# 1NC Berkeley Round 1

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#### Commercial mining solves extinction from scarcity, climate, terror, war, and disease.

Pelton 17—(Director Emeritus of the Space and Advanced Communications Research Institute at George Washington University, PHD in IR from Georgetown).. Pelton, Joseph N. 2017. The New Gold Rush: The Riches of Space Beckon! Springer. Accessed 8/30/19.

Are We Humans Doomed to Extinction? What will we do when Earth’s resources are used up by humanity? The world is now hugely over populated, with billions and billions crammed into our overcrowded cities. By 2050, we may be 9 billion strong, and by 2100 well over 11 billion people on Planet Earth. Some at the United Nations say we might even be an amazing 12 billion crawling around this small globe. And over 80 % of us will be living in congested cities. These cities will be ever more vulnerable to terrorist attack, natural disaster, and other plights that come with overcrowding and a dearth of jobs that will be fueled by rapid automation and the rise of artifi cial intelligence across the global economy. We are already rapidly running out of water and minerals. Climate change is threatening our very existence. Political leaders and even the Pope have cautioned us against inaction. Perhaps the naysayers are right. All humanity is at tremendous risk. Is there no hope for the future? This book is about hope. We think that there is literally heavenly hope for humanity. But we are not talking here about divine intervention. We are envisioning a new space economy that recognizes that there is more water in the skies that all our oceans. Th ere is a new wealth of natural resources and clean energy in the reaches of outer space—more than most of us could ever dream possible. There are those that say why waste money on outer space when we have severe problems here at home? Going into space is not a waste of money. It is our future. It is our hope for new jobs and resources. The great challenge of our times is to reverse public thinking to see space not as a resource drain but as the doorway to opportunity. The new space frontier can literally open up a “gold rush in the skies.” In brief, we think there is new hope for humanity. We see a new a pathway to the future via new ventures in space. For too long, space programs have been seen as a money pit. In the process, we have overlooked the great abundance available to us in the skies above. It is important to recognize there is already the beginning of a new gold rush in space—a pathway to astral abundance. “New Space” is a term increasingly used to describe radical new commercial space initiatives—many of which have come from Silicon Valley and often with backing from the group of entrepreneurs known popularly as the “space billionaires.” New space is revolutionizing the space industry with lower cost space transportation and space systems that represent significant cost savings and new technological breakthroughs. “New Commercial Space” and the “New Space Economy” represent more than a new way of looking at outer space. These new pathways to the stars could prove vital to human survival. If one does not believe in spending money to probe the mysteries of the universe then perhaps we can try what might be called “calibrated greed” on for size. One only needs to go to a cubesat workshop, or to Silicon Valley or one of many conferences like the “Disrupt Space” event in Bremen, Germany, held in April 2016 to recognize that entrepreneurial New Space initiatives are changing everything [ 1 ]. In fact, the very nature and dimensions of what outer space activities are today have changed forever. It is no longer your grandfather’s concept of outer space that was once dominated by the big national space agencies. The entrepreneurs are taking over. The hopeful statements in this book and the hard economic and technical data that backs them up are more than a minority opinion. It is a topic of growing interest at the World Economic Forum, where business and political heavyweights meet in Davos, Switzerland, to discuss how to stimulate new patterns of global economic growth. It is even the growing view of a group that call themselves “space ethicists.” Here is how Christopher J. Newman, at the University of Sunderland in the United Kingdom has put it: Space ethicists have offered the view that space exploration is not only desirable; it is a duty that we, as a species, must undertake in order to secure the survival of humanity over the longer term. Expanding both the resource base and, eventually, the habitats available for humanity means that any expenditure on space exploration, far from being viewed as frivolous, can legitimately be rationalized as an ethical investment choice. (Newman) On the other hand there are space ethicists and space exobiologists who argue that humans have created ecological ruin on the planet—and now space debris is starting to pollute space. Th ese countervailing thoughts by the “no growth” camp of space ethicists say we have no right to colonize other planets or to mine the Moon and asteroids—or at least no right to do so until we can prove we can sustain life here on Earth for the longer term. However, for most who are planning for the new space economy the opinion of space philosophers doesn’t really fl oat their boat. Legislators, bankers, and aspiring space entrepreneurs are far more interested in the views of the super-rich capitalists called the space billionaires. A number of these billionaires and space executives have already put some very serious money into enterprises intent on creating a new pathway to the stars. No less than five billionaires with established space ventures—Elon Musk, Paul Allen, Jeff Bezos, Sir Richard Branson, and Robert Bigelow—have invested millions if not billions of dollars into commercializing space. They are developing new technologies and establishing space enterprises that can bring the wealth of outer space down to Earth. This is not a pipe dream, but will increasingly be the economic reality of the 2020s. These wealthy space entrepreneurs see major new economic opportunities. To them space represents the last great frontier for enterprising pioneers. Th us they see an ever-expanding space frontier that offers opportunities in low-cost space transportation, satellite solar power satellites to produce clean energy 24h a day, space mining, space manufacturing and production, and eventually space habitats and colonies as a trajectory to a better human future. Some even more visionary thinkers envision the possibility of terraforming Mars, or creating new structures in space to protect our planet from cosmic hazards and even raising Earth’s orbit to escape the rising heat levels of the Sun in millennia to come. Some, of course, will say this is sci-fi hogwash. It can’t be done. We say that this is what people would have said in 1900 about airplanes, rocket ships, cell phones and nuclear devices. The skeptics laughed at Columbus and his plan to sail across the oceans to discover new worlds. When Thomas Jefferson bought the Louisiana Purchase from France or Seward bought Alaska, there were plenty of naysayers that said such investment in the unknown was an extravagant waste of money. A healthy skepticism is useful and can play a role in economic and business success. Before one dismisses the idea of an impending major new space economy and a new gold rush, it might useful to see what has already transpired in space development in just the past five decades. The world’s first geosynchronous communications satellite had a throughput capability of about 500 kb / s. In contrast, today’s state of the art Viasat 2 —a half century later— has an impressive throughput of some 140 Gb/s. Th is means that the relative throughput is nearly 300,000 greater, while its lifetime is some ten times longer (Figs. 1.1 and 1.2 ). Each new generation of communications satellite has had more power, better antenna systems, improved pointing and stabilization, and an extended lifetime. And the capabilities represented by remote sensing satellites , meteorological satellites , and navigation and timing satellites have also expanded their capabilities and performance in an impressive manner. When satellite applications first started, the market was measured in millions of dollars. Today commercial satellite services exceed a quarter of a billion dollars. Vital services such as the Internet, aircraft traffi c control and management, international banking, search and rescue and much, much more depend on application satellites. Th ose that would doubt the importance of satellites to the global economy might wish to view on You Tube the video “If Th ere Were a Day Without Satellites?” [ 2 ]. Let’s check in on what some of those very rich and smart guys think about the new space economy and its potential. (We are sorry to say that so far there are no female space billionaires, but surely this, too, will come someday soon.) Of course this twenty-fi rst century breakthrough that we call the New Space economy will not come just from new space commerce. It will also come from the amazing new technologies here on Earth. Vital new terrestrial technologies will accompany this cosmic journey into tomorrow. Information technology, robotics, artificial intelligence and commercial space travel systems have now set us on a course to allow us humans to harvest the amazing riches in the skies—new natural resources, new energy, and even totally new ways of looking at the purpose of human existence. If we pursue this course steadfastly, it can be the beginning of a New Space renaissance. But if we don’t seek to realize our ultimate destiny in space, Homo sapiens can end up in the dustbin of history—just like literally millions of already failed species. In each and every one of the five mass extinction events that have occurred over the last 1.5 billion years on Earth, some 50–80 % of all species have gone the way of the T. Rex, the woolly mammoth, and the Dodo bird along with extinct ferns, grasses and cacti. On the other hand, the best days of the human race could be just beginning. If we are smart about how we go about discovering and using these riches in the skies and applying the best of our new technologies, it could be the start of a new beginning for humanity. Konstantin Tsiokovsky, the Russian astronautics pioneer, who fi rst conceived of practical designs for spaceships, famously said: “A planet is the cradle of mankind, but one cannot live in a cradle forever.” Well before Tsiokovsky another genius, Leonardo da Vinci, said, quite poetically: “Once you have tasted flight, you will forever walk the earth with your eyes turned skyward, for there you have been, and there you will always long to return.” The founder of the X-Prize and of Planetary Resources, Inc., Dr. Peter Diamandis, has much more brashly said much the same thing in quite diff erent words when he said: “The meek shall inherit the Earth. The rest of us will go to Mars.” The New Space Billionaires Peter Diamandis is not alone in his thinking. From the list of “visionaries” quoted earlier, Elon Musk, the founder of SpaceX; Sir Richard Branson, the founder of Virgin Galactic; and Paul Allen, the co-founder of Microsoft and the man who financed SpaceShipOne, the world’s first successful spaceplane have all said the future will include a vibrant new space economy. Th ey, and others, have said that we can, we should and we soon shall go into space and realize the bounty that it can offer to us. Th e New Space enterprise is today indeed being led by those so-called space billionaires , who have an exciting vision of the future. They and others in the commercial space economy believe that the exploitation of outer space may open up a new golden age of astral abundance. They see outer space as a new frontier that can be a great source of new materials, energy and various forms of new wealth that might even save us from excesses of the past. Th is gold rush in the skies represents a new beginning. We are not talking about expensive new space ventures funded by NASA or other space agencies in Europe, Japan, China or India. No, these eff orts which we and others call New Space are today being forged by imaginative and resourceful commercial entrepreneurs. Th ese twenty-fi rst century visionaries have the fortitude and zeal to look to the abundance above. New breakthroughs in technology and New Space enterprises may be able to create an “astral life raft” for humanity. Just as Columbus and the Vikings had the imaginative drive that led them to discover the riches of a new world, we now have a cadre of space billionaires that are now leading us into this New Space era of tomorrow. These bold leaders, such as Paul Allen and Sir Richard Branson, plus other space entrepreneurs including Jeff Bezos of Amazon and Blue Origin, and Robert Bigelow, Chairman of Budget Suites and Bigelow Aerospace, not only dream of their future in the space industry but also have billions of dollars in assets. These are the bright stars of an entirely new industry that are leading us into the age of New Space commerce. These space billionaires, each in their own way, are proponents of a new age of astral abundance. Each of them is launching new commercial space industries. They are literally transforming our vision of tomorrow. These new types of entrepreneurial aerospace companies—the New Space enterprises—give new hope and new promise of transforming our world as we know it today. The New Space Frontier What happens in space in the next few decades, plus corresponding new information technologies and advanced robotics, will change our world forever. These changes will redefi ne wealth, change our views of work and employment and upend almost everything we think we know about economics, wealth, jobs, and politics. Th ese changes are about truly disruptive technologies of the most fundamental kinds. If you thought the Internet, smart phones, and spandex were disruptive technologies, just hang on. You have not seen anything yet. In short, if you want to understand a transition more fundamental than the changes brought to the twentieth century world by computers, communications and the Internet, then read this book. There are truly riches in the skies. Near-Earth asteroids largely composed of platinum and rare earth metals have an incredible value. Helium-3 isotopes accessible in outer space could provide clean and abundant energy. There is far more water in outer space than is in our oceans. In the pages that follow we will explain the potential for a cosmic shift in our global economy, our ecology, and our commercial and legal systems. These can take place by the end of this century. And if these changes do not take place we will be in trouble. Our conventional petro-chemical energy systems will fail us economically and eventually blanket us with a hydrocarbon haze of smog that will threaten our health and our very survival. Our rare precious metals that we need for modern electronic appliances will skyrocket in price, and the struggle between “haves” and “have nots” will grow increasingly ugly. A lack of affordable and readily available water, natural resources, food, health care and medical supplies, plus systematic threats to urban security and systemic warfare are the alternatives to astral abundance. The choices between astral abundance and a downward spiral in global standards of living are stark. Within the next few decades these problems will be increasingly real. By then the world may almost be begging for new, out of- the-box thinking. International peace and security will be an indispensable prerequisite for exploitation of astral abundance, as will good government for all. No one nation can be rich and secure when everyone else is poor and insecure. In short, global space security and strategic space defense, mediated by global space agreements, are part of this new pathway to the future.

#### Resource scarcity coming now and causes extinction—asteroid mining is the only way to solve

Crombrugghe 18 – Guerric, Business Development Manager Brussels, Brussels Capital Region, “Asteroid mining as a necessary answer to mineral scarcity”, LinkedIn, 1/11/2018, <https://www.linkedin.com/pulse/asteroid-mining-necessary-answer-mineral-scarcity-de-crombrugghe>

We need minerals, and we always will. Yet, our reserves are finite and a 100% end-of-life recycling rate is impossible to achieve. Eventually, new entrants will therefore be required to sustain our system. While the business case for asteroid mining can obviously not be closed with current technologies, it will someday become a necessity. We may as well start preparing ourselves. Scarcity of resources, the challenge of the 21st century According to the World Bank, in 2016 humanity's growth rate was of 1.18% in terms of population, and 2.50% in terms of GDP. Both of these, in turn, drive our staggering resource consumption: there are more of us, and each of us needs more. On the other, the Earth is a closed system, and resources are only available in a finite amount. We all know by now that there is only this much oil & gas, but the same can actually be said for water, arable land, minerals, etc. These two simple observations have sparkled the debate around the scarcity of resources. Even with the best intentions, mathematics teaches us that it is impossible to indefinitely extract resources from a given finite supply [1]. The problem arising in the short-term is the exhaustion of the existing supply. That limit is actually coming in fast. In a paper published in 2007, Stephen Kessler demonstrates that the global mineral reserves are only sufficient for the next 50 years. The figure on the right shows the ratio of known global reserve to global annual consumption, given a rough indication of adequacy in years. It dates from an earlier paper, published in 1994. Since then, the development of environmental-friendly technologies (e.g. batteries, electric engines, etc.) has drastically increased the consumption rate of high-tech metals such as cobalt, platinum, rare earths, or titanium. On the other hand, exploration programs have allowed to discover new deposits, notably of gold and diamond. We will certainly be able to continue to increase - or at least sustain - our reserves, but only temporarily. Recycling and other temporary fixes An obvious solution is recycling, i.e. rejuvenating our stocks. A popular concept to illustrate this idea is that of urban mining: retrieving the ores present in smartphones and other electronic devices. It may prove to be not only more environmental-friendly, be also safer and more cost-effective. Nevertheless, every solution based on recycling is, again, nothing more than a temporary fix, buying us a finite amount of time. The United Nations Environment Programme studied in a report the current recycling rate of 60 metals. More than half of them have an end-of-life recycling rate below 1%, and less than one-third are above 50%. Nickel, for example, is relatively easy to retrieve, with and end-of-life recycling rate of up to 63% under the best conditions. At that rate, less than 1% of the initial stock is available after only 10 cycle. Even with a staggering 99% efficiency, the same 1% limit is achieved in less than 460 cycles. Not bad, of course, but still not enough. Should our hunger for resources continue, and even with the most optimised recycling techniques, a second problem will arise in the longer term: the amount of resources needed at a given time will simply exceed the total available stock. Unless we manage to find growth vectors that do not require raw materials, that tipping point is an impassable limit. Its proximity obviously depends on our consumption rate. Asteroid mining? No matter which way we look at it, we will thus be short on resources, either through sheer exhaustion (i.e. transformation in an unrecoverable form) or because the demand will exceed the total reserves. We can - and should - talk about recycling, dematerialisation, and other more ethically questionable solutions such as bio-engineering. Nonetheless, no matter how good they are, these are only temporary fixes. If we don't radically change our lifestyle, we will sooner or later have to address the elephant in the room: the Earth is a closed system, we need new entrants. How can space help? Short answer: all these minerals can be found in space. Some are difficult to obtain, others are even more difficult, none are straightforward. The most accessible destination is near-Earth asteroids, a reservoir of over 17,000 known - and counting - giant rocks that regularly cross the orbit of our planet. They are commonly classified in three main families. The most interesting one, for our case, is that of the S-type asteroids. These are metallic bodies, containing first and foremost nickel, iron and cobalt, but also gold, ores from the platinum group. But the list doesn't stop there, many other minerals can be found in smaller amounts: iridium, silver, osmium, palladium, rhenium, rhodium, ruthenium, manganese, molybdenum, aluminium, titanium, etc. How do we get there? Let's take an example: Ryugu, formerly known as 1999 JU3. It's a C-type asteroid measured to be approximately one kilometre in size [2]. In addition to nickel, iron and cobalt, it also contains a fair share of water, nitrogen, hydrogen, and ammonia. Its total value is estimated to be approximately 80 billion USD. Fantastic! But how do we get there and, most importantly, how much does it cost? Well, we may have the start of an answer to these questions. Reaching Ryugu is a technological challenge, but it is feasible. In December 2014, the Japanese space agency has launched a spacecraft, Hayabusa2, heading to the asteroid. Its mission includes the collection of a small sample which will be sent back to the Earth, with a landing planned for December 2020. The target for the sample size is at least 100 µg. The total cost of the mission was projected to be around 200 million USD. That's 2 trillion USD per gram. Let's be optimistic and assume that the sample retrieved is pure gold. At today's rate, it is worth 42.5 USD per gram. That's a difference of over 10 orders of magnitude. Some may argue that Hayabusa2 has many other objectives that retrieving a sample. The mission does indeed include multiple landers, thorough scientific investigations, etc. There is actually another asteroid sample return mission underway, which we could you as a second point of comparison: OSIRIS-Rex, from NASA. It's heading for Bennu, also a C-type asteroid, which it will reach in August 2018. Total cost of the mission: 980 million USD. Target sample size: at least 60 g. We achieve thus roughly speaking 16 million USD per gram. Better, but still 6 orders of magnitude off compared to pure gold. It's pretty much as good as it gets with existing state-of-the-art technologies. Not much of a business case. Should we forget about it? Referring back to our earlier conclusion on resource scarcity, we had two options. Either we drastically reduce our resource consumption, to such a degree that reserves can last for longer than humanity itself, or we extend our closed system, the Earth, to nearby asteroids. In the current state of affairs, I am honestly not sure which course of action is the easiest. As they get increasingly rare, the cost of minerals will go up. On the other hand, as explained in a previous article, we can expect the cost of space activities to go steadily down. Step by step, these 6 orders of magnitude will slowly get munched away from both ends, until eventually asteroid mining becomes a viable operation. In other words: it will only become financially interesting once minerals become a thousand times more expensive and space activities a thousand times cheaper. As a point of reference, the introduction of reusable rockets by SpaceX, widely considered as one of the few truly disruptive changes in the aerospace sector in the last few decades, has "only" brought a cost reduction of 30%. While it's clearly amazing, we still need at least 220 innovations of the same calibre [3] before we can make it work (again: assuming the price of minerals simultaneously goes up by a factor of a thousand). It's therefore quite likely that space mining will not take place within our lifetime [4]. How can we accelerate the process? Firstly, we can only celebrate and support the numerous private initiatives which contribute to make that reality happen, either indirectly (e.g. launchers, space systems, etc.) or directly (e.g. in-space manufacturing, lunar exploration, etc.). Shout out to all the folks who manage to keep the flame of space exploration burning while generating profit for their investors. Secondly, space agencies and other institutional actors should continue to act as promoters of pioneering mission such as Hayabusa2, OSIRIS-REx, or DART. We can only regret that the Asteroid Redirect Mission from NASA and the Asteroid Impact Mission from ESA were not funded. From my perspective, these should actually be amongst the top priorities of our space exploration agenda. Not only are they instrumental to our understanding of the solar system, but they are also essential if we want to avoid the same fate as the dinosaurs. It's a question of survival. As a bonus, they also pave the way towards cost-efficient asteroid mining. In the meantime, we might want to consume existing resources a bit more efficiently.

#### Resource shortages go nuclear – conceding 1AC **Woolridge 9**

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#### Interpretation: Appropriation refers to sovereign claims of land.

Melissa J. **Durkee 19**, J. Alton Hosch Associate Professor of Law, University of Georgia, "Interstitial Space Law," Washington University Law Review 97, no. 2 423-482

Those answering this question in the affirmative have access to a strong textual argument. Article II of the Outer Space Treaty specifically references "national" **appropriation**.17 9 The context surrounding that appears to confirm that the prohibition of "national" appropriation is directed at nations, as only a nation could have a legitimate "claim of sovereignty." 180 Moreover, "occupation" refers to old international legal doctrines that once allowed nations to claim territory based on occupation. The historical context within which the treaty was drafted supports this position, as the concern of the time was colonization, not commercial use of space resources. As for private parties, they are specifically anticipated by the treaty: **Article VI states that States Parties bear international responsibility for activities by "non-governmental entities" as well as governmental agencies**.' 8 1 The fact that they are anticipated by the treaty but not included in the Article II prohibition on appropriation suggests that the treaty intended to prohibit only national appropriation of outer space resources.18 2 Those claiming that the treaty prohibits both national appropriation and appropriation by private parties can marshal their own textual argument. Article VI defines "national activities in outer space" to include both "activities . .. carried on by governmental agencies" and those carried on by "non-governmental entities." 8 3 This definition of "national" must inform Article II's prohibition on "national" appropriation and thus extend to a nation's citizens **and commercial entities** as well as governmental activities. Moreover, a contrary interpretation defies logic: **if nations themselves may not claim property rights to outer space objects, they have no power to confer those rights on their nationals.**184

#### Violation: they only defend asteroid mining which is extraction – those are distinct – prefer rigorous legal analysis.

Wrench 19 – John grew up outside of Ithaca, New York, and received his law degree from the Case Western Reserve University School of Law in 2019. During law school, he served as editor in chief of the Case Western Reserve Journal of International Law and was a member of the Federalist Society. John interned in his law school’s First Amendment Litigation Clinic and was a judicial extern to the Honorable Paul E. Davison in the Southern District of New York. John graduated from Pace University in 2015 with a Bachelor of Arts in Philosophy and Religious Studies. 2019. [Case Western Reserve Journal of International Law, “ Non-Appropriation, No Problem: The Outer Space Treaty Is Ready for Asteroid Mining,” <https://scholarlycommons.law.case.edu/cgi/viewcontent.cgi?article=2546&context=jil>] Justin

Secondly, even if nations, businesses, and individuals are equally bound by the non-appropriation principle, the scope of that restriction is not entirely clear from the text of Article II.59 It is unlikely, however, that the non-appropriation principle is an absolute ban on the ownership of resources extracted in outer space. An interpretation of Article II supporting a blanket ban on resource ownership is unwarranted by the text of the OST and illfounded on account of the international community’s common practices. Scholars have noted that the international community has never questioned whether scientific samples harvested from celestial bodies belong to the extracting nation.60 Furthermore, space-faring members of the international community rejected the Moon Treaty precisely because it prohibited all forms of ownership in resources extracted from celestial bodies.61 The space-faring nations’ support for the OST, coupled with their rejection of an alternative set of rules governing extracted resources, is at the very least an indication of what those nations believe the non-appropriation principle to stand for. It is equally improbable that the international community drafted the non-appropriation principle to be merely idealistic rhetoric. The OST leaves no room for interpretations to squirm out from under its ban on sovereign claims of land.62 The following section illustrates, however, that the distinction between sovereign ownership of land, and the vestment of property rights in resources extracted from that land, is nothing new. II. Legal Regimes Distinguishing Resource Extraction from Appropriation Although the OST does not provide a comprehensive guideline for resource extraction in outer space, its foundational logic provides a workable distinction between ownership and use. This part explores three property regimes developed under the same fundamental constraints as the non-appropriation principle: the United Nations Convention on the Law of the Sea (“UNCLOS”), the Antarctica Treaty System, and the prior appropriation doctrine as applied in United States water law.63 Under each regime, parties may establish some form of ownership in extracted resources despite being restricted from claiming sovereignty over the underlying land. Each section includes a brief discussion of the property regime’s history, its major traits and their relationship to the overarching characteristics of the non-appropriation principle. This part further describes how each property regime fits within the non-appropriation principle’s prohibition on claims to land, while prohibiting waste, separating land ownership from rights to extracted resources, enforcing liability for destruction or damage, and establishing a simple regulatory system to manage claims. A. The Law(s) of the Sea: UNCLOS and the Seabed Act International and national maritime laws addressing resource extraction deal with many of the same obstacles present in outer space. Like outer space, “[t]he seabed is rich in minerals…[c]ollecting and mining these minerals is expensive and requires sophisticated technology capable of reaching the great depths.”64 Additionally, the international regulatory regime created to address seabed mining contemplates widely applicable issues including the “protection and preservation of the marine environment,” “promot[ing] the peaceful uses of the seas and oceans,” and the “efficient utilization” of the resources therein.65 Although international law forms the backbone of seabed mining regulations, individual nations have concurrently developed their own regulations. The foremost international maritime law is the United Nations Convention on the Law of the Sea (“UNCLOS”).66 The current iteration of UNCLOS came into force in 1982, replacing decades of international treaties that had not addressed seabed mining.67 The 1982 UNCLOS established the International Seabed Authority (“ISA”), a body responsible for managing seabed mining through regulations and licensing.68 UNCLOS further established a dispute resolution system through the Seabed Disputes Chamber of the International Tribunal.69 The United States found some features of the 1982 UNCLOS objectionable. Originally, the ISA was empowered to create an entity called the “Enterprise”, which would conduct mining operations for the benefit of developing countries alongside private mining operations.70 Under this agreement, private businesses were compelled to provide the Enterprise with the location of discovered minerals and the technology necessary to extract them, all in addition to the funding from member states.71 Some of these requirements proved controversial. Several developed nations subsequently rejected UNCLOS and signed the “Provisional Understanding Regarding Deep Seabed Matters” (“The Provisional Understanding”) in 1984.72 The Provisional Understanding established “…procedures to follow in order to avoid overlapping claims to seabed sites,” while encouraging reciprocal recognition of other party’s claims.73 The Group of 77—a coalition of developing countries—and the ISA, criticized the Provisional Understanding on the grounds that it established an illegal regime.74 As one critic concedes, however, the Provisional Understanding is probably legal because it “…neither claims sovereignty or ownership…nor grants exclusive rights…” to seabed areas.75 UNCLOS was renegotiated in 1994, in part due to the changes brought about by the end of the Cold War and decreased focus on deep-seabed mining.76 Among the changes, it secured permanent seats on the ISA Council for the United States and Russia,77 created a Finance Committee consisting of the five parties with the largest financial contributions,78 removed mandatory funding of the Enterprise,79 made technology-sharing optional,80 and made development plans a prerequisite for granting permits for resource mining.81 Despite these changes, the United States “remains the only major seafaring nation” that has not ratified 1994 Agreement.82 The United States’ disagreements with the 1982 UNCLOS led to the creation of an interim national law called the Deep Seabed Hard Mineral Resources Act (“Seabed Act”).83 While the Seabed Act is intended as a temporary regime, it acknowledges that a functional international regime may take some time to develop.84 Under the Seabed Act, companies are required to obtain licenses and permits to explore and extract, both of which expire after a period of years.85 The United States has not entirely abandoned UNCLOS. Addressing recent conflicts in the South China Sea, President Trump called for “…claimants to clarify and comport their maritime claims in accordance with the international law of the sea as reflected in the 1982 United Nations Convention on the Law of the Sea…”86 Additionally, several United States presidents have supported ratification of UNCLOS since the 1994 Agreement.87 And, although President Reagan was dissatisfied with the 1982 UNCLOS, changes incorporated into the 1994 Agreement have addressed those complaints.88 The laws regulating resource extraction in the sea share major traits with the non-appropriation principle, as UNCLOS and the Seabed Act allow parties to establish property rights in extracted resources without violating the non-appropriation principle. First, under both regimes, parties extract minerals without laying claim to underlying land.89 Secondly, UNCLOS’s requirement for development plans and the Seabed Act’s licensing-system place some pressure on parties to extract resources or forfeit their rights.90 This feature prevents parties from sleeping on a license, thereby encouraging productive use of land. In other words, the licensing system reduces waste and protects against de facto ownership of land resulting from inordinately long periods of occupation. The United States, by adopting both traits from UNCLOS, and voicing its willingness to enter into a robust international regime for resource extraction, indicates support for an international regime reflecting those features. Even if the United States’ framework under the Seabed Act were adopted as a model for resource extraction in space, it comports with the non-appropriation principle. The United States’ conceptual distinction between land ownership and resource extraction is a gauge for whether it would accept a similar arrangement for space law.91 And, while the United States is only one of many members of the international community, it is difficult to conceive of a successful international agreement without the involvement of the major spacefaring nations. B. The Antarctic Treaty System The Antarctic Treaty92 and the subsequent agreements collectively regulating the peaceful use of Antarctica form the “Antarctic Treaty System.”93 The first of these treaties was created in 1959 to preserve environmental integrity and prohibit violence in the region.94 Antarctica’s size, impenetrableness, and vast resource stores have made it a reoccurring model for outer space law.95 While the Antarctic Treaty System shares key features with the law of outer space, its development and subsequent legal regime is distinctive. Several nations made property claims to Antarctica before the first Antarctic Treaty.96 Parties suspended those claims, however, in effort to moderate claims and prevent Antarctica from becoming a site of violent competition.97 Although the 1959 Antarctic Treaty does not directly address resource-mining, parties “…understood that the question of how Antarctic mineral activity was to be regulated…would not go away.”98 The international community originally attempted to establish a legal regime for Antarctica that distinguished between sovereign claims and resource extraction. The Convention on the Regulation of Antarctic Mineral Resource Act (“CRAMRA”) was the first venture to provide a foundation for an international property regime in Antarctica.99 CRAMRA defined, as a means to regulate resource mining, three categories of resource-related activity: “prospecting”, “exploration”, and “development.”100 The Regulatory Committee, one of several institutions established under CRAMRA, was responsible for considering permit applications for the “exploration and development” of mineral resources.101 Unlike exploration and development, prospecting does not require the authorization of any of the institutions.102 CRAMRA’s definition of “prospecting” is crucial for understanding the role of property rights under the regime. Prospecting includes the investigation of areas for potential exploration or development using a variety of sensing technologies.103 Dredging, excavation, or drilling, however, are defined as “prospecting” only if used for the purpose of obtaining small-scale samples or drilling less than 25 metres.104 Furthermore, activities defined as “prospecting” do not confer property rights to mineral resources.105 As a result, an operator gains property rights to mineral resources “…at the exact point where prospecting activities cease to be prospecting activities and become exploration or development activities.”106 The six years of negotiation that culminated in CRAMRA107 were not ultimately fruitful. Under its terms, CRAMRA could not enter into force unless all states with territorial claims to Antarctica were parties to it.108 Australia and France, while supportive of CRAMRA during negotiations, stated in 1989 that they would not ratify the Convention.109 Consequently, no nations have ratified CRAMRA.110 Antarctic resource extraction is currently regulated under the Protocol on Environmental Protection to the Antarctic Treaty, also known as the “Madrid Protocol”.111 Concluded in 1991, the Madrid Protocol prohibits “…[a]ny activity relating to mineral resources, other than scientific research…”112 Parties to the Madrid Protocol are able to reconsider the ban on commercial resource mining in 2048 and have reaffirmed the moratorium as recently as 2016.113 Although it was not ultimately adopted, CRAMRA’s negotiation provides insight into the international community’s willingness to create a resource extraction regime starting from a premise that ownership and use are distinct. Although CRAMRA permitted nations to extract resources, extraction explicitly could not amount to ownership of the underlying land.114 From that premise, CRAMRA does not grant property rights to parties who have merely used sensing technologies on the land, requiring more significant labor through activities like drilling or dredging.115 While the Madrid Protocol removes commercial resource extraction as an option, it allows nations to extract scientific samples without requiring—or permitting—claims of sovereignty.116 Because the Madrid Protocol “neither modif[ies] nor amends” the framework laid out by the Antarctic Treaty,117 extraction—whether scientific or commercial—remains separate from the ownership of underlying land. While the international community chose to restrict commercial extraction in Antarctica, that arrangement is a result of environmental concerns and not the failure to develop a property regime.118 CRAMRA’s successful illustration of a property regime remains instructive for the international community as it develops finer points of space law. C. The Prior Appropriation Doctrine The prior appropriation doctrine is a system developed in the American West to simplify miners’ water claims, granting rights to use the water to whoever made beneficial use of it first.119 The prior appropriation doctrine is useful for analyzing the law of outer space in both functional and abstract ways. First, scientists expect that water will be necessary for creating fuel and breathable air in outer space.120 Secondly, the prior appropriation doctrine evolved to resolve various claims in the water-scarce American West.121 The prior appropriation doctrine developed against the backdrop of commercial/private tension, embodies deeply-rooted American ethical assumptions, and contemplates the “public ownership” of underlying land.122 The prior appropriation doctrine is also “a rule of scarcity, not plenty,” and is therefore concerned with managing limited resources.123 These features of the doctrine make it a useful comparison to the demands of outer space resource extraction. Most importantly, the prior appropriation doctrine has resulted in an intuitive set of rules distinguishing between ownership and productive use. The prior appropriation doctrine grew out of the chaos and grit that embodied the mining rush to the Western United States.124 The unpredictable availability of water, combined with the need for a simple adjudicative system, led early miners and farmers to adopt an “intuitive common sense” system of rules to resolve water claims.125 Essentially, the first claimant to make actual beneficial use of the water has senior rights to later users.126 Claimants do not own the land, however, but rather the right to use the water.127 Consequently, claimants may transfer their rights to the use but the public ultimately owns the water.128 Each of these features is explored below. Central to the prior appropriation doctrine, and exemplified in Colorado’s constitution, is that water is a publicly owned resource.129 This concept stands in contrast to the idea that ownership of land is tied to ownership of the land’s water.130 The prior appropriation doctrine severs those concepts from one another, justifying citizens’ right to appropriate water while nullifying riparian claims.131 This feature is a doctrinal cornerstone of the prior appropriation system, as it distributes ultimate decision-making authority to the public while protecting valid claims. Not all claimants establish or retain valid claims to use diverted water. Prior appropriation requires a claimant to make actual beneficial use of the water to obtain and retain their right to continue that use.132 In the context of the doctrine’s development, this stipulation prevented vast, speculative hoarding of property for the purpose of a later sale.133 This emphasis on “antispeculation” is derived from the era’s intensely anti-monopoly sentiment, favoring the distribution of water rights to those who could make actual use of the land.134 Therefore, claimants must define the location and expected scope of their use to establish or transfer rights.135 Parties who establish valid claims are protected against other future users who seek to use the same water at the earlier claimant’s detriment. Parties who make actual beneficial use of water have “seniority” over later claimants who use the water for similar purposes.136 In this system of senior and junior claimants, the latter must yield their use to senior claimants in times of water scarcity.137 Although this arrangement protects senior claimants from losing their use in times of scarcity, one scholar notes that claims often avoid their seniority.138 Furthermore, some states simply prohibit senior claimants from enforcing their priority over junior claimants when doing so would be futile.139 Claimants may actually benefit from avoiding enforcement, especially when enforcement is sought solely to prove seniority at the expense of junior claimants.140 Because prior appropriation separates the ownership of land from rights to beneficial use of water, claimants can freely transfer their validly established water rights.141 The technology claimants use to divert water for “out-of-stream” uses, like mining and agriculture, helps make the use “measurable and enforceable,” and therefore identifiable for transfer.142 Although transfers require new users to satisfy the actual beneficial-use requirement, the arrangement is flexible enough to facilitate the temporary transfer of use rights.143 The prior appropriation’s system of senior and junior claimants is enforced and regulated by a centralized authority. Acting in a “trusteeship role,” the government is responsible for enforcing validly established water rights.144 Although enforcement is sometimes avoided, as noted above, the value of a senior claim is necessarily dependent on the enforcement of those rights, especially when water is in short supply.145 In addition to adjudicating claims, the government is responsible for the “conservation of the public’s water resources.”146 Here, the implications of the “public ownership” concept is significant: …[T]he state assumed a trusteeship role to administer the waters of the state for the benefit of the public. As such, it became responsible not only for minimal administrative functions but also for administration of the kind a trustee owes to the beneficiary of the trust. Its responsibilities include, first and foremost, the conservation of the estate and avoidance of waste; second, the promotion of beneficial use by assisting the appropriator in achieving use objectives to the maximum extent feasible; third, the representation of beneficiaries in a parens patriae capacity and maintaining the use regimen on the river system; and fourth, the promotion of efficiency and prudence of the kind expected of a trustee.147 The prior appropriation doctrine serves as a unique example for space law because of how it conceptualizes land ownership. Underlying land is available for use not because it is “unowned,” but because it is owned by a community who has the right to make productive use of it.148 Because the community owns the land, claimants have an obligation to use the land properly and the government is responsible for stewardship.149 This framing fits neatly with proponents of the idea that outer space is collectively “owned” by the international community. Regardless, stewardship and government ownership do not necessarily displace the potential for productive use. Parties do not violate the non-appropriation principle simply by extracting—or as here, diverting—resources from the land. At no point does extraction equate to a sovereign claim over the land. In instances where non-productive use or the like violates those principles, property rights disappear. Furthermore, the OST encourages the idea that outer space is to be used to benefit the broader international community.150 The prior appropriation doctrine illustrates that parties can establish and transfer robust property rights in resources independent from land-ownership, while promoting beneficial use

#### Standards:

#### 1] Precision outweighs – non-topical affs violate tournament rules so the judge doesn’t have the jurisdiction to vote on them and it controls the internal to pragmatic offense in a question of models because it decks predictable stasis.

#### 2] Limits – allowing extraction to equate to sovereign claims explodes limits by shifting the debate away from sovereign claims to celestial bodies to permutations of parts of celestial bodies that companies could extract – leads to unbeatable affs that just ban extraction of one resource which the neg can’t ever predict. Forcing the affirmative to defend sovereign claims to celestial bodies is net better.

#### 3] TVA – defend an aff that bans sovereign claims to celestial bodies – solves your offense since you still get property rights fight offense.

#### DTD – it’s a fundamental baseline for debate-ability.

#### CI- Reasonability is arbitrary and we don’t know the brightline while prepping. Collapses since it uses an offense/defense paradigm to win it.

#### No RVIs- A] Illogical- you don’t win for being fair B] Encourages baiting theory which proliferates abuse

## 3

### CP

#### Counterplan text: Space faring states should unilaterally restrict asteroid mining done by private entities.

#### Unilateral declarations of intent create legally binding international obligations in space arms control – solves perception and defuses security dilemmas.

Jinyuan Su 17, Professor, School of Law, Xi′an Jiaotong University; Erin J.C. Arsenault Fellow, Institute of Air and Space Law, Faculty of Law, McGill University, 1/1/17, “Space Arms Control: Lex Lata and Currently Active Proposals,” Asian Journal of International Law, Vol. 7, p. 61-93

In another initiative parallel to the previous two, in October 2004, at the First Committee of the UN General Assembly, Russia announced a new policy of "no first deployment of weapons in outer space", and called on all other space-faring and space-using nations to join in this pledge. 87Link to the text of the note The initiative was supported by Russia′s partners from the Collective Security Treaty Organization (CSTO) consisting of six post-Soviet states, which was followed by a few other states: Brazil, Indonesia, Sri Lanka, Argentina, and Cuba have declared with Russia that "they will not in any way be the first to place weapons of any kind in Outer Space, that they will make all possible efforts to prevent Outer Space from becoming an arena for military confrontation and to ensure security in Outer Space activities", and "call upon Outer Space-faring Nations to follow their example". 88Link to the text of the note On 23 June 2005, heads of states of the CSTO-consisting of Armenia, Belarus, Kazakhstan, Kyrgyzstan, Russia, and Tajikistan-made a joint statement that they would not be the first to place weapons of any kind in outer space. 89Link to the text of the note In 2014, Russia submitted a draft resolution on no first placement of weapons in outer space to the First Committee of the 69th Session of the UN General Assembly. 90Link to the text of the note The text was approved by a vote of 126 in favour to 4 against (Georgia, Israel, Ukraine, the US), with 46 abstentions. On 2 December 2014, the resolution was adopted by the General Assembly as "No first placement of weapons in outer space", with the same voting ratio. 91Link to the text of the note

The unilateral statements led by Russia are important confidence-building measures for the security of outer space. However, in international law unilateral acts may also imply binding obligations, subject to the fulfilment of some conditions. The binding character of an international obligation assumed unilaterally, as the customary principle of pacta sunt servanda, is based on good faith. The legal effect of unilateral statements made vis-à-vis the whole world community was addressed by the ICJ in the Nuclear Tests case, in which France committed to cease nuclear tests in the South Pacific. The ICJ expounded:

It is well recognized that declarations made by way of unilateral acts, concerning legal or factual situations, may have the effect of creating legal obligations. Declarations of this kind may be, and often are, very specific. When it is the intention of the State making the declaration that it should become bound according to its terms, that intention confers on the declaration the character of a legal undertaking, the State being thenceforth legally required to follow a course of conduct consistent with the declaration. An undertaking of this kind, if given publicly, and with an intent to be bound, even though not made within the context of international negotiations, is binding. In these circumstances, nothing in the nature of a quid pro quo nor any subsequent acceptance of the declaration, nor even any reply or reaction from other States, is required for the declaration to take effect, since such a requirement would be inconsistent with the strictly unilateral nature of the juridical act by which the pronouncement by the State was made. 92Link to the text of the note

Inspired by the Nuclear Tests Judgments, the International Law Commission (ILC) adopted "Guiding Principles Applicable to Unilateral Declarations of States Capable of Creating Legal Obligations" at its 58th Session in 2006, and submitted them to the General Assembly as a part of the Commission′s report covering the work of that session. The ILC agreed that the public nature of declarations and the manifestation of the will to be bound are the two primary conditions to establish legal obligations. 93Link to the text of the note In the Nuclear Tests case, the ICJ stated that the assessment hinges on the intention of being bound in relation to a particular matter, which is to be ascertained by interpretation of the act. 94Link to the text of the note Similarly, in the Case Concerning the Frontier Dispute between Burkina Faso and the Republic of Mali, it pointed out that "it all depends on the intention of the State in question". 95Link to the text of the note The views of the ICJ and the ILC are not necessarily contradictory. By referring to the declaration made by Egypt on 24 April 1957 on the Suez Canal and Jordan′s waiver of claims on the West Bank territories, the ILC is of the view that the public nature of declarations represents an important indication of their authors′ intention to commit themselves. 96Link to the text of the note

The public nature of Russia′s 2004 unilateral statement at the First Committee of the United Nations General Assembly is evident, given that the General Assembly is one of the world′s most widely represented fora of sovereign states. Its intention to be bound is clear, given the precision of words and the use of "pledge". The context in which the Russian declaration is made also serves as a positive indication that it is intended to be legally binding. The General Assembly First Committee deals with disarmament, global challenges, and threats to peace that affect the international community, and it seeks out solutions to the challenges in the international security regime, and works in close co-operation with the United Nations Disarmament Commission and the Geneva-based CD. The subsequent bilateral and multilateral declarations, which Brazil, Indonesia, Sri Lanka, Argentina, Cuba, and other States Parties to the CSTO made with Russia, also fulfil the dual requirements. However, for those states which have voted in favour of General Assembly Resolution 69/32 but have not made unilateral statements, simply expressing their appreciation and support of these efforts does not amount to the indication of the intention to be bound, and thus gives rise to no legal obligations. As a matter of fact, the obligations in the resolution were significantly watered down. It only "[e]ncourages all States, especially space-faring nations, to consider the possibility of upholding as appropriate a political commitment not to be the first to place weapons in outer space". 97Link to the text of the note

Another essential element is the specific author of such statements, relating to who can legally represent the state. In the Nuclear Tests case, the ICJ found without doubt that statements by the heads of states and members constitute an engagement of the state. 98Link to the text of the note In the more recent Armed Activities on the Territory of the Congo case, it stated that, as a well-established rule of international law, the head of state, the head of government, and the minister for foreign affairs are deemed to represent the state merely by virtue of exercising their functions. 99Link to the text of the note The Court further expounded that "with increasing frequency in modern international relations other persons representing a State in specific fields may be authorized by that State to bind it by their statements in respect of matters falling within their purview". 100Link to the text of the note The ILC concurs with this, adding that the key point is that it should be made by an authority vested with the power to do so. 101Link to the text of the note Russia′s policy of no first deployment of weapons in outer space was announced at the UN General Assembly and the CD by its diplomatic representatives, who are presumably duly authorized, given the significance of the issue concerned and the consistency of the policy. The joint statements, on the other hand, were signed between presidents or ministers of foreign affairs bilaterally, while the official declaration of the CSTO was also made by heads of states. As to the addressee, there is no need for such statements to be addressed to a particular state, nor is acceptance by any other state required, for it to have legal effect. 102Link to the text of the note The ILC recognizes that unilateral declarations may be addressed to the international community as a whole, to one or several states, or to other entities. 103Link to the text of the note Unilateral declarations without specific addressees, like the above commitments of no first placement of weapons in outer space and the French commitment of ceasing nuclear tests, are presumed to be directed to the international community, potentially giving rise to erga omnes obligations.

Having established the legally binding force of unilateral commitments of no first placement of weapons in outer space, the question arises as to the interpretation of concrete legal obligations incurred by the commitments. The ICJ and the ILC share the common understanding that when states make statements by which their freedom of action is to be limited, a restrictive interpretation is called for. 104Link to the text of the note The pledge of no first placement of weapons in outer space can be broken down into the following components:

1. By using the words "not be the first", the pledge is conditional. Any other state or private entity′s deployment of weapons in outer space in the first place would free them from the negative undertaking.

2. "Weapons in outer space" are the objects of the pledge, which could be space to-space weapons or space-to-Earth weapons, but not terrestrial-based ASATs. By reference to the PPWT, which also reflects the Russian policy, dual-use outer space objects are not limited, unless they are converted or used to serve hostile purposes.

3. The act constrained in connection with weapons in outer space is deployment. Research and development of such weapons are not limited by the pledge. It is arguable that to refrain from testing them is within the ambit of negative undertakings, because in order to test weapons in outer space they would be deployed in outer space first, unless testing is done in a simulated environment on Earth. "Deployment" in its legal meaning is similar to "placement".

Like the PPWT, the unilateral commitments suffer from the shortcomings of failing to address terrestrial-based ASATs and the possibility of building break-out capability by developing dual-use technologies. Furthermore, the conditional legal obligations can be discharged by revoking the declarations. However, the contribution of these commitments to space security should not be underestimated, as they demonstrate states′ commitment to space security and their willingness to co-operate. For the pledging states, they remain in control of their security interests by conditioning the self-imposed constraints on their expectation on other states′ similar undertakings. For other states, the commitments provide certainties in their perception of others. With the lack of contractual obligations, the game of space arms control imitates the "prisoner′s dilemma", in the sense that states are likely to choose not to co-operate even if it appears that it is in their best interests to do so. 105Link to the text of the note By fostering a positive atmosphere, the unilateral commitments help to dilute the mistrust between states.

## 4

### DA

#### Deployment of diplomatic capital key to Korean peninsula denuclearization.

Titli Basu 2/8, Titli Basu is Associate Fellow at the Manohar Parrikar Institute for Defence Studies and Analyses. 2/8/22. [IDSA. “Japan and US–China Strategic Competition: Alliances and Alignments,” <https://www.idsa.in/issuebrief/japan-and-us-china-strategic-competition-tbasu-080222>] Justin

The year 2022 may shake up East Asia as the regional security situation remains fluid. As an important theatre of US–China strategic competition, observers are critically analysing how China postures on Taiwan ahead of the 20th National Congress of the Communist Party of China (CPC)? What are the implications for Inter-Korea relations and the larger denuclearisation of Korean Peninsula following a change of political guard in Seoul? How Japan emboldens its role in East Asian security within the plank of positive pacifism as it revises the National Security Strategy (NSS), something that will inevitably draw reactions from neighbours and regional stakeholders. Pyongyang’s relentless pursuit of nuclear and missile technology in violation of United Nations Security Council (UNSC) sanctions and the issue of sequencing has derailed the goal of denuclearisation. Meanwhile, Beijing’s power projection in the near-seas region including the South China Sea, East China Sea and Taiwan Strait, unilaterally challenging the status quo and maritime order has kept regional security on the edge and any miscalculation or adventurism may prove costly.

Additionally, broader issues including the effectiveness of Washington’s leadership and credibility, as tested in Afghanistan and now the developing situation in Ukraine are being debated. The potency of American regional alliance system with regard to defending the rules-based liberal order on the one hand, and the maturity of a potential China–Russia alignment on the other will be at play in shaping the geopolitical and geo-economic landscape of the Indo-Pacific. Amid intensified geopolitical tensions in the Indo-Pacific, a web of expansive security structures is at play—whether it is putting in place the US–UK–Australia pact called AUKUS and Japan–Australia Reciprocal Access Agreement, reinforcing existing structures like the Quad and the Five Eyes, or Europe’s deeper embrace of the Indo-Pacific. Furthermore, the conversation on economic security amid Beijing’s deeper economic integration with US allies through Regional Comprehensive Economic Partnership (RCEP) is also a space to watch.

As a decades-old US security ally and an Asian economic force, Japan’s centrality in upholding a rules-based regional order has become more pronounced and definitive. Prime Minister Kishida Fumio gave a resolute call for pursuing “realism diplomacy for a new era”,1 anchored on three pillars: advancing universal values, resolving global challenges and defending the Japanese people. As Tokyo balances its national interest amid intense US–China strategic competition, the central question preoccupying the mind-space of policy elites is how to optimise security insurances vis-à-vis Washington and economic dividends vis-à-vis Beijing within the frame of “realism diplomacy for a new era”. As Tokyo engages in shaping a favourable balance of power and order in the Indo-Pacific, how strategically innovative and politically effective is Prime Minister Kishida’s “realism diplomacy for a new era”? A closer look reflects more continuity, rather maturity of some of the key policies sowed during the Abe Shinzo administration, focussing on external and internal balancing— buttressing national strength and bolstering deterrence, and reinforcing alliances.

Being one of the most consequential architects of the Free and Open Indo-Pacific (FOIP) vision, Japan has started the year on a strong foot. Japan is shoring up alliances and deepening strategic alignments—advancing practical cooperation with the Quad, Association of Southeast Asian Nations (ASEAN) and European powers. It has been a busy start to the year—signing of the Reciprocal Access Agreement (RAA) with Australia, the US–Japan summit meeting, forging greater coordination with regard to denuclearisation of the Korean Peninsula, Taiwan contingency, and deterring Russian aggression against Ukraine. Additionally, Tokyo committed to co-creating ASEAN’s future by launching the Asia–Japan Investing for the Future Initiative. Advancing the goal of realising the FOIP, the momentum on 2+2 dialogues remained high including with France and the US. Furthermore, Tokyo bolstered India–Japan cooperation in the Bay of Bengal in pursuit of preserving a rules-based maritime order.

Meanwhile, strategists are keeping a sharp eye on how Kishida’s China policy is evolving. Interestingly, to consolidate his political power, Kishida has to balance his political allegiance with the relatively “dovish” philosophy of the Kochikai factional legacy with the relatively more conservative factions2 within the ruling Liberal Democratic Party (LDP) on the one hand, and the pacifist coalition partner, Komeito on the other.3

Maturing Alliance and Alignments

Japan–Australia Reciprocal Access Agreement (RAA): In early January, Japan–Australia signed the pivotal RAA, which is the second such arrangement that Tokyo has agreed to, besides with the Americans. It not only demonstrates “deep substance” anchored on shared strategic outlook but also indicates that American allies are doubling down in exerting effective influence in shaping regional security, which is likely to keep the US engaged in the Indo-Pacific.4 Additionally, there are arguments favouring building actual operational capabilities between the “spokes” (part of the American post-war hub and spoke alliance model) which will complement American forces that remain overstretched.5 RAA will be a force multiplier in advancing US–Japan–Australia trilateral defence cooperation. As Japan–Australia RAA defines an expansive practical cooperation with regard to accessing military facilities, landing rights, logistics support, and legal regimes and so on, there is intensified discussion in Tokyo on using this template for future RAAs, probably with European powers in the near future. The conversation on utilising the Japan–Australia RAA to develop expertise and expand cooperation with Southeast Asian powers is also maturing.

AUKUS and Quad: Earlier Japan has extended support to the AUKUS owing to the strategic implication it holds for Indo-Pacific security, mainly in Western Pacific.6 AUKUS creates more space for an expanded role for the UK in taming the Indo-Pacific waves. There is a school of thought which argues that in the backdrop of US–China submarine tally, and Japan’s own plans for building and deploying submarines, Australia’s decision to build nuclear submarines and if they decide to deploy a few in key theatres for instance the South China Sea or somewhere closer to Taiwan, would help in maintaining the strategic balance. Furthermore, AUKUS may enable Canberra to have the repair and maintenance capacity vis-à-vis nuclear submarines in the coming decades.7

Though the initial conversation on AUKUS pitted it against the Quad, however, both are complementary in maintaining the strategic balance in the Indo-Pacific. While Quad remains focussed on delivering global public goods, AUKUS is anchored on military technology.8 Japan envisions a cooperative role within the AUKUS framework with respect to artificial intelligence, cyber-security and quantum technologies.9 But some argue that AUKUS underscores the uneasy reality that US, UK and Australia being part of the elite Anglo-Saxon intelligence-sharing alliance of the Five Eyes, has made Japan realise that the overall level of trust in intelligence domain needs some more work.10

Meanwhile, Quad has emerged front and centre in Tokyo’s strategic calculus. Quad has gained strategic heft as it works on a positive and productive memo in shaping the post-COVID strategic balance. As the Foreign Minister’s meet in Australia this week in the run up to the Quad Leaders’ Summit in Tokyo, the aim is to balance values and strategies as fellow democracies bring to bear collective capacities and deliver on the shared responsibility of securing the rules-based order. The primary focus is to offer global public goods, be it through the Quad Vaccine Partnership or de-risking high-tech supply chains through supporting secure telecommunications ecosystem, the Semiconductor Supply Chain Initiative, or addressing infrastructure financing needs and setting up a clean-hydrogen partnership.

US–Japan Alliance as a Stabiliser: Japan’s recent conversation with Washington in January, be it the Kishida–Biden virtual meeting or the 2+2 security consultative committee meeting, both underscored the alliance’s critical role in defending the rules-based liberal order. Post-War Japan has served as a stabiliser of the US-led system, aimed at shaping a favourable balance of power and order. While American extended deterrence remains “credible and resilient”, the regional security situation is intensifying with the advancement of nuclear weapons, ballistic and cruise missiles, and hypersonics. As such, Washington and Tokyo are “modernising” alliance’s roles and missions, building up joint capabilities, drawing up plans for contingencies, encompassing all facets of national power and domains (including land, maritime, air, missile-defence, space, cyber, electromagnetic spectrum).11

Washington and Tokyo are aligning strategies and priorities through the impending national security strategy documents. With Tokyo’s higher commitment towards Host-Nation Support, there is a new training capability category to further fortify the alliance. To bolster alliance interoperability, the focus is on asset protection, joint intelligence, surveillance, reconnaissance (ISR) operations, and strategic messaging. The alliance is also geared towards advancing cutting-edge innovation to maintain technological superiority in artificial intelligence, machine learning and quantum computing. Cooperation in counter-hypersonic technology has been prioritised.12

US–Japan Alliance and Taiwan: The altering military balance in the Western Pacific and the conversation on “pushing back” against Chinese ambitions and activities gained traction at the US–Japan meeting.13 Taiwan has been mainstreamed in the security discourse, and discussion on the value of strategic ambiguity as opposed to strategic clarity has gained traction not just in the US, but also in Japan, given its proximity to Okinawa. Additionally, the sentiment of solidarity towards Taiwan as a fellow democracy has also gained currency.14 A conventional war on Taiwan is an impractical idea, and China’s manoeuvres mostly remain a pressure tactic. Nevertheless, there is an emerging view that invasion of Dongsha Islands positioned in the South China Sea and controlled by Taiwan may be a possibility.15 Thus, the US–Japan alliance has reportedly drawn up joint operational plans focussing on a possible Taiwan contingency.16 Augmenting missile defence capabilities and deploying medium-range missiles on the first island chain, in addition to strengthening joint training and exercises are important.17 The revised NSS and US–Japan Defence Guidelines will effectively capture the progress in this regard.

US–Japan Alliance and North Korea: Denuclearisation of the Korean Peninsula is a monumental challenge in determining Northeast Asian security. The Peninsula remains a contested theatre for major powers with competing geo-strategic interests. While Washington’s urgency is to realise denuclearisation and deny Beijing the option of using Pyongyang to pursue its larger strategic goals, China’s key interest is to preserve a stable external environment on the Peninsula by avoiding an armed conflict on the one hand and keeping regime stability on the other. It is important to note that the North Korean challenge is a litmus test for Beijing. How effectively China succeeds in safeguarding the interests of its only treaty ally with whom it fought the Korean War will be important in defining Beijing’s global standing.18 Adding to the regional fluidity is the discussion on end of war declaration and replacing the armistice regime, which provokes a larger discussion on the future of the existing Cold War structures in the Peninsula, and the relevance of the US–South Korea alliance.19

Japan has high stakes in the stability of Korean Peninsula. The third pillar of Kishida’s realism diplomacy underscores defending Japan, and as such debating realistic options, including possessing “enemy base attack capability”, revising key security documents and reinforcing deterrence through a supplementary budget. With the escalation of tensions with repeated missile launches by Pyongyang in violation of UNSC resolutions, Japan is focussed on sustaining constructive trilateral cooperation with the US and South Korea. Political, diplomatic, and military coordination within the US–Japan alliance, and Seoul bilaterally as well as trilaterally remains a priority. In this context, Tokyo and Seoul may have to work harder in repairing their bilateral relations, which remained strained in recent years owing to escalating tensions over history issues

#### Space multilateralism drains diplomatic capital.

Joan Johnson-Freese 17 – Professor of National Security Affairs at the U.S. Naval War College, 2017, Space Warfare in the 21st Century: Arming the Heavens, p. 173-174

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 hardware-producing 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 time-consuming, 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.

#### North Korean diplomacy key to solve nuclear war.

Doug Bandow 19, Senior fellow at the Cato Institute, 04/15/2019, “Trump’s Remarkable Diplomatic Efforts in North Korea,” Cato, https://www.cato.org/publications/commentary/trumps-remarkable-diplomatic-efforts-north-korea

There is another reason to pursue diplomacy so long as there is any chance of success. The Trump administration’s “maximum pressure” campaign has hurt the DPRK economy and state. However, North Korean officials insist that the regime will not capitulate, and history gives their claim credibility. In the late 1990s a half million or more people died of starvation; neither regime nor policy changed as a result. Additional U.S. sanctions are unlikely to force a different outcome today.

The only other option is war. “Within five to eight years, North Korea is likely to have enough survivable nuclear capability to make any move into North Korea prohibitively costly,” according to RAND Corporation. The president appeared to be going down such a course in late 2017, before agreeing to meet with Kim; some reports indicate that President Trump came close to ordering strikes on the North.

The Clinton administration took the same path, apparently, before also turning to diplomacy. Other advocates for triggering Armageddon on the Korean Peninsula include the late Sen. John McCain, who supported all of America’s recent disastrous conflicts, and National Security Adviser John Bolton, who in February 2018, shortly before his appointment, wrote an op-ed for the Wall Street Journal titled “The Legal Case for Striking North Korea First.”

Military action against the DPRK would be a massive game of chicken with hundreds of thousands and perhaps millions of lives at stake. Sen. Lindsey Graham, a militarist like McCain, tweeted after the breakdown of the Hanoi Summit: it is time “to end the nuclear threat from North Korea — one way or the other.” He earlier dismissed fears of attacking the North since the conflict would be “over there,” he declared, rather than “over here.”

That ignores the fact that some 250,000 Americans are in South Korea on any given day and U.S. military forces would be drawn into any war on a massive scale. Moreover, the Republic of Korea’s sprawling capital city is within range of artillery and missile attack. Although there are disagreements over North Korean capabilities, the RAND Corporation has previously warned that “given that 50 percent of South Korea’s population and 70 percent of its economic activity are in the Seoul metropolitan area, this is a potentially catastrophic threat to South Korea.” A conventional invasion also might reach Seoul. Despite efforts made by America and South Korea to limit the damage, the loss of life, economic costs, and sheer destruction likely would be enormous, despite the inevitable victory.

And if Pyongyang has married nuclear warheads to short- and mid-range missiles — it likely does not have the capacity to target American cities — then it could wreak havoc in the Asia-Pacific region. Imagine nuclear attacks on Seoul and Tokyo, as well as American bases in Guam and Okinawa. The consequences would be horrendous. The DPRK needs only a limited arsenal to impose substantial penalties on any attacker. Even a small force could “destroy South Korea’s major cities and do other damage if it believes its survival is truly at stake,” warned the RAND Corporation.

Some advocates of limited strikes against North Korea’s weapons of mass destruction imagine that the threat of retaliation would prevent any response. However, given the fate of other regimes targeted by Washington, the North likely would perceive attacks on its most important military assets as merely the first stage, with regime change to follow. Moreover, given America’s massive military advantages, North Korea’s weapons are essentially use it or lose it. Even if the United States intended to keep the fight limited, then the DPRK would most likely go all in.

In fact, this was the conclusion of the RAND Corporation after running several wargames. Although Washington might consider targeting the North’s nuclear issue as a limited objective, “some North Korean factions in the wargames tended to view U.S. intervention as the prelude to unification and thus an existential threat to North Korea as an independent entity. This put them in the situation of using their nuclear weapons — the ultimate guarantor of their security — or losing them.” The RAND Corporation concluded that nuclear war was inevitable and noted that “in all the wargames, at least one of the North Korean factions employed a nuclear weapon during the conflict.” In summarizing the results of various war scenarios, RAND stated the additional complications of “the logistical burden and local chaos of a noncombatant evacuation operation and the potential for third-party intervention, especially by China.”

## 5

### T

#### 1] Interp – the Affirmative must only defend that appropriation of outer space is unjust.

#### a] Private entities are non-governmental.

Dunk 11 Von Der Dunk, Frans G. "1. The Origins Of Authorisation: Article VI Of The Outer Space Treaty And International Space Law." National Space Legislation in Europe. Brill Nijhoff, 2011. 3-28. (University of Nebraska)//Elmer

4. Interpreting Article VI of the Outer Space Treaty One main novel feature of Article VI stood out with reference to the role of private enterprise in this context. Contrary to the version o fthe concept applicable under general international law, where 'direct state responsibility' only pertained to acts somehow directly attributable to a state and states could only be addressed for acts by private actors under 'indirect', 'due care' / 'due diligence' responsibility18, Article VI made no difference as to whether the activities at issue were the state's own ("whether such activities are carried on by governmental agencies" ...) or those of private actors (... "or by non-governmental entities"). The interests of the Soviet Union in ensuring that, whomever would actually conduct a certain space activity, some state or other could be held responsible for its compliance with applicable rules of space law to that extent had prevailed. However, the general acceptance of Article VI as cornerstone of the Outer Space Treaty unfortunately was far from the end of the story. Partly, this was the consequence of key principles being left undefined.

#### b] Unjust refers to a negative action – it means contrary.

Black Laws No Date "What is Unjust?" <https://thelawdictionary.org/unjust/> //Elmer

Contrary to right and justice, or to the enjoyment of his rights by another, or to the standards of conduct furnished by the laws.

#### 2] Violation – the Affirmative defends a new, multi-lateral agreement between states which is beyond the scope of the resolution.

#### 3] Standards – Effects and Extra-T which are voters for predictable limits and ground – allowing the Aff to defend implementation through any number of agreements/mechanisms explodes predictable limits – it shifts the topic to not appropriation good/bad but how we should end it which skews pre-tournament prep. Allowing them to be Effects-T gives them unlimited advantage ground like multilateral governance good or spill-over which skews ground since they could say our mechanism side-steps your links.

#### 4] TVA – just defend space mining being bad without the multilateral governance part of the plan.

## Case

### 1NC – Mining Adv

#### AT Scoles:

#### 1] The real danger is from NASA’s mission to transplant rocks --- plan doesn’t affect, and there’s other methods of mining, we read blue

Sarah Scoles 15, “Dust from asteroid mining spells danger for satellites,” New Scientist, 5-27-2015, https://www.newscientist.com/article/mg22630235-100-dust-from-asteroid-mining-spells-danger-for-satellites/

NASA chose the second option for its Asteroid Redirect Mission, which aims to pluck a boulder from an asteroid’s surface and relocate it to a stable orbit around the moon. But an asteroid’s gravity is so weak that it’s not hard for surface particles to escape into space. Now a new model warns that debris shed by such transplanted rocks could intrude where many defence and communication satellites live – in geosynchronous orbit. According to Casey Handmer of the California Institute of Technology in Pasadena and Javier Roa of the Technical University of Madrid in Spain, 5 per cent of the escaped debris will end up in regions traversed by satellites. Over 10 years, it would cross geosynchronous orbit 63 times on average. A satellite in the wrong spot at the wrong time will suffer a damaging high-speed collision with that dust. The study also looks at the “catastrophic disruption” of an asteroid 5 metres across or bigger. Its total break-up into a pile of rubble would increase the risk to satellites by more than 30 per cent (arxiv.org/abs/1505.03800). That may not have immediate consequences. But as Earth orbits get more crowded with spent rocket stages and satellites, we will have to worry about cascades of collisions like the one depicted in the movie Gravity. Handmer and Roa want to point out the problem now so that we can find a solution before any satellites get dinged. “It is possible to quantify and manage the risk,” says Handmer. “A few basic precautions will prevent harm due to stray asteroid material.”

#### 2] Collision risk is infinitesimally small

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

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

#### 3] Concedes Asteroid Mining can be regulated to still be allowed to occur – says “possible to … manage risk” – no solvency deficit to the CP.

#### AT McKnight – It’s not talking about Asteroid Mining – it’s talking about status quo debris from current dust and rockets – inserted the table below – their evidence isn’t predictive, it’s descriptive – means current dust thumps.

McKnight 17 Dr. Darren McKnight 17, Ph.D., Technical Director for Integrity Applications, Previously Senior Vice President and Director of Science and Technology Strategy at Science Applications International Corporation, “Proposed Series of Orbital Debris Remediation Activities,” 3rd International Conference and Exhibition on Satellite & Space Missions, 5/13/2017, https://iaaweb.org/iaa/Scientific%20Activity/debrisminutes03166.pdf [graphics omitted]

Table

Description automatically generated

#### Means D/B – either Squo Debris Thumps or disproves the I/L – past Debris didn’t trigger escalations.

#### AT Xu –

#### 1] This card comes nowhere close to a space war argument – it says “conflicts” i.e. disputes, NOT a full-on war. Just because they put WMD’s, doesn’t get them to space war – give them zero spin.

#### 2] 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.

#### AT Biggs –

#### 1] Populist Climate Deniers don’t act regardless of Data – proves it’s not data that’s key but will.

#### 2] Solar flares will end satellites inevitably – no defense

Wild 15 (Jim Wild, Professor of Space Physics at Lancaster University, “With So Much Vested In Satellites, Solar Storms Could Bring Life To A Standstill,” July 30, 2015, https://theconversation.com/with-so-much-vested-in-satellites-solar-storms-could-bring-life-to-a-standstill-45204)

These can disrupt satellite operations by depositing electrical charge within the on-board electronics, triggering phantom commands or overloading and damaging sensitive components. The effects of space weather on the Earth’s upper atmosphere disrupts radio signals transmitted by navigation satellites, potentially introducing positioning errors or, in more severe cases, rendering them unusable. These are not theoretical hazards: in recent decades, solar storms have caused outages for a number of satellites services – and a handful of satellites have been lost altogether. These were costly events – satellite operator losses have run into hundreds of millions of dollars. The wider social and economic impact was relatively limited, but even so it’s unclear how our growing amount of space infrastructure would fare against the more extreme space weather that we might face. When Space Weather Becomes A Hurricane The largest solar storm on record was the Carrington event in September 1859, named after the British astronomer who observed it. Of course there were no Victorian satellites to suffer the consequences, but the telegraph systems of the time were crippled as electrical currents induced in the copper wires interfered with signals, electrocuted operators and set telegraph paper alight. The geomagnetic storm it triggered was so intense that the northern lights, usually a polar phenomenon, were observed as far south as the Bahamas. Statistical analysis of this and other severe solar storms suggests that we can expect an event of this magnitude once every few hundred years – it’s a question of “when” rather than “if”. A 2007 study estimated a Carrington event today would cause US$30 billion in losses for satellite operators and threaten vital infrastructure in space and here on the ground. It’s a risk taken sufficiently seriously that it appears on the UK National Risk Register and has led the government to draw up its preparedness programme.

### 1NC – Multilat Adv

#### AT Wall – They can’t solve – they don’t re-vitalize the UN OST – they go through a new treaty which doesn’t solve the governance unravelling U/Q they’ve identified.

#### AT Beard – Disconnect from their U/Q which is about the US either

#### Space Governance is high now.

Stuart 17 Jill Stuart 1-27-2017 "The Outer Space Treaty has been remarkably successful – but is it fit for the modern age?" <https://theconversation.com/the-outer-space-treaty-has-been-remarkably-successful-but-is-it-fit-for-the-modern-age-71381> (Visiting Fellow, Department of Government, London School of Economics and Political Science)//Elmer

Space exploration is governed by a complex series of international treaties and agreements which have been in place for years. The first and probably most important of them celebrates its 50th anniversary on January 27 – The Outer Space Treaty. This treaty, which was signed in 1967, was agreed through the United Nations, and today it remain as the “constitution” of outer space. It has been signed and made official, or ratified, by 105 countries across the world. The treaty has worked well so far but challenges have increasingly started to crop up. So will it survive another 50 years? The Outer Space Treaty, like all international law, is technically binding to those countries who sign up to it. But the obvious lack of “space police” means that it cannot be practically enforced. So a country, individual or company could simply ignore it if they so wished. Implications for not complying could include sanctions, but mainly a lack of legitimacy and respect which is of importance in the international arena. However it is interesting that, over the 50 years of it’s existence, the treaty has never actually been violated. Although many practical challenges have been made – these have always been made with pars of the treaty in mind, rather than seeking to undermine it entirely.

#### AT Pelton – This card says space good NOT that space governance is good – there isn’t a spill-over argument or a coherent solvency chain/brink for how they cause action in outer space.

#### AT Borgwardt – 1] They haven’t read Brink U/Q that Nuke Terror is happening/possible and 2] This assumes a Trump administration lash-out to Nuke Terror NOT a universal claim about how every country would react – no escalation scenario.

#### Space Multilateralism fails – free-riding.

Knopf 18 - professor at the Middlebury Institute of International Studies at Monterey, chair of the M.A. program in Nonproliferation and Terrorism Studies (Jeffrey, After diffusion: Challenges to enforcing nonproliferation and disarmament norms, *Contemporary Security Policy*, Vol. 39, Issue 3, February 9th, pages 367-398)

A second challenge that **complicates efforts to enforce** international **norms** is the well-known **collective action problem** (Olson, 1965). In many cases, effective enforcement will require the participation of more than one actor. Unless one state has unusual economic leverage, for example, economic sanctions usually **require multilateral enforcement** to be effective. Otherwise, the target state can evade sanctions by trading with those states that choose not to participate in the sanctions effort. **Even military enforcement** often **depends on** the involvement of **multiple states**. Take the U.S.-led invasion of Iraq in 2003 for example. Although often seen as a case of U.S. unilateralism, this is not entirely accurate. The United States relied on earlier UN Security Council resolutions for legal justification, so at minimum the United States needed other members of the Security Council to have voted in favor of relevant resolutions. It also sought a so-called second resolution that would have explicitly authorized the use of force, and the U.S. failure to obtain Security Council passage of this authorization reduced international support for the U.S.-led operation (Thompson, 2009). In addition, the United States sought to enlist other partners in the “coalition of the willing” that conducted the military operation. The United States could have gone it alone if it chose to, but it clearly had a strong preference to obtain as much legitimacy as it could from the presence of coalition partners. In short, effective unilateral enforcement is likely to be **rare**; norm enforcement will typically be more effective as a multilateral enterprise. **Multilateral cooperation is not automatic** however. By the familiar logic of collective action, states will be tempted to **free ride** on the enforcement efforts of others. As long as others enforce the nonproliferation or disarmament norm in question, free riders still enjoy the benefits. But free riders do not have to pay the costs of enforcement, in trade forgone, in diplomatic frictions with the target or its friends, or in potential casualties should military force come into play. If all states give in to the temptation to free ride, however, then **effective enforcement will not happen.** In some cases, a lack of participation in collective action may arise less from states deliberately free riding than from a **lack of consensus** about whether or not a particular state is actually violating a particular norm. There can be ambiguity about the standards for ascertaining norm compliance or about the evidence of a violation. When this occurs, states can come to **different interpretations** of whether the situation even calls for an effort at enforcement (for examples involving NPT safeguards, see Goldschmidt, 2010) The end result will be similar to when free riding occurs, in that many **states will choose not to join in collective action**. The collective action problem is accentuated by **global power asymmetries**. The **U**nited **S**tates is so much more powerful than most other states, and has demonstrated such an obvious commitment to enforcing nonproliferation in certain cases, **that other states may hope that the** **U**nited **S**tates **will shoulder the entire burden** of enforcement. This creates an especially strong temptation to free ride. To the extent that the **U**nited **S**tates cannot on its own bring about **norm compliance**, however, the collective action problem will become a major barrier to enforcement of nonproliferation norms.