## 1NC – T

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

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

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

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

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

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

#### Standards:

#### Limits – their interpretation means that affs about any outer space activity would be topical: mining, photography, sending rovers, collecting ice cores, launching satellites, deflecting debris, can’t sell rocks on EBAY, etc. This explodes neg prep burdens since outer space activity is so vague – no generics exist to answer both the photography and the rovers aff, so affs would just win with a tiny impact every round

#### Ground – allowing debates about extracting any space resource denies the neg links to core generics like space democracy bad, space colonization good, the moon pic, the property rights NC, etc. – that kills clash by forcing negatives to the fringes of argumentation that disagree with everything and kills fairness by giving the aff a major prep advantage since they only need to frontline the few negative arguments that link to their aff.

#### Fairness- consittutive of comp activites, args presume

#### Edu- funded ny schools

#### DTD- dta illogical, time skew

#### No RVI’s- illogical, baiting

#### CI- intervention, race to bottom, collapses, yours vs best

## NC - T

#### Interpretation: The aff must defend that the appropriation of outer space by private entities for all appropriation is unjust, not a subset

**Appropriation is a definite uncountable noun–that’s generic**

**WMWRC 18**. William and Mary Writing Resource Center, 2018, Using Articles, <https://www.wm.edu/as/wrc/newresources/handouts/using-articles.pdf> //SR

Use of the articles a, an, and the can depend on any of four paired noun qualities: countable vs. noncountable, definite vs. indefinite, first vs. subsequent mention, and general vs. specific: Countable vs. Non-countable A and an are used if the noun can be counted. I ran into a post. (How many posts did you run into? Just one. Therefore, use a.) I ate a piece of cake. I saw an eagle. The is used when the noun cannot be counted. I ran into the water. (How many waters did you run into? The question doesn't make any sense because water is non-countable. Therefore, use the.) I ate the rice. I saw the milk spill. Indefinite Articles: a and an A and an signal that the noun modified is indefinite, referring to any member of a group. These indefinite articles are used with singular nouns when the noun is general; the corresponding indefinite quantity word some is used for plural general nouns. The rule is: a + a singular noun beginning with a consonant: a boy an + a singular noun beginning with a vowel: an elephant some + a plural noun: some girls Note that in English, the indefinite articles are used to indicate membership in a profession, nationality, or religion. I am a teacher. Brian is an Irishman. Seiko is a practicing Buddhist. Definite Article: the The definite article is used before singular and plural nouns when the noun is particular or specific. The signals that the noun is definite; it refers to a particular member of a group. Compare the indefinite and definite articles in the following pairs: A dog (any dog). The dog (that specific dog) The is used with both singular and plural nouns: the book, the cat the books, the cats The is not used with non-countable nouns referring to something in a general sense: [no article] Coffee is a popular drink. [no article] Japanese was his native language. [no article] Intelligence is difficult to quantify. The is used with non-countable nouns that are made more specific by a modifying phrase or clause: The coffee in my cup is too hot to drink. The Japanese he speaks is often heard in the countryside. The intelligence of animals is variable but undeniable. The is also used when a noun refers to something unique: the White House; the theory of relativity; the 2016 federal budget Geographical Uses of the DO NOT use the before: names of countries, except the Netherlands, the US, the Philippines (Italy, Mexico, Bolivia) names of cities, towns, or states (Seoul, Manitoba, Miami) names of streets (Washington Blvd., Main St.) names of lakes and bays, except with a group of lakes like the Great Lakes (Lake Louise, Lake Erie) names of mountains, except with ranges of mountains like the Andes or the Rockies or unusual names like the Matterhorn (Mount Everest, Mount Fuji) names of continents (Asia, Europe) names of islands except with island chains like the Aleutians, the Hebrides, or the Canary Islands (Easter Island, Maui, Key West) DO use the before: names of rivers, oceans and seas (the Nile, the Pacific, the Sea of Japan) points on the globe (the Equator, the North Pole) geographical areas (the Middle East, the West) deserts, forests, gulfs, and peninsulas (the Sahara, the Persian Gulf, the Black Forest, the Iberian Peninsula) First vs. Subsequent Mention A or an is used to introduce a noun when it is mentioned for the first time in a piece of writing. The is used afterward each time you mention that same noun. An awards ceremony at the Kremlin would not normally have attracted so much attention. But when it was leaked that Soviet President Konstantin Chernenko would be presenting medals to three cosmonauts, interest in the ceremony intensified. (Time, Sept. 17, 1984). Note: There is and there are can be used to introduce an indefinite noun at the beginning of a paragraph or essay. General vs. Specific A, an, and the can all be used to indicate that a noun refers to the whole class to which individual countable nouns belong. This use of articles is called generic, from the Latin word meaning "class." A tiger is a dangerous animal. (any individual tiger) The tiger is a dangerous animal. (all tigers: tiger as a generic category) The omission of articles also expresses a generic (or general) meaning: no article with a plural noun: Tigers are dangerous animals. (all tigers) no article with a non-countable noun: Anger is a destructive emotion. (any kind of anger)

#### Vote negative:

#### 1] Precision – they justify arbitrarily mooting words in the resolution at their own whim in order to justify some potentially good interp.

#### 2] Limits – they explode the topic to include banning anything in space like photography, moon rocks, rovers, etc. and make it so there is *no* unified neg generics. That kills fairness by exploding the neg prep burden and guarantees that the aff is always ahead.

#### 3] Ground – we can’t read generics like the space democracy or the space colonization DAs, which hyperfocuses debate on minute parts of the literature and makes neg engagement impossible. Even if we can, link magnitude means their small aff will always outweigh which also kills clash.

#### 4] TVA: Read a whole res aff with the same advantage we don’t stop them from reading new FWs, mechanisms or advantages.

## 1NC – DA

#### Iran deal now and it solves proliferation

* Answers IRGC designation and congress blocks

DesCamp-Renner 4-7 Kat DesCamp-Renner is the program assistant for Middle East policy. April 7, 2022. “Return to the Iran Nuclear Deal Close, Final Challenge May Lie in Congress” [Return to the Iran Nuclear Deal Close, Final Challenge May Lie in Congress | Friends Committee On National Legislation (fcnl.org)](https://www.fcnl.org/updates/2022-04/return-iran-nuclear-deal-close-final-challenge-may-lie-congress?msclkid=6799a767b6a611ecb5f80f2c4f5f81a1) Accessed 4-7 // gord0

The United States and Iran are closer than ever to restoring the Joint Comprehensive Plan of Action (JCPOA), also known as the Iran nuclear deal. The original deal dramatically shrunk Iran’s nuclear program and disrupted the trajectory toward war that the U.S. and Iran appeared to be on after years of threats and sanctions. U.S withdrawal from the agreement under President Trump was a massive setback for peace, diplomacy, and preventing a nuclear-armed Iran. Restoring the nuclear deal will help de-escalate tensions in the region, end the humanitarian suffering caused by economic sanctions against Iran, and prevent nuclear proliferation. As negotiators in Iran and the United States near a mutual return to the Iran nuclear deal, some in Congress are threatening to block ratification of the agreement. It is critical that advocates continue to stay engaged and speak out in favor of diplomacy with Iran. Here are some key takeaways on the push to restore the JCPOA: Where do negotiations on a return to the Iran nuclear agreement stand? Negotiators are reportedly very [close](https://www.reuters.com/world/middle-east/eus-borrell-says-nuclear-agreement-with-iran-very-close-2022-03-26/) to an agreement, but some outstanding issues [remain](https://www.reuters.com/world/middle-east/us-says-small-number-outstanding-issues-iran-nuclear-talks-2022-03-31/). The main sticking point is the status of the Iranian Revolutionary Guard Corps (IRGC) as a Foreign Terrorist Organization (FTO). The Trump administration designated the IRGC as an FTO, in April 2019, as part of a public and deliberate attempt to stymie future diplomatic efforts with Iran. Removing the FTO designation would not meaningfully impact the IRGC, as it would remain under a number of other sanctions. What can we expect if an agreement is reached? Despite the benefits of diplomacy, some in Congress are already [criticizing](https://thehill.com/homenews/senate/598835-lawmakers-skeptical-of-biden-effort-to-resurrect-iran-nuclear-deal/) JCPOA talks and may attempt to block a mutual return to the agreement. If a deal is reached, the Biden administration has indicated it will [submit](https://www.politico.com/news/2022/03/31/biden-congress-new-iran-nuke-deal-00021853) the framework to Congress for review, in accordance with the Iran Nuclear Agreement Review Act (INARA) of 2015. We must continue to support peace with Iran because the world can’t afford another disastrous war. Under the INARA process, Congress will have thirty days to review an agreement, during which time they can attempt to block it by passing a Joint Resolution of Disapproval (JRD). This would require a simple majority in the House and sixty votes in the Senate to beat a filibuster. If the JRD were to pass, President Biden would likely veto the resolution, and Congress would then need the support of two-thirds of its members to override a veto. In that event, the Senate offers the best path for defeating a JRD. How can FCNL advocates support diplomacy with Iran before and after a deal is reached? In advance of a finalized agreement, FCNL advocates can create momentum for diplomacy by urging Congress to speak out in favor of the JCPOA publicly. If an agreement is reached, our next step is to call on members of Congress to oppose any legislative vehicles, including possible JRDs, that would block the implementation of the JCPOA by the United States. One powerful way to support that effort is to [write a letter to the editor](https://act.winwithoutwar.org/lte/send-lte-and-support-diplomacy-and-peace-today/) supporting the JCPOA during the month of April. With Russia’s illegal invasion of Ukraine, the world is again reminded of the immense costs of failed diplomacy. We must continue to support peace with Iran because the world can’t afford another disastrous war. FCNL will keep pushing till we finally re-seal the deal!

#### Space diplomacy trades off – finite manpower, money, and political will.

Johnson-Freeze 16 [(Joan, Professor and former Chair of National Security Affairs at the US Naval War College, Newport, Rhode Island) “Space Warfare in the 21st Century: Arming the Heavens,” Cass Military Studies, 11/8/2016] JL

 \*The plan is legislated in the AVC (same bureau of the State Department that’s concerned with the JCPOA)

Proactive policymaking takes commitment, manpower, and money. A quick look at the money and manpower devoted to diplomacy in the US State and Defense departments compared to the resources available for the hardwareproducing military–industrial complex efforts described in Chapter 5 is enlightening. The Assistant Secretary of State for Arms Control, Verification, and Compliance (AVC) leads space-related diplomacy in the State Department. The AVC Bureau is responsible for “all matters related to the implementation of certain international arms control, nonproliferation, and disarmament agreements and commitments; this includes staffing and managing treaty implementation commissions.”34 The AVC arms control portfolio includes nuclear, biological, and chemical weapons and all related issues. The AVC section charged with space issues is the Office of Emerging Security Challenges; this office also handles missile defense issues and the promotion of transparency, cooperation, and building confidence regarding cybersecurity. As of financial year 2013, AVC had a budget of $31.2 million and 141 employees35 to be active participants and leaders in all of these issues. By way of comparison, the Space Security and Defense Program, a joint program of the DoD and the Office of the Director of National Intelligence (ODNI) was programmed for a similar budget amount in financial year 2015: $32.3 million. That program is described as a “center of excellence for options and strategies (materiel, non-materiel, cross-Title, cross-domain) leading to a more resilient and enduring National Security Space (NSS) Enterprise.”36 A majority of SSDP funding is allocated to the development of offensive space control strategies. So basically, the same budget is allocated for all US global space diplomacy efforts as for an in-house Pentagon think tank to devise counterspace strategies. Within the Pentagon, the Deputy Assistant Secretary of Defense for Space Policy is charged with all issues related to space policy, including diplomacy. The responsibilities of the Space Policy office are to: • Develop policy and strategy for a domain that is increasingly congested, competitive, and contested • Implement across DoD — plans, programs, doctrine, operations — and with the IC and other agencies • Engage with allies and other space-faring countries in establishing norms and augmenting our capabilities.37 The breadth of those responsibilities, which includes reviewing space acquisitions, means that there may be only a handful of individuals actually engaged in multilateral diplomatic efforts, acting, for example, as advisors to diplomatic discussions such as those through the United Nations. Additionally, the expanse of the Pentagon results in a chain of command that makes organizational competition for attention to subject matter challenging at best. The Deputy Assistant Secretary of Defense for Space Policy reports to the Assistant Secretary of Defense for Homeland Defense, who then reports to the Principle Deputy Secretary of Defense for Homeland Defense and Global Security, who then reports to the Under Secretary of Defense for Defense Policy. There are also a multitude of space players in other governmental organizations to coordinate and contend with, particularly within the Air Force and intelligence communities. Personnel are spread thin. US government-wide space diplomacy needs a mandate, manpower, and a supporting budget. Diplomacy, especially multilateral diplomacy, can be timeconsuming, manpower-intensive, and frustrating; and patience is not a strong American virtue. The recent experience in the UN LTS Working Group is emblematic of everything that causes the United States to shun multilateralism. Under the auspices of this group, countries had worked in good faith over the past five years to develop technical guidelines as reciprocal constraints, as insisted upon by the developing countries when they rejected the ICOC. Yet group success appeared thwarted at the February 2016 meeting of the LTS Working Group by one country, Russia.

#### Nuclear deal solves Iran proliferation

Kemp 19 Scott, Department of Nuclear Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, USA. February 11, 2019. “The Iran nuclear deal as a case study in limiting the proliferation potential of nuclear power" [The Iran nuclear deal as a case study in limiting the proliferation potential of nuclear power | Nature Energy](https://www.nature.com/articles/s41560-019-0325-2) Accessed 3-8 // gord0

Historically, the potential to exploit nuclear power technology to make weapons has increased international interest in nuclear power and limited the willingness of supplier nations to provide it. Recently, concern about non-peaceful intent drove a decades-long standoff between the Islamic Republic of Iran and a six-state collective known as the E3+3 (also P5+1) consisting of China, France, Germany, Russia, the United Kingdom and the United States. That standoff was eventually resolved through the negotiation of the Joint Comprehensive Plan of Action (JCPOA), a novel non-treaty agreement concluded in 2015 that limits Iran’s use of civil-nuclear technology. The agreement is unprecedented in that it is the first time a small group of states have reached an agreement for governing how a particular state may use its own technology to mitigate proliferation concerns held by external states. Although the United States under President Trump has withdrawn from the agreement, all other parties have remained committed to upholding its terms and there remains every indication that the agreement is functioning as intended. Representatives from the United States, United Kingdom, Iran, European Union, Germany, France and China attend an Iran nuclear talk meeting in Vienna, Austria on 14 July 2015. Despite its early successes, the JCPOA was only intended to be a temporary measure. Key provisions expire in 2025, ten years after implementation, and parties to the agreement made it clear that they do not wish its terms to become a de facto norm[3](https://www.nature.com/articles/s41560-019-0325-2#ref-CR3). This is driven by both sides: some view the terms as unfairly restrictive while others view them as too permissive. Nevertheless, the fact that the agreement brought years of escalation to a temporary resolution suggests that the approach might serve as a model for mitigating nuclear weapon concerns associated with the future use of nuclear power in other nuclear-newcomer states. This article reviews the technical nature of the problem the agreement attempts to tackle, and the technical solutions the agreement used to reduce proliferation concern in Iran. Although the politics of any future proliferation case will be sui generis, the underlying technical problem has a good probability of being similar to that of the Iran case, and may, therefore, be soluble through similar means.

#### Iranian proliferation goes nuclear – causes regional war and spurs proliferation cascades across the Middle East

Chilton and Hoshovsky 20 – [(Kevin, led U.S. Strategic Command and has participated in the Jewish Institute for National Security of America’s Generals and Admirals Program; Harry, policy analyst at JINSA’s Gemunder Center for Defense and Strategy) "Avoiding a nuclear arms race in the Middle East," Defense News, 2-13-2020, https://www.defensenews.com/opinion/commentary/2020/02/13/avoiding-a-nuclear-arms-race-in-the-middle-east/] TDI

This raises two immediate concerns. First, **should Iran race for the bomb, it is** almost inevitable that the United States and/or Israel will take preventative military action **to stop it from crossing that fateful threshold**. This could easily spiral into a regional war as Iran activates its various proxy forces against the United States and its allies. Second, **an Iranian nuclear breakout attempt could** spur a proliferation cascade throughout the Middle East, **beginning with Saudi Arabia.** Mohammed bin Salman, **the Saudi crown prince, openly stated in 2018 that if Iran developed nuclear weapons**, Riyadh would quickly “follow suit.” **One suggested approach would see Saudi Arabia purchase a nuclear power reactor from a major supplier like South Korea and then build a reprocessing plant that would yield enough weapons-grade plutonium in five years**. A half-decade delay isn’t optimal, however, when the goal is achieving nuclear deterrence quickly. Thus, there is the so-called Islamabad option. This refers to Riyadh’s role in financing Pakistan’s nuclear weapons program and an alleged commitment from Islamabad that it would repay the favor. While Pakistani and Saudi officials have denied any such understanding, **there is the possibility that the two could work out an arrangement where Islamabad could deploy some of its nuclear arsenal on Saudi soil following a successful Iranian breakout.** Although this maneuver would draw sharp, international criticism, in theory, it would allow Riyadh to remain in good standing vis-a-vis the nuclear nonproliferation treaty. Nevertheless, Pakistan might not be willing to play spoiler against a nuclearized Iran. If it is, Middle Eastern geopolitics would become extremely unstable. **If Saudi Arabia acquires nuclear weapons**, many believe Turkey would follow suit. Last September, Turkish President Recep Tayyip **Erdogan declared that he “cannot accept” the argument from Western nations that Turkey should not be allowed to attain nuclear weapons.** In 1958, Charles de Gaulle proclaimed that a nation without nuclear weapons “does not command its own destiny”; two years later, France tested its first bomb. Erdogan’s comments echo those earlier remarks and raise the possibility that Ankara could become the second NATO member to leave the alliance’s nuclear umbrella in favor of its own independent arsenal.

# Case

### 1NC – Dual Use

#### OOS and ADR are key to debris prevention and sustainable spaceflight. New developments are being pursued with renewed vigor

Wilde et al. 19 Marcus, ORION Laboratory, Department of Aerospace, Physics and Space Sciences, Florida Institute of Technology, Melbourne, FL, United States. Jan Harder, ORION Laboratory, Department of Aerospace, Physics and Space Sciences, Florida Institute of Technology, Melbourne, FL, United States. 3Enrico Stoll, Institute of Space Systems, Technische Universität Braunschweig, Brunswick, Germany. December 12, 2019. “Editorial: On-Orbit Servicing and Active Debris Removal: Enabling a Paradigm Shift in Spaceflight” [Frontiers | Editorial: On-Orbit Servicing and Active Debris Removal: Enabling a Paradigm Shift in Spaceflight | Robotics and AI (frontiersin.org)](https://www.frontiersin.org/articles/10.3389/frobt.2019.00136/full) Accessed 2-27 // gord0

As of April 2019, the satellite database maintained by the Union of Concerned Scientists showed 2,062 active satellites orbiting the Earth ([Union of Concerned Scientists, 2019](https://www.frontiersin.org/articles/10.3389/frobt.2019.00136/full#B13)). They provide services essential to global security, commerce, science, and the safety and well being of large parts of the population. Some examples are global communications and navigation, remote sensing, climate science, and weather observation. Although many global systems such as military communications, commercial logistics, or weather forecasting can no longer function without space based services, spacecraft manufacturers, owners, and operators are surprisingly bad shepherds of the orbital environment. For most of the history of spaceflight, satellites have been treated as disposable articles and the orbits around Earth as an infinite resource. With about 5,400 space missions flown since 1957, NORAD tracks almost 20,000 objects in orbit around Earth, of which more than 12,100 are classified as debris objects and another 2,200 are spent upper stages. This is before the “mega constellations” proposed by a number of new commercial space enterprises add a projected 20,000 new satellites ([Henry, 2018](https://www.frontiersin.org/articles/10.3389/frobt.2019.00136/full#B4), [2019](https://www.frontiersin.org/articles/10.3389/frobt.2019.00136/full#B5)). If the historical rate of 9% of all satellites experiencing a major malfunction before their end of life persists, spaceflight may become unsustainable ([Long et al., 2007](https://www.frontiersin.org/articles/10.3389/frobt.2019.00136/full#B8)). On-orbit servicing and active debris removal can be part of the solution. If satellites can be inspected and repaired in orbit, potentially [damaging] ~~crippling~~ malfunctions can be identified and mitigated without the satellite becoming part of the debris population. If a satellite still becomes inoperable, it can be safely removed from orbit. If healthy satellites can be refueled in orbit, they can be operated beyond their original design life, even given the necessity of collision avoidance maneuvers or orbital changes to optimize ground coverage. Furthermore, if subsystems and components of satellites are replaced throughout their lifetimes, spacecraft can be continuously upgraded to match market demand and to avoid technical and economic obsolescence. Therefore, operational on-orbit servicing systems can increase spacecraft capability and longevity, can provide flexibility in design and operations, and hence increase the overall return on investment on space systems. The value of on-orbit servicing was clearly demonstrated by the servicing missions executed by the Space Shuttle, most notably to the Hubble Space Telescope ([Goodman, 2006](https://www.frontiersin.org/articles/10.3389/frobt.2019.00136/full#B3); [Joppin and Hastings, 2006](https://www.frontiersin.org/articles/10.3389/frobt.2019.00136/full#B6)). These missions clearly showed how on-orbit servicing can save a space mission and then continuously extend the lifetime and improve capabilities. Due to the high cost and risk associated with human spaceflight, the emphasis was soon placed on developing robotic systems able of replicating the servicing abilities of the Shuttle orbiter/astronaut teaming. This resulted in a number of demonstrator missions for rendezvous, formation flight, capture and servicing technologies, notably Engineering Test Satellite (ETS) VII in 1997 and Orbital Express in 2007 ([Yoshida, 2003](https://www.frontiersin.org/articles/10.3389/frobt.2019.00136/full#B15); [Kennedy, 2008](https://www.frontiersin.org/articles/10.3389/frobt.2019.00136/full#B7)). After a brief hiatus, development of on-orbit servicing and debris removal systems is being pursued with renewed vigor, with NASA planning to fly its Restore-L refueling and relocation mission to a client in Low Earth Orbit in 2022 and DARPA continuing with its Robotic Servicing of Geostationary Satellites (RSGS) program ([Reed et al., 2016](https://www.frontiersin.org/articles/10.3389/frobt.2019.00136/full#B10); [Roesler et al., 2017](https://www.frontiersin.org/articles/10.3389/frobt.2019.00136/full#B11)).

#### Space dust wrecks satellites and debris exponentially spirals – turns the case.

Intagliata 17 ~~[(Christopher Intagliata, MA Journalism from NYU, Editor for NPRs All Things Considered, Reporter/Host for Scientific American’s 60 Second Science) "The Sneaky Danger of Space Dust," Scientific American, May 11, 2017, <https://www.scientificamerican.com/podcast/episode/the-sneaky-danger-of-space-dust/>~~] TDI

When tiny particles of space debris slam into satellites, the collision could cause the emission of hardware-frying radiation, Christopher Intagliata reports. Aside from all the satellites, and the space station orbiting the Earth, there's a lot of trash circling the planet, too. Twenty-one thousand [baseball-sized chunks](https://www.scientificamerican.com/article/orbital-debris-space-fence/) of debris, [according to NASA](https://www.orbitaldebris.jsc.nasa.gov/faq.html). But that number's dwarfed by the number of small particles. There's hundreds of millions of those. "And those smaller particles tend to be going fast. Think of picking up a grain of sand at the beach, and that would be on the large side. But they're going 60 kilometers per second." Sigrid Close, an applied physicist and astronautical engineer at Stanford University. Close says that whereas mechanical damage—like punctures—is the worry with the bigger chunks, the dust-sized stuff might leave more insidious, invisible marks on satellites—by causing electrical damage. "We also think this phenomenon can be attributed to some of the failures and anomalies we see on orbit, that right now are basically tagged as 'unknown cause.'" Close and her colleague Alex Fletcher modeled this phenomenon mathematically, based on plasma physics behavior. And here's what they think happens. First, the dust slams into the spacecraft. Incredibly fast. It vaporizes and ionizes a bit of the ship—and itself. Which generates a cloud of ions and electrons, traveling at different speeds. And then: "It's like a spring action, the electrons are pulled back to the ions, ions are being pushed ahead a little bit. And then the electrons overshoot the ions, so they oscillate, and then they go back out again." That movement of electrons creates a pulse of electromagnetic radiation, which Close says could be the culprit for some of that electrical damage to satellites. The study is in the journal Physics of Plasmas. ~~[Alex C. Fletcher and Sigrid Close, [Particle-in-cell simulations of an RF emission mechanism associated with hypervelocity impact plasmas](http://aip.scitation.org/doi/full/10.1063/1.4980833)~~]

**Doesn't escalate – vulnerability leads to restraint.**

**Pavur 19** [James, DPhil Researcher at the Cybersecurity Centre for Doctoral Training at Oxford University, and Ivan Martinovic, Professor of Computer Science in the Department of Computer Science at Oxford University, “The Cyber-ASAT: On the Impact of Cyber Weapons in Outer Space”, 2019 11th International Conference on Cyber Conflict: Silent Battle, <https://ccdcoe.org/uploads/2019/06/Art_12_The-Cyber-ASAT.pdf>]

Limited Accessibility Space is difficult. Over 60 years have passed since the first Sputnik launch and only nine countries (ten including the EU) have orbital launch capabilities. Moreover, a launch programme alone does not guarantee the **resources** and **precision required** to **operate a meaningful ASAT capability**. Given this, one possible reason why **space wars have not broken out** is simply because only the US has ever had the ability to fight one [21, p. 402], [22, pp. 419–420]. Although launch technology may become cheaper and easier, it is unclear to what extent these advances will be distributed among presently non-spacefaring nations. **Limited access to orbit** necessarily reduces the scenarios which could plausibly escalate to ASAT usage. Only major conflicts between the handful of states with ‘space club’ membership could be considered possible flashpoints. Even then, the **fragility of an attacker’s own space assets** creates **de-escalatory pressures** due to the **deterrent effect of retaliation**. Since the earliest days of the space race, dominant powers have recognized this dynamic and demonstrated an inclination **towards de-escalatory space strategies** [23]. B. Attributable Norms There also exists a **long-standing normative framework** favouring the **peaceful use of space**. The effectiveness of this regime, centred around the Outer Space Treaty (**OST**), is highly contentious and many have pointed out its serious legal and political shortcomings [24]–[26]. Nevertheless, this status quo framework has somehow supported over **six decades of relative peace** in orbit. Over these six decades, **norms have become deeply ingrained** into the way states describe and perceive space weaponization. This de facto codification was dramatically demonstrated in 2005 when the US found itself on the short end of a 160-1 UN vote after opposing a non-binding resolution on space weaponization. Although states have occasionally pushed the boundaries of these norms, this has typically occurred through incremental legal re-interpretation rather than outright opposition [27]. Even the most notable incidents, such as the 2007-2008 US and Chinese ASAT demonstrations, were couched in rhetoric from both the norm violators and defenders, depicting space as a peaceful global commons [27, p. 56]. Altogether, this suggests that **states perceive real costs** to breaking this normative tradition and may even **moderate their behaviours** accordingly. One further factor supporting this norms regime is the **high degree of attributability** surrounding ASAT weapons. For kinetic ASAT technology, **plausible deniability** and **stealth** are essentially **impossible**. The literally explosive act of launching a rocket cannot evade detection and, if used offensively, retaliation. This imposes **high diplomatic costs** on ASAT usage and testing, particularly during peacetime. C. Environmental Interdependence A third stabilizing force relates to the **orbital debris consequences** of ASATs. China’s 2007 ASAT demonstration was the largest debris-generating event in history, as the targeted satellite dissipated into thousands of dangerous debris particles [28, p. 4]. Since debris particles are indiscriminate and unpredictable, they often threaten the attacker’s own space assets [22, p. 420]. This is compounded by Kessler syndrome, a phenomenon whereby orbital debris ‘breeds’ as large pieces of debris collide and disintegrate. As space debris remains in orbit for hundreds of years, the **cascade effect** of an ASAT attack can constrain the attacker’s long-term use of space [29, pp. 295– 296]. Any state with kinetic ASAT capabilities will likely also operate satellites of its own, and they are necessarily exposed to this collateral damage threat. Space debris thus acts as a strong strategic deterrent to ASAT usage.

#### Collision particles vaporize on impact

John **O’Gorman** **18**, MA in Science, Technology, and Public Policy, “The Cost of Clean Space- A Study of the Additional Fuel Costs of Launching Above Low Earth Orbit”, A Thesis Submitted in partial fulfillment of the requirements for the degree of Master of Science in Science, Technology, and Public Policy Department of Public Policy College of Liberal Arts Rochester Institute of Technology 5-18-2018, https://pdfs.semanticscholar.org/d703/101d657334d2e1575d08005e290578770cd1.pdf?\_ga=2.12182772.1105117366.1567799127-1625925356.1567799127

However the self-propagation of space debris is not mentioned by all studies on the subject. To clarify, not all sources agree that there is enough proliferation of debris to drastically change the scope of the problem. All sources recognize the basic physics that collisions with debris will produce more debris. Crowther reports that impacts from space debris, natural and manmade, are common due to the visible pitting and corroding on satellites (Crowther, 2002). But Crowther goes on to mention that most collisions are from very small particles that **vaporize** **on impact.** Collisions with objects greater than 1 cm, which can cause serious structural damage and are impossible to shield against, **are far less common,** and merely planning smarter flight paths to avoid areas of high debris density is mitigation enough. Percy also agrees that the debris environment has more to do with high traffic orbits and makes no mention of the selfpropagation of debris (Percy, 2014). Again, there is the argument that without sufficient density of objects, which is what managing orbits would do, there is not enough mass in orbit to proliferate enough chain reactions of debris collisions in order to dramatically change the scope of the problem.

**ASAT deployment doesn’t cause an arms race or increase chance of war**

**Lopez 12** [LAURA DELGADO LO´ PEZ, Institute for Global Environmental Strategies, Arlington, Virginia. Astropolitics. "Predicting an Arms Race in Space: Problematic Assumptions for Space Arms Control." https://www.tandfonline.com/doi/full/10.1080/14777622.2012.647391]

The previous discussion demonstrates that although a globalized space arms race could follow U.S. deployment of space weapons, it is also plausible and **more likely** that it may **not happen at all**. As Mueller states: ‘‘In the end, most of the inevitability arguments are **weak**.’’62 The assumptions discussed here break the argument into a series of debatable maxims that other scholars have also considered. Hays, for instance, counters the inevitability argument by pointing out that **previous ASAT tests** did **not** have this purported **destabilizing effect**, to which we can add that even after the Chinese ASAT test, neither Russia nor the United States, who would be both capable and more politically likely to launch space weapons, moved forward in that direction.63 Although some may draw attention to the recent wake-up calls in order to underline a sense of urgency, one should also recall that when it seemed truly inevitable before, it did not happen either. In his detailed account of military space developments from 1945 to 1984, Paul Stares described how superpowers’ assessment of the value of space weapons shifted, with a ‘‘hiatus in testing’’ reflecting the attractiveness of satellites as military targets.64 In this changed landscape, Stares also assumed the inevitability argument, claiming that ‘‘the chances of space remaining a ‘sanctuary’ [absence of weapons] into the 21st century appear today to be remote.’’65 Perhaps the conditions are more conducive now, but the important point to be reiterated is that the outcome is not inevitable, and that any such prediction must be undertaken with caution. One of the most prominent theorists to propose an alternate picture and pair it with an aggressive pro-space weapons stance is Everett Dolman. In his Astropolitik theory, Dolman summarizes the steps that the United States must take to assume control of space, particularly through withdrawal from the current space regime.66 This move, he argues, would benefit not only the United States, but also the rest of the world, since having a democracy controlling space is a catalyst for peace.67 Elsewhere, he writes: ‘‘Only a liberal world hegemon would be able to practice the restraint necessary to maintain its preponderant balance of hegemonic power without resorting to an attempt at empire.’’68 Accordingly, he believes that this strategy would be ‘‘perceived correctly as an attempt at continuing U.S. hegemony,’’69 **but** that other countries, correctly assessing U.S. leadership in space, would **not** seek to **deploy** their **own systems**. Having the ability to prevent the stationing of foreign weapons systems in space, he writes, ‘‘makes the possibility of large-scale space war and a military space race **less likely**, not more.’’70 In fact, he says, ‘‘to suggest that the inevitable result is a space arms competition is the worst kind of mirror-imaging.’’71 Dolman argues that the **weaponization** of space by the **U**nited **S**tates would ‘‘**decrease** the **likelihood** of an **arms race** by **shifting spending** away from **conventional** weapons **systems**,’’ which would reduce U.S. capabilities in territorial occupation and would thus be perceived as **less threatening** to other countries.72

#### No miscalc from satellite disruptions or ASAT attacks – empirically denied

Mazur 12 [Jonathan Mazur, Manager Engineering at Northrop Grumman, writing in Space & Defense, from the Eisenhower Center for Space and Defense Studies. Past U.S. Actions: Redlines in Space. Space & Defense, Volume 6, Number 1, Fall 2012. https://inss.ndu.edu/Portals/97/Space\_and\_Defense\_6\_1.pdf?ver=2018-09-06-135424-147]

U.S. Reactions To Foreign Disruption Of U.S. Capabilities In the 1970s, it was suspected that a U.S. maritime communications satellite was turned off by the Soviets when it was outside of the range of U.S. tracking stations.25 There does not appear to be any documented U.S. reaction, and I suspect there was none. In the mid-1990s, satellite hackers in Brazil began hijacking U.S. military communication satellite signals to broadcast their own information, though it took until 2009 for Brazil to crack down on the illegal activity with the support of the DoD.26 In 1998, a U.S.-German satellite known as ROSAT was rendered useless after it turned suddenly toward the sun. NASA investigators later determined the accident was possibly linked to a cyber-intrusion by Russia. The fallout? Though there was an ongoing criminal investigation as of 2008; NASA security officials have seemed determined to publicly minimize the seriousness of the threat.27 In 2003, a signal originating from Cuba—later determined to be coming from Iranian embassy property— was jamming a U.S. communications satellite that was transmitting Voice of America programming over Iran, which was publicly referred to as an “act of war” by a U.S. official. 28 Press reporting indicates the U.S. administration was [frozen]“paralyzed” about how to cope with the jamming that continued for at least a month, even after U.S. diplomatic protests to Cuba.29 In 2005, U.S. diplomats protested to the Libyan government after two international satellites were illegally jammed disrupting American diplomatic, military, and FBI communications.30 In 2006, press reporting indicates that China hit a U.S. spy satellite with a ground-based laser. This action was acknowledged by the then director of the NRO, though the DoD remained tight lipped about the incident.31 “We’re at a point where the technology’s out there, and the capability for people to do things to our satellites is there. I’m focused on it beyond any single event.” – Air Force Space Command Commander, General Chilton, 2006 32 In 2009, a U.S. commercial Iridium communications satellite—extensively used by the DoD—was accidently destroyed by a collision with a dead Russian satellite.33 The U.S. company, Iridium, was able to minimize any loss of service by implementing a network solution within a few days.34 As of early 2011, no legal action had been taken by the company either because it is not clear who was at fault or because it might be politically problematic for the United States, which is trying to enter into bi-lateral transparency and confidence-building measures (TCBM) with Russia regarding space activities.35 Since August of 2010, North Korea has been intermittently using GPS jamming equipment, which reportedly has been interfering with U.S. and South Korean military operations and civilian use south of the North Korean border.36 Reportedly, only South Korea and the United Nations International Telecommunications Union—at the request of South Korea—have issued letters to Pyongyang demanding the cessation of disruptive communications signals in South Korea.37 It appears that the only time the U.S. military has responded with force to a disruption in U.S. space capabilities was in 2003, a few days after the start of the Iraq war.38 According to U.S. officials, Iraq was using multiple GPS jammers—which supposedly did not affect military GPS functionality. However, the U.S. military bombed the jammers anyway after a diplomatic complaint to Russia.39 The use of military force against the GPS jamming threat was possibly because the United States was already intervening in Iraq, and the bombing probably would not have occurred if the United States was not at war.

#### Perception is dumb – states know what OOS is and they aren’t suddenly scared of “functional asats” when things like ADR have been around for years.

#### Tons of other stuff thumps perception.

Wolverton 19 [Mark Wolverton is a science journalist, author, and 2016-17 Knight-MIT Science Journalism Fellow. He writes for various national and international publications including WIRED, Nature, Undark, Scientific American, and Air & Space Smithsonian. He has also worked with the NASA Ames History Project, Argonne National Laboratory, the Franklin Institute, and the NASA ISS Science Office. 7/9. "The Race for Space Weapons Speeds Up." https://www.asme.org/topics-resources/content/the-race-for-space-weapons-speeds-up]

Both antiballistic missiles and co-orbiting antisatellite weapons use kinetic attacks that apply physical force to disable or destroy a satellite. They are far from the only options in the counter-space arsenal.

Nonkinetic approaches were studied intensively since the early 1960’s and then revived during President Ronald Reagan’s Strategic Defense Initiative in the 1980s. They seek to disable or destroy vital components or sensors with lasers, particle beams, or high-powered microwaves, either from space or ground stations. Such methods are difficult, expensive, and require great amounts of power, but the United States and other nations have tested them.

A more subtle—and perhaps more deniable—nonkinetic approach might involve electronic warfare. This might range from such time-honored techniques as jamming or spoofing an adversary’s satellite communications to cyberwarfare that targets computer systems that control satellites or process their data.

### 1NC – Arms Race

#### No reverse causal warrant—zero chance stopping private space sector exploration can resolve indopak tensions—CAA, religious conflict, ethnontationalism are alt causes

#### Arms races are inevitable---India knows where Pakistan’s silos are, and India counterforce is terminal deterrence – at worst, no escalation.

Clary and Narang 19 — Christopher, assistant professor of political science at the University at Albany, State University of New York, and Vipin, associate professor of political science at the Massachusetts Institute of Technology, “India’s Counterforce Temptations”, International Security, Vol. 43, No. 3

Is India shifting to a nuclear counterforce strategy? The conventional wisdom is that India only reluctantly acquired nuclear weapons and has been a restrained nuclear weapons power that adheres to a no-first-use (NFU) policy and rejects the possibility of nuclear warfighting. Although the empirical record largely bears out its reluctance to acquire nuclear weapons,1 India’s continued nuclear restraint is less certain. Specifically, India is developing a suite of capabilities and increasingly making statements about preemption and counterforce that appear inconsistent with its professed strategy of assured retaliation or minimum deterrence. This article identifies, and attempts to explain, why India has devoted considerable resources since 2003 to develop and acquire capabilities that exceed what is required for a strictly retaliatory nuclear arsenal. Specifically, why has India sought to build a diverse and growing number of accurate and responsive nuclear delivery systems at higher states of readiness, an increasing array of surveillance platforms, and both indigenous and imported air and ballistic missile defenses? Moreover, these capability developments have emerged alongside an increasing number of public statements by serving and retired Indian national security officials arguing that preemptive counterforce options against Pakistan are permissible doctrinally and advantageous strategically.2 We argue that these apparently discrepant capability developments are most likely the result of India’s conscious pursuit of more flexible options beyond countervalue targeting—namely, counterforce options against Pakistan’s longer-range nuclear systems—and are largely not the product of either technological drift or strategic confusion. If our assessment is correct, then these developments are an early indication of India’s exploration and development of options to target Pakistan’s strategic nuclear systems in a conflict. Unlike India’s nuclear strategy toward China, which appears to remain countervalue assured retaliation, available evidence suggests that India may be developing options toward Pakistan that would permit it to engage in hard nuclear counterforce targeting, providing India a limited ability to disarm Pakistan of strategic nuclear weapons.3 Such a development would entail a decoupling of India’s nuclear strategies toward its two neighbors. A shift to incorporating nuclear counterforce options may be an attempt to escape India’s strategic paralysis following Pakistan’s development of tactical nuclear weapons, which Pakistan threatens to use against Indian conventional forces should they cross certain red lines. What can India do if Pakistan uses one or several tactical nuclear weapons against Indian forces? India’s official nuclear doctrine explicitly threatens massive retaliation against any such use, which outside observers have widely interpreted as implying a major countervalue strike against Pakistani cities. Nevertheless, many have questioned the credibility of massive retaliation—whether any Indian leader would in fact order the killing of millions of innocent Pakistani civilians in response to nuclear use on Indian forces operating on Pakistani soil.4 If India chose not to retaliate with massive force, it could attempt a proportional tit-for-tat response. Such a response, however, would cede the nuclear initiative back to Pakistan, which, retaining its long-range strategic nuclear weapons, could respond by destroying one or several Indian cities. Further, pursuing such graduated options would place enormous pressure on India’s command and control system.5 Thus, some Indian policymakers appear to be attracted to a third option: a hard counterforce strike against Pakistan’s relatively small number—perhaps several dozen—strategic nuclear assets on land (and eventually at sea) to eliminate its ability to destroy Indian strategic targets and cities. Such a strategy would be consistent with India’s doctrine of massive retaliation—massive retaliation strategies need not be countervalue—while avoiding the credibility issues associated with a countervalue targeting strategy following Pakistan’s use of nuclear weapons on the battlefield. One problem with a counterforce option, however, is that, seized with the fear of a disarming strike, Pakistan would have an incentive to unleash its entire arsenal first before losing it, which in turn would encourage India to attempt a counterforce strike preemptively—a problem given India’s NFU commitment, which most commentators have assumed would oblige India or its forces to suffer a nuclear detonation before retaliating. We argue that these preemptive pressures associated with counterforce targeting may explain why a number of influential Indian officials have made a persistent and otherwise puzzling argument either that India should revise its NFU policy to permit preemption or that preemptive use upon warning of imminent Pakistani launch is consistent with its existing NFU policy. India’s adoption of potentially preemptive counterforce options—even as a choice on a menu that otherwise consists of countervalue retaliation options— would mark a seismic shift in Indian nuclear strategy and the death knell of so-called credible minimum deterrence. Furthermore, if India construes preemption as consistent with its NFU policy and therefore preemptive counterforce as a form of massive retaliation, it may decide that no overt changes to its declaratory doctrine are necessary. As India’s former National Security Adviser Shivshankar Menon recently stated, “India’s nuclear doctrine has far greater flexibility than it gets credit for.”6 In short, India’s national security officials may have already quietly concluded that preemptive counterforce options—and associated increases in strategic force capabilities—are consistent with India’s existing nuclear doctrine. Therefore, there may be no explicit acknowledgment or indicators of this shift, which may force Pakistan to adjust its nuclear posture and strategy on the fear that it has already occurred. Eliminating Pakistan’s strategic nuclear weapons would be tempting for India. Rather than current military plans that aim to punish Pakistan for future provocations while avoiding Pakistan’s nuclear red lines, plans for a counterforce-capable India would be able to wage whatever conventional war it prefers by eliminating the nuclear threat altogether. India might be able to reestablish deterrence against Pakistani terrorist attacks on Indian territory in ways that aborted adjustments to its conventional doctrine have failed to do.

#### Otherwise, Pakistan’s nukes are vulnerable – causes global nuclear war

William Pitt 9, a New York Times and internationally bestselling author of two books: "War on Iraq: What Team Bush Doesn't Want You to Know" and "The Greatest Sedition Is Silence”, “Unstable Pakistan Threatens the World,” http://www.arabamericannews.com/news/index.php?mod=article&cat=commentary&article=2183

But a suicide bomber in Pakistan rammed a car packed with explosives into a jeep filled with troops today, killing five and wounding as many as 21, including several children who were waiting for a ride to school. Residents of the region where the attack took place are fleeing in terror as gunfire rings out around them, and government forces have been unable to quell the violence. Two regional government officials were beheaded by militants in retaliation for the killing of other militants by government forces. As familiar as this sounds, it did not take place where we have come to expect such terrible events. This, unfortunately, is a whole new ballgame. It is part of another conflict that is brewing, one which puts what is happening in Iraq and Afghanistan in deep shade, and which represents a grave and growing threat to us all. Pakistan is now trembling on the edge of violent chaos, and is doing so with nuclear weapons in its hip pocket, right in the middle of one of the most dangerous neighborhoods in the world.The situation in brief: Pakistan for years has been a nation in turmoil, run by a shaky government supported by a corrupted system, dominated by a blatantly criminal security service, and threatened by a large fundamentalist Islamic population with deep ties to the Taliban in Afghanistan. All this is piled atop an ongoing standoff with neighboring India that has been the center of political gravity in the region for more than half a century. The fact that Pakistan, and India, and Russia, and China all possess nuclear weapons and share the same space means any ongoing or escalating violence over there has the real potential to crack open the very gates of Hell itself. Recently, the Taliban made a military push into the northwest Pakistani region around the Swat Valley. According to a recent Reuters report: The (Pakistani) army deployed troops in Swat in October 2007 and used artillery and gunship helicopters to reassert control. But insecurity mounted after a civilian government came to power last year and tried to reach a negotiated settlement. A peace accord fell apart in May 2008. After that, hundreds — including soldiers, militants and civilians — died in battles. Militants unleashed a reign of terror, killing and beheading politicians, singers, soldiers and opponents. They banned female education and destroyed nearly 200 girls' schools. About 1,200 people were killed since late 2007 and 250,000 to 500,000 fled, leaving the militants in virtual control. Pakistan offered on February 16 to introduce Islamic law in the Swat valley and neighboring areas in a bid to take the steam out of the insurgency. The militants announced an indefinite cease-fire after the army said it was halting operations in the region. President Asif Ali Zardari signed a regulation imposing sharia in the area last month. But the Taliban refused to give up their guns and pushed into Buner and another district adjacent to Swat, intent on spreading their rule. The United States, already embroiled in a war against Taliban forces in Afghanistan, must now face the possibility that Pakistan could collapse under the mounting threat of Taliban forces there. Military and diplomatic advisers to President Obama, uncertain how best to proceed, now face one of the great nightmare scenarios of our time. "Recent militant gains in Pakistan," reported The New York Times on Monday, "have so alarmed the White House that the national security adviser, Gen. James L. Jones, described the situation as 'one of the very most serious problems we face.'" "Security was deteriorating rapidly," reported The Washington Post on Monday, "particularly in the mountains along the Afghan border that harbor al-Qaeda and the Taliban, intelligence chiefs reported, and there were signs that those groups were working with indigenous extremists in Pakistan's populous Punjabi heartland. The Pakistani government was mired in political bickering. The army, still fixated on its historical adversary India, remained ill-equipped and unwilling to throw its full weight into the counterinsurgency fight. But despite the threat the intelligence conveyed, Obama has only limited options for dealing with it. Anti-American feeling in Pakistan is high, and a U.S. combat presence is prohibited. The United States is fighting Pakistan-based extremists by proxy, through an army over which it has little control, in alliance with a government in which it has little confidence." It is believed Pakistan is currently in possession of between 60 and 100 nuclear weapons. Because Pakistan's stability is threatened by the wide swath of its population that shares ethnic, cultural and religious connections to the fundamentalist Islamic populace of Afghanistan, fears over what could happen to those nuclear weapons if the Pakistani government collapses are very real. "As the insurgency of the Taliban and Al Qaeda spreads in Pakistan," reported the Times last week, "senior American officials say they are increasingly concerned about new vulnerabilities for Pakistan's nuclear arsenal, including the potential for militants to snatch a weapon in transport or to insert sympathizers into laboratories or fuel-production facilities. In public, the administration has only hinted at those concerns, repeating the formulation that the Bush administration used: that it has faith in the Pakistani Army. But that cooperation, according to officials who would not speak for attribution because of the sensitivity surrounding the exchanges between Washington and Islamabad, has been sharply limited when the subject has turned to the vulnerabilities in the Pakistani nuclear infrastructure." "The prospect of turmoil in Pakistan sends shivers up the spinesof those U.S. officials charged with keeping tabs on foreign nuclear weapons," reported Time Magazine last month. "Pakistan is thought to possess about 100 — the U.S. isn't sure of the total, and may not know where all of them are. Still, if Pakistan collapses, the U.S. military is primed to enter the country and secure as many of those weapons as it can, according to U.S. officials. Pakistani officials insist their personnel safeguards are stringent, but a sleeper cell could cause big trouble, U.S. officials say." In other words, a shaky Pakistan spells trouble for everyone, especially if America loses the footrace to secure those weapons in the event of the worst-case scenario. If Pakistani militants ever succeed in toppling the government, several very dangerous events could happen at once. Nuclear-armed India could be galvanized into military action of some kind, as could nuclear-armed China or nuclear-armed Russia. If the Pakistani government does fall, and all those Pakistani nukes are not immediately accounted for and secured, the specter (or reality) of loose nukes falling into the hands of terrorist organizations could place the entire world on a collision course with unimaginable disaster. We have all been paying a great deal of attention to Iraq and Afghanistan, and rightly so. The developing situation in Pakistan, however, needs to be placed immediately on the front burner. The Obama administration appears to be gravely serious about addressing the situation. So should we all.

#### Your ev concludes that its not reverse causal—cant stop committed aggresion – lexington blue

1AC Schaffer 17 (Audrey Schaffer is Director, Space Strategy and Plans in the Office of the Secretary of Defense. “The Role of Space Norms in Protection and Defense,” *Joint Force Quarterly*, 10/1/17, National Defense University Press, <https://ndupress.ndu.edu/Publications/Article/1325996/the-role-of-space-norms-in-protection-and-defense/>) dwc 19

Role of Space Norms in Protection and Defense ////Norms are not a panacea for constraining aggressive, hostile, provocative, or otherwise deliberately irresponsible behavior in outer space. Norms may be enough to dissuade a rational actor from routinely engaging in irresponsible acts, **but they will not prevent a committed aggressor from deliberately disrupting or denying space services** it deems detrimental to its interests. Norms, however, can play a critical role in detecting and responding to potential threats. Norms enable early detection of potentially hostile actions or intentions in space. If a satellite exhibits behaviors contrary to operational norms, this is a clear flag to monitor its activities more closely. In times of peace, such activities are likely to be nothing more than an anomaly, which may deserve increased monitoring to preserve spaceflight safety or to mitigate harmful electromagnetic interference. In periods of heightened tensions, norms can form the basis of criteria for early indications and warning of potentially aggressive actions. //// To have maximum value in identifying “abnormal” behavior, norms should be widely accepted, such as through voluntary guidelines or international standards. Short of explicit international acceptance, national or allied declaratory policies can communicate those behaviors considered to be a demonstration of hostile intent, shaping tacit understanding of acceptable and unacceptable behaviors. If these agreements and/or communications are clear, and norms are generally observed in times of peace, then we can assume in times of crisis that behavior contrary to norms is most likely a deliberate choice. These assumptions will be a critical input to crisis decisionmaking and, by extension, may have a significant effect on crisis stability. Both an under-reaction and over-reaction to anomalous behaviors could have serious and unintended consequences for international peace and security. //// To the extent that the international community can observe what is happening in space, norms will shape world opinion about these behaviors, branding them as simply irresponsible or something more egregious such as potentially unlawful. This will require, at a minimum, compelling evidence based on space situational awareness information from a trusted source. Confirmation from multiple, independent, international, and/or commercial sources of space situational awareness will have a positive and reinforcing effect on detecting bad behavior in outer space. //// Nations may condemn those who choose to engage in behavior contrary to norms. Condemnation, however, is a double-edged sword; a nation cannot take others to task for violating international norms and simultaneously seek to operate with impunity. At first glance, military space operators may bristle at the implication that norms may constrain their freedom of action in space. Militaries, though, already accept legally binding constraints in all domains. For example, fundamental to the conduct of modern warfare is international humanitarian law (also known as the Law of War or the Law of Armed Conflict),2 which seeks to limit the effects of conflict, especially on noncombatants. Militaries around the world translate international humanitarian law into rules of engagement that guide servicemembers. //// A future space norms regime could be fashioned similarly to other regimes that govern activities in shared spaces and allow for differences in the application of rules to government or military actors and private actors. For example, Article 3 of the Convention on International Civil Aviation provides that the Convention does not apply to “state” aircraft, though such aircraft are required to exercise due regard for the safety of navigation of civil aviation.3 Article 48 of the Constitution of the International Telecommunication Union likewise provides freedom for military radio installations, but requires them, so far as possible, to observe provisions to prevent harmful interference.4 As in these other domains, safety and sustainability focused space norms, while remaining good and responsible practice no matter the situation, need not be strictly adhered to by militaries at all times. //// Even if militaries are not expressly required to follow norms, they nonetheless should be prepared to make more deliberate behavioral choices because of how actions inconsistent with norms will be interpreted. This not only requires a strategic and holistic perspective on national security space behaviors, especially in periods of crisis, but also creates opportunities for deliberate signaling. Just as increasing airborne reconnaissance or forward-deploying aircraft carriers can demonstrate interest and stake, so too can maneuvering satellites demonstrate readiness and resolve. Ensuring that the desired signals are received requires significant communication and/or agreement on norms of behavior well in advance of a crisis. //// Norms also provide clarity to acquirers, operators, and decisionmakers. Similar to how the Department of Defense (DOD) reviews all new weapons systems to ensure they can be operated in accordance with international law, acquirers and operators could look to space norms for guidance on what capabilities and actions would be permissible and under what circumstances. This ensures resources are not expended on systems that political leaders will not employ and provides guidance for operational planners on how to protect and defend space systems in a manner that will be deemed acceptable in different situations. //// Norms—or rather the violation thereof—also enable the creation of thresholds, triggers, and rules of engagement that allow militaries to employ passive or active measures to protect threatened space systems. Norms, ironically, may enhance freedom of action when it is needed most. Because norms support the development of criteria for judging hostile acts or hostile intent in space, they enable actions to be taken in self-defense.

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

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

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

# RFD

#### Over limiting v under limiting bc defense to limits bites into over limiting

#### Functional limits hits both

#### 2A on generics is way too late