“Injustice anywhere is a threat to justice everywhere.” This famous quote from the Reverend Dr. Martin Luther King Junior applies in new and interesting ways to today’s resolution, which I affirm: Resolved: The appropriation of outer space by private entities is unjust.

In order to clarify the debate I offer the following definitions

**Private entity means any natural person, corporation**, general partnership, limited liability company, limited partnership, joint venture, business trust, public benefit corporation, **nonprofit entity, or other business entity.**

[**https://www.lawinsider.com/dictionary/private-entity**](https://www.lawinsider.com/dictionary/private-entity)

Actor Specificity: governments are bound by deontological and juridical justice through frameworks like the constitution, which means protecting human rights comes as the first priority.

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

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

The topic is fundamentally a question of *property distribution.*

My value is justice, as indicated in the resolution.

First, all persons are fundamentally morally equal. No natural distinction justifies giving some persons or groups of persons arbitrary power over others.

Thus, all people have an equal initial claim to access naturally existing resources. **Roark:**

**“**The notion that **moral agents have an initially equal moral claim** in respect **to natural resources** is highly plausible because **an agent cannot appeal to anything [they have]** that she has **done** or any sort of hereditary right that she has **to establish a greater initial claim over natural resources than any other** agent can legitimately claim. All agents stand in the same initial moral relationship to natural resources. **No agent is** morally, or for that matter causally, **responsible for creating** or establishing in any way whatsoever **land, fresh water, the oceans, the atmosphere,** crude oil, wild berries **or any other natural resources.** Natural resources are simply established or given by Nature or God. **Appealing to** an agent’s **industriousness,** labor, or other aspects of her agency **cannot demonstrate** that she possesses **any greater initial claim to** natural **resources** than any other agent **because natural resources are not brought about as a result of labor** or any aspect of agency**.”**

Roark, Eric. *Removing the Commons.* Lexington Books, August 28, 2013. P. 3.

This right of equal access is no respecter of generational distinctions. One does not have a greater right to use common resources solely because of the arbitrary characteristic of having been born earlier. **Weiss:**

**“**The second fundamental relationship is that between different generations of the human species. **All generations are** inherently **linked** to other generations, past and future, in using the common patrimony of earth. To define intergenerational equity, it is useful to view **the human community** as **[is] a partnership** among all generations. In describing a state as a partnership, Edmund Burke observed that ‘as the ends of such a partnership cannot be obtained in many generations, it becomes a partnership not only **between those who are living** but between those who are living, those who are dead, **and those who are to be born.’** The purpose of human society must be to realize and protect the welfare and well-being of every generation. **This requires sustaining the** life-support systems of the planet, the ecological processes, and the environmentalconditions necessary for a healthy and decent human **environment.** In this partnership, **no generation knows** beforehand **when it will be** the **living** generation**,** how many members it will have, **or** even **how many generations there will** ultimately **be.** It is useful, then, to **[So] take the perspective of a generation** that is placed somewhere **along the spectrum of time, but does not know** in advance **where it will be located. Such a generation would want to inherit the earth in at least as good condition as it had been in for any previous generation** and to have as good access to it as previous generations. **This requires each generation to pass the planet on in no worse condition than it received it in and to provide equitable access to its resources** and benefits**. Each generation is thus** both **a trustee for the planet** with obligations to care for it and a beneficiary with rights to use it**.”**

Since all people have a legitimate and equal claim to a proportional share of the natural commons, any action that degrades the commons such that others either present or future have access to a degraded commons constitutes an arbitrary taking. Since all property derives from a commons, the individual’s right to exclusion requires justification. Thus, the criterion is **consistency with the Lockean proviso.**

If property is acquired in a way that creates scarcity that denies others the means of similarly obtaining property, then an unjust taking has occurred and the property claim of the appropriating agent is illegitimate.

And adherence to the proviso is fundamental to ethical interaction. **Ronit Kedar [brackets for clarity and gendered language]:**

**[A human is] Fundamentally**, then, the homo contractus is essentially **a self-interested “I,” who has internalized the contractualist ethos and is** genuinely **interested in forming a** decent, **peaceful mechanism to interact with others** (it's come a long way since Hobbes!). He **[they]** therefore **wish**es **to be licensed to act according to [their]** his **own ends by forming** an **agreed upon** regulative set of **rules for cooperating with everyone.** Given that the homo contractus has refined his basic self-interestedness and sincerely values decency, **the governing ideal in his interpersonal relations is fair reciprocity.** He **[they] therefore believes that others have an equal right to common resources** (and in the 34 moral world, one’s willingness to be moral is a primary asset) insofar as they contribute to the production of these common resources (acknowledging the reasons to be moral). Under the moral scheme, then, other persons who are basically **potential adversaries become parties to the contract.** Thought of as parties to the moral agreement, they are **measured by their ability to contribute to** it, that is, to **the cooperative system** (agreeing on the principles for regulation). The homo contractus, then, has no real and immediate interest in others’ well-being but holds a conception of others that, by definition, is fair but instrumental. He is therefore a fair participant, but not a very eligible partner.

Kedar, Ronit. “Reciprocity in morality and law.” *Law & Ethics of Human Rights,* vol. 6. issue 2, 2012.

**The thesis of the affirmative is that we all have a positive obligation under justice to ensure that we and all of our descendants have equitable and continuing access to natural resources - on Earth or elsewhere. Private appropriation is inconsistent with this duty.**

I will defend this thesis through the following CONTENTION:

Private appropriation of outer space fails the Lockean proviso. This is because accessible space-based resources are neither renewable nor replaceable. Thus any taking of an outer space resource denies the access of others to “as much and as good” of that particular resource.

**Steiner 1:** Gains and losses are most acceptably shifted when they’re primarily the results of circumstance, and least acceptably shifted when they’re principally the products of choices made by those who incur them. And **what counts as circumstance**, I suggest, **is** pretty adequately **captured by** what we would include under the heading of “**nature**.” “Nature” covers a lot: **there are places where it rains all the time and places where it never rains; places with oil deposits and places with** serious **geological faults**; crowded and less crowded cyberspace locations; and genes that code for Kentucky blue grass, poison ivy, viruses, koala bears, cystic fibro- sis, schizophrenia, Pavarotti-type vocal chords, some elements of human intelligence, and so forth. **Rights to** natural **resources** - to nature, compendiously construed - **are rights to bits of** all these various, and **variously valued, things.** So if we follow Locke and a number of other thinkers in that tradition, if we hold that **anyone claiming ownership over some bits of nature must leave “enough and as good for others”,** we’re led by a series of plausible steps to the conclusion that, in a fully appropriated world, **[thus]each person is entitled to an equal portion of the value of these bits of nature.** That is, **all owners of natural resources must pool the value of what they own in a fund - ultimately a global fund - to an equal portion of which everyone everywhere has a moral right.**

Steiner, Hillel. “Left libertarianism and the ownership of natural resources.” *Bleeding Heart Libertarians,* April 24, 2012.

And, this right to equitable access can’t be overcome or eliminated by aggregation of resources, because it is an outgrowth of our fundamental natural rights. **Steiner 2:**

And what’s especially important for libertarians to note in this regard is that **we’re owed this** grant not **as a** basic positive right - for on this sort of theory, there are no positive rights which are **basic**, but only **negative [right]** ones**,** with all positive rights being derived solely from antecedent contractual understandings or rights-violations. Rather, **we’re owed it as a matter of redress by those who do not forbear from acquiring** or retaining **more than “enough and as good”** natural **resources** - **a negative duty which they have by virtue of our** ultimately **foundational right to equal freedom.** It’s **this** fundamental **right** to equal freedom that **gives us both our rights to self-ownership and** our rights **to natural resources**.8 And **all our other** just **rights are created by exercises of these two rights** and of the rights successively derived from those exercises**.**

Steiner, Hillel. “Left libertarianism and the ownership of natural resources.” *Bleeding Heart Libertarians,* April 24, 2012.

These resources exist naturally, thus no *a priori* reason exists to assign exclusive ownership of commons to any individual. Access to capital resources is arbitrary, since (A) it depends on a just initial acquisition and (B) it depends on the lottery of birth. Also, since birth *order* is arbitrary, each succeeding generation has an identical claim to the overall quality of common resources. Even if it is possible to obtain exclusive property rights to some specific natural resource, each succeeding generation has a right to an initial store of available resources of equal quality.

Extractive activities which progressively degrade the environment constitute an unjustified taking of common resources from future generations and from nature itself, and no amount of “savings” or “overall benefit” to the current generation can make up for what is taken. Stephen **Bickham:**

**“The idea that each generation’s obligation to the future can be met by** savings - by **salting away a certain amount of ‘capital’** - oversimplifies this obligation through **fail[s]**ing **to take account** accurately **of the diverse ways that a particular generation can injure later ones. No type of savings**, for instance, **could account for a** particular **generation’s obligation to the future with regard to [some kinds of damage]** nuclear war and overpopulation. These have nothing to do with wise utilization of capital, yet they are certainly two of the major threats to the well-being of future generations. There are other problems with this model. In many instances **the cost of** the creation of certain **pollutants cannot be** at all **accurately calculated.** We do not know what the effects of continuing to use fluorocarbons in spray cans would be. Moreover, in this case as in others **a polluting activity might have no effect on several subsequent generations and then a devastating effect on a particular later generation. This would leave one or two generations to pay for the practices of many.** Perhaps this could be handled by some kind of an escrow account, but we would not know how much to pay into it.

Bickham, Stephen. “Future generations and contemporary ethical theory.” *Journal of Value Inquiry,* 15:169-177; 1981.

Space is a finite and fascinating set of resources that we are only beginning to understand. In order to uphold our duties under justice, we have to make sure that private entities are not laying arbitrary claim to these common resources. Affirming achieves this, and thus upholds justice.

**UNDERVIEW**

1. Consequences fail – A) they only judge actions after they occur, which fails action guidance B) every action has infinite stemming consequences, because every consequence can cause another consequence. Probability doesn’t solve because 1) Probability is improvable, as it relies on inductive knowledge, but induction from past events can’t lead to deduction of future events and 2) Probability assumes causation, we can’t assume every act was actually the cause of tangible outcomes C) every action is infinitely divisible, only intents unify action because we intend the end point of an action – but consequences cannot determine what step of action is moral or not. D) if you’re held responsible for things other than an intention ethics aren’t binding because there are infinite events occurring over which you have no control, so you can never be moral as you are permitting just action E) There’s no objective arbiter to evaluate consequences F) You can’t aggregate consequences, happiness and sadness are immutable – ten headaches don’t make a migraine

**Rachel Riederer, “Silicon Valley Says Space Mining Is Awesome and Will Change Life on Earth. That’s Only Half Right”, New Republic, 4/19/14 ,** <https://newrepublic.com/article/117815/space-mining-will-not-solve-earths-conflict-over-natural-resources>

It's become clear that there’s just not enough stuff on Earth to go around. We’re constantly fighting over land and water, jockeying for access to our home planet’s diamonds or oil or sugarcane or schools of fish. In the last few years a chorus of voices has arisen to suggest that we could solve these petty human squabbles by looking to space. “Everything we hold of value on this planet, metals, minerals, real estate, energy sources, fuel—the things we fight wars over—are literally in near infinite quantities in the solar system,” says Peter Diamandis, one of the founders of the asteroid-mining company Planetary Resources. He claims we have a “moral obligation to become an interplanetary species,” and that if we harness the resources in space, "the entire human race will be the beneficiary." Naveen Jain, founder of Moon Express, wants to do on the moon what Diamandis wants to do with asteroids. A recent CNBC profile quotes him as saying, “Once you take a mind-set of scarcity and replace it with a mind-set of abundance, amazing things can happen here on Earth.” MOST POPULAR Police Killed Her Boyfriend, Then Charged Her With His Murder Texas Is Bracing for a Blue Wave in 2020. Yes, Texas. America’s Most Powerful Gun Supporter What Indigenous Rights Have to Do With Fighting Climate Change Open Borders Made America Great This kind of exultant talk is perhaps to be expected from entrepreneurs describing their companies’ dreams, but Diamandis and Jain are not alone. In a radio interview this April, Neil deGrasse Tyson, the public face of American astrophysics, also voiced his excitement about the potential of space mining. “If you haul an asteroid the size of a house to Earth, it could have more platinum on it than has ever been mined in the history of the world. More gold than has ever been mined in the history of the world. When that happens”—and here his voice takes on the dreamy tone familiar to fans of "COSMOS: A Spacetime Odyssey," the Fox series he hosts—“the scarcity that has led to human-to-human violence, there’s a chance it could all go away.” Tyson admitted that he was being “a little hopeful”—he has also noted that it is far more likely that any resources found in space will be put to use in space first, not hauled back to Earth (more on that later)—but his comment captures the aura of starry-eyed excitement that surrounds space mining ventures. At Slate, Will Oremus wrote about the terrestrial tech world’s blasé response to the founding of Planetary Resources, and commanded, “Wake up! This is outer space we’re talking about! This is awesome!” It is awesome. To read about these ambitious plans, and to contemplate the scale of human brainpower and industriousness required to pull them off, fills one with awe. These new companies talk about space in a way that sounds unfamiliar to the civilian ear accustomed to the reverent tone of planetarium field trips; rather than the vastness of space, the companies emphasize its accessibility. Moon Express calls the moon “the eighth continent.” Planetary Resources wants to “bring the solar system into humanity’s sphere of influence.” Experiencing awe is fun. It's even more fun to imagine a world of outer-space abundance in which we don’t have to worry about fossil fuels and everyone can afford a platinum case for their iPhone. And there is great potential for resource extraction in space, though these ventures will carry great upfront costs and plenty of uncertainty about whether they will actually come to fruition. Many deadlines and timeline estimates are fast approaching or have passed already. What’s misleading about these projects isn’t that they’re subject to budget problems and delays, but that they come couched in overblown rhetoric about their potential to radically alter human life, to do away with the notion of scarcity and deliver us to a future of plenty and peace. It’s a pattern that has become familiar in Silicon Valley: develop a plan for a business that will do something cool and make a lot of money, but describe it instead as something that will change the world. Return to that platinum asteroid for a moment. There’s one that Planetary Resources has been tracking: It passes near the Earth’s orbit every 23 months and is a half-kilometer by one kilometer in size. A spacecraft could travel to it in around eight months. Diamandis estimates its total worth at between $300 billion and $5 trillion. If it were to be mined at some point in the future, it would drive down the global price of platinum, which might make some items more affordable—luxury jewelry, of course, but also catalytic converters for cars and hard disks for laptops and DVRs—but it would primarily make the investors of Planetary Resources extremely rich. Allusions to the Wild West abound in the literature of space-mining companies. The Moon Express website talks about “brave pioneers” who explored new territories "with the backing of a monarch or a state.” For these entrepreneurs, space is not a distant emptiness; beyond the frontier, they envision a business-place. And with the exception of a Cold War–era treaty prohibiting national appropriation of the moon, there aren’t laws about ownership in space; its riches are there for the taking, like gold nuggets in a California stream. In a March debate on "Selling Space," at the American Museum of Natural History, Space Foundation CEO Elliot Pulham said that asteroids are clearly up for grabs: “There’s no law that says you can’t snag an asteroid. Knock yourself out.” It’s certainly true that space is full of valuables. Billions of years ago, during the formation of the solar system, gravity pulled the heavy materials on would-be planets toward their cores, forcing the comparatively lighter rocky material out to the surface. When those planets broke apart, they became asteroids. Some are made of rocky surface fragments, but some are made of the core materials—platinum, gold, silver, palladium—that are rare and precious on Earth. At a press roundtable after the "Selling Space" debate, Tyson explained why this process matters so much to those who would mine the sky: “Nature has pre-sifted the ingredients for you. You go grab yourself an asteroid made from the core of a planet that never survived, and you’ve got this stuff concentrated in the palm of your hand.” This is what Manifest Destiny must have felt and sounded like. Wealth beyond your wildest dreams, and it’s there for the taking. You just have to get there first. Must-reads. 5 days a week. Sign Up The “getting there first” will not be simple, or cheap. Most of the asteroids in the solar system are in the asteroid belt between Mars and Jupiter. But the orbit paths of some near-Earth asteroids, or NEAs, bring them relatively close to our planet—that is, within around 30 million miles. Planetary Resources has developed what is essentially an outer-space drone: a small telescope-equipped spacecraft, around the size of a desktop computer, that will survey near-Earth asteroids. Once an asteroid is identified and determined to be valuable, the extraction could begin, though that introduces a new set of technical obstacles. Because of the difficulty and expense of getting heavy machinery from Earth into space, some have suggested using 3D printing technology to use materials found in space to create the necessary equipment. Then, some modified version of a terrestrial mining method, like drilling or magnetic separation, could be used for the mining itself. But these extraction processes have been developed for the pressure and gravity of Earth, and they would need to be overhauled to function in the low-gravity, vacuum environment of space. If this part of the process sounds unclear, it’s because it is. To give an idea of the scale—in time and difficulty—of these kinds of operations, consider the government’s version of asteroid prospecting. In April, NASA greenlighted a mission in which a spacecraft called OSIRIS-REx will rendezvous with an asteroid called Bennu. OSIRIS-Rex is scheduled to launch in 2016, reach the asteroid in 2018, reconnoiter it for over a year, and then bring back samples for scientific study. The amount of asteroid that NASA plans to collect after all this time and trouble? Two ounces. A major premise of private space mining companies is that they will be able to work far faster and more economically than NASA, and will be willing to take on levels of risk beyond that of a government operation, but the scale and timeline of OSIRIS-REx shows how complex these operations will be, even for the swiftest companies. Rick Sternbach / KISS BAG IT, TAG IT, SELL IT An illustration, from the Cal Tech study, of an asteroid retrieval spacecraft capturing a 500-ton asteroid. The most far-out proposal in space mining is to "redirect" an NEA toward Earth and into lunar orbit. There, the asteroid could spin safely around the moon, accessible to our planet. A 2012 Cal Tech study determined that this method would be not only feasible, but “essential” for long-term human space exploration. According to the study, it will soon be possible for an unmanned spacecraft to identify a target asteroid—one around seven meters in diameter and 500,000 kilograms in mass—approach it, “loiter” nearby to determine its spin, and ultimately enclose the asteroid in what is described as a “draw-string bag.” (Take a moment to imagine a man-made drawstring bag capturing a giant mass of precious metal hurtling through space. “This is awesome!” does feel like the only reasonable response.) Once the asteroid and spacecraft are connected, a solar-powered propulsion system could fly the asteroid back to our moon and deposit it in lunar orbit. Depending on the mass of the asteroid, this retrieval flight would last between six and ten years. This idea, like the other space-mining projects, will require tremendous patience, money, vision, and bluster. So it's no surprise that the futurists of Silicon Valley are behind them: The group of companies founded with the intention of mining space are backed largely by investors who made their names and fortunes in tech. Peter Diamandis is the founder of the X Prize Foundation and of Silicon Valley’s Singularity University, which he co-founded with futurist Ray Kurzweil; Eric Schmidt is one of Planetary Resources’ major investors; before starting Moon Express, Naveen Jain was a senior executive at Microsoft and then CEO of his own startup, InfoSpace; Elon Musk founded PayPal and now has a private space company, SpaceX, currently under contract with NASA to begin carrying astronauts to the International Space Station. The New Yorker's George Packer identifies the “conflicting pressures” of Silicon Valley as “work ethic, status consciousness, idealism, and greed.” All of these pressures are present in the space-mining race, too. The work required to pull it off is undeniable—as is the idealistic delusion that outer-space extraction would bring world peace. Whoever accomplishes this first will be hailed, from Mountain View to Capitol Hill, as a genius. They will also become unfathomably wealthy, and rightly so: Entering a new, high-risk, high-tech field of business should come with the possibility for enormous reward. These entrepreneurs have evinced as much in less-utopian, off-the-cuff remarks. Diamandis has joked that his company’s financing plan is to buy puts in the platinum market and then announce their plan to bring a platinum asteroid home. Jain imagines coming back from trips to the moon with payloads worth billions of dollars: “I don’t care what people say," he said in an interview with Wired's editor last year. "That’s a shit load of money.” It’s telling that the foundational text of the space mining industry—1997's Mining the Sky, by John Lewis, a professor of planetary science at the University of Arizona and the chief scientist of Deep Space Industries—begins not with a catalog of the wealth of space, but with a brief history of exploration and military domination on Earth. Here, there isn’t enough, but in space, rather than nothingness, we find “a lively, rich understanding of the unity and lawfulness of Creation, within which the diversity and complexity of local materials and events falls into place.” Thanks to the saving power of technology, the very ideas of “limited resources and finite living space” are “tired old myths,” he writes. It’s exhilarating, this notion that tech advances could end scarcity as we know it, relegating wars over mineral wealth and energy sources to the list of woes defeated by science, alongside plague and polio. But it’s a dangerous exhilaration. It seems far more likely that new sources of wealth will, in their abundance, be one more thing for us to scrabble over. The space-mining notion is immensely appealing: the sky is full of infinite riches and abundance leads to peace. But why wouldn’t riches from the heavens cause conflicts and problems? Their vulgar terrestrial cousins always have. The problem with comparing space-mining to the Wild West isn’t just that it won’t revolutionize our economy like Manifest Destiny did. It isn’t even that there’s something suspect in taking the sky—something that feels so shared, so very deeply part of the commons—and turning it into a set of privately held commodities. It’s that this rhetoric gives the industry a kind of up-by-the-bootstraps patina, calling to mind a situation in which anyone with a gold-pan could go and seek their fortune, if one were plucky and lucky enough to set out for virgin territory. This simply does not apply to space mining, an industry where—to an even greater degree than modern-day resource extraction businesses on Earth—the barriers to entry in terms of both technology and capital are so immense that it is only open to entrepreneurs who are already billionaires. Would-be space mining companies are often called “crazy,” their plans described as wild schemes. In fact, these companies are not crazy at all. As Jain, of Moon Express, says in a promotional video, "It is not just a fun project. It is also a great business." Space-mining investors may be thinking extremely far outside the box, and willing to take on levels of risk that governments—the only entities with dealings in space until just recently—would never take on. But these are savvy investors, not a bunch of kids with a kooky dream, and they expect an eventual return on that investment. That might explain why, as the Wall Street Journal reported recently, Planetary Adventures has shifted its focus from precious metals "to a more mundane space resource: water," which "could be processed into fuel to extend the useful lives of aging commercial satellites." Granted, water has been a part of Planetary Resources’s business plan for years: When the company announced two years ago its intentions to mine asteroids, it said in a press release that “accessing water resources in space will revolutionize exploration.” But it never got headlines, for obvious reasons. As John Logsdon of the GWU Institute of Space Policy said after the "Selling Space" debate in March, “It’s not as sexy as platinum but I think the most valuable resource in space is water.” Harvesting asteroid ice could be very profitable in its own right, but it doesn’t conjure the same Panglossian platitudes as giant chunks of space gold do. That's just as well. It's a more practical approach for the near future. Because of the tremendous cost—both in terms of energy and money—of launching something out of Earth’s atmosphere or back into it, the most efficient use of resources extracted in space will be right there: in space. And that, in turn, should help bring the peace-and-abundance rhetoric back down to Earth. It's like much of what Silicon Valley invents: Not as awesome as the elevator pitch makes it sound, but useful in its own little way.