## Mining DA

#### Commercial asteroid mining is coming now – lower costs and improving tech make it economically viable – and the legal basis is already in place in multiple countries– that helps acquire water for rocket fuel and rare earth metals

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Space exploration is back. after decades of disappointment, a combination of better technology, falling costs and a rush of competitive energy from the private sector has put space travel front and center. indeed, many analysts (even some with their feet on the ground) believe that commercial developments in the space industry may be on the cusp of starting the largest resource rush in history: mining on the Moon, Mars and asteroids.

While this may sound fantastical, some baby steps toward the goal have already been taken. Last year, NASA awarded contracts to four companies to extract small amounts of lunar regolith by 2024, effectively beginning the era of commercial space mining. Whether this proves to be the dawn of a gigantic adjunct to mining on earth — and more immediately, a key to unlocking cost-effective space travel — will turn on the answers to a host of questions ranging from what resources can be efficiently.

As every fan of science fiction knows, the resources of the solar system appear virtually unlimited compared to those on Earth. There are whole other planets, dozens of moons, thousands of massive asteroids and millions of small ones that doubtless contain humungous quantities of materials that are scarce and very valuable (back on Earth). Visionaries including Jeff Bezos imagine heavy industry moving to space and Earth becoming a residential area. However, as entrepreneurs look to harness the riches beyond the atmosphere, access to space resources remains tangled in the realities of economics and governance.

Start with the fact that space belongs to no country, complicating traditional methods of resource allocation, property rights and trade. With limited demand for materials in space itself and the need for huge amounts of energy to return materials to Earth, creating a viable industry will turn on major advances in technology, finance and business models.

That said, there’s no grass growing under potential pioneers’ feet. Potential economic, scientific and even security benefits underlie an emerging geopolitical competition to pursue space mining. The United St ates is rapidly emerging as a front-runner, in part due to its ambitious Artemis Program to lead a multinational consortium back to the Moon. But it is also a leader in creating a legal infrastructure for mineral exploitation. The United States has adopted the world’s first spaceresources law, recognizing the property rights of private companies and individuals to materials gathered in space.

However, the United States is hardly alone. Luxembourg and the United Arab Emirates (you read those right) are racing to codify space-resources laws of their own, hoping to attract investment to their entrepot nations with business-friendly legal frameworks. China reportedly views space-resource development as a national priority, part of a strategy to challenge U.S. economic and security primacy in space. Meanwhile, Russia, Japan, India and the European Space Agency all harbor space-mining ambitions of their own. Governing these emerging interests is an outdated treaty framework from the Cold War. Sooner rather than later, we’ll need new agreements to facilitate private investment and ensure international cooperation.

What’s Out There

Back up for a moment. For the record, space is already being heavily exploited, because space resources include non-material assets such as orbital locations and abundant sunlight that enable satellites to provide services to Earth. Indeed, satellite-based telecommunications and global positioning systems have become indispensable infrastructure underpinning the modern economy. Mining space for materials, of course, is another matter.

In the past several decades, planetary science has confirmed what has long been suspected: celestial bodies are potential sources for dozens of natural materials that, in the right time and place, are incredibly valuable. Of these, water may be the most attractive in the near-term, because — with assistance from solar energy or nuclear fission — H2O can be split into hydrogen and oxygen to make rocket propellant, facilitating in-space refueling. So-called “rare earth” metals are also potential targets of asteroid miners intending to service Earth markets. Consisting of 17 elements, including lanthanum, neodymium, and yttrium, these critical materials (most of which are today mined in China at great environmental cost) are required for electronics. And they loom as bottlenecks in making the transition from fossil fuels to renewables backed up by battery storage.

#### However, the legal framework that strikes the best balance of providing economic incentives for mining while preventing unbeneficial land claims requires a doctrine of appropriation – the plan prevents that

Meyers 15 Meyers, Ross. J.D. candidate at the University of Oregon Law School. "The doctrine of appropriation and asteroid mining: incentivizing the private exploration and development of outer space." Or. Rev. Int'l L. 17 (2015): 183. Italics in original. [Quality Control]

The doctrine of appropriation is a reasonable rule for adjudicating asteroid claims, and it could easily be modified to apply to asteroid mining. In the context of water rights, the doctrine of appropriation requires that the claimant be a landowner in order to claim the right to use a water source. It does not make sense, however, for the international community to grant complete ownership over asteroids toa single entity, so the landowner requirement of the rule should be removed. A similar modification would need to be made to the "beneficial use" language of the doctrine.

In the context of water rights, an appropriator obtains rights only to water that he or she can reasonably put to beneficial use. The metals contained in asteroids have a high level of marketability. For that reason, a mining entity could potentially put any amount of obtained metal to beneficial use, in the sense that the resources can be sold. This, however, would defeat the purpose of the rule, which is to limit such unreasonable claims. To ameliorate this problem, the doctrine of appropriation could be modified to define "beneficial use "constructively by providing that beneficial use is assumed for any resources that have been removed from the asteroid that the mining entity can reasonably hope to transport to market in a return journey. With the astronomical cost of undertaking a trip to such an asteroid, this modification would limit mining entities to only what they can carry back, thereby leaving the untapped resources available to other entities capable of making the same trip. Considering the size and profitability of metal deposits on asteroids, this modification to the doctrine of appropriation would not be overly burdensome to corporate interests. At the same time, it would satisfy the economic imperative of promoting the rapid development of asteroid resources.

By changing the landowner requirement, and qualifying the “beneficial use" language, the doctrine of appropriation would be essentially ready for application to asteroid mining claims. The only other changes necessary would be some additional requirements that are common to other space related provisions, like those found in the Outer Space Treaty of 1968. For example, a reporting requirement or clause guaranteeing asylum for other astronauts. A functional rule might read something like this:

*State parties or private entities may, upon actual possession, lay claim to natural resources found on or below the surface of asteroids. Rights to appropriate are given in order of seniority, starting with the first party to land on the surface of the asteroid and establish control over the resources, be it water, methane, metal, or any other beneficial substances. A party will be said to have established control over a resource once he has mined the substance and removed it from the asteroid. A senior appropriator may use as much of the asteroid's resources as he can take from the asteroid and put to beneficial use, and may continue to enlarge his share until another junior appropriator begins to appropriate resources from source for beneficial use. For the purposes of this Agreement, "beneficial use “refers to the amount of resources that an appropriator has removed from the asteroid that the actor may reasonably hope to bring home in a return voyage. Resources in excess of what an appropriator can reasonably hope to transport to market in a single voyage do not qualify as having a beneficial use, and are therefore not yet claimed. This means that the extraction of metal from an asteroid does not serve to provide ownership if the appropriator plans on letting the resources languish until another voyage is undertaken to secure the resources and bring them back to Earth. Junior appropriators receive rights in the source of resources (the asteroid) as they find it, and may prevent the senior appropriator from enlarging his share to the junior appropriator’s detriment under a no-injury rule. No state party will attempt to hinder other parties from landing on or using the asteroid, and parties will assist other entities on an asteroid, should they need emergency assistance. Mining claims on asteroids will be reported to the Secretary-General of the United Nations, and state parties agree to release the location of the asteroid, and any scientific findings to the United Nations, the general public, and the scientific community. In the event that the asteroid is on a collision course with any other celestial body, all state parties agree to follow the course of action suggested by the United Nations. Should the United Nations decide the asteroid must be destroyed, no state party may claim liability for resources contained within the asteroid, but not yet captured. This provision applies only to asteroids as classified by the scientific community, and does not apply to planets, comets, meteorites, or any other celestial body not mentioned.*

There is no doubt that asteroids may be extremely beneficial to mankind, both as a source of resources and as a jumping-off point to far off locations in space. The human-race has progressed scientifically and technologically to the point that space travel is within commercial reach, and the need for new international laws governing the ownership of space has never been more apparent. The Outer Space Treaty of 1968made great strides in developing rational rules for space and many of its provisions should be maintained in their original form. However, by allowing ownership of asteroids under the doctrine of appropriation, the international community can incentivize the exploration and development of space in a way that reflects the needs of society in general, without vesting an absolute monopoly in a single entity. The doctrine of appropriation helped drive American westward expansion, and its application to space mining would help drive the human race in its expansion into the space, the final frontier.

#### Asteroid mining offsets terrestrial growth that ruins the environment and enables solar power satellites – both solve climate change

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The mission is essential, Joyce declares, to save Earth from its major problems. First of all, the fictional billionaire wheels in a fictional Nobel economist to demonstrate the actual truth that the entire global economy is sitting on a mountain of debt. It has to keep growing or it will implode, so we might as well take the majority of the industrial growth off-world where it can’t do any more harm to the biosphere.

Secondly, there’s the climate change fix. Suarez sees asteroid mining as the only way we’re going to build solar power satellites. Which, as you probably know, is a form of uninterrupted solar power collection that is theoretically more effective, inch for inch, than any solar panels on Earth at high noon, but operating 24/7. (In space, basically, it’s always double high noon).

The power collected is beamed back to large receptors on Earth with large, low-power microwaves, which researchers think will be harmless enough to let humans and animals pass through the beam. A space solar power array like the one China is said to be working on could reliably supply 2,000 gigawatts — or over 1,000 times more power than the largest solar farm currently in existence.

“We're looking at a 20-year window to completely replace human civilization's power infrastructure,” Suarez told me, citing the report of the Intergovernmental Panel on Climate Change on the coming catastrophe. Solar satellite technology “has existed since the 1970s. What we were missing is millions of tons of construction materials in orbit. Asteroid mining can place it there.”

The Earth-centric early 21st century can’t really wrap its brain around this, but the idea is not to bring all that building material and precious metals down into our gravity well. Far better to create a whole new commodities exchange in space. You mine the useful stuff of asteroids both near to Earth and far, thousands of them taking less energy to reach than the moon. That’s something else we’re still grasping, how relatively easy it is to ship stuff in zero-G environments.

#### Environmental destruction is profoundly unjust – prioritize environmental justice over primarily human concerns

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Extinguishing species through the continued expansion of human economic activities appears to be morally acceptable to Kareiva, Marvier and some other Anthropocene proponents, as long as this destruction does not harm people themselves. But this view is selfish and unjust. Human beings already control more than our fair share of Earth's resources. If increased human population and economic demands threaten to extinguish the polar bear and many other species, then we need to limit our population and economic demands, not make excuses that will just lead to greater ecological damage.

Conservation biologists, with our knowledge and appreciation of other species, are the last people who should be making excuses for their displacement or making light of their extinction. It is particularly inappropriate for Peter Kareiva to do so, given his position as chief scientist at the Nature Conservancy, an organization dedicated to preserving biodiversity. TNC's fundraising rests in part on appeals to a strong and widely shared moral view that other species have a right to continued existence. Much of the conservation value of TNC's easements and land purchases depends on society-wide moral and legal commitments to preserve threatened and endangered species and their habitats. Kareiva and Marvier state that they "do not wish to undermine the ethical motivations for conservation action," or presumably, conservation law. Yet their articles do precisely that, with potentially disastrous implications for practical conservation efforts, particularly in the long term.

To be clear: We do not think there is anything wrong with people looking after our own legitimate needs. This is an important aspect of conservation. Kareiva and Marvier are right to remind us that protecting ecosystem services for human beings is important. They are right that concern for our own wellbeing can sometimes motivate significant biodiversity preservation. We believe that people should preserve other species both for their sakes and for ours.

But it is a mistake to reduce conservation solely to concern for our own well-being, or to assume that it is acceptable to extinguish species that do not benefit humans. Such an overly economistic approach to conservation leads us astray morally. It makes us selfish, which is the last thing we want when the very existence of so many other life forms is at stake. Fairly sharing the lands and waters of Earth with other species is primarily a matter of justice, not economic convenience.

## Russia DA

#### **Space cooperation allows Russia to poach international prestige---that provides critical leverage that enables global authoritarianism.**

Peter Juul 19. Senior policy analyst at the Center for American Progress. "Trump’s Space Force Gets the Final Frontier All Wrong," 3-20-2019, Foreign Policy. https://foreignpolicy.com/2019/03/20/trumps-space-force-gets-the-final-frontier-all-wrong

Today, however, the United States finds itself on the precipice of a new and uncertain era. American astronauts continue to live and work aboard the International Space Station, but no American has rocketed into orbit from U.S. territory since the last flight of the space shuttle in 2011. And back on Earth, the United States and its democratic allies in Europe and Asia have settled into a worldwide competition for power and influence with Russia and China. Now Russia remains the only nation that regularly launches humans into space. Meanwhile, reflecting their growing power, new players like India and China have embarked on their own ambitious robotic exploration missions to Mars and the far side of the moon. National prestige and international standing are once more at the forefront of space exploration, as is competition between nations—especially between democracies and autocracies—to make impressive achievements on the final frontier. To navigate the new space competition, the United States must first recognize that national prestige and global standing are critical national interests worth pursuing and not pointless—and possibly dangerous—chest-thumping exercises. And peaceful space exploration provides the United States a huge opportunity to restore pride at home and burnish its prestige overseas. It certainly beats other—perhaps less productive—ways of seeking international status, such as stockpiling nuclear weapons. America starts with an advantage on this front despite not having launched astronauts from its own soil in almost eight years. Even after five decades, the Apollo moon landings continue to stir pride at home and admiration abroad. The space shuttle remains iconic nearly a decade after retirement, while the cosmic images beamed back from the Hubble Space Telescope continue to provoke awe and wonder. Astronauts aboard the International Space Station have turned their own camera lenses back toward Earth and given the world stunning images of our home planet. Robotic explorers from Voyager to the Mars rovers and New Horizons have kept the country on the cutting edge of discovery in our solar system. But this advantage won’t last forever. Without consistent and increased funding for NASA, ambitious programs of both human and robotic exploration will literally fail to leave the ground. Without consistent and increased funding for NASA, ambitious programs of both human and robotic exploration will literally fail to leave the ground. Progress doesn’t entail an Apollo-level commitment of national resources, but instead [funding comparable to the early 1990s](https://docs.google.com/spreadsheets/d/e/2PACX-1vTU9FhDV4U6X4suHtvoiMLYDN-y56ipoGh-N7n9fNq7BW1PiMsx5fVlj10LsgvTYVbu3CiUDO_WD0We/pubhtml). An [additional $5 billion a year](https://democracyjournal.org/arguments/progressive-visions-of-space-exploration/) should get the job done, with $3 billion for human exploration and $2 billion for robotic missions. 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. In the meantime, the United States should buttress its already strong cooperative ties with fellow democracies like Japan, Canada, and the nations of the European Space Agency. Here, the main diplomatic challenge with partners like the ESA will be to convince them to curb their enthusiasm for cooperation with Russia and [China](https://www.dw.com/en/towards-the-moon-why-europe-wants-to-work-with-china/a-45644847) on space exploration. The United States should also forge stronger space ties with interested democratic allies like [South Korea](https://swfound.org/media/205872/us-korean_space_cooperation_final_sept_2010.pdf), as well as newcomers like India and Israel.

#### That normalizes Russian territorial aggression---causes nuclear war and extinction.

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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.

Thus, the real questions are, would Putin risk Armageddon for Syria, or is he likely to miscalculate an American response to a nuclear escalation badly enough to end up there against his will?

Full-scale global thermonuclear war is an insane undertaking. The reason for maintaining large arsenals of strategic nuclear weapons is to deter such a war, not to fight it. A tiny handful of leaders in the past have been willing to accept their own total destruction in pursuit of some larger cause—Hitler being the prime exemplar of this, as of so many evils—but none of them, mercifully, has had nuclear weapons. Putin does not fall anywhere near this category. He is a thoroughly rational actor who has prospered by taking prudent risks and backing down, rather than escalating, on almost every occasion when the breaks did not go his way.124 He holds to no ideology that transcends his own existence sufficiently to cause him to prefer obliteration to defeat. Considerable evidence opposes the idea that he would accept, let alone embrace, full-scale nuclear war if given any choice to avoid it.

The real risk of such a war emerging from a regional crisis, therefore, comes from the risk of miscalculation. It comes, in other words, from the notion that Putin might persuade himself that he could safely use a nuclear weapon of his own without triggering a nuclear retaliation that could escalate to total destruction.

Putin himself has set conditions, for fear of precisely this kind of miscalculation, through his discussions of “de-escalation” with regard to scenarios for warfare in the Baltic states. The Russian military has openly discussed using one or a small number of nuclear weapons to terminate a conventional, even a regional or local, conflict on its own terms.125 It is by no means clear, of course, that all three of the nuclear NATO states (the U.S., Britain, and France) would choose not to retaliate against a nuclear attack on another NATO member state. But neither is it obvious, in the current circumstances, that they would. Putin might have some reason to think he could successfully “escalate to de-escalate,” given the general ambivalence within some NATO capitals about the desirability of even fighting for the Baltics to begin with.

It is harder to imagine him making such a calculation in the context of the Syria scenario being considered here, however. In this scenario, the conflict involves American versus Russian forces directly, and the attack would be on American troops, with thousands or tens of thousands killed in the nuclear strike. The U.S. president would already have demonstrated a willingness to escalate to a high level conventionally, a fact that would weigh heavily against the notion that that president would tamely accept a Russian escalation to a higher level of conflict. Putin would have to be an imbecile, or a gambler of epic proportions, to persuade himself that he could safely escalate to de-escalate in such a conflict. Assuming deterrence continues to work at the strategic level, in other words, it is very likely to continue to work at the operational and tactical levels, even in a major conventional conflict involving American and Russian forces, at least outside of Russian territory.

The purpose of the foregoing discussion was not in any way to suggest that a U.S.-Russian conventional war in Syria or anywhere else is safe, would definitely not spread, and could not lead to nuclear war. Still less was it a brief to advocate for any such conflict. The aim, rather, was to show that the escalation paths from the current situation to higher levels of conflict look much worse for Putin than they do for the U.S., and that even adding the notion of the risk of nuclear war or escalation to de-escalate, Putin has every reason to believe that outright confrontation with the American military will end badly for him.

That is one of the main reasons behind his preference for hybrid warfare. It is the reason he is unlikely to abandon that preference any time soon but seems, rather, to be doubling down on it. This has implications far beyond Syria. It goes into the Baltics, Poland, NATO, and even Ukraine and Belarus with various important modifications. The current Russian way of war reflects the realities of Russia’s situation and the correlation of forces between Russia and the U.S. for the foreseeable future. This is the way of war against which the U.S. and its allies must most urgently prepare, and from which they must not allow themselves to be distracted, even while taking necessary steps to address deficiencies in conventional combat power and other areas. Hybrid war is not a façade or a fad— it is the only realistic way Putin has to achieve his objectives by force.

## Case

#### No debris cascades, but even a worst case is confined to low LEO with no impact

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/

Kessler Syndrome is overhyped. A chorus of online commenters great any news of upcoming low earth orbit satellites with worry that humanity will to lose access to space. I now think they are wrong.

What is Kessler Syndrome?

Here’s the popular view on Kessler Syndrome. Every once in a while, a piece of junk in space hits a satellite. This single impact destroys the satellite, and breaks off several thousand additional pieces. These new pieces now fly around space looking for other satellites to hit, and so exponentially multiply themselves over time, like a nuclear reaction, until a sphere of man-made debris surrounds the earth, and humanity no longer has access to space nor the benefits of satellites.

It is a dark picture.

Is Kessler Syndrome likely to happen?

I had to stop everything and spend an afternoon doing back-of-the-napkin math to know how big the threat is. To estimate, we need to know where the stuff in space is, how much mass is there, and how long it would take to deorbit.

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.

So even in the worst case, we don’t lose access to space.

Now though you can travel through the debris, you couldn’t keep a satellite alive for long in this orbit of death. Kessler Syndrome at its worst just prevents us from putting satellites in certain orbits.

In real life, there’s a lot of factors that make Kessler syndrome even less of a problem than our worst case though experiment.

* Debris would be spread over a volume of space, not a single orbital surface, making collisions orders of magnitudes less likely.
* Most impact debris will have a slower orbital velocity than either of its original pieces - this makes it deorbit much sooner.
* Any collision will create large and small objects. Small objects are much more affected by atmospheric drag and deorbit faster, even in a few months from high LEO. Larger objects can be tracked by earth based radar and avoided.
* The planned big new constellations are not in High LEO, but in Low LEO for faster communications with the earth. They aren’t an issue for Kessler.
* Most importantly, all new satellite launches since the 1990’s are required to include a plan to get rid of the satellite at the end of its useful life (usually by deorbiting)

So the realistic worst case is that insurance premiums on satellites go up a bit. Given the current trend toward much smaller, cheaper micro satellites, this wouldn’t even have a huge effect.

I’m removing Kessler Syndrome from my list of things to worry about.

#### It takes centuries and adaptation solves

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The dynamics of the Kessler Syndrome are real, and most people studying it agree on the concept: if there is sufficient density of objects and mass, a chain reaction of debris breaking up objects and creating more debris can occur. But the timescale of this process takes decades and centuries. There are many assumptions that go into these models. Though there is still argument about this, many people in the field think that the process is already underway in low earth orbit. But others, including myself, think we can stop it if we take action. This is a slow motion disaster that we can prevent.

But in spite of hype to the contrary, we will never “lose access to space”. Certain missions may become impractical or too expensive, and we may decide that some orbits are too risky for humans. Even that depends on the tolerance for the risk. But robots don’t have mothers, and if we feel it is worthwhile we will take the risk and fly the satellites where we need to.

To the specifics of the question, it will take many decades. It will not destroy all satellites in LEO. You won’t be able to see it from the ground unless you were extraordinarily lucky, and you happened to see a flash from a collision in the instant you were looking, with just the right lighting.

#### No correlation between resources and war

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The economic and strategic importance of oil and other non-renewable resource is indisputable. Yet the globalised character of international commerce has resulted in many nations ceasing to perceive resource dependency as a threat to autonomy or survival (Deudney, 1990). This interdependence has resulted in the decreased likelihood of inter-state conflict over control of resources, due to the price shocks these actions could propel across the system and the increasingly technological developments (Lipschutz and Holdren, 1990). Such dynamics are well illustrated by the 1973 oil crisis (Dabelko and Dabelko, 1993). Although the move by the Organisation of Arab Petroleum Exporting Countries (OAPEC) to restrict exports resulted in record price rises and the transformation of the international sphere, thus illustrating the economic relevance of resources, it did not result in international violent conflict. Furthermore, Le Billon (2001) has stated that the spectre of resource scarcity has resulted in the escalation of socioeconomic innovation and economic diversification – with the market mechanisms of contemporary capitalism creating an important impediment to conflict. In Botswana and Norway, minerals and oil, respectively, have been mobilised to ensure peaceful development rather than violent confrontation (Le Billon, 2001). Furthermore, in many cases potential scarcity has resulted in increased inter-state cooperation due to the shared interest in continued supply. The continued sanctity of the 1960 Indus Waters Treaty, between Pakistan and India, is an important example, with the spirit of cooperation over water resources enduring despite increased political tensions between the two nations (Wolf, 1998).

#### Substitutes solve – multiple breakthroughs being made

Adam Currie, market writer, 3/18/13 [“Rare Earth Recycling: Risk to Sector or Investment Opportunity?” Rare Earth Investing News, 2013, http://rareearthinvestingnews.com/9255-rare-earth-recycling-risk-to-sector-or-investment-opportunity.html]

While Honda has impressed investors by succeeding in its recycling goals and its plans to commercialize this recycling process, it is not the only company focused on innovation. Since the industry underwent a severe shake up in 2008, more and more manufacturers have begun seeking alternative solutions aimed at either decreasing their dependence on rare earths, or securing their own REE supply.¶ In 2012, Toyota (TSE:7203) announced that it had developed a method to manufacture hybrid and electric vehicles (EVs) without the use of rare earth metals, while General Motors Company (NYSE:GM) confirmed it was “close to a breakthrough” that would reduce its need for dysprosium, a rare earth in especially high demand. Japan’s Hitachi (TSE:6501) has been clear of its intentions to move away from the use of REEs, announcing in April last year a highly-efficient permanent magnet synchronous motor that employs an iron-based amorphous metal in the core – and, crucially, no REEs.¶ Also, Ford (NYSE:F) announced that its nickel-metal-hydride batteries will be replaced with lithium-ion alternatives in a move that could see the company cut 500,000 pounds of REEs from its manufacturing process annually, while the US Department of Energy’s (DOE) Ames Laboratory confirmed that it too is working towards creating a method to remove neodymium from the mix of other materials in magnets.