria (although not a successful one) by convening a pseudo–peace process in Astana that competes with the internationally recognized Geneva Process (which has also been unsuccessful, to be sure). Putin continues to portray Russia as a mediator even in the Ukraine conflict where he is a belligerent. He successfully obfuscated the illegality of his actions in and beyond the Kerch Strait, and has deflected some of the opprobrium his activities in Syria deserve by accusing the U.S. of supporting terrorists and the Syrian opposition of conducting the chemical weapons attacks.88 The expulsion of Russian officials—including intelligence officers— by the U.S., UK, and other states in response to the chemical weapons attacks in Britain was hardly a crippling response.89 The net result of these repeated violations of international law that do not result in meaningful consequences is their normalization. Each one establishes a precedent that Putin can and will then use to defend similar or even more aggressive activities. If the West accepted the clearly illegal seizure of Ukrainian ships in international waters near the Kerch Strait, how will it react if Russian forces seize some other ship on a trumped-up pretext while it attempts to transit the opening Arctic shipping route? Having taken no action against Russia for its defense of Assad’s use of chemical weapons, how would the West respond to a covert Russian operation to use chemical warfare in Ukraine while attributing the incident to the Ukrainian or a Western government? The principled answer is that, of course, failure to act in one case does not preclude action in subsequent cases. If the West has not responded adequately to most of these Russian transgressions, neither has it explicitly condoned them—yet. That is a line that we must be very wary of inadvertently crossing. Imagine an unlikely but not an impossible situation in which Ukraine’s President Volodymir Zelensky, elected in April 2019, asks the U.S. and the EU to waive Russian sanctions for Ukraine—or lift them altogether—as part of a deal he is negotiating to “end the conflict” in his country. It would be difficult to resist such a request since ending wars is desirable, especially if it can be done with the apparent acceptance of both sides. The net effect of endorsing such a deal, however, which would surely leave Crimea in Russia’s hands and eastern Ukraine in a changed political relationship to Kyiv, would be to endorse retroactively the violations of international law Putin committed in 2014. Doing so would indeed establish a precedent that Putin can impose his will on other states as long as he subsequently succeeds well enough to convince or coerce those states into recognizing his actions. There is, of course, no new principle at work here. It has always been true in the modern states system that a successful aggressor can have his aggression legitimized by a subsequent peace agreement, even one forcefully imposed on the defeated state. The novelty in this situation is twofold. First, Russia has not been universally identified as the aggressor— Putin’s efforts in Ukraine are not generally accepted as the offensive land-grab they actually were—and Putin’s role in any deal would be as mediator rather than belligerent. It is one thing to accept that Putin launched, waged, and won a war of aggression, the outcome of which the defeated state chose to accept; it is another to say that he facilitated and mediated a peace agreement in a conflict to which he was not actually party, when, in fact, he initiated it and directly benefited from it. Second, the principle at issue goes beyond the straightforward one of legitimizing a forcible conquest—it also touches on the nature of the post-Soviet states’ sovereignty. Putin has asserted, as we have argued, that Russia has the right to intervene by force in any of the post-Soviet states and the international community has no right to interfere (including even by offering an opinion). Recognizing his activities in Ukraine ex post facto recognizes this principle as well. It establishes as a firm precedent, reinforcing the precedent already established by the invasion of Georgia, that there are degrees of sovereignty in the international community and that some states are more sovereign than others. Putin is clearly attempting to establish precisely that principle. The West must resist the temptations he may offer to allow him to do so. Create a constellation of alliances and friendly states that gravitate toward Russia. Putin has been working hard to create multiple blocs and groupings of which Russia is either the sole center or one of a small number of core states, as an alternative to the U.S.-dominated international order he so opposes.90 Few of these individual efforts have been particularly effective, nor is it clear that the sum of them will result in a truly Russia-centric constellation of states. But the tenacity with which he has pursued this objective and the sheer number of attempts to reach it demonstrate, if nothing else, the importance he seems to attach to it. Some of these groupings offer Russia little inherent influence. BRICS (Brazil, Russia, India, China, South Africa) began simply as an acronym to describe major emerging markets, for example. It has no formal decision-making process, nor are its members aligned with one another on political or economic policies. It has no military component at all. Some, such as the Shanghai Cooperation Organization (SCO) require Russia to compete with China for predominant influence.91 That competition is not going well for Moscow, at least in the case of the SCO, leading Putin to de-emphasize this forum for the moment. Some, like the Eurasian Economic Union, remain largely aspirational. They have not yet established themselves as meaningful associations through which Russia could hope to exert influence now, nor is it clear that they will gain more significance over time—although Putin continues to work at it.92 Others are operational and meaningful. The Astana Process tripartite has not brought peace to Syria, but it has helped establish Putin at the heart of a triad with Iran and Turkey that is shaping Ankara’s drift away from NATO and toward Moscow. The Quartet Intelligence Center has not yet integrated the Iraqi military or government into the Russian orbit as fully as Putin might like, but it gives form to the very real military coalition of Russia, Iran, and Syria that is fighting in Syria.93 Still others, such as the Collective Security Treaty Organization (CSTO) and the Commonwealth of Independent States (CIS) are largely moribund at the moment, but the Union Treaty with Belarus had also been dormant almost since its creation in the 1990s, and Putin is attempting to reify it.94 We cannot discount the possibility that he may do so with one of the other agreements that are legacies of the 1990s. The purpose of laying out these various efforts is not to suggest that they are likely to succeed, or that their success would have dire consequences for American national security—it might or might not, depending on the circumstances. The purpose is, rather, to demonstrate again the coherence between Putin’s stated grand strategic vision and the undertakings the Russian state is pursuing to achieve it. Putin’s goals are antithetical to the security and national interests of the United States and its allies. We must prevent him from achieving them, without resorting to major war if at all possible. We turn next, therefore, to the means by which Putin and his subordinates pursue his aims—an examination that will show the tremendous challenges his methods pose, on the one hand, and the opportunities to respond with means well short of war, on the other. THE RUSSIAN WAY OF WAR The Russian way of war today is based on recognition of Russia’s fundamental weaknesses and the fact that Russia is not a near-peer of the U.S. and will not become one any time soon. It is designed to achieve Moscow’s objectives without fighting a major war against the West that Russia would likely lose if it did not escalate to using nuclear weapons.95 Its technological emphases have therefore been on less-expensive and asymmetric capabilities such as information operations, cyber operations, A2/ AD systems, and nuclear systems. Its intellectual development has focused on the category of political-informational-military activities encapsulated in the terms “hybrid war” or “gray zone” conflict.96 Russia is optimizing itself to fight a poor man’s war because it is poor and will remain so. Putin is sufficiently in contact with reality to know that he will fail if he attempts to regain anything approaching conventional military parity with the West. Assessing the novelty of this Russian approach is difficult. None of the concepts or technologies on which it relies is new or unique to it. Most of the key intellectual framework goes back to the early days of Soviet military thinking. Some can be traced back centuries to Sun Tsu. Nor has Russia abandoned traditional military approaches and conventional capabilities. It would be both wrong and dangerous to ascribe to Russia the invention of an entirely new way of war that is the only way in which it will fight now, or in the future. There are nevertheless important differences between the current Russian approach and the approach that characterized Russian military and national security strategy and doctrine in the 2000s and the 1990s, to say nothing of the Soviet period. The differences lie partly in emphasis and partly in the degree of intellectual development of certain concepts at the expense of others. It would be equally wrong and dangerous, therefore, to see the current Russian approach to war as the same as, or even congruent with, all of the post-Soviet period. The Russian military in the 1990s and 2000s focused largely on acquiring the capabilities it most envied in the stunning conventional American military victories against Iraq in 1991 and 2003. It sought to acquire long-range precision-strike capabilities that the Soviet military never had, stealth technology, and tanks and aircraft roughly equivalent with the mainstay technologies of NATO countries.97 It also sought to transform itself from a mass cadre-andreserve conscript force into a volunteer professional military, recognizing the tremendous value the U.S. transition to the all-volunteer force had brought on the battlefield.98 It has managed to achieve only partial success in most of these measures after nearly three decades. It has re-equipped many, but by no means all, of its combat units with weapons systems roughly equivalent to American fourth-generation aircraft (such as the F-15E Strike Eagle), M1 tanks, etc. It has struggled to field a force of fifth-generation aircraft and is unlikely to build a large enough arsenal of such aircraft to pose a serious challenge to American capabilities in any short period of time.99 It has acquired and demonstrated the ability to employ precision weapons, including long-range precision missile systems. Its mix of those systems and “dumb bombs” in Syria, however, was more similar to the mix the U.S. used in 1991 than to the mix American forces use today—the large majority of Russian munitions dropped in Syria were not precision-guided munitions because the Russian stockpiles are not large enough to support their widespread employment.100 The Russian military has notably failed to transition fully to an all-volunteer force, moreover, and has given up the effort. It has become, therefore, a segmented force with a volunteer element (so-called contract soldiers) and a large body of conscripts serving one-year terms (half the two-year service requirement for conscripts in the Red Army). This partial professionalization will continue to exercise a drag on its ability to complete its modernization programs; one-year conscripts simply cannot learn both how to be soldiers and how to use very advanced modern weapons systems. Russia’s modernization efforts lurched dramatically in 2008 with the appointment of Anatolii Serdyukov as defense minister.101 Serdyukov’s mandate was to reduce the cost of the Russian military significantly in response to the collapse in global oil prices resulting from the global financial crisis. He sought to make major personnel cuts, to restructure weapons system acquisition, and to reorganize the military, especially the ground forces, in a way that would have severely degraded its ability to conduct large-scale conventional warfare without optimizing it for any other sort of warfare. Serdyukov’s successor, Sergei Shoigu, along with Chief of the General Staff Valeriy Gerasimov, have reversed many, but not all, of those reforms. It is important to note, therefore, that some of the changes being made to the Russian military that enhance its ability to fight maneuver war are reversals of changes made in 2008 for cost-cutting purposes, rather than new improvements on an already-sound structure. The emphasis in Russian military development has changed significantly since the start of Russian involvement in Ukraine in 2014 and Syria in 2015. Gerasimov published a noteworthy article in 2013, discussion of which in the Western press gave rise to the phrase “Gerasimov doctrine.”102 The author of that phrase subsequently not only retracted it, but also aggressively attacked the idea of its existence.103 As with “hybrid war” and “gray zone,” this paper will not attempt to defend or attack the validity of the term, but will explore the collection of concepts and actions to which it could meaningfully be said to apply and that do actually comprise the current Russian approach to war.104 The heart of this approach is the conclusion that wars are won and lost in the information space rather than on the battlefield. Russian military thinkers have gone so far as to argue that every strategic, operational, and even tactical undertaking should be aimed first at achieving an effect in the information space, and that it is the information campaign that is decisive.105 Formal Russian doctrine has not gone this far, nor has Russian military activity on the ground, but the extreme statement is a measure of how important the concept is.106 The importance of information operations is old hat for any Sovietologist. The Soviets were renowned for the “active measures” of the KGB, for “disinformation” and various efforts to suborn groups in the West, sometimes unwittingly, to advance their ideological and concrete agendas. The Soviet military evolved an elaborate theory of deception, bringing the term “maskirovka” into common parlance among those who studied it. The Soviets also built out a concept called “reflexive control” that is the most noteworthy element of Putin’s ability to play a poor hand well.107 Reflexive control is a fancy way of saying “gaslighting.” It is the effort to shape the information space in which an adversary makes decisions so that he voluntarily chooses to act contrary to his own interests and his own benefit—all the while believing that he is actually advancing his own cause. Reflexive control is a form of intellectual jiu-jitsu, which may be one reason it appeals to Putin, who is a long-time and high-level practitioner of the Russian form of judo known as sambo.108 It uses the enemy’s strength against him in the best case, but at least causes him to avoid bringing his strength to bear against you. None of this, again, is new. Even the additions of cyber operations and cyber-enabled information operations such as bots and troll farms are not new or unique to the Russian approach to war. The novelty comes in part from the relative emphasis in Russian operations on efforts to shape the information space and the frequent subordination of conventional military operations and the threat of such operations to those efforts. Another novel aspect is the vulnerability of Western societies to these kinds of efforts, resulting in part from the effects of changes in the technological shape of the information space and the way in which it interacts with the psychology and sociology of Western individuals and societies. The current information environment favors the attacker over the defender for several reasons. The extremely widespread penetration of the internet in Western societies gives an attacker almost universal access to the population, unfiltered by government agency or corporate leadership. The anonymity made possible by the internet makes it difficult or impossible for individuals to know who is speaking to them. The decentralization of sources of information magnifies the effect of that anonymity by allowing it to seem that multiple independent sources verify and validate each other even when a single individual or group controls all of them. And the psychological asymmetry of outrage and retraction means that corrections and fact-checking almost never fully undo the damage done by a false accusation and often have little effect. These characteristics of the modern information space have created the ideal environment in which ideas first developed and attempted by the Soviets can flourish in ways the Soviets could never have imagined. We must be careful to avoid attributing too much brilliance to Putin and Gerasimov. It is not necessarily the case, or even likely, that they perceived the opportunities these phenomena would present and skillfully designed a “doctrine” to take advantage of them. On the contrary, they and their Russian and Soviet predecessors have been trying to make these approaches work all along. The increased intellectual, doctrinal, and organizational emphasis on them, starting overtly in 2015, likely results instead from the realization that they were suddenly working very well. As with all important military innovations, therefore, the emergence of the current Russian approach to war was almost certainly the result of theory, action, experience, and reflections on interactions with the adversary rather than a sudden explosion of insight. Whatever its origins and novelty or lack thereof, this Russian approach has allowed Putin to make gains he could never have hoped to make with conventional military forces alone.109 Syria is a case in point. Russia could never have established a lodgment on the Syrian coast and then expanded it to encompass a naval facility, a permanent and expanded military airbase, and a ground forces garrison—all protected by advanced air defense systems—through conventional military operations, against the wishes of the U.S. and its allies. Russian aircraft flying to Syria must transit either NATO airspace (through Turkey or Romania or Bulgaria and then Greece) or Iraqi airspace (via Iran) that the U.S. dominates. Had the U.S. been determined to prevent Russian planes from getting to Syria, the Russian Air Force could not have penetrated the defenses the U.S. and its allies could have put up. But the U.S. and its allies made no such decision. They have, on the contrary, worked hard to avoid any risk of military confrontation with Russian aircraft—a project made challenging, not unironically, by the periodic aggressiveness of Russian pilots. The prospect of a Russian naval expedition forcing its way into the Tartus naval facility in the face of efforts by the U.S. Sixth Fleet to stop it is even more fanciful. The key to Putin’s success in this gambit lay in his ability to persuade American and NATO leaders that Russia’s military presence in Syria was not a threat and might even be helpful—while simultaneously stoking the belief that any U.S. effort to oppose or control the Russian deployment would lead to major, possibly nuclear, war. The key to that success, in turn, lay in the fact that neither the Obama nor the Trump administration wanted to be in Syria or wished to fight any kind of conflict with Russia. President Obama, on the contrary, invited Putin into Syria in 2013 to help him out of the trap he had created by announcing that any further use of chemical weapons by Assad was a “red line”—without actually being willing to enforce that red line when Assad crossed it. Obama’s decision to reach out to Moscow likely resulted in part from the long bipartisan trend of seeking to “reset” relations with Russia, bring Russia back into the fold of responsible international stakeholders, and generally return to what Americans saw as the golden age of U.S.-Russian cooperation in the 1990s. This trend began in the first years of the George W. Bush administration, shortly after Putin’s accession to power. It continued with Hillary Clinton’s vaunted push of the “reset” button and Donald Trump’s praise for Putin and continued attempts to find ways to cooperate with him toward supposedly common objectives.110 The conviction that a Russian reset and a return to the golden years of the 1990s is just one phone call or summit away has become one of the few truly bipartisan foreign policy assumptions in this increasingly polarized era. Putin has used it skillfully to advance his own projects while offering few or no concessions in return. Conventional military forces play a critical role in the Russian approach to war nevertheless. Russian airpower and long-range precision-strike capability were critical to preserving, stabilizing, and then expanding the Assad regime and the territory it controlled in Syria. Iran, Lebanese Hezbollah, and the other components of the pro-regime coalition all lack similar capabilities. The hardening of opposition defenses in various parts of Syria before the Russian intervention raised the requirement for continued regime offensive operations beyond what the pro-regime coalition could provide.111 The Russian intervention was therefore essential to the survival of the regime and remains essential to its precarious stability and to any hope it has of regaining control of the rest of Syria. The very limited deployment of a few dozen aircraft and salvoes of long-range missiles made Russia indispensable to the pro-regime coalition and gave Putin enormous leverage in Syria at relatively low risk and low cost. The deployment of Russian S-300 and S-400 anti-aircraft systems to Syria dramatically increased that leverage, again at very low risk and cost. The American military could destroy those systems and operate freely over Syrian airspace even against Moscow’s wishes, but the cost in U.S. aircraft and missiles devoted to the operation, in time, and possibly in casualties and aircraft losses would be significant. The range of the S-300 and the reported locations at which launchers were deployed, moreover, means that most Israeli Air Force and some Turkish Air Force aircraft are within range of those systems the moment they take off from airbases in Israel and Turkey. That fact has not been lost on Israeli or Turkish leaders. Putin has also used conventional military forces on a limited scale in Ukraine. He relied on the naval infantry forces already deployed in Crimea, reinforced by small numbers of special forces and other units, to seize control of that peninsula in 2014. Small numbers of conventional forces battalion tactical groups and similar-sized formations helped local proxies seize and hold ground in eastern Ukraine, while highly skilled special forces elements supported them in the battle area and in the rear of the Ukrainian forces.112 Russia has provided air defense capabilities and significant electronic warfare support to its Ukrainian proxies and also to its fighters and allies in Syria. The highly targeted assistance of Russia’s conventional military is probably even more essential to Putin’s proxies in Ukraine than in Syria. The Ukrainian Armed Forces are likely to regain control over the Russian-occupied territories in Ukraine if the Russian military stops supporting its proxies on the battlefield. The current Russian way of war, therefore, truly is hybrid. It requires the use of limited numbers of highly capable conventional forces able to conduct expeditionary operations beyond Russia’s borders. However, it also relies on the creation and maintenance of a political and information environment that facilitates the presence and activities of those forces without serious opposition from any state or actor that could meaningfully challenge them. The conventional forces themselves are enablers to a larger political-informational campaign rather than being the main effort. Evidence for that assessment lies in Putin’s response to the several occasions on which his conventional forces suffered losses— specifically, the Turkish downing of a Russian aircraft in 2015; the accidental downing of another Russian plane by Syrian forces during an Israeli airstrike in 2018; and the killing of several hundred members of the Wagner PMC during an attack by that group on an outpost in eastern Syria held by the opposition, where American advisers were also present.113 Washington and the world held their breath in each case, worrying about Putin’s possible response. The U.S. Chairman of the Joint Chiefs of Staff, General Joseph Dunford, reached out immediately to Gerasimov to send messages of both deterrence and de-escalation each time.114 Putin did not retaliate militarily on any of these occasions. He responded to the Turkish shoot-down by deploying Russian S-300 systems operated by Russian troops, and to the Syrian shoot-down by completing a contract with the Assad regime for S-300 systems of its own, which had long been held up. He made no meaningful response to the Wagner incident and did not even use his air defense systems to disrupt the massive U.S. air operations against the attacking Wagner forces as they were destroyed. Putin has similarly refrained from using his own S-300 and S-400 systems to shoot at Israeli aircraft during any of Israel’s repeated airstrikes against regime targets within Syria and has, reportedly, prevented the Syrians from using their S-300 system.115 Nor has Putin retaliated against Israel for those strikes or against the U.S. for the 2017 missile strikes Washington launched against the Shayrat airbase in response to Assad’s renewed use of chemical weapons. The aircraft and missile systems Putin has deployed to Syria, therefore, are clearly not meant to give him control over Syria’s skies. They are also obviously not meant to challenge the ability of the U.S., Turkey, or Israel to conduct anti-regime operations, at least within the current limits of such operations. Lastly, they are not meant to enable Putin to retaliate in any symmetrical tit-for-tat manner for Russian losses suffered directly or indirectly at the hands of the U.S., Turkey, or Israel. The relative inaction of Russia’s aircraft against those states could be at least partially explained by Moscow’s focus on fighting the opposition. But the air defense systems can only be intended to defend against the U.S., Turkey, and Israel, since the opposition has never had aircraft against which those systems are effective.116 The Kremlin has, in other words, deployed systems to defend against attacks that have, in fact, come—and yet not used those systems to defend against those attacks. This conundrum can only be resolved by recognizing that the purpose of those systems is to shape the behavior of the U.S., Turkey, and Israel rather than to fight openly against them. The deployments of advanced air defense weapons, and also of some of the air-to-air-optimized aircraft Russia has periodically sent to Syria, support a political-informational campaign rather than a conventional military operation (even if we regard counter-insurgency and counter-terrorism as being in that category). Circumstances might, of course, arise in which Putin would authorize his troops to use some or all of their capabilities conventionally against the U.S. and its partners and allies. That fact drives the fear of escalation that leads the U.S. Joint Chiefs chairman to jump on the phone to Moscow every time a major incident occurs. It also shapes American, Turkish, and Israeli calculations about military options they might choose. This is exactly the point from Moscow’s perspective. Putin’s S-300 and S-400 systems in Syria work best if they are never used. Problems of Escalation—for Russia The U.S. military and those who study it are preoccupied, understandably, by its shortcomings and inadequacies. The shortcomings are real, and the military is, indeed, inadequate for the global requirements it must meet. The preoccupation with our own failings has tended to obscure an objective assessment of the relative risks to the U.S. and Russia of a conventional military confrontation in Syria, however. The U.S. has therefore tended to overestimate the likelihood that a crisis with Russia in Syria will escalate to the point of such a major confrontation and, as a result, has allowed Putin’s very limited deployment of combat power and good use of the information space to drive a high degree of American self-deterrence. Russia has rarely had more than a couple of dozen combat aircraft at its airfields in Syria at any given time.117 Most of them are usually ground-attack planes (principally Su-25 Frogfoots, which are roughly similar to the U.S. Air Force A-10), and they have limited ability to conduct air-to-air combat against U.S. fighter bombers. The rest are generally variants of the Su-30 fighter bomber, sometimes with a few more-advanced airframes optimized for air-to-air combat, including, occasionally, the Su-57 stealth fighter bomber. A single U.S. carrier strike group has around 48 strike fighters, all with air-to-air and air-to-ground capabilities. The U.S. Navy alone has more than 775 strike aircraft (including all variants of the F/A-18 and the F-35).118 The U.S. Air Force has more than 1,240 fighters and fighter bombers, as well as around 140 strategic bombers.119 The single carrier strike group—almost invariably in the Mediterranean or in or near the Persian Gulf—thus outguns the Russian aircraft in Syria by a significant margin, and the U.S. Air Force and Navy could rapidly begin to flow crushing numbers of reinforcements to the theater. The Russian Air Force, by contrast, has a total of roughly 745 fighter bombers in its entire inventory, according to the most recently published Defense Intelligence Agency estimates.120 It has an additional 215 attack aircraft (mostly Su-25s) and another 141 strategic bombers. It is thus somewhat larger than the U.S. Navy, considerably smaller than the U.S. Air Force, and about one-third the size of both together. These numbers exclude the roughly 240 F-16s in the Turkish Air Force—which have demonstrated their ability to shoot down Russian fighters in limited engagements, and so should not be dismissed—as well as those of America’s other NATO allies, not to mention the Israeli Air Force, one of the best in the world. The U.S. thus has absolute escalation dominance in an air-to-air fight over the skies of Syria, unless one imagines that Russian aircraft and pilots are an order-of-magnitude more lethal than their American counterparts—a notion there is no evidence for, and considerable evidence against.121 Critics of this argument need not challenge this assertion, but could argue instead that it is beside the point. The U.S. military cannot focus solely on fighting the Russians in Syria. It must support American ground forces deployed in Iraq and Afghanistan; conduct counter-terrorism operations throughout Africa; and deter and be ready to respond to aggressions by China, North Korea, and Iran, at least. The concentration of aircraft, ships, and pilots needed to fight a significant air war against Russia in Syria would severely degrade the U.S. military’s ability to meet these other requirements. This fact more than any fear of confronting the Russian military in the Middle East explains the self-paralysis of the U.S. military. Putin, by contrast, has projected a willingness to mix it up in Syria. His pilots ostentatiously fly close to American aircraft, engage in risky maneuvers near them, lock targeting radars on them, and in other ways portray almost an eagerness to engage in a fight.122 The Turkish downing of a Russian aircraft in 2015 resulted from repeated violations of Turkish airspace by Russian pilots in another set of deliberate provocations.123 Putin’s message through these actions has consistently been: You will not fight me here, but I am willing to fight you. Yet on each occasion when blows have been traded, Putin has backed down. One reason is that his escalation calculus is far worse than America’s. The Russian Air Force also has essential tasks outside Syria that would prevent it from concentrating all, or even most of its available assets there. It must cover Russia’s enormous periphery, the largest land border of any country in the world, including a long border with China. Putin would be foolish to strip aircraft from St. Petersburg, a short flight from NATO airfields, while fighting the U.S. in Syria. Nor could he denude his forces in Crimea, linked to the Russian mainland by a single bridge, or his forces in and near eastern Ukraine. He could not even prudently strip his far east of all advanced aircraft. He might— or might not—decide that China would not take advantage of any weakening of his defenses, but the U.S. can threaten him from carriers in the Pacific even if Japan opts to deny the use of its bases in a conflict with Russia to which it is not party. Would the U.S. bomb St. Petersburg or Vladivostok while fighting Russia in Syria? Of course not. But strategic calculus does not work that way. It is a fact that the U.S. could conduct such attacks, and any professional military staff forced to confront the prospect of an escalation to major conventional war in one theater would have to consider the possibility that such a war might spread to other theaters. Best professional military advice in such a situation would be to maintain sufficient combat power in any other vulnerable theater to deter and, if necessary, defeat enemy attempts to transfer the conflict there. It is equally true, after all, that a rapid U.S.-Russia dustup in Syria would be very unlikely to trigger a Chinese military adventure or a North Korean invasion of South Korea. Yet the U.S. military allows the fears of just such scenarios to undermine its willingness to contemplate fighting Russia in Syria— and the Russian military will behave no differently. Even that calculation is not Russia’s most serious problem with the idea of escalation to conventional conflict in the skies over Syria. The biggest problem is actually financial. Russia could not afford to replace the losses it would inevitably take in such a fight, whereas the U.S. could. Bad as the differential in aircraft looks for the Russians, we must recall that the differential in overall economic power and in defense budgets looks much worse. The Russian economy and defense budgets are less than one-tenth the size of America’s. Its military is struggling to “modernize” to a level of technology similar to what the U.S. has had for decades. The cost of having to replace many lost modern aircraft would disrupt Russian defense programs for years. The U.S. could make good such losses in short order if it chose. Nuclear Escalation The prospect of the world’s two largest nuclear powers going to war, even in a limited conventional way, is of course terrifying. The U.S. certainly should do everything in its power to achieve its objectives without resorting to major combat operations against Russia—that is the guiding principle of current national security documents and of this report. The straightforward equation sometimes made between any such local conflict and global nuclear war, however, is entirely unjustified. It simply is not the case that any major conventional war will lead inevitably, or even probably, to nuclear war. One can trace escalation paths from a conventional war Putin is losing in Syria to his use of a theater nuclear weapon, either to change the odds or to try to force the U.S. to back down. He could use such a weapon to destroy a U.S. airfield in one of the regional states (Turkey, perhaps, or Kuwait) or a U.S. aircraft carrier strike group. The destruction of any single airbase or carrier would not prevent the U.S. from carrying forward an air war to successful conclusion. There are simply too many bases and carriers the U.S. could use for the elimination of a single one to terminate a campaign. Unless Putin were willing to destroy many airbases in many different countries (most of them NATO members) and sink every carrier moving into the theater, he could not prevent the U.S. from destroying his assets in the Middle East. It is impossible to predict the American response to such a use of nuclear weapons—regardless of the occupant of the White House. The U.S. could respond by using theater nuclear weapons of its own against Russian forces in the Middle East (which this report emphatically does not support or recommend)—and here, a single nuclear device dropped on the airfield near Latakia would pretty much destroy Russian capabilities to continue the air war in the region. Alternatively, Washington could engage in either conventional or nuclear retaliation against Russian forces beyond the region, including in Russia proper (and, again, this report does not support or recommend using nuclear weapons under any circumstances, except possibly in extremis situations far more dire than those under consideration here). Putin would then be forced to decide whether to escalate further. He could conduct a larger nuclear strike against NATO (since any effort seriously to disrupt U.S. military capabilities in and around Europe would require breaking or badly damaging the alliance). He could also go directly for a strike on the U.S. homeland. If he chose the latter and launched an all-out strike, the U.S. president would likely respond in kind, leading to the destruction of both Russia and the U.S.—and possibly life on Earth. One could endlessly consider lesser variants, but they all lead to dramatically increased risk of Armageddon.

## 3

#### CP Text: The appropriation of outer space through asteroid mining by private entities should be banned except for the People’s Republic of China.

#### Chinese Asteroid Mining key to sustaining Rare Earth Minerals.

Cohen 21 Ariel Cohen 10-26-2021 "China’s Space Mining Industry Is Prepping For Launch – But What About The US?" <https://www.forbes.com/sites/arielcohen/2021/10/26/chinas-space-mining-industry-is-prepping-for-launch--but-what-about-the-us/?sh=6b8bea862ae0> (I am a Senior Fellow at the Atlantic Council and the Founding Principal of International Market Analysis, a Washington, D.C.-based global risk advisory boutique.)//Elmer

Exploration of space-based natural resources are on the Chinese policy makers’ mind. The question is, what Joe Biden thinks? In April of this year, China’s Shenzen Origin Space Technology Co. Ltd. launched the NEO-1, the first commercial spacecraft dedicated to the mining of space resources – from asteroids to the lunar surface. Falling costs of space launches and spacecraft technology alongside existing infrastructure provides a unique opportunity to explore extraterrestrial resource extraction. Current technologies are equipped to analyze and categorize asteroids within our solar system with a limited degree of certainty. One of the accompanying payloads to the NEO-1 was the Yuanwang-1, or “little hubble” satellite, which searches the stars for possible asteroid mining targets. The NEO-1 launch marks another milestone in private satellite development, adding a new player to space based companies which include Japan’s Astroscale. Private asteroid identification via the Sentinel Space Telescope was supported by NASA until 2015. As private investment in space grows, the end goal is to be capable of harvesting resources to bring to Earth. “Through the development and launch of the spacecraft, Origin Space is able to carry out low-Earth orbit space junk cleanup and prototype technology verification for space resource acquisition, and at the same time demonstrate future asteroid defense related technologies.” In the end, it will come down to progressively lowering the cost of launched unit of weight and booster rocket reliability – before fundamentally new engines may drive the launch costs even further down. The April launch demonstrates that China is already succeeding while the West is spinning its wheels. The much touted Planetary Resources and Deep Space Industries (DSI) DSI -1% were supposed to be the vanguard of extra-terrestrial resource acquisition with major backers including Google’s GOOG -1.4% Larry Page. But both have since been acquired, the former by block chain company ConsenSys and the latter by Bradford Space, neither of which are prioritizing asteroid mining. This is too bad, given that that supply chain crunches here on Earth – coupled with the global green energy transition – are spiking demand for strategic minerals that are increasingly hard to come by on our environmentally stressed planet. And here China currently holds a monopoly on rare earth element (REE) extraction and processing to the tune of 90%. REE’s 17 minerals essential for modern computing and manufacturing technologies for everything from solar panels to semi-conductors. Resource-hungry China also has major involvement in global critical mineral supply chains, which include cobalt, tungsten, and lithium. As I’ve written before, the Chinese hold of upstream and downstream markets is staggering. Possessing 30% of the global mined ore, 80% of the global processing facilities, and an ever increasing list of high dollar investments around the world, China boasts over $36 billion invested in mining projects in Africa alone. Beijing’s space program clearly indicates that the Chinese would also like to tighten their grip on space-based resources as well. According to research, it is estimated that a small asteroid roughly 200 meters in length that is rich in platinum could be worth up to $300 million. Merrill Lynch predicts the space industry — including extraterrestrial mining industry – to value $2.7 trillion in the next three decades. REEs are fairly common in the solar system, but to what degree remains unknown. The most sought after are M-type asteroids which are mostly metal and hundreds of cubic meters. While these are not the most common, the 27,115 Near Earth asteroids are bound to contain a few. This – and military applications – are no doubt a driving factor of China’s ever increasing space ambitions.

#### China terrestrial mining slipping.

CPT 21 China Power Team. "Does China Pose a Threat to Global Rare Earth Supply Chains?" China Power. July 17, 2020. Updated May 12, 2021. Accessed December 19, 2021. <https://chinapower.csis.org/china-rare-earths/> //Elmer

Growing Global Competition While China maintains a commanding presence within the global rare earth industry, Beijing’s capacity to unilaterally disrupt supply chains is likely to be eroded in the coming years. A number of initiatives are underway that may prove successful at establishing new rare earth suppliers outside of China. Shifting market dynamics are likely to aid these efforts. There are already signs that other players have started to chip away at China’s dominance in certain areas. Mining of raw rare earth materials outside of China has ramped up significantly in recent years as the US’ Mountain Pass mine, and other mines around the world, have increased their output. China’s share of global mining production has slipped as a result, from a high of 97.7 percent in 2010 to 62.9 percent in 2019 – the lowest point since 1995. China’s share of global rare earth reserves has likewise fallen from 50 percent to 36.7 percent over the same period.3 China’s status as the preeminent supplier of oxides, metals, and permanent magnets has not been similarly diminished – but it may be in the coming years. In the US, the company MP Materials is working to bring online facilities at Mountain Pass that would allow it to process its mined minerals, instead of sending them to China for processing. The company aims to accomplish this in 2021 and to establish the ability to refine and separate rare earth metals in the coming years. International efforts are also underway. In April 2020, the US DoD green-lit initial funding for a joint venture between Australia’s Lynas Corporation and US-based Blue Line Corporation to construct a processing facility in Texas. If successful, it would allow Lynas to ship rare earth materials from its processing facility in Malaysia to the US for final processing – rather than to China. The Japanese government (through JOGMEC) is looking to invest in US and Australian initiatives, likely including the new facility in Texas. These steps are part of Tokyo’s announced goal of further reducing Japan’s reliance on Chinese rare earth imports to less than 50 percent by 2025. Due to growing demand for rare earths, these ventures will likely be more successful than previous attempts to establish rare earth suppliers outside of China. Much of this new demand is being driven by rapid growth of the renewable energy and electric vehicle industries, which utilize large quantities of rare earth permanent magnets. From 2007 to 2017, China’s production of renewable and nuclear energy more than tripled, accounting for roughly 51 percent of the global increase in production over this period. China’s electric vehicle market is growing even faster. Between 2014 and 2019, the number of electric vehicles in China swelled from approximately 90,000 to nearly 3.4 million.

#### REMs dominance solves the economy.

GH 14 [Greenovation Hub, conducts research on China-relevant issues in climate, energy and sustainable finance with a global perspective, “China’s Mining Industry at Home and Overseas: Development, Impacts and Regulation,” 2014, https://www.ghub.org/cfc\_en/wp-content/uploads/sites/2/2014/11/China-Mining-at-Home-and-Overseas\_Main-report2\_EN.pdf, EA]

Economic Development and Employment Opportunities The rapid growth China has experienced over the last three decades has been fuelled in part by its mining and metals industries. The industrialization of the country and extensive infrastructure development would not have been possible without high outputs of steel and other construction materials. Likewise, without China’s huge coal industry, there would have been insufficient electricity to power the factories and industries that propelled China to its current position as the world’s second largest economy. Mining and metal production generates large revenues, which constitutes a significant portion of the country’s GDP. According to the National Bureau of Statistics, in 2010 mining directly contributed around 5.2% of China’s total GDP. This figure is significantly higher if downstream industries and revenues are taken into account. According to the International Council on Mining and Metals (ICMM), in 2010 the total production value of mining in China was over US$69.2 billion, which is an increase of over 555% since 2000. As well as generating revenue through taxation, royalties and sale of resources, mining also supports secondary industries such as those supplying machinery and other services to mining companies. Products of the mining industry can be traded on international markets, further adding to China’s foreign currency reserves.

#### Chinese economic decline leads to all-out war – specifically over Taiwan.

Joske 18 Stephen Joske 10-23-2018 “China’s Coming Financial Crisis And The National Security Connection” <https://warontherocks.com/2018/10/chinas-coming-financial-crisis-and-the-national-security-connection/> (senior adviser to the Australian Treasurer during the 1997–98 Asian crisis)//re-cut by Elmer

The biggest **national security issues**, however, **arise from** the unpredictable **political impact of a recession in China**. We learned this, or should have, during the 1997 to 1998 Asian crisis. China may have had a disguised recession or near recession in 1998, but it was in a much smaller economy. Apart from that one episode there is no collective memory of recession and how to deal with it. As such, **China** is now **psychologically unprepared** to deal with the challenges of a recession. China’s coming recession will be accompanied by a large uncontrolled devaluation of the RMB as foreign exchange reserves evaporate, so it will be impossible to conceal this time. All asset prices, including housing prices, will be hit. **Combine** the **shock** of an unexpected economic setback **with tensions** in a one party state where a single individual has been calling the shots, and **political instability could set in.** While Xi’s anti-corruption campaign has not eliminated corruption, it has created many enemies who are biding their time. Minxin Pei has documented the activities of China’s powerful corruption networks. These networks, not a debilitated civil society, represent the alternative government of China. Competition between them could easily be destabilizing in a winner-take-all political environment. While our understanding of elite politics in China is poor, a recession would likely discredit the existing leadership and **set off intense competition between corrupt factions** for control of China. Bo Xilai, a former Chongqing party chief and Politburo member, was purged in 2012 but his son appears to still be interested in politics. While the outcome is impossible to predict, we can **see** the conditions in place for destabilizing events ranging from **military adventurism** to **civil war**. Alternatively, the regime could reassert its stability through increased repression, which would make China harder to deal with and would spill over into the Chinese diaspora. China’s Belt and Road Initiative has never had a real economic base. It is all about power projection (such as the Gwadar port) and would quickly be dropped by Beijing as a post-crisis China becomes focused on domestic political and economic stability. **Any Chinese military adventurism is likely to be focused on Taiwan.** China’s military is currently poorly equipped for an invasion of Taiwan, which has difficult geography and a substantial military, making an invasion of Taiwan unlikely to succeed. However, it is possible the Chinese **leadership would miscalculate** the risks, leaving it in a limited war with no clear resolution that would quickly **draw in Japan and the U**nited **S**tates. China has spent most of its history disunited, reflecting its geography. It has a number of widely dispersed economic centers. It was in outright civil war as recently as the 1960s. If competition between political factions remains unresolved, a civil war could develop, leaving China as a battleground where Russia, Japan, and the United States seek to influence the outcome. This scenario would stall or even end China’s rise as a global military and political power.

#### Taiwan goes nuclear.

Talmadge 18 [Caitlin, Associate Professor of Security Studies at the Edmund A. Walsh School of Foreign Service at Georgetown University, “Beijing’s Nuclear Option: Why a U.S.-China War Could Spiral Out of Control,” accessible online at <https://www.foreignaffairs.com/articles/china/2018-10-15/beijings-nuclear-option>, published Nov/Dec 2018]//re-cut by Elmer

As China’s power has grown in recent years, so, too, has the risk of war with the United States. Under President Xi Jinping, China has increased its political and economic pressure on Taiwan and built military installations on coral reefs in the South China Sea, fueling Washington’s fears that Chinese expansionism will threaten U.S. allies and influence in the region. U.S. destroyers have transited the Taiwan Strait, to loud protests from Beijing. American policymakers have wondered aloud whether they should send an aircraft carrier through the strait as well. Chinese fighter jets have intercepted U.S. aircraft in the skies above the South China Sea. Meanwhile, U.S. President Donald Trump has brought long-simmering economic disputes to a rolling boil. A war between the two countries remains unlikely, but the prospect of a **military confrontation**—resulting, for example, **from a Chinese campaign against Taiwan**—**no longer seems** as **implausible** as it once did. And the odds of such a confrontation going nuclear are higher than most policymakers and analysts think. Members of China’s strategic community tend to dismiss such concerns. Likewise, U.S. studies of a potential war with China often exclude nuclear weapons from the analysis entirely, treating them as basically irrelevant to the course of a conflict. Asked about the issue in 2015, Dennis Blair, the former commander of U.S. forces in the Indo-Pacific, estimated the likelihood of a U.S.-Chinese nuclear crisis as “somewhere between nil and zero.” This assurance is misguided. If deployed against China, the Pentagon’s preferred style of conventional warfare would be a potential recipe for nuclear escalation. Since the end of the Cold War, the United States’ signature approach to war has been simple: punch deep into enemy territory in order to rapidly knock out the opponent’s key military assets at minimal cost. But the Pentagon developed this formula in wars against Afghanistan, Iraq, Libya, and Serbia, none of which was a nuclear power. **China**, by contrast, not only has **nuclear weapons**; it has also **intermingled** them **with its conventional** military **forces**, **making it difficult to attack one without attacking the other**. This means that a major U.S. military campaign targeting China’s conventional forces would likely also threaten its nuclear arsenal. Faced with such a threat, Chinese leaders could decide to use their nuclear weapons while they were still able to. As U.S. and Chinese leaders navigate a relationship fraught with mutual suspicion, they must come to grips with the fact that a conventional war could skid into a nuclear confrontation. Although this risk is not high in absolute terms, its consequences for the region and the world would be devastating. As long as the United States and China continue to pursue their current grand strategies, the risk is likely to endure. This means that leaders on both sides should dispense with the illusion that they can easily fight a limited war. They should focus instead on managing or resolving the political, economic, and military tensions that might lead to a conflict in the first place. A NEW KIND OF THREAT There are some reasons for optimism. For one, China has long stood out for its nonaggressive nuclear doctrine. After its first nuclear test, in 1964, China largely avoided the Cold War arms race, building a much smaller and simpler nuclear arsenal than its resources would have allowed. Chinese leaders have consistently characterized nuclear weapons as useful only for deterring nuclear aggression and coercion. Historically, this narrow purpose required only a handful of nuclear weapons that could ensure Chinese retaliation in the event of an attack. To this day, China maintains a “no first use” pledge, promising that it will never be the first to use nuclear weapons. The prospect of a nuclear conflict can also seem like a relic of the Cold War. Back then, the United States and its allies lived in fear of a Warsaw Pact offensive rapidly overrunning Europe. NATO stood ready to use nuclear weapons first to stalemate such an attack. Both Washington and Moscow also consistently worried that their nuclear forces could be taken out in a bolt-from-the-blue nuclear strike by the other side. This mutual fear increased the risk that one superpower might rush to launch in the erroneous belief that it was already under attack. Initially, the danger of unauthorized strikes also loomed large. In the 1950s, lax safety procedures for U.S. nuclear weapons stationed on NATO soil, as well as minimal civilian oversight of U.S. military commanders, raised a serious risk that nuclear escalation could have occurred without explicit orders from the U.S. president. The good news is that these Cold War worries have little bearing on U.S.-Chinese relations today. Neither country could rapidly overrun the other’s territory in a conventional war. Neither seems worried about a nuclear bolt from the blue. And civilian political control of nuclear weapons is relatively strong in both countries. What remains, in theory, is the comforting logic of mutual deterrence: in a war between two nuclear powers, neither side will launch a nuclear strike for fear that its enemy will respond in kind. The bad news is that one other trigger remains: a conventional war that threatens China’s nuclear arsenal. **Conventional forces** can threaten nuclear forces in ways that **generate pressures to escalate**—especially when ever more capable U.S. conventional forces face adversaries with relatively small and fragile nuclear arsenals, such as China. **If U.S. operations endangered** or damaged China’s **nuclear forces,** Chinese leaders might come to think that Washington had aims beyond winning the conventional war—that it might be seeking to disable or destroy China’s nuclear arsenal outright, perhaps as a prelude to regime change. In the fog of war, **Beijing might** reluctantly **conclude** that limited **nuclear escalation**—an initial strike small enough that it could avoid full-scale U.S. retaliation—**was** a **viable** option to defend itself. STRAIT SHOOTERS The **most worrisome flash point** for a U.S.-Chinese war **is Taiwan**. Beijing’s long-term objective of reunifying the island with mainland China is clearly in conflict with Washington’s longstanding desire to maintain the status quo in the strait. It is not difficult to imagine how this might lead to war. For example, China could decide that the political or military window for regaining control over the island was closing and launch an attack, using air and naval forces to blockade Taiwanese harbors or bombard the island. Although U.S. law does not require Washington to intervene in such a scenario, the Taiwan Relations Act states that the United States will “consider any effort to determine the future of Taiwan by other than peaceful means, including by boycotts or embargoes, a threat to the peace and security of the Western Pacific area and of grave concern to the United States.” Were Washington to intervene on Taipei’s behalf, the world’s sole superpower and its rising competitor would find themselves in the first great-power war of the twenty-first century. In the course of such a war, U.S. conventional military operations would likely threaten, disable, or outright eliminate some Chinese nuclear capabilities—whether doing so was Washington’s stated objective or not. In fact, if the United States engaged in the style of warfare it has practiced over the last 30 years, this outcome would be all but guaranteed. Consider submarine warfare. China could use its conventionally armed attack submarines to blockade Taiwanese harbors or bomb the island, or to attack U.S. and allied forces in the region. If that happened, the U.S. Navy would almost certainly undertake an antisubmarine campaign, which would likely threaten China’s “boomers,” the four nuclear-armed ballistic missile submarines that form its naval nuclear deterrent. China’s conventionally armed and nuclear-armed submarines share the same shore-based communications system; a U.S. attack on these transmitters would thus not only disrupt the activities of China’s attack submarine force but also cut off its boomers from contact with Beijing, leaving Chinese leaders unsure of the fate of their naval nuclear force. In addition, nuclear ballistic missile submarines depend on attack submarines for protection, just as lumbering bomber aircraft rely on nimble fighter jets. If the United States started sinking Chinese attack submarines, it would be sinking the very force that protects China’s ballistic missile submarines, leaving the latter dramatically more vulnerable. Even more dangerous, U.S. forces hunting Chinese attack submarines could inadvertently sink a Chinese boomer instead. After all, at least some Chinese attack submarines might be escorting ballistic missile submarines, especially in wartime, when China might flush its boomers from their ports and try to send them within range of the continental United States. Since correctly identifying targets remains one of the trickiest challenges of undersea warfare, a U.S. submarine crew might come within shooting range of a Chinese submarine without being sure of its type, especially in a crowded, noisy environment like the Taiwan Strait. Platitudes about caution are easy in peacetime. In wartime, when Chinese attack submarines might already have launched deadly strikes, the U.S. crew might decide to shoot first and ask questions later. Adding to China’s sense of vulnerability, the small size of its nuclear-armed submarine force means that just two such incidents would eliminate half of its sea-based deterrent. Meanwhile, any Chinese boomers that escaped this fate would likely be cut off from communication with onshore commanders, left without an escort force, and unable to return to destroyed ports. If that happened, China would essentially have no naval nuclear deterrent. The situation is similar onshore, where any U.S. military campaign would have to contend with China’s growing land-based conventional ballistic missile force. Much of this force is within range of Taiwan, ready to launch ballistic missiles against the island or at any allies coming to its aid. Once again, U.S. victory would hinge on the ability to degrade this conventional ballistic missile force. And once again, it would be virtually impossible to do so while leaving China’s nuclear ballistic missile force unscathed. Chinese conventional and nuclear ballistic missiles are often attached to the same base headquarters, meaning that they likely share transportation and supply networks, patrol routes, and other supporting infrastructure. It is also possible that they share some command-and-control networks, or that the United States would be unable to distinguish between the conventional and nuclear networks even if they were physically separate. To add to the challenge, some of China’s ballistic missiles can carry either a conventional or a nuclear warhead, and the two versions are virtually indistinguishable to U.S. aerial surveillance. In a war, targeting the conventional variants would likely mean destroying some nuclear ones in the process. Furthermore, sending manned aircraft to attack Chinese missile launch sites and bases would require at least partial control of the airspace over China, which in turn would require weakening Chinese air defenses. But degrading China’s coastal air defense network in order to fight a conventional war would also leave much of its nuclear force without protection. Once China was under attack, its leaders might come to fear that even intercontinental ballistic missiles located deep in the country’s interior were vulnerable. For years, observers have pointed to the U.S. military’s failed attempts to locate and destroy Iraqi Scud missiles during the 1990–91 Gulf War as evidence that mobile missiles are virtually impervious to attack. Therefore, the thinking goes, China could retain a nuclear deterrent no matter what harm U.S. forces inflicted on its coastal areas. Yet recent research suggests otherwise. Chinese intercontinental ballistic missiles are larger and less mobile than the Iraqi Scuds were, and they are harder to move without detection. The United States is also likely to have been tracking them much more closely in peacetime. As a result, China is unlikely to view a failed Scud hunt in Iraq nearly 30 years ago as reassurance that its residual nuclear force is safe today, especially during an ongoing, high-intensity conventional war. China’s vehement criticism of a U.S. regional missile defense system designed to guard against a potential North Korean attack already reflects these latent fears. Beijing’s worry is that this system could help Washington block the handful of missiles China might launch in the aftermath of a U.S. attack on its arsenal. That sort of campaign might seem much more plausible in Beijing’s eyes if a conventional war had already begun to seriously undermine other parts of China’s nuclear deterrent. It does not help that China’s real-time awareness of the state of its forces would probably be limited, since blinding the adversary is a standard part of the U.S. military playbook. Put simply, the favored **U.S. strategy** to ensure a conventional victory **would** likely **endanger** much of China’s **nuclear arsenal** in the process, at sea and on land. Whether the United States actually intended to target all of China’s nuclear weapons would be incidental. All that would matter is that Chinese leaders would consider them threatened. LESSONS FROM THE PAST At that point, the question becomes, How will China react? Will it practice restraint and uphold the “no first use” pledge once its nuclear forces appear to be under attack? Or will it use those weapons while it still can, gambling that limited escalation will either halt the U.S. campaign or intimidate Washington into backing down? Chinese writings and statements remain deliberately ambiguous on this point. It is unclear which exact set of capabilities China considers part of its core nuclear deterrent and which it considers less crucial. For example, if China already recognizes that its sea-based nuclear deterrent is relatively small and weak, then losing some of its ballistic missile submarines in a war might not prompt any radical discontinuity in its calculus. The danger lies in **wartime developments** that could **shift** **China’s assumptions about U.S. intentions.** If Beijing interprets the erosion of its sea- and land-based nuclear forces as a deliberate effort to destroy its nuclear deterrent, or perhaps even as a prelude to a nuclear attack, it might see limited nuclear escalation as a way to force an end to the conflict. For example, China could use nuclear weapons to instantaneously destroy the U.S. air bases that posed the biggest threat to its arsenal. It could also launch a nuclear strike with no direct military purpose—on an unpopulated area or at sea—as a way to signal that the United States had crossed a redline. If such escalation appears far-fetched, China’s history suggests otherwise. In 1969, similar dynamics brought China to the brink of nuclear war with the Soviet Union. In early March of that year, Chinese troops ambushed Soviet guards amid rising tensions over a disputed border area. Less than two weeks later, the two countries were fighting an undeclared border war with heavy artillery and aircraft. The conflict quickly escalated beyond what Chinese leaders had expected, and before the end of March, Moscow was making thinly veiled nuclear threats to pressure China to back down. Chinese leaders initially dismissed these warnings, only to radically upgrade their threat assessment once they learned that the Soviets had privately discussed nuclear attack plans with other countries. Moscow never intended to follow through on its nuclear threat, archives would later reveal, but Chinese leaders believed otherwise. On three separate occasions, they were convinced that a Soviet nuclear attack was imminent. Once, when Moscow sent representatives to talks in Beijing, China suspected that the plane transporting the delegation was in fact carrying nuclear weapons. Increasingly fearful, China test-fired a thermonuclear weapon in the Lop Nur desert and put its rudimentary nuclear forces on alert—a dangerous step in itself, as it increased the risk of an unauthorized or accidental launch. Only after numerous preparations for Soviet nuclear attacks that never came did Beijing finally agree to negotiations. China is a different country today than it was in the time of Mao Zedong, but the 1969 conflict offers important lessons. China started a war in which it believed nuclear weapons would be irrelevant, even though the Soviet arsenal was several orders of magnitude larger than China’s, just as the U.S. arsenal dwarfs China’s today. Once the conventional war did not go as planned, the Chinese reversed their assessment of the possibility of a nuclear attack to a degree bordering on paranoia. Most worrying, China signaled that it was actually considering using its nuclear weapons, even though it had to expect devastating retaliation. Ambiguous wartime information and worst-case thinking led it to take nuclear risks it would have considered unthinkable only months earlier. This pattern could unfold again today.

#### Chinese private commercialization is key to asteroid mining – solves warming, resources, and deflection.

**Cohen 21**, Ariel. (I am a Senior Fellow at the Atlantic Council and the Founding Principal of International Market Analysis, a Washington, D.C.-based global risk advisory boutique. I advise law firms and corporations, and once helped to get a famous Russian oligarch out of Putin’s jail. I am also a Senior Fellow with the International Tax and Investment Center (ITIC) where I direct their Energy, Growth, and Security Program (EGS). For 22 years, I was the Heritage Foundation’s leading Russia/Eurasia and international energy expert. My consultancy focuses on political risk, national security, and energy policy, especially in Russia/Europe/Eurasia, and the Middle East. The firm’s interventions span international security, economics, law, politics, terrorism, and crime and corruption. In addition to consulting for both the public and private sectors, I testify regularly before the U.S. Congress, and appear on Bloomberg, CNN, FOX, BBC, Al Jazeera, and other TV channels.) “China's Space Mining Industry Is Prepping for Launch – but What about the US?” Forbes, Forbes Magazine, 26 Oct. 2021, https://www.forbes.com/sites/arielcohen/2021/10/26/chinas-space-mining-industry-is-prepping-for-launch--but-what-about-the-us/?sh=7587281c2ae0. //JQ

Exploration of space-based natural resources are on the Chinese policy makers’ mind. The question is, what Joe Biden thinks? In April of this year, China’s Shenzen Origin Space Technology Co. Ltd. launched the NEO-1, the first commercial spacecraft dedicated to the mining of space resources – from asteroids to the lunar surface. Falling costs of space launches and spacecraft technology alongside existing infrastructure provides a unique opportunity to explore extraterrestrial resource extraction. Current technologies are equipped to analyze and categorize asteroids within our solar system with a limited degree of certainty. One of the accompanying payloads to the NEO-1 was the Yuanwang-1, or “little hubble” satellite, which searches the stars for possible asteroid mining targets. The NEO-1 launch marks another milestone in private satellite development, adding a new player to space based companies which include Japan’s Astroscale. Private asteroid identification via the Sentinel Space Telescope was supported by NASA until 2015. As private investment in space grows, the end goal is to be capable of harvesting resources to bring to Earth. “Through the development and launch of the spacecraft, Origin Space is able to carry out low-Earth orbit space junk cleanup and prototype technology verification for space resource acquisition, and at the same time demonstrate future asteroid defense related technologies.” In the end, it will come down to progressively lowering the cost of launched unit of weight and booster rocket reliability – before fundamentally new engines may drive the launch costs even further down. The April launch demonstrates that China is already succeeding while the West is spinning its wheels. The much touted Planetary Resources and Deep Space Industries (DSI) DSI -1% were supposed to be the vanguard of extra-terrestrial resource acquisition with major backers including Google’s GOOG -1.4% Larry Page. But both have since been acquired, the former by block chain company ConsenSys and the latter by Bradford Space, neither of which are prioritizing asteroid mining. This is too bad, given that that supply chain crunches here on Earth – coupled with the global green energy transition – are spiking demand for strategic minerals that are increasingly hard to come by on our environmentally stressed planet. And here China currently holds a monopoly on rare earth element (REE) extraction and processing to the tune of 90%. REE’s 17 minerals essential for modern computing and manufacturing technologies for everything from solar panels to semi-conductors. Resource-hungry China also has major involvement in global critical mineral supply chains, which include cobalt, tungsten, and lithium. As I’ve written before, the Chinese hold of upstream and downstream markets is staggering. Possessing 30% of the global mined ore, 80% of the global processing facilities, and an ever increasing list of high dollar investments around the world, China boasts over $36 billion invested in mining projects in Africa alone. Beijing’s space program clearly indicates that the Chinese would also like to tighten their grip on space-based resources as well. According to research, it is estimated that a small asteroid roughly 200 meters in length that is rich in platinum could be worth up to $300 million. Merrill Lynch predicts the space industry — including extraterrestrial mining industry – to value $2.7 trillion in the next three decades. REEs are fairly common in the solar system, but to what degree remains unknown. The most sought after are M-type asteroids which are mostly metal and hundreds of cubic meters. While these are not the most common, the 27,115 Near Earth asteroids are bound to contain a few. This – and military applications – are no doubt a driving factor of China’s ever increasing space ambitions.

#### Warming causes extinction – tipping points and positive feedback loops ensures.

Ng 19 [Yew-Kwang Ng; May 2019; Professor of Economics at Nanyang Technology University, Fellow of the Academy of Social Sciences in Australia and Member of the Advisory Board at the Global Priorities Institute at Oxford University, Ph.D. in Economics from Sydney University; Global Policy, “Keynote: Global Extinction and Animal Welfare: Two Priorities for Effective Altruism,” vol. 10, no. 2, p. 258-266; RP]

Catastrophic climate change Though by no means certain, CCC causing global extinction is possible due to interrelated factors of non‐linearity, cascading effects, positive feedbacks, multiplicative factors, critical thresholds and tipping points (e.g. Barnosky and Hadly, [2016](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0005); Belaia et al., [2017](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0008); Buldyrev et al., [2010](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0016); Grainger, [2017](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0027); Hansen and Sato, [2012](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0029); IPCC [2014](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0031); Kareiva and Carranza, [2018](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0033); Osmond and Klausmeier, [2017](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0056); Rothman, [2017](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0066); Schuur et al., [2015](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0069); Sims and Finnoff, [2016](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0072); Van Aalst, [2006](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0079)).[7](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-note-1009_67) A possibly imminent tipping point could be in the form of ‘an abrupt ice sheet collapse [that] could cause a rapid sea level rise’ (Baum et al., [2011](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0006), p. 399). There are many avenues for positive feedback in global warming, including:

* the replacement of an ice sea by a liquid ocean surface from melting reduces the reflection and increases the absorption of sunlight, leading to faster warming;
* the drying of forests from warming increases forest fires and the release of more carbon; and
* higher ocean temperatures may lead to the release of methane trapped under the ocean floor, producing runaway global warming.

Though there are also avenues for negative feedback, the scientific consensus is for an overall net positive feedback (Roe and Baker, [2007](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0065)). Thus, the Global Challenges Foundation ([2017](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0026), p. 25) concludes, ‘The world is currently completely unprepared to envisage, and even less deal with, the consequences of CCC’. The threat of sea‐level rising from global warming is well known, but there are also other likely and more imminent threats to the survivability of mankind and other living things. For example, Sherwood and Huber ([2010](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0071)) emphasize the adaptability limit to climate change due to heat stress from high environmental wet‐bulb temperature. They show that ‘even modest global warming could … expose large fractions of the [world] population to unprecedented heat stress’ p. 9552 and that with substantial global warming, ‘the area of land rendered uninhabitable by heat stress would dwarf that affected by rising sea level’ p. 9555, making extinction much more likely and the relatively moderate damages estimated by most integrated assessment models unreliably low. While imminent extinction is very unlikely and may not come for a long time even under business as usual, the main point is that we cannot rule it out. Annan and Hargreaves ([2011](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0004), pp. 434–435) may be right that there is ‘an upper 95 per cent probability limit for S [temperature increase] … to lie close to 4°C, and certainly well below 6°C’. However, probabilities of 5 per cent, 0.5 per cent, 0.05 per cent or even 0.005 per cent of excessive warming and the resulting extinction probabilities cannot be ruled out and are unacceptable. Even if there is only a 1 per cent probability that there is a time bomb in the airplane, you probably want to change your flight. Extinction of the whole world is more important to avoid by literally a trillion times.

## 4

#### CP Text: States and private entities should form a proportional share liability agreement for damage to functional space objects caused by interference with unidentifiable orbital space debris and the US should increase space debris remediation with the Russian Federation.

**Share liability forces polluters to internalize costs, encouraging remediation and mitigation.**

Mark **Sundahl 00**, Ph.D. from Brown, 2000; J.D. candidate, Hastings College of the Law, 2001; B.A., University of California, Los Angeles, 1993, **2000**,“Unidentified Orbital Debris: The Case for a Market-Share Liability Regime” 24 HastingsInt'l & Comp. L. Rev. 125

Market-share liability will benefit the space industry by (1) **providing compensation** to the injured party where none existed before, (2) **creating an incentive for states to mitigate debris production**, (3) creating an **equal incentive to remove existing debris**, (4) **promoting the registration and tracking** of space objects, (5) **encouraging states to cooperate** in the prevention of collisions, and (6) **ultimately lowering the economic barrier to entering** the space industry. The immediate benefit of market-share liability will be the creation of a compensation system where none now exists. Currently, the victims of unidentified debris damage must absorb the cost of any collision while the parties who created the debris incur no liability. A market-share liability amendment will fill this gap in the Liability Convention. Of greater importance in the long run is the fact that marketshare liability would create an incentive for states to reduce the production of large debris. The production of trackable debris will increase a state's contribution index and, hence, its liability exposure. Launching entities would therefore take measures to minimize large debris production in order to minimize liability. Venting excess fuel, for example, would reduce the risk of explosions in orbit." A state can also reduce its contribution index by deorbiting defunct satellites. This can be achieved by either retrieving the satellites or by propelling the "dead" satellites into the Earth's atmosphere so that they are vaporized. 5 Market-share liability will not only promote debris mitigation measures but also encourage the improvement of debris removal technologies. Entities will be able to reduce their contribution index, as explained above, by removing debris that is already in orbit. Currently, debris can be removed by sending the Space Shuttle to retrieve defunct satellites. Other options include using an Earthbased laser to push objects out of their orbits so that they reenter the Earth's atmosphere and are destroyed. The Orion laser is currently being developed for this purpose by the United States government.'56 One commentator has even suggested using a "giant Neff ball" to catch debris, in effect "sweeping" the orbits clean.57 Those states and private entities that do not have easy access to debris retrieval technology or do not have a laser of their own would be able to buy these services from the United States. The United States and Russia, as well as other states, would also have a two-fold incentive to improve their systems for registering, tracking, and cataloguing space objects. First, states would strive to **improve their tracking capabilities** so that they would be able to show that another state owned a specific debris fragment that caused damage. Once the responsible state is identified, only that state would be liable. Second, the United States and Russia would be eager to identify as many pieces of debris as possible that belong to each other. The United States, for example, would want to increase the number of catalogued fragments identified as Russian. By doing so, the Russian contribution index would grow and the contribution index of all other states would simultaneously fall. Improvements in tracking capabilities would be beneficial because they would allow a fairer apportionment of liability and would assist in debris evasion. Spacefaring states would also make efforts to improve **debris evasion** technology out of the fear of incurring liability. After all, the most effective method of avoiding liability is to ensure that collisions do not occur. More effective evasion capabilities could be achieved by establishing a communications system whereby states with tracking facilities, such as the United States, could warn other states when their satellites or spacecraft were in the path of approaching debris. Upon receiving this information, the spacecraft owner would be able to engage in evasive maneuvers. This warning system could make use of sensitive ground-based debris detection technology as well as debris-detecting satellites.

#### Plank 2 solves 86% of debris.

Wright 12 — David Wright (Received his PhD in physics from Cornell University in 1983 and worked for five years as a research physicist, SSRC-MacArthur Foundation Fellow in International Peace and Security in the Center for Science and International Affairs in the Kennedy School of Government at Harvard, and a Senior Analyst at the Federation of American Scientists), 2012, “Who Owns the Most Space Debris? Depends What You Measure”. <https://allthingsnuclear.org/dwright/who-owns-the-most-space-debris-depends-what-you>.

The number of debris particles in orbit is a concern since if these particles collide with a satellite they can damage or destroy it. The plot on the right shows that the US and Russia together own more than 85% of the debris mass in LEO, while China owns a small slice. This is because these two countries have many more large-mass objects in orbit, like defunct satellites and the rocket stages used to put them in orbit. These large-mass objects are a concern because they are the potential sources of large amounts of debris in the future, since in a collision these objects could fragment into enormous clouds of debris. As a result, these are the objects you most want to remove from orbit to reduce the likelihood of large future increases of debris. Removing these objects can be thought of as pulling down large amounts of debris that are currently all in one place. Figuring out how to remove the large objects in a safe and affordable way is an area of active research. What the plot on the right makes clear is that despite the 2007 Chinese ASAT test, the responsibility for debris remediation—i.e., removing the most problematic debris already in space—is overwhelmingly a US-Russian issue.

## Case

### 1NC – War

#### Your ev is about public sector escalation—we read blue.

1AC Jamasmie 21 Cecilia Jamasmie [Cecilia has covered mining for more than a decade. She is particularly interested in Corporate Social Responsibility (CSR), Diamonds and Latin America. Cecilia has been interviewed by BBC News and CBC among others and has been a guest speaker at mining conventions, including MINExpo 2016 and the World’s Copper Conference 2018. She is also member of the expert panel on Social License to Operate (SLO) at the European project MIREU (Mining and Metallurgic Regions EU). She holds a Master of Journalism from the University of British Columbia, and is based in Nova Scotia.], 2-2-2021, "Experts warn of brewing space mining war among US, China and Russia," MINING, <https://www.mining.com/experts-warn-of-brewing-space-mining-war-among-us-china-and-russia/> DD AG

A brewing war to set a mining base in space is likely to see China and Russia joining forces to keep the US increasing attempts to dominate extra-terrestrial commerce at bay, experts warn. The Trump Administration took an active interest in space, announcing that America would return astronauts to the moon by 2024 and creating the Space Force as the newest branch of the US military.It also proposed global legal framework for mining on the moon, called the Artemis Accords, encouraging citizens to mine the Earth’s natural satellite and other celestial bodies with commercial purposes. The directive classified outer space as a “legally and physically unique domain of human activity” instead of a “global commons,” paving the way for mining the moon without any sort of international treaty. Spearheaded by the US National Aeronautics and Space Administration (NASA), the Artemis Accords were signed in October by Australia, Canada, England, Japan, Luxembourg, Italy and the United Emirates “Unfortunately, the Trump Administration exacerbated a national security threat and risked the economic opportunity it hoped to secure in outer space by failing to engage Russia or China as potential partners,” says Elya Taichman, former legislative director for then-Republican Michelle Lujan Grisham. “Instead, the Artemis Accords have driven China and Russia toward increased cooperation in space out of fear and necessity,” he writes.Russia’s space agency Roscosmos was the first to speak up, likening the policy to colonialism. “There have already been examples in history when one country decided to start seizing territories in its interest — everyone remembers what came of it,” Roscosmos’ deputy general director for international cooperation, Sergey Saveliev, said at the time.China, which made history in 2019 by becoming the first country to land a probe on the far side of the Moon, chose a different approach. Since the Artemis Accords were first announced, Beijing has approached Russia to jointly build a lunar research base. President Xi Jinping has also he made sure China planted its flag on the Moon, which happened in December 2020, more than 50 years after the US reached the lunar surface.

#### Public sector mining thumps

**NASA 19** [“NASA Invests in Tech Concepts Aimed at Exploring Lunar Craters, Mining Asteroids,” NASA, June 11, 2019, <https://www.nasa.gov/press-release/nasa-invests-in-tech-concepts-aimed-at-exploring-lunar-craters-mining-asteroids>] TDI

NASA Invests in Tech Concepts Aimed at Exploring Lunar Craters, Mining Asteroids

Robotically surveying lunar craters in record time and mining resources in space could help NASA establish a sustained human presence at the Moon – part of the agency’s broader [Moon to Mars exploration](https://www.nasa.gov/specials/moon2mars/) approach. Two mission concepts to explore these capabilities have been selected as the first-ever Phase III studies within the [NASA Innovative Advanced Concepts](https://www.nasa.gov/niac) (NIAC) program.

“We are pursuing new technologies across our development portfolio that could help make deep space exploration more Earth-independent by utilizing resources on the Moon and beyond,” said Jim Reuter, associate administrator of NASA’s Space Technology Mission Directorate. “These NIAC Phase III selections are a component of that forward-looking research and we hope new insights will help us achieve more firsts in space.”

The Phase III proposals outline an aerospace architecture, including a mission concept, that is innovative and could change what’s possible in space. Each selection will receive as much as $2 million. Over the course of two years, researchers will refine the concept design and explore aspects of implementing the new technology. The inaugural Phase III selections are:

Robotic Technologies Enabling the Exploration of Lunar Pits

William Whittaker, Carnegie Mellon University, Pittsburgh

This mission concept, called Skylight, proposes technologies to rapidly survey and model lunar craters. This mission would use high-resolution images to create 3D model of craters. The data would be used to determine whether a crater can be explored by human or robotic missions. The information could also be used to characterize ice on the Moon, a crucial capability for the sustained surface operations of NASA’s Artemis program. On Earth, the technology could be used to autonomously monitor mines and quarries.

[Mini Bee Prototype to Demonstrate the Apis Mission Architecture and Optical Mining Technology](https://www.nasa.gov/directorates/spacetech/niac/2019_Phase_I_Phase_II/Mini_Bee_Prototype)

Joel Sercel, TransAstra Corporation, Lake View Terrace, California

This flight demonstration mission concept proposes a method of asteroid resource harvesting called optical mining. Optical mining is an approach for excavating an asteroid and extracting water and other volatiles into an inflatable bag. Called Mini Bee, the mission concept aims to prove optical mining, in conjunction with other innovative spacecraft systems, can be used to obtain propellant in space. The proposed architecture includes resource prospecting, extraction and delivery.

**No space war. Insurmountable barriers and common interests**

Bohumil **Doboš**, scholar at the Institute of Political Studies, Faculty of Social Sciences, Charles University in Prague, Czech Republic, and a coordinator of the Geopolitical Studies Research Centre, **’19**, Geopolitics of the Outer Space, Chapter 3: Outer Space as a Military-Diplomatic Field, Pgs. 48-49)

Despite the theorized potential for the achievement of the terrestrial dominance throughout the utilization of the ultimate high ground and the ease of destruction of space-based assets by the potential space weaponry, the utilization of space weapons is with current technology and no effective means to protect them far from fulfilling this potential (Steinberg 2012, p. 255). **In current global international political and technological setting, the utility of space weapons is very limited**, even if we accept that the ultimate high ground presents the potential to get a decisive tangible military advantage (which is unclear). This stands among the reasons for the lack of their utilization so far. Last but not the least, it must be pointed out that the states also develop passive defense systems designed to protect the satellites on orbit or critical capabilities they provide. These **further decrease the utility of space weapons**. These systems include larger maneuvering capacities, launching of decoys, preparation of spare satellites that are ready for launch in case of ASAT attack on its twin on orbit, or attempts to decrease the visibility of satellites using paint or materials less visible from radars (Moltz 2014, p. 31). Finally, we must look at the main obstacles of connection of the outer space and warfare. The first set of barriers is comprised of **physical obstructions**. As has been presented in the previous chapter, the outer space is very challenging domain to operate in. Environmental factors still present the largest threat to any space military capabilities if compared to any man-made threats (Rendleman 2013, p. 79). A following issue that hinders military operations in the outer space is the predictability of orbital movement. If the reconnaissance satellite's orbit is known, the terrestrial actor might attempt to hide some critical capabilities-an option that is countered by new surveillance techniques (spectrometers, etc.) (Norris 2010, p. 196)-but the hide-and-seek game is on. This same principle is, however, in place for any other space asset-any nation with basic tracking capabilities may quickly detect whether the military asset or weapon is located above its territory or on the other side of the planet and thus mitigate the possible strategic impact of space weapons not aiming at mass destruction. Another possibility is to attempt to destroy the weapon in orbit. Given the level of development for the ASAT technology, it seems that they will prevail over any possible weapon system for the time to come. Next issue, directly connected to the first one, is the utilization of weak physical protection of space objects that need to be as light as possible to reach the orbit and to be able to withstand harsh conditions of the domain. This means that their protection against ASAT weapons is very limited, and, whereas some avoidance techniques are being discussed, they are of limited use in case of ASAT attack. We can thus add to the issue of predictability also the issue of easy destructibility of space weapons and other military hardware (Dolman 2005, p. 40; Anantatmula 2013, p. 137; Steinberg 2012, p. 255). Even if the high ground was effectively achieved and other nations could not attack the space assets directly, there is still a need for communication with those assets from Earth. There are also ground facilities that support and control such weapons located on the surface. Electromagnetic communication with satellites might be jammed or hacked and the ground facilities infiltrated or destroyed thus rendering the possible space weapons useless (Klein 2006, p. 105; Rendleman 2013, p. 81). This issue might be overcome by the establishment of a base controlling these assets outside the Earth-on Moon or lunar orbit, at lunar L-points, etc.-but this perspective remains, for now, unrealistic. Furthermore, **no contemporary actor will risk full space weaponization in the face of possible competition and the possibility of rendering the outer space useless.** No actor is dominant enough to prevent others to challenge any possible attempts to dominate the domain by military means. To quote 2016 Stratfor analysis, "(a) war in space would be devastating to all, and preventing it, rather than finding ways to fight it, will likely remain the goal" (Larnrani 20 16). This stands true unless some space actor finds a utility in disrupting the arena for others.

#### Space commercialization is a strong constraint on conflict – solves your satellite scenario.

Wendy N. Whitman **Cobb 20**, is currently an associate professor of strategy and security studies at the US Air Force's School of Advanced Air and Space Studies, 7-21-2020, "Privatizing Peace: How Commerce Can Reduce Conflict in Space," Routledge & CRC Press, <https://www.routledge.com/Privatizing-Peace-How-Commerce-Can-Reduce-Conflict-in-Space/Cobb/p/book/9780367337834> // AAli

By the end of the twentieth century, scholars zeroed in on the democratic peace theory which attempts to explain why democracies do not go to war with other democracies and why, in some analyses, they seem to be more prone to peace in general than non-democracies. Similar to the golden arches, what is it about democracy that seems to induce such peacefulness? Academics have proposed everything from the nature of mediating institutions to the restraint of public opinion, to trade relations. While these variations will be explored further in Chapter 3, of interest here are the versions that focus explicitly on trade, commercial ties, and capitalism. Along these lines, Erik Gartzke argues, "peace ensues when states lack differences worthy of costly conflict."31 If the costs of conflict are too high, then states should be more unlikely to engage in it. To this end, economic globalization can provide the means through which costs are raised. “The integration of world markets not only facilitates commerce, but also creates new interests inimical to war. Financial interdependence ensures that damage inflicted on one economy travels through the global system, afflicting even aggressors."32 Focusing his analysis primarily on the influence of capitalism, Gartzke's findings suggest that states with markets more closely tied to the global economy are far less likely to experience a militarized dispute. In thinking about the space environment today, there are obvious principles of capitalism at work. However, China, a major spacefaring state that has been making capitalist reforms, arguably remains far from a true capitalist country. This is especially true in their space industry which is heavily subsidized by the state and almost wholly integrated with China's military.34 Many other states continue to subsidize space activities heavily as well. A better approach through which to examine conflict in space is presented by an offshoot of the capitalist peace which is termed the commercial peace. The commercial peace thesis emphasizes the role of trade and the connections made through it to explain a lack of conflict. Han Dorussen and Hugh Ward write: Trade is important not only because it creates an economic interest in peace but also because trade generates 'connections' between people that promote communication and understanding.... Based on these ideas, the flow of goods between countries creates a network of ties and communication links. If two countries are more embedded in this network, their relations should be more peaceful 35 Given the interconnectedness of the global economy to space-based assets, a version of the commercial peace thesis can be used to argue that the chance of conflict in space is less than is commonly understood or recognized precisely because of the extent to which the global economy has become dependent on space-based assets. To understand this argument, consider a scenario in which Russia, in preparation for a new assault on Eastern Europe, attacks a key US military satellite with the purpose of disrupting and disabling military communications in Europe. This action would conceivably enable the Russians to undertake their attack under more favorable conditions and prevent a quicker response from America and its allies. However, if the satellite was attacked via an ASAT that kinetically destroyed the US satellite, the debris cloud created from the attack could have disastrous consequences beyond military communications Much like the movie Gravity, the debris cloud could cause a chain reaction, hitting and ~~disabling~~ dismantling other satellites that would in turn disrupt civilian communications, business transactions, and perhaps even Russian military satellites. The economic effects of lost satellites would not be restricted to one country alone; the global economic consequences in terms of lost property (satellites), lost transactions, and financial havoc would echo throughout the world, including in Russia itself. Finally, the attack on one satellite could even ultimately endanger the ISS and its inhabitants, several of which are Russians. Destruction of the ISS would negate billions of dollars in investment from not just Russia, but other countries that have participated in it including Japan, Italy, and Canada. Therefore, an attack on a US military satellite would not just be an attack on one but an attack on all. While the previous scenario highlights several reasons why it would not be in Russia's best interest to attack a US satellite, this book argues that the economic argument is both the strongest and the most restraining especially as space becomes more congested, competitive, contested, and commercialized. The emergence of private space companies enhances this argument. "In the commercial sector, companies need reliability and legal enforcement mechanisms if they are going to operate profitably in a shared environment."36 In order to foster the growing area of space commercialization, companies must be assured that the activities they undertake in space will be protected in some way or, at a minimum, allowed to proceed to the extent where they can reap the profit. This could be done through international organizations that would provide some sort of space traffic control, but the likelihood of a major international breakthrough on rules regarding space is unlikely in the near term. Therefore, actors must rely on the protections afforded them by an increasingly globalized economy that is ever more dependent on space-based assets.

**Space cooperation doesn’t lead to broader relations – no 1AR extrapolation**

**Sterner 15** (Eric Sterner is a fellow at the George C. Marshall Institute. He held senior staff positions for the U.S. House Science and Armed Services committees and served in DoD and as NASA’s associate deputy administrator for policy and planning, “Talk and Cooperation in Space” 8/6/2015 <https://spacenews.com/op-ed-china-talk-and-cooperation-in-space/>)

How might cooperation with China benefit the United States? Some hold that cooperation in space helps promote cooperation on Earth. Writing in SpaceNews in 2013, Michael Krepon argued “The more they cooperate in space, the less likely it is that their competition on Earth will result in military confrontation. The reverse is also true.” That sentiment is widespread and flows from the nobility of exploration. **If only it were so.** Unfortunately, a country’s space behavior appears to have little affect on its terrestrial actions. Russia’s multidecadal human spaceflight partnership with the United States did not prevent it from invading and destabilizing Ukraine when it moved toward a closer relationship with the European Union, many of whose members are Russian partners in the International Space Station. Space cooperation **has not, and will not**, prevent the continued worsening of the security environment in Europe, which flows from Russian behavior on Earth, not in space. **Space cooperation with China is similarly unlikely to moderate its behavior**. Tensions in Asia derive from China’s insistence on pressing unlawful territorial claims in the Pacific, most recently by transforming disputed coral reefs into would-be military bases. Ironically, civilian space technology has proved critical in documenting these aggressive moves. To further demonstrate the civil space cooperation does not promote cooperation on Earth, we need look no further than recent history. The NASA administrator’s visit to China in the fall of 2014 nearly coincided with China’s hacking of NOAA, with whom Beijing has a “partnership” in studying climate change. Military confrontation flows from the interaction of hard power in pursuit of competing national interests. Space cooperation falls into the realm of soft power. It has value in strengthening relationships among like-minded states with similar interests. China’s aggressiveness toward its neighbors, its human rights record and its cyberattacks on the United States strongly demonstrate that it and the United States are **not of like minds**. This is not the result of insufficient space cooperation, but of divergent national interests. The United States is a status quo power; China is not.

#### Deterrence solves.

**Evanoff 19** [Kyle Evanoff, Kyle is a research associate in international economics and U.S. foreign policy at the Council on Foreign Relations “Big Bangs, Red Herrings, and the Dilemmas of Space Security”, Council on Foreign Relations, 6/27/2019, <https://www.cfr.org/blog/big-bangs-red-herrings-and-dilemmas-space-security> accessed 12/11/21] Adam

More important, U.S. policymakers should avoid making decisions on the basis of a possible, though highly improbable, space Pearl Harbor. They should recognize that latent counterspace capabilities—as exemplified in 2008’s Operation Burnt Frost, which saw the United States repurpose a ballistic missile interceptor to destroy a satellite—are more than sufficient to deter adversaries from launching a major surprise attack in almost all scenarios, especially in light of the aforementioned deep interdependence in the space domain. Adding to the deterrence effect are uncertain offensive cyber capabilities. The United States continues to launch incursions into geopolitical competitors’ critical systems, such as the Russian power grid, and has demonstrated a willingness to employ cyberattacks in the wake of offline incidents, as it did after Iran shot down a U.S. drone last week. Unlike in the nuclear arena, where anything short of the prospect of nuclear retaliation holds limited dissuasive power, space deterrence can stem from military capabilities in various domains. For this reason, an attack on a U.S. satellite could elicit any number of responses. The potential for cross-domain retaliation, combined with the high strategic value of space assets, means that any adversary risks extreme escalation in launching a major assault on American space architectures. Again, well-conceived diplomatic efforts are useful in averting such scenarios altogether.

### 1NC – Collisions

#### Chance of asteroid collisions is tiny and no extinction

Robert **Walker 16**. Software Developer of Tune Smithy, Wolfson College, Oxford. 12-14-2016. "Why Resilient Humans Would Survive Giant Asteroid Impact." Science 2.0. https://www.science20.com/robert\_inventor/we\_wont\_go\_extinct\_after\_a\_major\_asteroid\_impact\_even\_96\_of\_species\_extinct\_0\_chance\_of\_humans\_extinct-187383

This is something you hear said so often - that we risk being hit by an asteroid that could make humans extinct. But do we really? This is the article I’m commenting on, a recently breaking news story: Earth woefully unprepared for surprise comet or asteroid, Nasa scientist warns. Some are already worrying that it means that we are all due to die in the near future from an asteroid impact. Well, no, it doesn't mean that. So, what is the truth behind it? The source of all this is a comment by Dr Joseph Nuth who warns: “But on the other hand they are the extinction-level events, things like dinosaur killers, they’re 50 to 60 million years apart, essentially. You could say, of course, we’re due, but it’s a random course at that point.” Photograph of comet Siding Spring by Hubble - right hand image is more processed. This comet did a close flyby of Mars and at one point was predicted to have a tiny chance of hitting Mars. In the end it missed Mars by more than a quarter of the distance from Earth to the Moon If you read the rest of the article, it’s a worthy goal, to prepare us for asteroid impacts of all sizes from the small Chelyabinsk one up to really large 10 km ones. There are a number of things potentially confusing about this statement however, if you read it as a non scientist. Although there is a risk of “mass extinction” if a large asteroid hit Earth, “mass extinction” there doesn’t mean “extinction of humans”, we are such a resilient species that we would certainly survive a giant asteroid impact. We are not “due” an extinction at all. Next giant impact is most likely to happen many millions of years into the future. As we'll see, there is almost zero chance of a giant impact in the next century. There is however much we can do to protect ourselves from smaller asteroids. As a result of extensive asteroid surveys over the last couple of decades: We can be pretty sure (as in perhaps 99.999999% sure) that there isn’t an extinction level asteroid headed our way in the next century. We know the orbits of all the Near Earth Asteroids that could do this and none will hit Earth over that timescale. That leaves comets, and the chance of that is something like 1 in 100 million per century, as a very rough guess (since 99% of the impacts are thought to be from asteroids). This risk has been pretty much retired due to the automated asteroid searches by the likes of Pan STARRS. But the chance of a smaller asteroid impact is still high enough to make it worth working on it, especially since this is the one natural hazard we can not only predict to the minute, decades in advance, with enough information but also prevent also, given a long enough timeline. We are already close to completing the survey of 1 km asteroids (90% done). With a bit more funding we could also find most of the asteroids down to 45 meters in diameter. As a result of new developments in the science of asteroid detection, this could be done for a cost of only $50 million to protect the entire Earth. We would then be able to deflect asteroids decades before they are due to hit, which is a far easier task than a last minute deflection. First when he said "You could say, of course, we’re due, but it’s a random course at that point.”" - that is a scientist speaking as a scientist. But of course people sharing this on social media, retweeting, writing new stories about it, pick up the “we are due” and omit the scientific qualification “but it’s a random course at that point”. To say that we are “due” a mass extinction is a bit like saying that after you throw nine heads, you are due to throw a tail. Not true. The chance that the next coin toss is a tail is always going to be 50/50 for a fair coin no matter how many heads you throw. It's the same with extinctions. So long as it is a random process, then an extinction that happens every 60 million years could happen tomorrow or it could be 60 million years or 120 million years before it happens. On average we would still expect to wait 60 million years for the next such mass extinction even if the last one happened hundreds of millions of years ago. It’s just as for the coin toss. Same for an extinction event of a size that happens every 100 million years. If you look at the diagram the big five are irregularly spaced. The last one happened 66 million years ago. But they are irregularly spaced so we can't conclude either that we need to wait 44 million years for the next big extinction either. Some scientists have tried to discern a periodicity in the extinctions of perhaps 26 to 30 million years. If they are right then we are due the next extinction perhaps 15 million years or so from now. But that is very controversial and if true, it wouldn’t cover all mass extinctions. At any rate that's so far into the future it makes no difference to us now, if they are right or wrong. We could get a mass extinction in the next few millions of years. But it is nearly impossibly unlikely in the next century.

#### Newest research from NASA proves any threat is at least a thousand years away

Mack 19 (Eric, “NASA says city-smashing asteroids aren't so common,” 6-27, <https://www.cnet.com/news/nasa-says-city-smashing-asteroids-arent-so-common/>)

Asteroids are all around us, but we shouldn't be losing sleep over the big buggers. A small space rock was spotted just before slamming into the atmosphere last weekend, and over 20,000 near-earth asteroids have been cataloged, but new research from NASA finds impacts that could do serious damage aren't very frequent. Perhaps the last time an asteroid large enough to inflict serious hurt on a limited part of the Earth's surface (we're not talking about an extinction-level space rock like the one that ended the dinosaurs) came knocking was in 1908. In June of that year, the so-called Tunguska Event impacted an unpopulated part of Siberia and was witnessed by only a handful of people, but it flattened 500,000 acres of forest, scorched the Earth and knocked people out of their chairs 40 miles away (64 km). It's easy and terrifying to imagine what the result might have been had chance dictated the impact occurred over a major metropolitan area instead. "Tunguska is the largest cosmic impact witnessed by modern humans," David Morrison, a planetary science researcher at NASA's Ames Research Center in Silicon Valley, said in a release. "It also is characteristic of the sort of impact we are likely to have to protect against in the future." But when researchers revisited the Tunguska Event with the help of computer models and tooked into account the latest data on the population of asteroids in our neighborhood, they found that such major impacts are exceedingly rare. The results, published in the journal Icarus, find that such a powerful impact should only be expected roughly every thousand years or longer rather than once every century or so, as was previously thought. While this is certainly good news for all earthly life forms, the threat of an asteroid impact is still very real and worth preparing for, as the 2013 bolide explosion over Russia reminded us. "A lot of uncertainty remains about how large asteroids break up in the atmosphere and how much damage they could cause on the ground," said NASA researcher and co-author Lorien Wheeler. "However, recent advancements in computational models, along with analyses of the Chelyabinsk and other meteor events, are helping to improve our understanding of these factors so that we can better evaluate potential asteroid threats in the future."

#### Squo debris thumps.

**Wall 21** [Mike Wall, Michael Wall is a Senior Space Writer with [Space.com](http://space.com/) and joined the team in 2010. He primarily covers exoplanets, spaceflight and military space. He has a Ph.D. in evolutionary biology from the University of Sydney, Australia, a bachelor's degree from the University of Arizona, and a graduate certificate in science writing from the University of California, Santa Cruz. 11/15/21, "Kessler Syndrome and the space debris problem," Space, [https://www.space.com/kessler-syndrome-space-debris accessed 12/10/21](https://www.space.com/kessler-syndrome-space-debris%20accessed%2012/10/21)] Adam

Earth orbit is getting more and more crowded as the years go by. Humanity has launched about 12,170 satellites since the dawn of the space age in 1957, [according to the European Space Agency](https://www.esa.int/Safety_Security/Space_Debris/Space_debris_by_the_numbers) (ESA), and 7,630 of them remain in orbit today — but only about 4,700 are still operational. That means there are nearly 3,000 defunct spacecraft zooming around Earth at tremendous speeds, along with other big, dangerous pieces of debris like upper-stage rocket bodies. For example, orbital velocity at 250 miles (400 kilometers) up, the altitude at which the ISS flies, is about 17,100 mph (27,500 kph). At such speeds, even a tiny shard of debris can do serious damage to a spacecraft — and there are huge numbers of such fragmentary bullets zipping around our planet. ESA estimates that Earth orbit harbors at least 36,500 debris objects that are more than 4 inches (10 centimeters) wide, 1 million between 0.4 inches and 4 inches (1 to 10 cm) across, and a staggering 330 million that are smaller than 0.4 inches (1 cm) but bigger than 0.04 inches (1 millimeter). These objects pose more than just a hypothetical threat. From 1999 to May 2021, for example, the ISS conducted 29 debris-avoiding maneuvers, including three in 2020 alone, [according to NASA officials](https://www.nasa.gov/mission_pages/station/news/orbital_debris.html). And that number continues to grow; the station performed [another such move in November 2021](https://www.space.com/space-station-dodging-chinese-space-junk-spacex-crew-3), for example. Many of the smaller pieces of space junk were spawned by the explosion of spent rocket bodies in orbit, but others were more actively emplaced. In January 2007, for instance, China intentionally destroyed one of its defunct weather satellites in a much-criticized test of anti-satellite technology that generated [more than 3,000 tracked debris objects](https://swfound.org/media/9550/chinese_asat_fact_sheet_updated_2012.pdf) and perhaps 32,000 others too small to be detected. The vast majority of that junk remains in orbit today, experts say. Spacecraft have also collided with each other on orbit. The most famous such incident occurred in February 2009, when Russia's defunct Kosmos 2251 satellite slammed into the operational communications craft Iridium 33, producing [nearly 2,000 pieces of debris](https://swfound.org/media/6575/swf_iridium_cosmos_collision_fact_sheet_updated_2012.pdf) bigger than a softball. That 2009 smashup might be evidence that the Kessler Syndrome is already upon us, though a cataclysm of "Gravity" proportions is still a long way off. "The cascade process can be more accurately thought of as continuous and as already started, where each collision or explosion in orbit slowly results in an increase in the frequency of future collisions," [Kessler told Space Safety Magazine in 2012](http://www.spacesafetymagazine.com/space-debris/kessler-syndrome/don-kessler-envisat-kessler-syndrome/).

#### Collision risk is infinitesimally small

Fange 17 Daniel Von Fange 17, Web Application Engineer, Founder and Owner of LeanCoder, Full Stack, Polyglot Web Developer, “Kessler Syndrome is Over Hyped”, 5/21/2017, http://braino.org/essays/kessler\_syndrome\_is\_over\_hyped/

The orbital area around earth can be broken down into four regions. Low LEO - Up to about 400km. Things that orbit here burn up in the earth’s atmosphere quickly - between a few months to two years. The space station operates at the high end of this range. It loses about a kilometer of altitude a month and if not pushed higher every few months, would soon burn up. For all practical purposes, Low LEO doesn’t matter for Kessler Syndrome. If Low LEO was ever full of space junk, we’d just wait a year and a half, and the problem would be over. High LEO - 400km to 2000km. This where most heavy satellites and most space junk orbits. The air is thin enough here that satellites only go down slowly, and they have a much farther distance to fall. It can take 50 years for stuff here to get down. This is where Kessler Syndrome could be an issue. Mid Orbit - GPS satellites and other navigation satellites travel here in lonely, long lives. The volume of space is so huge, and the number of satellites so few, that we don’t need to worry about Kessler here. GEO - If you put a satellite far enough out from earth, the speed that the satellite travels around the earth will match the speed of the surface of the earth rotating under it. From the ground, the satellite will appear to hang motionless. Usually the geostationary orbit is used by big weather satellites and big TV broadcasting satellites. (This apparent motionlessness is why satellite TV dishes can be mounted pointing in a fixed direction. You can find approximate south just by looking around at the dishes in your northern hemisphere neighborhood.) For Kessler purposes, GEO orbit is roughly a ring 384,400 km around. However, all the satellites here are moving the same direction at the same speed - debris doesn’t get free velocity from the speed of the satellites. Also, it’s quite expensive to get a satellite here, and so there aren’t many, only about one satellite per 1000km of the ring. Kessler is not a problem here. How bad could Kessler Syndrome in High LEO be? Let’s imagine a worst case scenario. An evil alien intelligence chops up everything in High LEO, turning it into 1cm cubes of death orbiting at 1000km, spread as evenly across the surface of this sphere as orbital mechanics would allow. Is humanity cut off from space? I’m guessing the world has launched about 10,000 tons of satellites total. For guessing purposes, I’ll assume 2,500 tons of satellites and junk currently in High LEO. If satellites are made of aluminum, with a density of 2.70 g/cm3, then that’s 839,985,870 1cm cubes. A sphere for an orbit of 1,000km has a surface area of 682,752,000 square KM. So there would be one cube of junk per .81 square KM. If a rocket traveled through that, its odds of hitting that cube are tiny - less than 1 in 10,000.

#### Space debris creates existential deterrence and a taboo

Bowen 18 [(Bleddyn, lecturer in International Relations at the University of Leicester) “The Art of Space Deterrence,” European Leadership Network, February 20, 2018, <https://www.europeanleadershipnetwork.org/commentary/the-art-of-space-deterrence/>] TDI

Fourth, the ubiquity of space infrastructure and the fragility of the space environment may create a degree of existential deterrence. As space is so useful to modern economies and military forces, a large-scale disruption of space infrastructure may be so intuitively escalatory to decision-makers that there may be a natural caution against a wholesale assault on a state’s entire space capabilities because the consequences of doing so approach the mentalities of total war, or nuclear responses if a society begins tearing itself apart because of the collapse of optimised energy grids and just-in-time supply chains. In addition, the problem of space debris and the [political-legal hurdles to conducting debris clean-up](https://doi.org/10.1080/14777622.2014.890489) operations mean that even a handful of explosive events in space can render a region of Earth orbit unusable for everyone. This could caution a country like China from excessive kinetic intercept missions because its own military and economy is increasingly reliant on outer space, but perhaps not a country like North Korea which does not rely on space. The usefulness, sensitivity, and fragility of space may have some existential deterrent effect. [China’s catastrophic anti-satellite weapons test in 2007](https://defenceindepth.co/2017/01/11/chinas-space-weapons-test-ten-years-on-behemoth-pulls-the-peasants-plough/) is a valuable lesson for all