# 2nr

# Mining Case Neg

### 1NC—1

#### The aff is not a break from dualistic thinking but reifies it. Appeals to space as being the dominion of all humankind, free to explore for the benefit of our common heritage, promote an image of humanity unburdened by its material environment.

Ferrando 16 [(Francesca, Ph.D. in philosophy, M.A. in Gender Studies, Professor.@ NYU) “Why Space Migration Must Be Posthuman”, 2016, http://ndl.ethernet.edu.et/bitstream/123456789/76546/1/147.pdf.pdf#page=136yperlink] TDI

In 2008, NASA released an official Statement on the Environmental Impact (PEIS), which takes into consideration the environmental impact of space tech- nology on Earth, but it does not acknowledge its impact on other celestial bodies, such as the Moon or other planets of the Solar System. Critical to this type of anthropocentric and Earth-centric approach, William Kramer underlines: “there is no comprehensive process required...for assessing human impacts on those extraterrestrial environments” (2014, 216). Space technology and space-based human activity shall be analyzed from a view which takes into account their effects not only on humans and on Earth, but on outer space as well. In order to address this issue, we first need to engage with the question asked by Reinman (2009): is (outer) space an environment? If so, it shall be regulated under specific environ- mental conditions. In Reinman’s opinion, “space at large should not enjoy a moral status equal to Earth” (ibid., 86), as she grants a primacy to Earth based on bio-centric values: “In many ways Earth, with its unique, abundant life, is special. There is nothing quite like it in the Solar System” (ibid.). Although the point raised by Reinman is of key importance to our discussion, from a posthuman perspective, regarding the Earth as “special” because of its life abundance is problematic, being supported by an Earth-centric, bio-centric and quantitative principle which supremacy is not inherently justified; life itself, in fact, is a slippery concept.

The current understanding of life is merely descriptive, not definitive: the border between animate/inanimate is difficult to mark and is often transgressed.24 Viruses, for instance, exhibit some of the characteristics which are common to organic life, while they are missing others, challenging the biological concept of life itself.25 More in general, it can be stated that life is not a clearly defined notion; instead, as Michel Foucault noted: “Life...is a category of classification, relative, like all the other categories, to the criteria one adopts” (1966; Engl. Transl. 1970, 161). Going back to Reinman’s conclusions, she underlines an aspect of strategic relevance for a posthumanist sensitivity: “humans’ actions towards their surroundings will continue to affect people whether we live on Earth or in space” (2009, 86). Let’s reflect further upon this point. The non-human agency of matter (Barad 2007), as high- lighted within the frame of New Materialism, plays a key role in allowing us to recognize agency to planets, stars and asteroids. The relational onto-epistemological approach of New Materialism makes us think on the possible astro-ecological impacts of Moon mining, or of terraforming in Mars,26 on the balance of the solar system and, eventually, on their orbits. Even the environmentally-sound concept of space-based solar power (cf. Ernst 2013) should be considered from perspectives others than Earth. Object-Oriented Ontology, and in particular the notion of “Hyperobjects” (Morton 2013), highlights the material viscosity of objects whose performance exceeds both a particular space and a particular time: reading the current opening of the space market from this perspective will unmask the long-term irreversible consequences of our present actions.

Space is the next frontier, where new resources, habitats and life forms are currently being sought: in November 2015, the United States Government passed the “Commercial Space Launch Competitiveness Act “[t]o facilitate a pro-growth environment for the developing commercial space industry by encouraging private sector investment” (U.S. Commercial Space Launch Competitiveness Act 2015). Although approaching outer space as a resource may spark interest and funding, from an heideggerian perspective, it is ontologically limiting and epistemologically partial, based on an Earth-centered policy sustained by an anthropocentric Weltanschauung. Furthermore, the “Space Act” may contravene the international regulations laid down by the “Outer Space Treaty” (1967), a key document ratified by 104 countries, including the US, which still represents the legal framework for space activity. The Office for Outer Space Affairs of the United Nations summarizes the following principles as the main ones sustaining the Treaty:

the exploration and use of outer space shall be carried out for the benefit and in the interests of all countries and shall be the province of all mankind; outer space shall be free for exploration and use by all States; outer space is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means; States shall not place nuclear weapons or other weapons of mass destruction in orbit or on celestial bodies or station them in outer space in any other manner; the Moon and other celestial bodies shall be used exclusively for peaceful purposes; astronauts shall be regarded as the envoys of mankind; States shall be responsible for national space activities whether carried out by gov- ernmental or non-governmental entities; States shall be liable for damage caused by their space objects; and States shall avoid harmful contamination of space and celestial bodies. (Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space 1967)

As we can see, this document is based on the principle of the common heritage of humankind, according to which “outer space is not subject to national appropriation by claim of sovereignty”. Conceived during the Cold War, the Treaty inaugurates a post-nationalistic post-bellic approach to space, setting a new paradigm which has departed from the dualistic imprinting of “us” against “them”. Although still within an anthropocentric schemata focussed on the interests of “mankind”, the step is huge. For instance, celestial bodies shall be used “for peaceful purposes” and shall not be contaminated; astronauts are considered the “envoys” of humankind.27 The human frame has been opened and expanded: posthumanism has entered the gates to the heavens.

#### Their view of “junk” as a threat to techno-capital expansion is an attempt to bury their co-constitutive ecology. It is only the image of the objects of our accumulation remaining to haunt us.

Ivakhiv 18 [(Adrian, Professor of Environmental Thought and Culture at the University of Vermont) Shadowing the Anthropocene: Eco-Realism for Turbulent Times, 2018] TDI

The signs are there for those who pay attention to them. Reports of melting glaciers and impending crashes. Crashes of the ocean’s fish stocks, mass extinctions on a scale not seen in 65 million years. Stock market crashes, internet seizures and data breaches, doomsday viruses online and off. Plane crashes and mysterious disappearances in Indian or Mediterranean seas. Rising sea levels and strengthening storms, with tag-teamed hurricanes battering and flooding coastal areas. Hundred-year droughts arriving in back to back years. Swirling accumulations of trash in the middles of the world’s oceans. Accumulations of toxic particles, radioactive dust, and microscopic plastic pellets in the bodies and bloodstreams of every living thing on Earth. Accumulations of space junk in the atmosphere. Mountains of waste, electronic and otherwise, building up to WALL·E-like sce- narios, but without Disney/Pixar’s (or the Buy-N-Large corpo- ration’s) interstellar cruise-ship escape.

Sooner or later, the trash will hit the fan, the crash will burst the dam, the supercollider will hit with the full force of its im- pact. The mad rush for land, for survival, for salvation, will begin in earnest, even for the most protected of us. These are among the material ecologies that make up the era tendentiously and contentiously called the Anthropocene, the New Era of the Human. There are other kinds of ecologies be- sides these material ones: social ecologies, and perceptual ecologies. I’ll explain why it’s better to think in threes than in twos, and why the social, the material, and the perceptual make a useful frame for thinking of the ecologies that constitute the world.

Our social ecologies work the same way as our material ecologies, with blowback to widening inequalities and horrific injustices coming in the form of movements of growing refugee populations—economic refugees, climate refugees, refugees from wars fought over the stakes of all these crashes and the political violence and terror that accompanies them.

Between the material and the social are the fleshy, intersensorial dynamics from which the material and the social, or the “objective” and the “subjective,” continually emerge. Drawing from the ecosophies of Félix Guattari and Gregory Bateson, I will call these our mental or perceptual ecologies. Blowback there comes as guilt, bad dreams, ghostly observances fractur- ing our sensory perceptions, inarticulate rage against those who question the tacitly held consensus. This is the hauntedness of the present by the abyss of an ungraspable and inconceivable future. It is these affective undercurrents that are our responses to the eyes of the world haunting us from out of the corners of our vision. (More on those eyes later.) They are what makes us feel that things aren’t right—a hint at the traumatic kernel of real- ity that both psychoanalyst Jacques Lacan and, with a different inflection, Buddhist philosophers have placed at the origin of the self, but which in a collective sense is coming back to haunt us globally.

We misperceive the nature of the world for the same reasons that we misperceive the nature of our selves. Every social and linguistic order interpellates its members—it shapes and hails them into existence with a call of “Hey you!” Each does it differ- ently. But over the course of the storied history of humans — not the meta-narrative of the Anthropos, just the patchy tale of humanity in its quiverings and coruscations—most such or- ders have incorporated into that interpellation some sense of responsibility to more-than-human entities or processes. In whatever way they were conceived—as spirits or divinities, or as kin, or in terms of synthetic narrative or conceptual meta- phors like life-force, the Way, the path, li and ren, 礼 and 仁, the four directions, Muntu and Ubuntu, Buen Vivir, Nepantla, some gift-giving and life-renewing sacrifice, and so on—these have typically borne a central connection to the kinds of relations we now categorize as ecological. (At least for those social orders that worked.)

Modern western capitalism has fragmented these relations, setting us up individually in relation to the products of a seem- ingly limitless marketplace. But it has left us collectively rudder- less. So if scientists, the empirical authorities of our time, tell us we are fouling our habitat, we have yet to figure out how to respond to that, at least at the global scales where most of the problems become manifest.

This is why it is the relational, more than the substantive or “objectal,” that humans, especially westerners, need to come to terms with. That is in part the argument of this book. Commodity capitalism has been profoundly successful at encouraging us to think that objects are real, and at projecting value into those objects so that they serve the needs of individuals, even if they never manage to do that (which is, of course, the point). The effects of our actions, on the other hand, are systemic and relational, and we won’t understand them unless we come to a better appreciation of how systems and relational ecologies work and of how we are thoroughly enmeshed within them.

At the same time, it is the objects that haunt us: the refuse swirling around in the middle of the Pacific, the mountains of excreted e-waste, the stuff we send down our chutes, out our drains, off to the incinerator, the river, the ocean, the atmosphere—the black holes, out of sight and out of mind, from which we hope they never re-emerge. When they do re-emerge, in our fantasies and nightmares, we reify them as the Thing, a Demon, a Host—as in Bong Joon-Ho’s thriller of that name, about a river monster embodying the legacy of industrial pollution in South Korea’s Han River. The objects become sublime. If our consumptive, commodity-captivated and spectacle- enraptured society has privileged the object over the process, the thing at the center of our attention over the relations that constitute it, this thing-centeredness should not surprise us. In part, it is an effect of the human perceptual apparatus, with its heavy reliance on vision, a sensory modality that shows clear edges to objects and that facilitates distanced observation and predation. Where traditional cultures de-emphasized the visual in favor of the auditory or multisensorial, the narrative, and the relational, societies like ours—fragmented and individualized, intensely visually mediated, and ecologically and historically disembedded societies (in the sense described by Karl Polanyi in his paradigm defining The Great Transformation)1 — push the ontological objectivism, literally the “thing-ism,” about as far as it can go.

#### The impact is a state of permanent war—their political discourses surrounding space make militarization inevitable and turns the case.

Dickens and Ormrod 16 [(Peter Dickens, Senior Research Associate in the Department of Sociology at the University of Cambridge, member of the Red-Green Study Group in London, James S Ormrod, Principal Lecturer in Sociology at the University of Brighton), “The Future of Outer Space”, *The Palgrave Handbook of Society, Culture and Outer Space*] TDI

This continued relationship was not coincidental. As a number of contributions here show, the appeal of outer space lay in the promise of conquering the wondrous or Godly and hence the elevation of the status of humanity (or, rather more specifically, white men). This is not necessarily that dissimilar to the process Sims describes in his chapter, whereby myths ‘record time’. Ormrod illustrates this in his chapter through analysis of Tsiolkovsky’s science fiction in which the best human beings are able to fly like angels in space. As Kilgore notes in his chapter, Carl Sagan owed his continued appeal to his simultaneous reproduction of wonder as well as knowledge. The British celebrity cosmologist Brian Cox (see Mellor, this volume, for more on him) has arguably taken this even further, such that his popular shows and writing dedicate more time to what is unknown than to knowledge itself. These lacunae became spaces for wild imaginative projects – projects more captivating than any empirical knowledge. It is no wonder that the continued disenchantment and re-enchantment of the universe have become a major theme in recent work. Based largely on studies of astronauts’ experiences, Kilbryde (2015) argues that space exploration can potentially be a means of overcoming the dualism through which outer space is constructed as an object, and thus of experiencing unity. This is provided that the sense of awe and wonder it engenders is not sought as a ‘possession’ of the individual or as something to be subsequently rationalized.

It is the invocation of obstacles that produces space as something potentially unconquerable, and hence worth conquering. And yet the obliteration of the irrational or wondrous sweeps the ground from underneath such a project. To the extent that outer space has become an abstract space, it has been foreclosed as a frontier. It is a frontier, but a frontier without a future. In removing the possibility of an elsewhere, it serves only to secure terrestrial hegemony. In their own ways, both Baudrillard and Virilio present such a view of outer space. For Baudrillard, it was in any case a frontier that served as a model for terrestrial life, which set the permissible limits for struggle and confrontation within it. He concludes,

Through the orbital inscription of a spatial object, it is the planet earth that becomes a satellite, it is the terrestrial principle of reality that becomes eccentric, hyperreal, and insignificant. Through the orbital installation of a system of control like peaceful coexistence, all the terrestrial microsystems are satellized and lose their autonomy. (p. 35)

Everyone on Earth is neutralized and homogenized. The proliferation of space technology since he was writing, and the blurring of civilian and military technologies, has only broadened the potential of such an understanding. Parks and Schwoch (2012, p. 4), in the context of the ‘satellization’ of global security, refer to the satellites as ‘the ultimate rationalization and instrumentalization of the quest for global security and domination’.

For Virilio, there was such a homology between the technologies of war, the image of space as a battlefield and the political discourses about space that the future seemed equally foreclosed. He makes the claim that any space is constituted ‘from the outside’ (cited in Bormann, 2009, p. 80). That is to say, it is perceived on the basis of that which precedes it. Bormann is therefore able to argue that ‘nothing about outer space is “out there”, what we get to know about outer space is always socially, spatially and locally embedded’ (p. 80). Bormann, following Virilio, seems to believe that this is especially true of the vacuum of outer space:

[O]ther than the view there is no physical or physiological contact. No hearing, no feeling in the sense of touching materials, with the exception of an actual Moon landing. Thus the conquest of space, of outer space – isn’t it more the conquest of the image of space?

(Virilio & Ujica, 2003, cited in Bormann, 2009, p. 84)

Bormann reaches the pessimistic conclusion that ‘the perpetuation of outer space as a sphere of permanent war and its claims to weaponization will soon make no alternative possible’ (p. 84). This is the product, in the large part, of her assumption that ‘[w]hat we get to know about the space of outer space is dominated by information provided through the possibilities (and limits) of military technology’ (p. 81).

#### The alternative is to see that nature is us—recognizing the logic of the 1AC as the primary barrier to overcoming challenges to our environment and beyond.

Baskin 15 [(Jeremy, Senior Fellow at the Melbourne School of Government where he focuses on the legitimacy and accountability of knowledge) Paradigm Dressed as Epoch: The Ideology of the Anthropocene, 2015, Environmental Values] TDI

Even the limited examples from the literature already cited suggest that the assumptions of proponents of the Anthropocene about managerialism, technology and expertise are transparent and explicit. In almost all major accounts of the concept it is assumed that responding to the end of nature, and the challenges of the Anthropocene, requires a trinity of techniques: clear management of the Earth and Earth-systems, guided by experts (and scientists/engineers in particular), using the most advanced technology possible (including large- scale technology).

The challenges themselves are typically framed by a sense of emergency. The great weight of accumulating scientific data is recruited, to show how the human species and its planet are at risk. Landscapes and seascapes are being transformed, boundaries are being breached, non-linear processes have been unleashed, system pressures are rising and tipping points are either happening or looming; and all of this is both unprecedented in human history and fundamentally anthropogenic in cause.

Certainly recognition of the made-ness of the natural world means acknowledging that this carries responsibilities for the relevant human socie- ties, even a degree of conscious management. For leading proponents of the Anthropocene, the scale of management required is commonly seen, implicitly or explicitly, as global: since we face global problems, global management is needed to run the Earth in the Anthropocene. But what does it mean to frame policies within a global, universalist goal of ‘running the Earth’, and what condition are we trying to manage it towards?

Those of a more Aidosean inclination have spoken of the need to manage a return to the Holocene, or Holocene-like conditions, since this is ‘the only global environment that we are sure is “safe operating space” for the complex, extensive civilization that Homo sapiens has constructed’ (Steffen et al., 2011b: 747). This is the best way to manage the risks we face as we increasingly cross the planetary boundaries. The Prometheans, by contrast, argue that we should manage our way towards ‘a better Anthropocene’ (Ellis, 2011). The internal logic of the argument surely lies with the Prometheans. If humanity acknowledges and embraces its role as Earth-manager, and if we are indeed ‘post-nature’ and ‘nature is us’, then it is clearly impossible to return the Earth to the Holocene (or at least it would take millennia to do so). Why not aim for a ‘better’ Earth, or a more benign climate in which Norwegians are less cold, and Saudi Arabians less hot? For our purposes, however, the point is that the Aidosean and Promethean versions differ over the direction and goals of plan- etary management, rather than the need for it.

Managing the Anthropocene is also understood to come with special responsibilities for the scientific and engineering community (Crutzen, 2002). Only they are likely to have the knowledge, data and skills required in this new Age of Humans. At one level, one should not read too much into this, since the key proponents of the concept happen to be scientists and, not surprisingly, are more alert to the extent of their own knowledge and insights. Certainly sci- entists in the Anthropocene would have a key role as diagnosticians and, with engineers, as generators of specific technologies. But there is something troubling in the idea of scientists as both informants and saviours. Whilst policy needs to be informed by science, experience teaches that we should remain wary of the idea that policy can or should be guided by the science (Jasanoff, 1990; Pielke, 2007). As we know from the ‘climate wars’, the barriers to bringing down carbon-dioxide concentrations are almost entirely related to global and local politics, vested interests, deep-rooted values, economic structures and so on. For well over a decade they have been almost entirely unrelated to there being a lack of scientific data or new technologies (see Pielke, 2007: 71–2).

### 1NC—2

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

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

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

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

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

II. THE FIRST SHIFT IN CUSTOMARY INTERNATIONAL LAW’S INTERPRETATION OF THE NON-APPROPRIATION PRINCIPLE

Since the drafting of the Outer Space Treaty, several States have chosen to reinterpret the non-appropriation principle as narrower in scope than its drafters originally intended. This reinterpretation has gone largely unchallenged and has in fact been widely adopted by space-faring nations. In turn, this has had the effect of changing customary international law relating to the non-appropriation principle. Shifting away from its original blanket application in 1967, States have carved out an exception to the non-appropriation principle, allowing appropriation of extracted space resources.53 This Part examines this shift in the context of the two branches of the United Nation’s customary international law standard: State practice and opinio juris.

A. State Practice

The earliest hint of a change in customary international law relating to the interpretation of the non-appropriation clause came in 1969, when the United States first sent astronauts to the moon. As part of his historic journey, astronaut Neil Armstrong collected moonrocks that he brought back with him to Earth and promptly handed off to the National Aeronautics and Space Administration (NASA) as U.S. property.54 Later, the USSR similarly claimed lunar material as government property, some of which was eventually sold to private citizens. 55 These first instances of space resource appropriation did not draw much attention, but they presented a distinct shift marking the beginning of a new period in State practice. Having previously been limited by their technological capabilities, States could now establish new practices with respect to celestial bodies. This was the beginning of a pattern of appropriation that slowly unfolded over the next few decades and has since solidified into the general and consistent State practice necessary to establish the existence of customary international law. Currently, the U.S. government owns 842 pounds of lunar material.56 There is little question that NASA and the U.S. government consider this material, as well as other space materials collected by American astronauts, to be government property.57 In fact, NASA explicitly endorses U.S. property rights over these moon rocks, stating that “[l]unar material retrieved from the Moon during the Apollo Program is U.S. government property.”5

The U.S. delegation’s reaction to the language of the 1979 Moon Agreement further cemented this interpretation that appropriation of extracted resources is a permissible exception to the non-appropriation clause of Article II. Although the United States is not a party to the Moon Agreement, it did participate in the negotiations.59 The Moon Agreement states in relevant part: Neither the surface nor the subsurface of the moon, nor any part thereof or natural resources in place, shall become property of any State, international intergovernmental or nongovernmental organization, national organization or nongovernmental entity or of any natural person.60

In response to this language, the U.S. delegation made a statement laying out the American view that the words “in place” imply that private property rights apply to extracted resources61—a comment that went completely unchallenged. That all States seemed to accept this point, even those bound by the Moon Agreement, is further evidence of a shift in customary international law.62

B. Opinio Juris: Domestic Legislation

Domestic law, both in the United States and abroad, provides further evidence of the shift in customary international law surrounding the issue of nonappropriation as it relates to extracted space resources.

Domestic U.S. space law is codified at Section 51 of the U.S. Code and has been regularly modified to expand private actors’ rights in space.63 Beginning in 1984, the Commercial Space Launch Act provided that “the United States should encourage private sector launches and associated services.”64 The goal of the 1984 Act was to support commercial space launches by private companies and individuals.65 It did not, however, specifically discuss commercial exploitation of space. The first such mention of commercial use of space appeared in 2004, with the Commercial Space Launch Amendments Act.66 This Act specifically aimed at regulating space tourism but did not explicitly guarantee any private rights in space.67

The most significant change in U.S. space law came with the passage of the Spurring Private Aerospace Competitiveness and Entrepreneurship (SPACE) Act in 2015. As incorporated into Section 51 of the Code, this Act provides: A United States citizen engaged in commercial recovery of an asteroid resource or a space resource under this chapter shall be entitled to any asteroid resource or space resource obtained, including to possess, own, transport, use, and sell the asteroid resource or space resource obtained in accordance with applicable law, including the international obligations of the United States.68

Whereas the idea that private corporations might go into space may have seemed far-fetched to the drafters of the Outer Space Treaty, the SPACE Act of 2015 was the first instance of a government recognizing such a trend and officially supporting private companies’ commercial rights to space resources under law. With the new 2015 amendment to Section 51 in place, U.S. companies can now rest assured that any profits they reap from space mining are firmly legal—at least within U.S. jurisdictions.

Although the United States was the first country to officially reinterpret the non-appropriation principle, other countries are following suit. On July 20, 2017, Luxembourg passed a law entitled On the Exploration and Utilization of Space Resources with a vote of fifty-five to two.69 The law took effect on August 1, 2017.70 Article 1 of the new law states simply that “[s]pace resources can be appropriated,” and Article 3 expressly grants private companies permission to explore and use space resources for commercial purposes.71 Official commentary on the law establishes that its goal is to provide companies with legal certainty regarding ownership over space materials—a goal that the commentators regard as legal under the Outer Space Treaty despite the non-appropriation principle.72 The next country to enact similar legislation may be the United Arab Emirates (UAE). According to the UAE Space Agency director general, Mohammed Al Ahbabi, the UAE is currently in the process of drafting a space law covering both human space exploration and commercial activities such as mining.73 To further this goal, in 2017 the UAE set up the Space Agency Working Group on Space Policy and Law to specify the procedures, mechanisms, and other standards of the space sector, including an appropriate legal framework.74

C. Opinio Juris: Legal Scholarship

Other major space powers are also considering similar laws in the future, including Japan, China, and Australia. 75 Senior officials within China’s space program have explicitly stated that the country’s goal is to explore outer space and to take advantage of outer space resources.76 The general international trend clearly points in this direction in anticipation of a potential “space gold rush.” 7

Mirroring the shift in State practice and domestic laws, the legal community has also changed its approach to the interpretation of the nonappropriation principle. Whereas at the time of the ratification of the Outer Space Treaty the majority of legal scholars tended to apply the non-appropriation principle broadly, most legal scholars now view appropriation of extracted materials as permissible.78 Brandon Gruner underscores that this new view is historically distinct from prior legal interpretation, noting that modern interpretations of the Outer Space Treaty’s non-appropriation principle differ from those of the Treaty’s authors.79

In contrast to earlier legal theory that denied the possibility of appropriation of any space resources, scholars now widely accept that extracting space resources from celestial bodies is a “use” permitted by the Outer Space Treaty and that extracted materials become the property of the entity that performed the extraction.80 Stressing the fact that the Treaty does not explicitly prohibit appropriating resources from outer space, other authors conclude that the use of extracted space resources is permitted, meaning that the new SPACE Act is a plausible interpretation of the Outer Space Treaty.81

However, scholars have been careful to cabin the extent to which they accept the legality of appropriation. For instance, although Thomas Gangale and Marilyn Dudley-Rowley acknowledge the legality of private appropriation of extracted space resources, they nonetheless emphasize that “[o]wnership of and the right to use extraterrestrial resources is distinct from ownership of real property” and that any such claim to real property is illegal.82 Lawrence Cooper is also careful to point out this distinction: “[t]he [Outer Space] Treaties recognize sovereignty over property placed into space, property produced in space, and resources removed from their place in space, but ban sovereignty claims by states; international law extends this ban to individuals.”83 Although there remain some scholars who still insist on the illegality of the 2015 U.S. law and State appropriation of space resources generally,84 their dominance has waned since the 1960s. These scholars are now a minority in the face of general acceptance among the legal community that minerals and other space resources, once extracted, may be legally claimed as property. 85

Taken together, the elements described above—statements made in the international arena, de facto appropriation of space resources in the form of moon rocks, the adoption of new national policies permitting appropriation of extracted space resources, and the weight of the international legal community’s opinion— indicate a fundamental shift in customary international law. The Outer Space Treaty’s non-appropriation clause has been redefined via customary international law norms from its broad application to now include a carve-out allowing appropriation of space resources once such resources have been extracted.

#### Violation ­– the aff only bans private resource extraction through asteroid mining, which is limited in scope – that’s distinct from full sovereignty over space

#### Vote neg:

#### Limits – their interp explodes the topic to include affs about using space for any single purpose, like space-based solar power, helium and REMs on the Moon, space tourism, and climate adaptation satellites – this is unpredictable because topic lit is concerned with sovereignty over space and space colonization broadly, privileges the aff by stretching pre-tournament neg prep too thin and precludes nuanced case negs that rigorously test the aff

#### Precision – Justifies the aff arbitrarily doing away with words in the resolution which gives way to affs about anything from public appropriation affs to air space affs and many more which obliterates negative prep.

#### Ground – allowing debates about extracting any space resource denies the neg links to core generics like space col good, which only answers affs that broadly prohibit states from using space – this kills testing and forces negatives to the fringes of argumentation like generic Ks that are stale and vulnerable to aff prep-outs

#### Topicality is a voting issue that should be evaluated through competing interpretations—it tells the negative what they do and do not have to prepare for. Reasonability is arbitrary and unpredictable, inviting a race to the bottom and we’ll win it links to our offense

#### Drop the debater to deter future abuse and because the 2N doesn’t get new disads to whole rez so it’s permanently skewed.

#### No RVIs—it’s your burden to be fair and T—same reason you don’t win for answering inherency or putting defense on a disad.

### 1NC—3

#### Space is an intrinsic part of India’s soft power expansion and they’re set to rapidly scale now

Sarthak Kathayat, Sarthak Kathayat is a student at Jamia Millia Islamia, India., NIICE NEPAL, 11-1-2020, "Soft Power and India’s Space Diplomacy," https://niice.org.np/archives/6420 TDI

In international relations, soft power is the ability of any country to persuade other countries to do what it wants without the use of force. According to Joseph Nye Jr., soft power is – getting others to want the outcomes that you want – co-opts people rather than coerces them. As compared to hard power, soft power takes relatively longer to built as its intangible resources develop over a long time. Soft power tends to change other party’s attitude to the end where she acts voluntarily in a way which is different to her usual behaviour. Several characteristics of the current world order like globalisation driven economic interdependence, rise of transnational actors, resurgence of nationalism in weak states, the spread of military technology and the changed nature of international political problems have significantly reduced the effectiveness of hard power strategies. The most noteworthy example of a foreign policy misadventure based solely on hard power strategies is the 2003 US invasion of Iraq. Soft power also has its own weakness. However, the ineffectiveness of soft power strategies is an exception. In longer-term, soft power strategies appear to be more effective in the contemporary world order than the hard power. One such tool of soft power is the space technology and space diplomacy. Space technology are increasingly viewed as a crucial instrument of soft power as states have now understood the direct relation between the technological feats and global prestige that follows. Expertise in rocket science puts a state on a higher pedestal than the countries who are still struggling in the domain. Moreover, expertise in rocket science ensues significant strategic implications. The output delivered has noteworthy social and economic relevance with a massive growth potential. In a broadening concept of security that encompasses other dimensions such as economic, environmental and political, Indian space programme has been distinctive and lucid in the way it simultaneously addresses the requirements of the Indian citizenry and the state collectively in all the dimensions. Despite being challenged by numerous embargoes and technology denial regimes during Cold War, Indian space programme has emerged as the most cost-effective and successful space programme in the world. India’s space programme has been a tremendous achievement for a developing country which despite being faced with many challenges used space as a crucial mechanism to lift its people out of poverty through education, social and economic programmes. With the course of time, India’s space policy has become an intrinsic part of India’s foreign policy to strengthen India’s position as a dominant power in South Asia. Indian Space Programme India’s space programme has been seen making efforts in projecting soft power which is especially evident through its new commitment to planetary exploration and human spaceflight. The Chandrayaan-1 and Mangalyaan-1 mission cleared the fact that India now looks at space as a standard of global standing. India’s soft power has witnessed a progression with an increasingly successful participation in global space economy through ISRO’s commercial arm, Antrix Corporation. India’s growing influence on the global space economy has been an indication of its changing stature in international arena. India has also been involved in capacity building initiatives. It has successfully established itself as a leader in terms of healthcare provisions through satellite-based telemedicine. India hosts the largest telemedicine network in South Asia which has also expanded to the African continent. A non-profit Indian organisation named Apollo Telemedicine Networking Foundation has been involved in telemedicine services with dedicated centres in Iraq, Yemen, Kazakhstan and Myanmar. India’s Space Diplomacy Further using space for diplomacy in order to project its soft power across the globe, India has assisted countries like Colombia in launching its satellite which boosted India-Colombia relations. Many Latin American countries are often dependent on the US for space and military matters. However, after the launch, many countries like Argentina, Bolivia, Brazil, Chile, Ecuador, Mexico, Nicaragua and Venezuela have reached out to ISRO for launching or developing satellites. Similarly, India’s PSLV also launched Israel’s TecSar satellite in 2008 for remote sensing purposes. The launch boosted the political and strategic relations with Israel. Once a recipient of space technology from developed countries, India has demonstrated the robustness of its own space programmes by setting up joint projects and even providing assistance at the time of disaster to a number of countries. ISRO’s Oceansat-2 satellite played a pertinent role in monitoring Hurricane Sandy and helping the authorities to implement timely disaster mitigation and rescue strategies. Adding more feathers to its hat, ISRO has also launched dozens of satellites for US, Europe and Britain based companies. The recent launches of British reconnaissance satellites, NovaSAR and S1-4 are a sign of what could come next. Britain is one of the EU’s biggest spender in space sector. After Brexit, the dispute over Britain’s continued access to the European Union’s Galileo satellite navigation project will inevitably lead Britain look for alternatives and India’s space ambitions could offer a tempting proposition within the ambit of wider bilateral cooperation. As a part of India’s efforts in space diplomacy, ISRO undertook another capacity building initiative ‘Unispace Nanosatellite Assembly and Training (UNNATI)’. Under UNNATI, ISRO planned to train 45 countries in making Nano-satellites. Closer to home, India proposed a SAARC satellite in 2014 for the overall development of the region. The proposal was welcomed by SAARC nations but unfortunately the proposal couldn’t materialise as envisioned initially due to Pakistan’s backing out from the project. However, three years later, in 2017, ISRO launched the South Asia satellite or GSAT-9 to help India’s neighbouring countries in space communication. The idea of South Asia satellite ensured no political impediment as with the case of SAARC satellite. The positive spill over effect of the satellite’s launch on India’s “neighbourhood first” diplomacy was well demonstrated by the warm responses given by the leaders of South Asian countries. India’s space diplomacy with neighbours also extends on a bilateral basis. For instance, in Afghanistan, India included remote sensing satellite transmitters for acquiring space-based data in a USD 1.2 billion aid package. It is evident that soft power strategies are more relevant than the hard power strategies, especially in the contemporary world order. The rise of China as an emerging superpower is backed with its economic and military might leave less avenues for other developing nations such as India to contest China. However, soft power strategies open up another dimension for the interaction of the nations. India has utilised space as a tool of its soft power effectively in order to expand its clout. That space being an intrinsic part of India’s foreign policy has brought numerous achievements to the country, and is expected to remain an essential element for future course of India’s foreign policy.

#### Private sector key to Indian space efforts

Raghu Krishnan, Raghu Krishnan is the technology editor for the Economic Times. In the over two decades of reporting and managing teams, he has seen the Indian IT industry grow from $ 1 billion to nearly $ 191 billion. He has a deep understanding of the shifts the Indian IT industry has undergone over the years. He has also covered science and India's aerospace R&D industry., 12-7-2020, "New space policy may take local companies global: Sivan," Economic Times, https://economictimes.indiatimes.com/news/science/new-space-policy-may-take-local-companies-global-sivan/articleshow/79599874.cms?from=mdr TDI

Bengaluru: India will draft a new space policy aimed at increasing private investments in the country’s space sector to build companies that are global in scale, Indian Space Research Organisation (Isro) chairman K Sivan told ET. The proposed regulations will be in addition to specific policies planned for launch vehicles, satellite navigation, human space mission and deep space exploration. “We want to create competition and get multiple companies in the space sector that can grow as global leaders,” Sivan said. Over 23 Indian and overseas companies have approached Isro since August seeking to harness assets built over six decades including rockets, satellites, ground stations and satellite imagery. The nodal agency is looking to transfer critical technologies through its commercial arm — New Space India Ltd (NSIL NSE -0.45 %) — to these companies at lower costs. “Space technology is costly. We want to make it viable for Indian industries and help them commercialise these technologies,” said Sivan. “We want to make the technology transfer a very simple and low-cost affair.” Last week, NSIL signed a pact to share technology as well as to allow testing facilities with Chennai-based startup Agnikul Cosmos to build a small rocket that can hurl 100 kg satellites to low-earth orbit. Bengaluru-based Pixxel, which is building India’s first private fleet of earth observation satellites, will launch its first satellite atop the homegrown polar satellite launch vehicle (PSLV) in 2021. So far, the department of space has released drafts of technology transfer policy, remote sensing and satellite communication policy for public comments. These draft policies state that Indian companies can now own and operate satellites, build rockets and launch them from Indian soil and offer satellite-based applications to consumers. The policies also define how sensitive dual-use technologies are to be utilised and stresses on the need for adherence to national and international laws. “The industry players are able to see the sea change (in our policies). They are asking for clarifications on some of them,” said Sivan. He added the policies will be notified after consultations. India is adopting the model of the US space agency National Aeronautics and Space Administration (NASA), which allowed private firms such as SpaceX to get access to its technology and facilities to build reusable rockets that have carried humans to space this year. NASA also allows startups to compete and build vehicles and solutions for its programmes, including deep space missions. The policies are also designed to make India a global hub for satellite manufacturing and launches and providing satellite-based services for global customers. Hyderabad-based Aerospace firm Ananth Technologies is setting up a joint venture with US satellite operator Saturn Satellites, through which it will first build two communication satellites and launch them locally on an Indian rocket. Ananth is the first Indian private company to tap the global market after India opened up its space sector, which allows private firms to build satellites and rockets and offer space services from the country. “Earlier, when IITs produced aero-space engineers, there was not a strong domestic industrial ecosystem to employ them. Today, with our historic reforms in the space sector, the last frontier before humanity has opened up to Indian talent,” Prime Minister Narendra Modi told a Pan IIT conference on Friday. India has nearly 50 space startups in the sector and over 1,000 companies — both small and medium enterprises (SMEs) and large enterprises such as Larsen & Toubro, Godrej Aerospace, Tata Advanced Systems and Hindustan Aeronautics, which have been vendors to Isro, building systems and subsystems for the space programme. After opening the space sector to private firms in August, the department of space formed Indian National Space Promotion and Authorisation Centre (IN-SPACe), a new body that will act as a regulator whose rulings would apply to the space agency as well as private firms in the country. Sivan said an independent board is being set up and an approval is expected from the government by the end of December.

#### Mining key.

HT Tech 16 [(HT Tech, technology news) “India should not lag behind in outer space mining, TIFAC official says” 28 Jul 2016 <https://tech.hindustantimes.com/tech/news/india-should-not-lag-behind-in-outer-space-mining-tifac-official-says-story-7ggXBzVbeILfGzHlW6FuRL.html>] TDI

India should not lag behind in outer space mining, TIFAC official says With the US wanting to press ahead with asteroid mining and unlock resources of the moon, India will lag behind if it does not seize the outer space mining opportunity, said a TIFAC official here on Thursday. Author IANS Updated on 28 Jul 2016, 06:19 PM IST in NEWS The potential exploitation of moon and asteroids as a mineral resource can be a ’big game-changer’, according to a TIFAC official. (Reuters File Photo) With the US wanting to press ahead with asteroid mining and unlock resources of the moon, India will lag behind if it does not seize the outer space mining opportunity, said a TIFAC official here on Thursday. Prabhat Ranjan, executive director of Technology Information, Forecasting and Assessment Council (TIFAC), said the potential exploitation of moon and asteroids as a mineral resource can be a "big game-changer". "Moon is already being seen as a mineral wealth and further one can go up to the asteroids and start exploiting this. This can be a big game changer and if India doesn't do this, we will lag behind," Ranjan told reporters. More From This Section He was speaking on the sidelines of a seminar on 'Technology Thrusts on Materials and Manufacturing Sector in India' at the Central Glass and Ceramic Research Institute, which is part of the Council of Scientific and Industrial Research (CSIR). The maiden roadmap on 'Materials', a part of TIFAC's Technology Vision 2035, was launched during the inaugural event. "According a NASA estimate, the amount of mineral wealth resident in the asteroid belt (between the orbits of Mars and Jupiter) would be equivalent to $100 billion dollar per person on earth," Ranjan said. "In the next 10 to 15 years, we expect that outer space would be exploited for mineral wealth and India should not lag behind. We will provide these inputs to various government bodies. We will tell them what lies ahead in the future." The US is poised to approve the first commercial space mission beyond the Earth's orbit, paving the way for a space start-up co-founded by an Indian-origin entrepreneur to go ahead with its proposed Moon mission. The government's endorsement would make way for Moon Express, a relatively obscure space start-up co-founded by Naveen Jain, to land a roughly 9kg package of scientific hardware on the Moon sometime next year. The formal approval, which could be months away, could also pave the way for potential commercial space tourism and asteroid mining ventures. "Whoever goes and exploits first would start to gain that wealth. [Going by] the discussion I had with them they would want to see if they can see if India's rockets can be used for it," said Ranjan.

#### India has led multiple non-proliferation movements and their benign perception is k2 maintaining US-China Relations

Pethiyagoda 14 [Kadira Pethiyagoda, a former diplomat whose PhD and upcoming book investigated Indian foreign policy. He was a visiting scholar at the University of Oxford, “India’s Soft Power Advantage,” The Diplomat, 9/17/14, <https://thediplomat.com/2014/09/indias-soft-power-advantage/>] TDI

During [Prime Minister Tony Abbott’s recent visit to India](https://thediplomat.com/2014/09/australian-pm-visits-india-signs-nuclear-deal/), he was asked to justify Australia’s signing of a deal to sell uranium to the country. In response, the [prime minister said](http://www.smh.com.au/federal-politics/political-news/australia-to-power-indias-energy-market-as-tony-abbott-settles-terms-for-uranium-trade-20140905-10cq6y.html), “India threatens no one” and “is the friend to many.” This was no mere diplomatic nicety, but a carefully chosen answer based on India’s international image. It is an image that is rare amongst great powers of India’s size and strength, and will give Delhi a unique soft power advantage in the future multipolar world. Much of the globe sees India as a relatively non-violent, tolerant and pluralistic democracy with a benign international influence. Its values are seen as largely positive. The U.S., with its Indo-U.S. nuclear deal, accorded India special treatment in nuclear cooperation. The deal provided benefits usually reserved for Non-Proliferation Treaty (NPT) signatories. Washington justified cooperation with India by highlighting Delhi’s impeccable non-proliferation record. This stance was replicated by other states, including the Nuclear Suppliers Group (NSG) member states who allowed India’s participation in international nuclear commerce and supported the Indo-U.S. deal. The NSG decided to re-engage with India following an India-specific safeguards agreement with the International Atomic Energy Agency (IAEA). The IAEA’s Board of Governors endorsed a nuclear safeguards agreement with India by consensus that would permit Delhi to add more nuclear facilities to be placed under the IAEA safeguards framework. India did not have to have an Additional Protocol like the non-nuclear weapons states who are NPT signatories. India also received favorable treatment from Canada (which agreed to supply “dual-use items” that can be used for civilian and military applications), Japan and South Korea. This cooperation was not merely driven by these states’ strategic relationships with the U.S. Russia has long cooperated with India on nuclear technology. Even China, as a member of the NSG, did not oppose the group’s decision on India. Today, India is the only known nuclear weapons state that is not part of the NPT but is still permitted to engage in nuclear commerce globally. India’s reputation extends beyond its nuclear posture. Since independence, the country has been viewed as a neutral and harmless power by most foreign audiences, particularly in Africa, the Middle East, South America and Southeast Asia. This is in part due to its prominent role in the Non-Aligned movement. Whilst Delhi’s reputation in its own neighborhood is quite different, South Asian states do not see India as a threat in the way that many of Russia or China’s neighbors view those powers. Even long-time nemesis Pakistan is unlikely to have been as adventurous in its dealings with its much larger and more powerful neighbor had it not had firsthand experience of Delhi’s restraint – even before Islamabad had nuclear capability. So what is behind India’s benign image? In part, it is self-created. For 60-plus years Delhi has favored cultivating the impression of a non-violent India. This is particularly clear in the realm of nuclear posture. Despite having tested weapons in 1974 and 1998 and being a non-signatory to the NPT and Comprehensive Test Ban Treaty, India has been one of the most vocal advocates for global disarmament. It has arguably been the most passionate anti-nuclear campaigner amongst the world’s nine known or suspected nuclear weapons states, with one of the world’s most notable pleas for global disarmament made by Prime Minister Rajiv Gandhi at the U.N. in 1988. The pursuit of this image continued a decade later, even after the Pokhran II nuclear tests. BJP Prime Minister Vajpayee stated that the tests were not a repudiation of the disarmament goal. In the Draft Report on Indian Nuclear Doctrine, the very first sentence of the first paragraph [describes](https://www.armscontrol.org/print/514) the use of nuclear weapons as the “gravest threat to humanity and to peace and stability.” The paragraph goes on to criticize the virtual abandonment by states of the goal of disarmament. Delhi sought to avoid labels of hypocrisy by positioning itself as the “[reluctant nuclear power](http://www.rediff.com/news/2004/mar/22ram.htm).” India argued that the bomb was a last resort in a world of threatening nuclear states who make no pledges to refrain from first strikes and the use of nukes against non-nuclear states. Somewhat legitimately, Indian leaders asserted that the country’s nuclear weapons could act as bargaining chips to support its global disarmament agenda. India was said to have more credibility as a nuclear weapons state with itself having something to sacrifice in order to usher in global disarmament. India declared that its security would be enhanced and not diminished in a nuclear free world. Delhi also sought to project an image of non-violence in other areas of foreign policy. In relation to the norm of “Responsibility to Protect,” India voiced support for those aspects of R2P that encouraged and supported states to protect their own populations, and expressed extreme caution at R2P’s coercive side. When some of the world’s greatest debates over intervention occurred at the U.N., Indian ambassadors drenched their speeches with the language of non-violence. This preciously guarded national image is not merely a strategic ploy to [increase India’s soft power](https://thediplomat.com/2011/09/indias-central-asia-soft-power/). Policymakers wish the country to be seen as non-violent, pluralistic and tolerant, because India genuinely holds these values. Within the nuclear realm the influence of non-violence is seen through the foot-dragging in relation to integrating nuclear weapons into military strategy and in relation to serial production of weapons. A further sign of this influence is the long public debate before going nuclear – a rarity amongst nuclear powers. We have seen repeatedly that India’s leaders find it morally inconceivable that nukes could ever be useable tools of war. Delhi’s disarmament pleas were not merely PR: they consumed valuable diplomatic resources including precious stage-time in international forums. More broadly, non-violence affected for India’s relatively restrained conduct in several conflicts with Pakistan. When it came to humanitarian intervention, over the last 25 years India’s opposition or support was directly related to the level of intrastate violence entailed in intervening. This was true regardless of who was intervening in whom, for what reason, and whether there were strategic gains in it for Delhi. This included interventions in Iraq, Libya and [Syria](https://thediplomat.com/2013/11/indias-syria-juggling-act/). India’s opposition to intervention was compounded by its pluralistic worldview, with acceptance of all regime types. It would seem that India’s values of non-violence, pluralism and tolerance stem from the independence era, when the country’s foreign policy and modern identity was crafted. Mahatma Gandhi made India’s independence movement synonymous with non-violence. First Prime Minister Jawaharlal Nehru imbued morals into his external relations. But if the values influencing India’s foreign policy took shape only then, they would have fizzled when Congress lost power. Instead the values have remained, as has the resultant global persona. This is because the values that help guide Indian foreign policy and underpin its image are rooted deep in the country’s cultural history. These values attained dominance during the formative stage of Indian civilization – the period between the Vedic era and medieval times when the greatest empires arose. India and China are the only modern great powers that have held a largely continuous culture for several millennia. Ancient India’s cultural connection to its present-day manifestation is far stronger than ancient Greek, Roman or Anglo-Celtic culture is to present-day Western states, or the ancient Middle Eastern civilizations are to today’s Arab world. It remains to be seen how India’s international reputation will fare as its strategic interests [expand throughout the Indo-Pacific](https://thediplomat.com/2013/09/india-and-the-rise-of-the-indo-pacific/) and beyond. With some diplomatic craftsmanship, Delhi can convert its somewhat ethereal values-based soft power advantage into hard strategic and economic gains. Modi’s government seems to have recognized this and is building on Congress’ initiatives to enhance India’s public diplomacy toolkit. India’s soft power has rare characteristics when compared with the other great powers of the emerging multipolar world: U.S., China, Russia, Japan and Europe (as a unified entity). Its relatively neutral, non-threatening image will make India a uniquely attractive great-power partner for countries looking to hedge against future fallout between the U.S. and China, and not wanting to antagonize either superpower. Australia has chosen a wise time to solidify ties with one of the world’s most dynamic rising powers.

#### Risk of US-China military confrontation in flashpoints inevitably go nuclear due to intermingled forces

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

As China’s power has grown in recent years, so, too, has the risk of war with the United States. Under President Xi Jinping, China has increased its political and economic pressure on Taiwan and built military installations on coral reefs in the South China Sea, fueling Washington’s fears that Chinese expansionism will threaten U.S. allies and influence in the region. U.S. destroyers have transited the Taiwan Strait, to loud protests from Beijing. American policymakers have wondered aloud whether they should send an aircraft carrier through the strait as well. Chinese fighter jets have intercepted U.S. aircraft in the skies above the South China Sea. Meanwhile, U.S. President Donald Trump has brought long-simmering economic disputes to a rolling boil.

A war between the two countries remains unlikely, but the prospect of a military confrontation—resulting, for example, from a Chinese campaign against Taiwan—no longer seems as implausible as it once did. And the odds of such a confrontation going nuclear are higher than most policymakers and analysts think.

Members of China’s strategic com­munity tend to dismiss such concerns. Likewise, U.S. studies of a potential war with China often exclude nuclear weapons from the analysis entirely, treating them as basically irrelevant to the course of a conflict. Asked about the issue in 2015, Dennis Blair, the former commander of U.S. forces in the Indo-Pacific, estimated the likelihood of a U.S.-Chinese nuclear crisis as “somewhere between nil and zero.”

This assurance is misguided. If deployed against China, the Pentagon’s preferred style of conventional warfare would be a potential recipe for nuclear escalation. Since the end of the Cold War, the United States’ signature approach to war has been simple: punch deep into enemy territory in order to rapidly knock out the opponent’s key military assets at minimal cost. But the Pentagon developed this formula in wars against Afghanistan, Iraq, Libya, and Serbia, none of which was a nuclear power.

China, by contrast, not only has nuclear weapons; it has also intermingled them with its conventional military forces, making it difficult to attack one without attacking the other. This means that a major U.S. military campaign targeting China’s conventional forces would likely also threaten its nuclear arsenal. Faced with such a threat, Chinese leaders could decide to use their nuclear weapons while they were still able to.

As U.S. and Chinese leaders navigate a relationship fraught with mutual suspicion, they must come to grips with the fact that a conventional war could skid into a nuclear confrontation. Although this risk is not high in absolute terms, its consequences for the region and the world would be devastating. As long as the United States and China continue to pursue their current grand strategies, the risk is likely to endure. This means that leaders on both sides should dispense with the illusion that they can easily fight a limited war. They should focus instead on managing or resolving the political, economic, and military tensions that might lead to a conflict in the first place.

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#### CP Text: States, except the United States, should ban the appropriation of outer space for asteroid mining by private entities. The United States should fund the appropriation of outer space for the mining of rare earth metals from asteroids by private entities.

#### The PIC is key to beat China and protect against Chinese REM gatekeeping

Stavridis 21 [(James, retired US Navy admiral, chief international diplomacy and national security analyst for NBC News, senior fellow at JHU Applied Physics Library, PhD in Law and Diplomacy from Tufts) “U.S. Needs a Strong Defense Against China’s Rare-Earth Weapon,” Bloomberg Opinion, March 4, 2021, <https://www.bloomberg.com/opinion/articles/2021-03-04/u-s-needs-a-strong-defense-against-china-s-rare-earth-weapon>] TDI

You could be forgiven if you are confused about what’s going on with rare-earth elements. On the one hand, news reports indicate that China may increase production quotas of the minerals this quarter as a [goodwill gesture](https://www.scmp.com/news/china/diplomacy/article/3122501/china-raises-rare-earth-quotas-goodwill-trade-signal-us) to the Joe Biden administration. But other sources say that China may ultimately ban the export of the rare earths altogether on “[security concerns](https://www.bloomberg.com/news/articles/2021-02-19/china-may-ban-rare-earth-technology-exports-on-security-concerns?sref=QYxyklwO).” What’s really going on here?

There are 17 elements considered [rare earths](https://www.bloomberg.com/news/articles/2021-02-16/why-rare-earths-are-achilles-heal-for-europe-u-s-quicktake) — lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, lutetium, scandium and yttrium — and while many aren’t actually rare in terms of global deposits, extracting them is difficult and expensive. They are used across high-tech manufacturing, including smartphones, fighter aircraft and components in virtually all advanced electronics. Of particular note, they are essential to many of the clean-energy technologies expected to come online in this decade.

I began to focus on rare-earth elements when I commanded the North Atlantic Treaty Organization’s presence in Afghanistan, known as the International Security Assistance Force. While Afghans live in an extremely poor country, [studies](https://thediplomat.com/2020/02/afghanistans-mineral-resources-are-a-lost-opportunity-and-a-threat/) have assessed that they sit atop $1 trillion to $3 trillion in a wide variety of minerals, including rare earths. Some [estimates](https://www.fraserinstitute.org/article/afghanistans-rare-earth-element-bonanza) put the rare-earth levels alone at 1.4 million metric tons.

But every time I tried to visit a mining facility, the answer I got from my security team was, “It’s too dangerous right now, admiral.” Unfortunately, despite a great deal of effort by the U.S. and NATO, those security challenges remain, deterring the large foreign-capital investments necessary to harvest the lodes. Which brings us back to Beijing.

China controls roughly 80% of the rare-earths market, between what it mines itself and processes in raw material from elsewhere. If it decided to wield the weapon of restricting the supply — something it has repeatedly [threatened](https://www.wsj.com/articles/china-trade-fight-raises-specter-of-rare-earth-shortage-11559304000) to do — it would create a significant challenge for manufacturers and a geopolitical predicament for the industrialized world.

It could happen. In 2010, Beijing threatened to cut off exports to Japan over the disputed Senkaku Islands. Two years ago, Beijing was reportedly considering restrictions on exports to the U.S. generally, as well as against specific companies (such as defense giant Lockheed Martin Corp.) that it deemed in violation of its policies against selling advanced weapons to Taiwan.

President Donald Trump’s administration issued an executive order to spur the production of rare earths domestically, and created an [Energy Resource Governance Initiative](https://www.state.gov/wp-content/uploads/2019/06/Energy-Resource-Governance-Initiative-ERGI-Fact-Sheet.pdf) to promote international mining. The European Union and Japan, among others, are also aggressively seeking newer sources of rare earths.

Given this tension, it was superficially surprising that China announced it would boost its mining quotas in the first quarter of 2021 by nearly 30%, reflecting a continuation in strong (and rising) demand. But the increase occurs under a shadow of uncertainty, as the Chinese Communist Party is undertaking a “review” of its policies concerning future sales of rare earths. In all probability, the tactics of the increase are temporary, and fit within a larger strategy.

China will go to great lengths to maintain overall control of the global rare-earths supply. This fits neatly within the geo-economic approach of the [One Belt, One Road](https://www.bloomberg.com/opinion/articles/2019-10-30/china-is-determined-to-reshape-the-globe) initiative, which seeks to use a variety of carrots and sticks — economic, trade, diplomatic and security — to create zones of influence globally. In terms of rare earths, the strategy seems to be allowing carefully calibrated access to the elements at a level that makes it economically less attractive for competitors to undertake costly exploration and mining operations. This is similar to the oil-market strategy used by Russia and the Organization of Petroleum Exporting Countries for decades.

Some free-market advocates believe that China will not take aggressive action choking off supply because that could [precipitate retaliation](https://www.bloomberg.com/opinion/articles/2021-02-22/china-weaponizing-rare-earths-technology-will-probably-backfire) or accelerate the search for alternate sources in global markets. What seems more likely is a series of targeted shutdowns directed against specific entities such as U.S. defense companies, Japanese consumer electronics makers, or European industrial concerns that have offended Beijing.

The path to rare-earth independence for the U.S. must include: Ensuring supply chains of rare earths necessary for national security; promoting the exploitation of the elements domestically (and removing barriers to responsibly doing so); mandating that defense contractors and other critical-infrastructure entities wean themselves off Chinese rare earths; sponsoring research and development to find alternative materials, especially for clean energy technology; and creating a substantial stockpile of the elements in case of a Chinese boycott.

This is a bipartisan agenda. The Trump administration’s [strategic assessment](https://www.commerce.gov/news/press-releases/2019/06/department-commerce-releases-report-critical-minerals) of what needs to be done (which goes beyond just 17 rare earths to include a total of 35 critical minerals) is thoughtful, and should serve as a basis for the Biden administration and Congress.

#### REM access key to military primacy and tech advancement – alternatives fail

Trigaux 12 (David, University Honors Program University of South Florida St. Petersburg) “The US, China and Rare Earth Metals: The Future Of Green Technology, Military Tech, and a Potential Achilles‟ Heel to American Hegemony,” USF St. Petersberg, May 2, 2012, <https://digital.stpetersburg.usf.edu/cgi/viewcontent.cgi?article=1132&context=honorstheses>] TDI

The implications of a rare earth shortage aren’t strictly related to the environment, and energy dependence, but have distinct military implications as well that could threaten the position of the United States world’s strongest military. The United States place in the world was assured by powerful and decisive deployments in World War One and World War Two. Our military expansion was built upon a large, powerful industrial base that created more, better weapons of war for our soldiers. During the World Wars, a well-organized draft that sent millions of men into battle in a short amount of time proved decisive, but as the war ended, and soldiers drafted into service returned to civilian life, the U.S. technological superiority over its opponents provided it with sustained dominance over its enemies, even as the numerical size of the army declined. New technologies, such as the use of the airplane in combat, rocket launched missiles, radar systems, and later, GPS, precision guided missiles, missile defense systems, high tech tanks, lasers, and other technologies now make the difference between victory and defeat.

The United States military now serves many important functions, deterring threats across the world. The United States projects its power internationally, through a network of bases and allied nations. Thus, the United States is a powerful player in all regions of the world, and often serves as a buffer against conflict in these regions. US military presence serves as a buffer against Chinese military modernization in Eastern Asia, against an increasingly nationalist Russia in Europe, and smaller regional actors, such as Venezuela in South America and Iran in the Middle East. The U.S. Navy is deployed all over the world, as the guarantor of international maritime trade routes. The US Navy leads action against challenges to its maritime sovereignty on the other side of the globe, such as current action against Somali piracy. Presence in regions across the world prevents escalation of potential crisis. These could result in either a larger power fighting a smaller nation or nations (Russia and Georgia, Taiwan and China), religious opponents (Israel and Iran), or traditional foes (Ethiopia and Eretria, Venezuela and Colombia, India and Pakistan). US projection is also key deterring emerging threats such as terrorism and nuclear proliferation. While not direct challenges to US primacy, both terrorism and nuclear proliferation can kill thousands.

The US Air Force has a commanding lead over the rest of the world, in terms of both numbers and capabilities. American ground forces have few peers, and are unmatched in their ability to deploy to anywhere in the world at an equally unmatched pace.

The only perceived challenge to the United States militarily comes from the People’s Republic of China.76 While the United States outspends all other nations in the world put together in terms of military spending, China follows as a close second, and has begun an extensive modernization program to boot.77 The Chinese military however, is several decades behind the United States in air power and nuclear capabilities.78 To compensate, China has begun the construction of access-denial technology, preventing the US from exercising its dominance in China’s sphere of influence.79 Chinese modernization efforts have a serious long-term advantage over the United States; access to rare earth metals, and a large concentration of rare earth chemists doing research.80 This advantage, coupled with the U.S. losing access to rare earth metals, will even the odds much quicker than policymakers had previously anticipated. 81

The largest example is US airpower. With every successive generation of military aircraft, the U.S. Air Force becomes more and more dependent on Rare Earth Metals.82 As planes get faster and faster, they have to get lighter and lighter, while adding weight from extra computers and other features on board.83 To lighten the weight of the plane, scandium is used to produce lightweight aluminum alloys for the body of the plane. Rare Earth metals are also useful in fighter jet engines, and fuel cells.84 For example, rare earths are required to producing miniaturized fins, and samarium is required to build the motors for the F-35 fighter jet.85 F-35 jets are the next generation fighter jet that works together to form the dual plane combination that cements U.S. dominance in air power over the Russian PAK FA.86

Rare earth shortages don’t just affect air power, also compromising the navigation system of Abrams Tanks, which need samarium cobalt magnets. The Abrams Tank is the primary offensive mechanized vehicle in the U.S. arsenal. The Aegis Spy 1 Radar also uses samarium.87 Many naval ships require neodymium. Hell Fire missiles, satellites, night vision goggles, avionics, and precision guided munitions all require rare earth metals. 88

American military superiority is based on technological advancement that outstrips the rest of the world. Command and control technology allows the U.S. to fight multiple wars at once and maintain readiness for other issues, as well as have overwhelming force against rising challengers. This technology helps the U.S. know who, where, and what is going to attack them, and respond effectively, regardless of the source of the threat.

Rare Earth Elements make this technological superiority possible.

To make matters worse, the defense industrial base is often a single market industry, dependent on government contracts for its business. If China tightens the export quotas further, major US defense contractors will be in trouble.89 Every sector of the defense industrial base is dependent on rare earth metals. Without rare earths, these contractors can’t build anything, which collapses the industry.90

Rare Earth shortages are actually already affecting our military, with shortages of lanthanum, cerium, europium and gadolinium happening in the status quo. This prevents us not only from building the next generation of high tech weaponry, but also from constructing more of the weapons and munitions that are needed in the status quo. As current weapon systems age and they can’t be replaced, the US primacy will be undermined. Of special concern is that U.S. domestic mining doesn’t produce “heavy” rare earth metals that are needed for many advanced components of military technologies. Given the nature of many military applications, substitutions aren’t possible. 91

#### Primacy and allied commitments solve arms races and great power war – unipolarity is sustainable, and prevents power vacuums and global escalation

Brands 18 [(Hal, Henry Kissinger Distinguished Professor at Johns Hopkins University's School of Advanced International Studies and a senior fellow at the Center for Strategic and Budgetary Assessments) "American Grand Strategy in the Age of Trump," Page 129-133]

Since World War II, the United States has had a military second to none. Since the Cold War, America has committed to having overwhelming military primacy. The idea, as George W. Bush declared in 2002, that America must possess “strengths beyond challenge” has featured in every major U.S. strategy document for a quarter century; it has also been reflected in concrete terms.6

From the early 1990s, for example, the United States consistently accounted for around 35 to 45 percent of world defense spending and maintained peerless global power-projection capabilities.7 Perhaps more important, U.S. primacy was also unrivaled in key overseas strategic regions—Europe, East Asia, the Middle East. From thrashing Saddam Hussein’s million-man Iraqi military during Operation Desert Storm, to deploying—with impunity—two carrier strike groups off Taiwan during the China-Taiwan crisis of 1995– 96, Washington has been able to project military power superior to anything a regional rival could employ even on its own geopolitical doorstep.

This military dominance has constituted the hard-power backbone of an ambitious global strategy. After the Cold War, U.S. policymakers committed to averting a return to the unstable multipolarity of earlier eras, and to perpetuating the more favorable unipolar order. They committed to building on the successes of the postwar era by further advancing liberal political values and an open international economy, and to suppressing international scourges such as rogue states, nuclear proliferation, and catastrophic terrorism. And because they recognized that military force remained the ultima ratio regum, they understood the centrality of military preponderance.

Washington would need the military power necessary to underwrite worldwide alliance commitments. It would have to preserve substantial overmatch versus any potential great-power rival. It must be able to answer the sharpest challenges to the international system, such as Saddam’s invasion of Kuwait in 1990 or jihadist extremism after 9/11. Finally, because prevailing global norms generally reflect hard-power realities, America would need the superiority to assure that its own values remained ascendant. It was impolitic to say that U.S. strategy and the international order required “strengths beyond challenge,” but it was not at all inaccurate.

American primacy, moreover, was eminently affordable. At the height of the Cold War, the United States spent over 12 percent of GDP on defense. Since the mid-1990s, the number has usually been between 3 and 4 percent.8 In a historically favorable international environment, Washington could enjoy primacy—and its geopolitical fruits—on the cheap.

Yet U.S. strategy also heeded, at least until recently, the fact that there was a limit to how cheaply that primacy could be had. The American military did shrink significantly during the 1990s, but U.S. officials understood that if Washington cut back too far, its primacy would erode to a point where it ceased to deliver its geopolitical benefits. Alliances would lose credibility; the stability of key regions would be eroded; rivals would be emboldened; international crises would go unaddressed. American primacy was thus like a reasonably priced insurance policy. It required nontrivial expenditures, but protected against far costlier outcomes.9 Washington paid its insurance premiums for two decades after the Cold War. But more recently American primacy and strategic solvency have been imperiled.

THE DARKENING HORIZON For most of the post–Cold War era, the international system was— by historical standards—remarkably benign. Dangers existed, and as the terrorist attacks of September 11, 2001, demonstrated, they could manifest with horrific effect. But for two decades after the Soviet collapse, the world was characterized by remarkably low levels of great-power competition, high levels of security in key theaters such as Europe and East Asia, and the comparative weakness of those “rogue” actors—Iran, Iraq, North Korea, al-Qaeda—who most aggressively challenged American power. During the 1990s, some observers even spoke of a “strategic pause,” the idea being that the end of the Cold War had afforded the United States a respite from normal levels of geopolitical danger and competition. Now, however, the strategic horizon is darkening, due to four factors.

First, great-power military competition is back. The world’s two leading authoritarian powers—China and Russia—are seeking regional hegemony, contesting global norms such as nonaggression and freedom of navigation, and developing the military punch to underwrite these ambitions. Notwithstanding severe economic and demographic problems, Russia has conducted a major military modernization emphasizing nuclear weapons, high-end conventional capabilities, and rapid-deployment and special operations forces— and utilized many of these capabilities in conflicts in Ukraine and Syria.10 China, meanwhile, has carried out a buildup of historic proportions, with constant-dollar defense outlays rising from US$26 billion in 1995 to US$226 billion in 2016.11 Ominously, these expenditures have funded development of power-projection and antiaccess/area denial (A2/AD) tools necessary to threaten China’s neighbors and complicate U.S. intervention on their behalf. Washington has grown accustomed to having a generational military lead; Russian and Chinese modernization efforts are now creating a far more competitive environment.

### 1NC—Debris

1. **Probability – 0.1% chance of a collision.**

**Salter 16** [(Alexander William, Economics Professor at Texas Tech) “SPACE DEBRIS: A LAW AND ECONOMICS ANALYSIS OF THE ORBITAL COMMONS” 19 STAN. TECH. L. REV. 221 \*numbers replaced with English words] TDI

The probability of a collision is currently low. Bradley and Wein estimate that the maximum probability in LEO of a collision over the lifetime of a spacecraft remains below one in one thousand, conditional on continued compliance with NASA’s deorbiting guidelines.3 However, the possibility of a future “snowballing” effect, whereby debris collides with other objects, further congesting orbit space, remains a significant concern.4 Levin and Carroll estimate the average immediate destruction of wealth created by a collision to be approximately $30 million, with an additional $200 million in damages to all currently existing space assets from the debris created by the initial collision.5 The expected value of destroyed wealth because of collisions, currently small because of the low probability of a collision, can quickly become significant if future collisions result in runaway debris growth.

### 1NC—Africa

#### 2. Asteroid mining isn’t profitable and doesn’t tradeoff with terrestrial mining

Elvis 17 [(Martin, X-Ray Astronomy PhD @Leicester University, A. Stark, B. Stalder, and C. Desira) “Astronomical Prospecting of Asteroid Resources,” European Planetary Science Congress, 2017] TDI

Asteroids number in the millions and the total mass of industrially useful raw materials they contain is far vaster than the accessible materials in the Earth’s crust [6]. This abundance has drawn great attention lately with a number of commercial companies developing ways to prospect for the most promising asteroids.

The mining industry term for commercially profitable concentrations of materials is ore-bearing. A rich vein of the desired material is not enough. A profit is essential. Ore-bearing is a technology dependent term. Improved methods can change material into being ore-bearing. It is also economics dependent, as a drop in price can render material non-ore-bearing, and vice versa.

There are a series of physical factors that reduce the number of asteroids that could be profitable to mine with current technology [3]. In total there remain many potentially ore-bearing asteroids, but as a fraction of the total among known NEAs they are quite rare, roughly 1 in 660, or 1 in 66 if low delta-v asteroids are preselected.

This fraction could rise if a thermal infrared survey of NEAs were undertaken, as the optically dark carbonaceous asteroids may well be far more common in such a survey [7]. Until at least the mid2020s though we have only NEAs selected by their reflected optical light.

If a low delta-v NEA is selected at random some 100 must be visited to find one ore-bearing asteroid. Instead, if a rough classification into one of the 3 main type: stony (S), carbonaceous (C) or uncertain, and possibly metallic (X), then this number can be reduced to about 10 [4]. Cutting the number of spacecraft probes by an order-of-magnitude may be enabling for the closing of the business case.

Unfortunately, current investigations of NEAs, while highly successful at discovery, fall behind on the information gathering needed for prospecting [1]. Of the 2000 or so NEAs being discovered each year, almost half have ill-determined orbits in the sense that they will be almost impossible to re-acquire at their next close approach (“apparition”). An even greater fraction, ~90%, have no spectral information, and so have undetermined types.