## **1**

#### **Interp: The affirmative debater must defend the hypothetical world in which private appropriation of outer space is limited or stopped. Defending implementation is a logical extension of the rez because if private appropriation is unjust that means we ought to enact its removal.**

#### **“Resolved” means enactment of a law.**

**Words and Phrases 64** Words and Phrases Permanent Edition (Multi-volume set of judicial definitions). “Resolved”. 1964.

Definition of the word **“resolve,”** given by Webster is “to express an opinion or determination by resolution or vote; as ‘it was resolved by the legislature;” It **is** of **similar** force **to the word “enact,”** which is defined by Bouvier as **meaning “to establish by law”.**

#### **Violation- CX is clear, aff won’t defend implementation.**

#### **Standards:**

#### **Ground- I lose access to all policy based disadvantages because you refuse to defend implementation. I can’t go for the Mining DA, the Innovation DA, almost every cp, solvency turns, etc in order to answer the aff, you’ll just delink my offense in the 1ar by claiming implementation is irrelevant. Few impacts:**

#### **A. link turns phil good- you stop a key part of philosophy discussion about util because the neg has no incentive to read a util framework since it can’t generate offense under that framing.**

#### **B. Kills key neg ground because certain principles like adhering to free speech are good in the abstract; it only makes sense taking everything into context. Ground is key to fairness since equal access to arguments controls equal access to the ballot.**

#### **C. Pigeonholes the negative out of util even that is my best layer. Aff shouldn’t be able to make the debate just phil because they are most comfortable on that layer.**

#### **D. Kills policy ed- in your world we can never have any discussion of policies. Policy education is an independent voter since it is a skill that we can apply to the real world outweighs phil ed on reversibility. Also outweighs on size of link—we still can have phil debates in my interp.**

#### **2. TVA- just defend implementation. You can still read phil in my world that claims implementation is irrelevant, just allow the neg to read a framework that claims implementation is relevant and garner offense on arguments that depend on it.**

#### **It’s DTD - I indict their whole advocacy, plus deters future abuse.**

#### **Competing interps over reasonability because reasonability is arbitrary and justifies judge intervention**

#### **No RVI’s - a] affs can just bait T and then dump offense in the 1AR - infinitely abusive b] you don’t get to win by meeting the logical burden of being fair**

## **2**

#### **Asteroid mining is starting now. New legal frameworks and massive investments bring it closer than you think-but we need to focus on maintaining progress**

**Gilbert 4/26** Alex Gilbert, 4-26-2021, "Mining in Space Is Coming," Milken Institute Review, https://www.milkenreview.org/articles/mining-in-space-is-coming//SJJK

Space exploration is back. after decades of disappointment, **a combination of better technology, falling costs and a rush of competitive energy from the private sector has put space travel front and cente**r. indeed, **many analysts** (even some with their feet on the ground) **believe that commercial developments in the space industry may be on the cusp** **of starting the largest resource rush in history: mining on the Moon, Mars and asteroids.** While this may sound fantastical, some baby **steps toward the goal have already been taken**. Last year, N**ASA awarded contracts to four companies to extract small amounts of lunar regolith by 2024**, effectively beginning the [era of commercial space mining](https://payneinstitute.mines.edu/wp-content/uploads/sites/149/2020/09/Payne-Institute-Commentary-The-Era-of-Commercial-Space-Mining-Begins.pdf). Whether this proves to be the dawn of a gigantic adjunct to mining on earth — and more immediately, a key to unlocking cost-effective space travel — will turn on the answers to a host of questions ranging from what resources can be efficiently. As every fan of science fiction knows, the resources of the solar system appear virtually unlimited compared to those on Earth. There are whole other planets, dozens of moons, thousands of massive asteroids and millions of small ones that doubtless contain humungous quantities of materials that are scarce and very valuable (back on Earth). Visionaries including Jeff Bezos [imagine heavy industry moving to space](https://www.fastcompany.com/90347364/jeff-bezos-wants-to-save-earth-by-moving-industry-to-space) and Earth becoming a residential area. **However, as entrepreneurs look to harness the riches beyond the atmosphere, access to space resources remains tangled in the realities of economics and governance.** Start with the fact that space belongs to no country, complicating traditional methods of resource allocation, property rights and trade. With limited demand for materials in space itself and the need for huge amounts of energy to return materials to Earth, creating a viable industry will turn on major advances in technology, finance and business models. That said, there’s no grass growing under potential pioneers’ feet. Potential economic, scientific and even security benefits underlie an emerging [geopolitical competition](https://nationalinterest.org/feature/geostrategic-importance-outer-space-resources-154746) to pursue space mining. The United States is rapidly emerging as a front-runner, in part due to its ambitious Artemis Program to lead a multinational consortium back to the Moon. But it is also a leader in creating a legal infrastructure for mineral exploitation. **The United States has adopted the world’s first spaceresources law, recognizing the property rights of private companies and individuals to materials gathered in space.** However, the United States is hardly alone. Luxembourg and the United Arab Emirates (you read those right) are racing to codify space-resources laws of their own, hoping to attract investment to their entrepot nations with business-friendly legal frameworks. China reportedly views space-resource development as a national priority, part of a strategy to challenge U.S. economic and security primacy in space. Meanwhile, **Russia, Japan, India and the European Space Agency all harbor space-mining ambitions of their own.** Governing these emerging interests is an outdated treaty framework from the Cold War. Sooner rather than later, we’ll need [new agreements](https://issues.org/new-policies-needed-to-advance-space-mining/) to facilitate private investment and ensure international cooperation.

#### **Prohibitions on appropriation prevent asteroid mining despite growing space industries**

**Myers 16** -- Ross Myers (J.D. candidate at the University of Oregon Law School.), The Doctrine of Appropriation and Asteroid Mining: Incentivizing the Private Exploration and Development of Outer Space, 2016, Oregon Review of International Law, https://scholarsbank.uoregon.edu/xmlui/bitstream/handle/1794/19850/Meyers.pdf?sequence=1 WJ

**Despite a decrease in national space program funding, corporate space missions are on the rise**. In 2010, President Obama proposed that NASA exit the business of flying astronauts from Earth to low Earth orbit and move it to private companies.52 Several companies have stepped up to bat, and **corporate space programs now include space tourism, supply missions, and in one case a one-way colonization mission to Mars.53 Corporate interest in space tourism and development demonstrates a strong private commercial interest in space as an industry, which could serve to finance the exploration of space in a period where national governments do not have an active financial interest in space. However, under current international treaties, the ownership of asteroids is prohibited, preventing corporations willing to invest in asteroid mining from having a secure claim.**

#### **Asteroid Mining key to prevent terrestrial mining and solve warming.**

**MacWhorter 16** [Kevin; J.D. Candidate, William & Mary Law School, "Sustainable Mining: Incentivizing Asteroid Mining in the Name of Environmentalism", William & Mary Environmental Law and Policy Review, Vol 40, Issue 2, Article 11, <https://scholarship.law.wm.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1653&context=wmelpr>] brett

In the next sixty years, scientists predict that certain **elements crucial to modern industry** such as platinum, zinc, copper, phosphorous, lead, gold, and indium could be **exhausted** on Earth. 12 Many of these have no synthetic alternative, unlike chemical elements such as oil or diamonds.13 Liquid-crystal display (LCD) televisions, cellphones, and laptops are among the various consumer technologies that use precious metals.14Further, **green technologies** including wind turbines, solar panels, and catalytic converters require these rare elements. 15 As demand rises for both types of technologies, and as reserves of rare metals fall, prices skyrocket.16 Demand for nonrenewable resources creates **conflict**, and consumerism in rich countries results in harsh labor treatment for poorer countries.17 In general, **the mining industry is extremely destructive to Earth’s environment**.18 In fact, depending on the method employed, mining can destroy **entire ecosystems** by **polluting water** sources and contributing to **deforestation**.19 It is by its nature an unsustainable practice, because it involves the extraction of a finite and non-renewable resource.20 Moreover, by extracting tiny amounts of metals from relatively large quantities of ore, the mining industry contributes the **largest portion** of solid wastes in the world.21 The Environmental Protection Agency (EPA) describes the industry as the source of **more toxic and hazardous waste than any other industrial sector** [in the United States], costing billions of dollars to address the public health and environmental threats to communities. 22 Poor regulations and oxymoronic corporate definitions of sustainability, however, make it unclear as to just how much waste the industry actually produces.23 Platinum provides an excellent case study of the issue, because it is an extremely rare and expensive metal—an ore expected to exist in **vast quantities** in **asteroids**.24 Further, production of platinum has increased sharply in the past sixty years in order to keep up with growing demand for use in new technologies.25 In fact, despite their high costs, platinum group metals are so useful that **[one] of [four]** industrial goods on Earth require them in production. 26 Scholars do not expect demand to slow any time soon.27 Among other technologies, industries use platinum in products such as catalytic converters, jewelry production, various catalysts for chemical processing, and hydrogen fuel cells.28 While there is no consensus on how far the Earth’s reserves of platinum will take humanity, many scientists agree that platinum ore reserves will deplete in a relatively **short amount of time**.29 With the rate of mining at an all-time high,30 it is increasingly clear that historical patterns of mineral resources and development cannot simply be assumed to continue unaltered into the future. 31 The platinum mining industry, however, has a strong incentive to increase its rate of extraction as profits grow with the rate of demand. Without any alternative, this destructive practice will continue into the future.32 So-called platinum-group metal (PGM) ores are mined through underground or open cut techniques.33 Due to these practices, all but a very small fraction of the mined platinum ore is disposed of as solid waste.34 The environmental consequences of platinum production are thus quite significant, but like the mining industry in general, the amount of waste is typically under-reported.35 While this is due to high production levels at the moment, those levels will only increase given the estimated future demand of platinum.36 In spite of the negative consequences, mining continues unabated because it is economically important to many areas.37 The future environmental costs provide a major challenge in creating a sustainable system. **Relegating at least some mining companies to near-Earth asteroids would reduce the negative effects of future mining levels on Earth**. The economic benefits of mining need not be sacrificed for the sake of the environment.38

#### **Extinction—contrary models are incorrect.**

**Specktor 19** [Brandon; 6/4/19; Writes about the science of everyday life for Live Science, and previously for Reader's Digest magazine, where he served as an editor for five years; "Human Civilization Will Crumble by 2050 If We Don't Stop Climate Change Now, New Paper Claims," livescience, <https://www.livescience.com/65633-climate-change-dooms-humans-by-2050.html>] Justin

The current climate crisis, they say, is larger and more complex than any humans have ever dealt with before. General climate models — like the one that the [United Nations' Panel on Climate Change](https://www.ipcc.ch/sr15/) (IPCC) used in 2018 to predict that a global temperature increase of 3.6 degrees Fahrenheit (2 degrees Celsius) could put hundreds of millions of people at risk — fail to account for the **sheer complexity of Earth's many interlinked geological processes**; as such, they fail to adequately predict the scale of the potential consequences. The truth, the authors wrote, is probably far worse than any models can fathom. How the world ends What might an accurate worst-case picture of the planet's climate-addled future actually look like, then? The authors provide one particularly grim scenario that begins with world governments "politely ignoring" the advice of scientists and the will of the public to decarbonize the economy (finding alternative energy sources), resulting in a global temperature increase 5.4 F (3 C) by the year 2050. At this point, the world's ice sheets vanish; brutal droughts kill many of the trees in the [Amazon rainforest](https://www.livescience.com/57266-amazon-river.html) (removing one of the world's largest carbon offsets); and the planet plunges into a feedback loop of ever-hotter, ever-deadlier conditions. "Thirty-five percent of the global land area, and **55 percent of the global population, are subject to more than 20 days a year of** [**lethal heat conditions**](https://www.livescience.com/55129-how-heat-waves-kill-so-quickly.html), beyond the threshold of human survivability," the authors hypothesized. Meanwhile, droughts, floods and wildfires regularly ravage the land. Nearly **one-third of the world's land surface turns to desert**. Entire **ecosystems collapse**, beginning with the **planet's coral reefs**, the **rainforest and the Arctic ice sheets.** The world's tropics are hit hardest by these new climate extremes, destroying the region's agriculture and turning more than 1 billion people into refugees. This mass movement of refugees — coupled with [shrinking coastlines](https://www.livescience.com/51990-sea-level-rise-unknowns.html) and severe drops in food and water availability — begin to **stress the fabric of the world's largest nations**, including the United States. Armed conflicts over resources, perhaps culminating in **nuclear war, are likely**. The result, according to the new paper, is "outright chaos" and perhaps "the end of human global civilization as we know it."

# **Case**

#### **4] Alliances check miscalc – too costly**

**MacDonald 13** [(Bruce, teaches at the United States Institute of Peace on strategic posture and space/cyber security issues, leads a study on China and Crisis Stability in Space, and is adjunct professor at the Johns Hopkins School of Advanced International Studies) “Deterrence and Crisis Stability in Space and Cyberspace,” in Anti-satellite Weapons, Deterrence and Sino-American Space Relations, September 2013, <https://apps.dtic.mil/dtic/tr/fulltext/u2/a587431.pdf>] TDI

**The US alliance structure can promote deterrence and crisis stability in space, as with nuclear deterrence. China has no such alliance system. If China were to engage in large-scale offensive counter-space operations, it would face not only the United States, but also NATO, Japan, South Korea and other highly aggrieved parties. Given Beijing’s major export dependence on these markets, and its dependence upon them for key raw material and high technology imports, China would be as devastated economically if it initiated strategic attacks in space. In contrast to America’s nuclear umbrella and extended deterrence, US allies make a tangible and concrete contribution to extended space deterrence through their multilateral participation in and dependence upon space assets. Attacks on these space assets would directly damage allied interests as well as those of the United States, further strengthening deterrent effects.**

#### **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.

Solvency deficit - aff just says private appropriation is at a higher rate - but doens’t say why higher rate causes worse impacts - still public appropriation - India and NASA

A2 Conflict in space:

#### **3] No ‘space war’ – Insurmountable barriers and everyone has an interest in keeping space peaceful**

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

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

Resources - limited resources on Earth - resource mining is actually what is causing more environmental damage.