# JF22 – Kant AC

## Syllogism

#### Agents must be practical reasoners –

#### [1] Regress – we can always ask why we should follow a theory, so they aren’t binding because they don’t have a starting point. Practical reason solves – When we ask why we should follow reason, we demand a reason, which concedes to the authority of reason itself, so it’s the only thing we can follow

#### [2] Action Theory – every action can be broken down to infinite amounts of movements, i.e. me moving my arm can be broken down to the infinite moments of every state my arm is in. Only reason can unify these movements because we use practical reason to achieve our goals, means all actions collapse to reason

#### [3] Inescapability – the exercise of practical rationality requires that one regards practical rationality as intrinsically good – that justifies a right to freedom.

Wood07[Allen W. Wood, (Stanford University, California) "Kantian Ethics" Cambridge University Press, 2007, https://www.cambridge.org/core/books/kantian-ethics/769B8CD9FCC74DB6870189AE1645FAC8, DOA:8-12-2020 // WWBW rct st]

Kant holds that **the most basic act through which people exercise their practical rationality is that of setting an end** (G 4:437). **To set an end is, analytically, to subject yourself to the hypothetical imperative that you should take the necessary means to the end you have set** (G 4:417). This is the claim that you rationally ought to do something whether or not you are at the moment inclined to do it. It represents the action of applying that means as good (G 4:414) – in the sense of “good” that Kant explicates as: what is required by reason independently of inclination (G 4:413). Kant correctly infers that **any being which sets itself ends is committed to regarding its end as good in this sense, and also to regarding the goodness of its end as what also makes application of the means good** – that is, rationally required independently of any inclination to apply it. **The act of setting an end, therefore, must be taken as committing you to represent some other act (the act of applying the means) as good.** In doing all this, however, **the rational being must also necessarily regard its own rational capacities as authoritative for what is good in general.** For it treats these capacities as capable of determining which ends are good, and at the same time as grounding the goodness of the means taken toward those good ends. **But to regard one’s capacities in this way is also to take a certain attitude toward oneself as the being that has and exercises those capacities. It is to esteem oneself – and also to esteem the correct exercise of one’s rational capacities in determining what is good both as an end and as a means to it.** One’s other capacities, such as those needed to perform the action that is good as a means, are also regarded as good as means. **But that capacity through which we can represent the very idea of something as good both as end and as means is not represented merely as the object of a contingent inclination, nor is it represented as good only as a means. It must be esteemed as unconditionally good, as an end in itself. To find this value in oneself is not at all the same as thinking of oneself as a good person. Even those who misuse their rational capacities are committed to esteeming themselves as possessing rational nature.** It also does not imply that a more intelligent person (in that sense, more “rational”) is “better” than a less intelligent one. The self-esteem involved in setting an end applies to any being capable of setting an end at all, irrespective of the cleverness or even the morality of the end setting. Kant’s argument supports the conclusion, to which he adheres with admirable consistency throughout his writings, that all rational beings, clever or stupid, even good or evil, have equal (absolute) worth as ends in themselves. For Kantian ethics **the rational nature in every person is an end in itself whether the person is morally good or bad.**

#### We have a unified perspective – If I say that 2+2=4, I understand not only that I know that 2+2=4, but that everyone around can arrive at the same conclusion too because they create practical syllogisms to justify their conclusion. But, willing a maxim that violates the freedom of others is a contradiction – that’s bad.

Engstrom, Stephen (Professor of Ethics at UPitt). “Universal Legislation As the Form of Practical Knowledge.” <https://ld.circuitdebater.org/w/images/8/89/Engstrom_-_Universal_Legislation_as_a_Form_of_Practical_Knowledge.pdf> rct st

Given the preceding considerations, it’s a straightforward matter to see how **a maxim of action that assaults the freedom of others with a view to furthering one’s own ends results in a contradiction when we attempt to will it as a universal law** in accordance with the foregoing account of the formula of universal law. **Such a maxim would lie in a practical judgment that deems it good on the whole to act to limit others’ outer freedom, and hence their self-sufficiency, their capacity to realize their ends, where doing so augments, or extends, one’s own outer freedom and so also one’s own self-sufficiency.** In this passage, Kant mentions assaults on property as well as on freedom. But since property is a specific, socially instituted form of freedom, I have omitted mention of it to focus on the primitive case. Now on the interpretation we’ve been entertaining, **applying the formula of universal law involves considering whether it’s possible for every person—every subject capable of practical judgment—to share[s] the practical judgment asserting the goodness of every person’s acting according to the maxim in question.** Thus in the present case the application of **the formula involves considering whether it’s possible for every person to deem good every person’s acting to limit others’ freedom, where practicable, with a view to augmenting their own freedom**. Since here **all persons are on the one hand deeming good both the limitation of others’ freedom and the extension of their own freedom,** while on the other hand, insofar as they agree with the similar judgments of others, **also deeming good the limitation of their own freedom and the extension of others’ freedom, they are all deeming good both the extension and the limitation of both their own and others’ freedom.**

#### Only a collective will that can have power over individuals can guarantee the enforcement of good maxims. Thus, the standard is consistency with the omnilateral will.

#### Impact calc –

#### [1] Consequences fail – A) Induction Fails – You only know induction works because past experiences have told you it has, but that is in itself a form of induction, so you use induction to prove induction – that’s circular B) Butterfly Effect – Every action has an infinite number of consequences that stem from it – me picking up a pen could cause nuclear war a hundred years down – you can’t quantify the infinite amount of pain and pleasure to come C) Aggregation fails – everyone has different feelings of pain and pleasure, so you can’t universalize that and say it’s good – it’s impossible to measure something that’s completely subjective D) Culpability – any consequence can lead to another consequence so it’s impossible to assign obligations since you can’t pinpoint a specific actor that caused a consequence.

#### Prefer additionally –

## Offense

#### Plan: The appropriation of outer space through asteroid mining by private entities should be banned.

#### Property is an external right – it is something that we don’t innately have a right to by virtue of existing but acquire once we exercise our freedom. However, this is impossible when there is no state to create property divisions.

Stilz 1 (Anna Stilz, Anna Stilz is Laurance S. Rockefeller Professor of Politics and the University Center for Human Values. Her research focuses on questions of political membership, authority and political obligation, nationalism and self-determination, rights to land and territory, and collective agency. , 2009, accessed on 12-18-2021, Muse.jhu, "Project MUSE - Liberal Loyalty", https://muse.jhu.edu/book/30179)//phs st

One key reason Kant does not accept the skeptical view of political authority, as put forward by Simmons, is that, when it comes to rights over external resources, he does not see the value of freedom as having the moral structure that Simmons attributes to it. Kant and Simmons, however, (along with Rousseau, whom we will examine in the next chapter) do share the same conception of freedom at the most basic level, a conception we can call freedom as independence. Since this notion of freedom as independence is one I will use throughout this book, it is worth a few words of clarification here. To be free-as-independent, as all these thinkers conceive it, is not to be forced to obey the will of another person; it is to enjoy a sphere of independent self-government within which others cannot interfere. This notion of freedom is thus particularly concerned with the relationships between persons. It is not concerned in the same way with whatever restrictions may be placed on our choices by natural obstacles or constraints. Being unable to hike up a mountain because a tree blocks the path does not make me less free, on the freedom- as-independence view. But being unable to hike up a mountain because you have tied me up, or because I have to seek your permission to engage in any leisure activities, does make me unfree. Freedom as independence, therefore, always refers to a relation between one person’s will and anoth- er’s: to be unfree is to be forced to obey someone else’s will rather than one’s own. For both Kant and Simmons, attaining this sort of freedom as indepen- dence requires people possess rights of property in external things. This is because the only way one person can be free from subjection to another person’s will is to have exclusive control over a sphere of the physical world within which those others are not allowed to interfere with his actions. And to have that sort of control is to have property. This exclusive sphere of property includes (a) rights of control over one’s own body and (b) rights of control over specific objects. While Kant agrees with Sim- mons that freedom requires property, he also claims that property is only possible through the state. As a result, he concludes that freedom as inde- pendence is only possible through the state. Since Kant believes that there is a basis in natural right for claiming private property, and he believes that private property requires the state, he concludes that the state is not an optional or voluntary association. Indeed, he goes so far as to suggest that we may be forced into the state against our will.18 Kant: External Freedom as Independence How does Kant reach these conclusions? Kant begins his Metaphysics of Morals with the argument that every human being possesses an innate right to external freedom, which as we have seen, is a right to indepen- dence from being coerced or constrained by another person’s will in car- rying out our choices. This, he says, is the “only original right belonging to man by virtue of his humanity.” Freedom (independence from being constrained by another’s choice [Willku ̈ r]), insofar as it can coexist with the freedom of every other in accordance with a universal law, is the only original right belonging to every man by virtue of humanity. This principle of innate freedom al- ready involves the following authorizations, which are not really dis- tinct from it (as if they were members of the division of some higher concept of a right): innate equality, that is, independence from being bound by others to more than one can in turn bind them; hence a human being’s quality of being his own master (sui iuris), as well as being a human being beyond reproach (iusti), since before he performs any act affecting rights he has done no wrong to anyone; and finally, his being authorized to do to others anything that does not in itself diminish what is theirs, so long as they do not want to accept it—such things as merely communicating his thoughts to them, telling or promis- ing them something, whether what he says is true and sincere or untrue and insincere (veriloquium aut falsiloquium); for it is entirely up to them whether they want to believe him or not. (MM, 6:238) As the sole human right, for Kant, the right to freedom as independence gives us several kinds of prerogatives. First, it gives us the title to do any- thing to other people that we may do to them without actually diminish- ing their freedom as independence, like simply communicating our thoughts to them: it thus grounds rights to freedom of speech and thought. Second, it gives us title to insist that we not be bound by any restrictions to freedom that are not reciprocal restrictions, that do not bind other people in the same way: it justifies a right to equal treatment. In addition, Kant holds that the innate right includes a minimum of bodily inviolability: someone who physically interferes with my body without my consent “affects and diminishes what is internally mine (my freedom), so that his maxim is in direct contradiction with the axiom of right” (MM, 6:250). Since my faculty of self-determination can only be exercised through my body, anyone who uses direct physical force on my body interferes with all possible expressions of my freedom.19 These titles—to freedom of thought and communication, to equal treatment, and to a minimum of bodily inviolability—together comprise our original claims to freedom. Unlike internal or metaphysical freedom, though, on Kant’s theory, ex- ternal freedom is defined by the individual’s capacity to set and pursue ends in the outside world, by acting. So in order to be externally free, I must be able to take up and use physical means—at the very least, spaces and also potentially objects—in order to carry out my choices. I am not externally free merely by thinking or wishing or setting myself a goal, without taking any concrete actions; I cannot be externally free in chains. I am externally free only when I can do something to further my projects. And this means that I must be able to actually take up some means to my ends without fear of your interference with my acts. External freedom thus involves the use of pieces of the physical world, where this use is potentially subject to interference by other persons.20 While all rights involve some sort of claim to external freedom, Kant draws a important distinction between rights that belong to us innately (like all those described above) and those we must acquire. Here, Kant differentiates between what he calls the internal and external “mine” (meum). Some rights—like the innate titles—are internally mine: I am born with them; they are my inalienable property; I do not have to do anything to acquire them. Other rights are acquired, and so belong to what Kant calls the external mine: these rights do not belong to us by birth, but require a particular act to be established (MM, 6:237). Kant refers to three broad kinds of acquired rights: rights to “(1) a (corporeal) thing external to me; (2) another’s choice to perform a specific deed (praestatio); (3) another’s status in relation to me” (MM, 6:248). These three kinds of acquired rights specify (1) my claims of ownership or prop- erty; (2) my contractual claims against others; and (3) my status as an occupant of a role, as a spouse, parent, or head of household.21 And shortly after introducing the innate right, interestingly, Kant suggests that it can more or less be laid aside in his political theory, in favor of a discus- sion of acquired rights: “It can be put in the prolegomena and the division of the doctrine of right can refer only to what is externally mine or yours” (MM, 6:238). Most of Kant’s political theory, then, is concerned not with the innate right, but instead with acquired rights, which define the precise bounds of our sphere of control over the external world. The fundamental task of a science of right, as Kant sees it, is to show how these rights to an “external mine” should be defined and guaranteed: “The doctrine of right wants to be sure that what belongs to each has been determined (with mathematical exactitude)” (MM, 6:233). As we shall see, Kant con- cludes that we cannot acquire these sorts of rights without a state. One reason for this is that unlike our titles to freedom of thought and communication or to minimal bodily inviolability, our rights to specific external objects are not naturally determinate. Freedom as independence requires that I have rights of control over a particular body (my own), but not that I have rights of control over a particular object. In order to be free-as-independent, I must have a right to some sphere of property, but it does not matter which specific objects I have a right to.22 Kant’s position can perhaps be made more intuitive if we reflect that any system of prop- erty will require the existence of a set of rules that is complex and to some extent conventional: rules about what sorts of things are eligible to be held as private property, what precisely are the conditions defining voluntary exchange, what constitutes an exploitative agreement, what are the condi- tions of publicly recognized spousal or parental rights, and how to distrib- ute opportunities, education, and income. The conditions specifying these sorts of rights would be imprecise and difficult to judge in a state of nature. The basic thought here is that while a principle of equal freedom pro- vides us some information about what just property distributions should look like, the principle’s content is underspecified, and therefore cannot be directly applied. The equal freedom principle suggests that whatever system of property we implement, it ought to be consistent with every- one’s possession of a zone of freedom that is guaranteed against others’ coercive interference. Nevertheless, many possible systems of property— collective allocation, market socialism, unfettered private ownership— are potentially consistent with that sense of equal freedom. And under each one of these many possible systems, there will again be many possible particular rules consistent with everyone’s freedom—rules about the pre- cise bundle of claims conferred by ownership, about how exchange is to be regulated, about which objects belong to which particular persons. And finally, any system of property will also have to include some aspects that are wholly conventional: rules about what precise formalities are required to conclude a contract, exactly how long a statute of limitations to institute, down, indeed, to what side of the road to drive on.

#### That affirms –

#### In outer space, there is no governing authority and thus claiming property imposes your will over others.

Stilz 2 (Anna Stilz, Anna Stilz is Laurance S. Rockefeller Professor of Politics and the University Center for Human Values. Her research focuses on questions of political membership, authority and political obligation, nationalism and self-determination, rights to land and territory, and collective agency. , 2009, accessed on 12-18-2021, Muse.jhu, "Project MUSE - Liberal Loyalty", https://muse.jhu.edu/book/30179)//phs st

It might seem, then, that Kant, like Simmons, would hold that although our acquired rights are initially indefinite, our private acts of appropria- tion in a state of nature can function to more clearly delimit their contours. Once I appropriate an external object—for example, my piece of land in the state of nature—the boundaries of my right to external freedom might simply be equivalent to those of the things and spaces that I have appropriated. If this were so, then individuals could succeed in more precisely defining property without the help of the state, and simply by coordinating expectations based on their private acts. In order to respect and acknowledge my external freedom, on this view, you would just have to cede me the spot I have rightfully occupied and to refrain from infringing on my choices within that sphere. Yet Kant does not take this position: he argues that the rights made possible by the postulate of practical reason are problematic. Whatever rights our private acts of appropriation outside the state confer upon us can only be understood as provisional rights, that is, they are not conclusive and settled (peremp- torische): indeed, for him, “It is possible to have something external as one’s own only in a rightful condition, giving laws publicly, that is, a civil condition” (MM, 6:255). What is the problem with these private methods of defining our rights to property? Why are they so unsatisfactory, from Kant’s perspective? The essential problem with acquiring property rights in a state of nature, for Kant, seems to be that we cannot unilaterally—through private will— impose a new obligation on other persons to respect our property that they would not otherwise have had.30 “By my unilateral choice I cannot bind another to refrain from using a thing, an obligation he would not otherwise have; hence I can do this only through the united choice of all who possess it in common” (MM, 6:261).31 Even claiming to interpret the a priori general will on another person’s behalf, says Kant, is at- tempting to impose a law on them on my own private authority, since every act of appropriation is “the giving of a law that holds for everyone” (MM, 6:253).32 And he worries that this claim to private authority over others is a potential source of injustice: “Now when someone makes ar- rangements about another, it is always possible for him to do the other wrong; but he can never do wrong in what he decides upon with regard to himself (for volenti non fit inuria)” (MM, 6:314). My will to appro- priate, in the belief that my appropriation is justifiable to others, cannot yet serve as a (coercive) law for everyone else, because it cannot put them under an obligation. Kant suggests, in other words, that figuring out how to carve up shares of the external world consistently with everyone’s freedom does not ex- haust the entire problem of justice involved in acquiring rights to prop- erty. We might appeal to criteria of salience or convention to help coordi- nate our expectations on which of the many possible property distributions to choose. But we face an additional difficulty: how do we impose one of these distributions without at the same time arrogating to ourselves the private authority to lay down the law for an equally free being, one who has an innate right not to be constrained by our private will? In coercing someone to respect our view of our property rights, we are also necessarily claiming the right to impose our private will upon that person. If it is to really respect everyone’s freedom, Kant thinks, a property distribution cannot be unilaterally imposed in this way. This additional dimension of the problem of justly acquiring rights— the problem of unilateral imposition—is rooted in each person’s basic “right to do what seems right and good to him and not to be dependent upon another’s opinion about this” (MM, 6:312). This right to do what seems right and good to him derives from the moral equality of persons: no one has an innate right to decide in another person’s behalf. And be- cause each person is an equally authoritative judge, it is therefore impossi- ble—in a state of nature—to put [them] under an obligation of justice that [they] himself does not recognize. The will of all others except for himself, which proposes to put him under obligation to give up a certain possession, is merely unilateral, and hence has as little lawful force in denying him possession as he has in asserting it (since this can be found only in a general will). (MM, 6:257) In conditions of equal authority—such as those that exist in any state of nature—one is obligated only by what one recognizes, by one’s own lights, as an objectively valid requirement of justice. For that reason, no other person’s merely unilateral will can bind one in the face of one’s own disagreement. Kant concludes from this that “no particular will can be legislative for the commonwealth” (TP, 8:295), since no private person’s will can effec- tively claim to impose an obligation on others. Instead, Kant says that “all right,” that is to say all claims that impose binding duties on others, “depends on laws” (TP, 8:294). Law overcomes the problem of unilater- alism inherent in imposing new obligations on others on one’s own au- thority, by substituting an omnilateral will in place of a unilateral one: “Only the concurring and united will of all, insofar as each decides the same thing for all, and all for each, and so only the general united will of the people, can be legislative” (MM, 6:314). But why is law—imposed from a public perspective—consistent with everyone’s freedom in a way that particular wills—based on our private judgments—are not? Fundamentally, Kant argues that defining and enforcing both our rights over our bodies and our rights to external objects through public and nonarbitrary laws is the only way to secure ourselves against the coercive interference of other private persons in our affairs. For Kant, then, the only sort of property distribution to which we could all hypothetically consent must necessarily be one that is defined and enforced by the state, since all privately enforced distributions have the inevitable side-effect of subjecting us to the wills of others. To show this in more detail, Kant points out two different ways that unilateral private enforcement under- mines our right to independence: first, through unilateral interpretation— a particularly pervasive problem in the enforcement of property rights, since these rights are fully conventional in a way our rights over our bod- ies are not; and second, through unilateral coercion, which threatens in- terference by others in all our rights, both our rights over our bodies and our rights over external things.

## Adv

#### Russo-US relations suck—we’re on the brink of Putin bombing all our space tech to oblivion.

Koffler 11-17[Rebekah Koffler is a former Defense Intelligence Agency officer and author of “Putin’s Playbook: Russia’s Secret Plan to Defeat America.”, Opinion, 11-17 2021,WSJ,https://www.wsj.com/articles/space-armageddon-and-putins-threats-to-ukraine-russia-antisatellite-weapon-11637183651, 12-15-2021 amrita]

**Russia successfully conducted a test** in which a direct-ascent missile destroyed a nearly 40-year-old defunct Soviet spy satellite, U.S. Space Command announced Monday. This unsettling development is noteworthy because it coincides with Russia’s massive military buildup along the Ukrainian border. Moscow’s pre-positioning of more than 100,000 soldiers, tanks and heavy weaponry has spurred the Pentagon’s concerns about a possible Russian invasion of Ukraine. **Moscow’s posturing on what the Russians call a “space weapon” signals a rapidly escalating crisis in U.S.-Russia relations**. Washington’s foreign policy and Moscow’s view of its national interests are on a geopolitical collision course. Russia views the formerly Soviet Ukraine as part of its strategic security perimeter, on which Moscow has relied for centuries as a geographical buffer against foreign invasion. President Vladimir Putin has repeatedly said the U.S. is crossing a red line by attempting to pull Ukraine out of Russia’s orbit. In April, at his annual address to the Russian Parliament, Mr. Putin threatened a “swift, asymmetric and harsh response,” if the U.S. and the North Atlantic Treaty Organization intervene on Ukraine’s behalf. A trained intelligence operative, Mr. **Putin maintains strategic ambiguity** regarding what U.S. action precisely would constitute the crossing of Moscow’s red line with regard to former Soviet states, such as Ukraine. Ukraine’s admission into the European Union and NATO would almost certainly be unacceptable to the Kremlin. Mr. Putin is prepared to fight a war against the West to prevent this from happening. But how could Russia win a war against a much stronger adversary? That’s where Monday’s antisatellite test comes in. It’s a preview of Mr. Putin’s Space Armageddon strategy. **Russian strategists have observed** American **war fighters’ tactics in conflict zones** for nearly a quarter-century—in Kosovo, Iraq, Afghanistan, Libya and Syria. They **learned that America’s** superior **space capability is its Achilles’ heel** because of the U.S. military’s near-total dependence on it. Many civilian drivers would be lost without directions from their smartphones. **U.S. troops in war zones rely on the same constellation of 31 GPS** satellites for tasks like synchronizing operations, pinpointing targets and locating personnel. Moscow therefore seeks to deafen and blind U.S. forces in conflicts. By attacking U.S. satellites, the Russians would attempt to offset superior U.S. conventional firepower. They also hope to paralyze U.S. forces psychologically by rendering them helpless. Russian military theorists often write about the importance of targeting both the technical capabilities and the mind of an adversary, planning to disorganize its troops and weaken their will to fight. This is the essence of Mr. Putin’s asymmetric approach to warfare. Moscow believes it can win an all-out space war with America, which stands to lose a lot more since its entire society, from ATMs to home offices, is connected via satellites. Alarmingly, Washington is as unprepared for Mr. Putin’s star wars as it was for Russia’s determination to wage cyberwarfare. Monday’s test executed only a single page out of Mr. Putin’s playbook, which includes lasers, jammers and other satellite killers. Before the situation in Ukraine escalates into war, the **Pentagon** had **better develop a strategy to counter** Mr. **Putin**’s plan for Space Armageddon.

#### American private appropriation of outer space is a core issue that tanks our relations- specifically asteroid mining.

Taichman 21 [Elya Taichman is currently obtaining his J.D. at Temple University Beasley School of Law where he is a Beasley Scholar, a Law and Public Policy Scholar, and a Staff Editor on the Temple Law Review. Elya Taichman is the former Legislative Director for Congresswoman Michelle Lujan Grisham (current Governor of New Mexico). Elya advised the Congresswoman on foreign policy, national security, space, and economic issues., 2021, The Artemis Accords: Employing Space Diplomacy to De-Escalate a National Security Threat and Promote Space Commercialization,https://digitalcommons.wcl.american.edu/cgi/viewcontent.cgi?article=1131&context=nslb, 12-15-2021 amrita]

U.S. Commercial Space Launch Competitiveness Act of 2015 (“Space Act”): The Dawn of the Second Space Age **Until recently, it did not matter that the OST was unclear**, and the Moon Treaty failed to garner support. Space exploration remained the province of state actors like NASA because the sheer expense of rocketry and other technologies remained beyond the reach of private corporations and investors throughout the twentieth century.61 However, over the last two decades the industry has changed rapidly. **In the U**nited **S**tates alone, several of the most **innovative companies have invested in space exploration tech**nology.62 As the research accelerates, costs have decreased, and the potential for profits is tremendous – in 2018 the space economy was $360 billion.63 By 2040, its estimated worth is anywhere between $1.1 trillion and $1.7 trillion.64 However, investors demand certainty, and the uncertainty surrounding OST interpretation was reason to pause.65 After all, no investor or company wanted to pour millions, or even billions, into a company designed to mine liquid ice on the Moon only to discover that this violated international law and that the United States had decided to stop licensing such ventures. Just as President Eisenhower feared, the military-industrial complex, augmented by private industry, lobbied Congress heavily to reduce regulatory hurdles and legal uncertainty in space investment.66 In 2015, their efforts bore fruit **when Congress passed the Space Act**, which President Obama signed into law.67 Chapter 513 of Subtitle V – “Space Resource Commercial Exploration and Utilization” – was the shift **that enabled the** American **private** space **industry to flourish**. This **affirmed tha**t American **citizens could own and sell any “space resources”** that were **obtained through “commercial recovery**.”68 In one stroke, **Congress guaranteed property rights to American** citizens and **companies on a “first come, first served basis.”**69 Moreover, American courts would not permit foreign lawsuits accusing entrepreneurs and businesses of violating the OST.70 The law also required the executive branch to “discourage government barriers” to development and for regulation to “facilitate commercial utilization” in space.71 Finally, it required the President to promote the interest of the American space industry.72 Ever wary of the ambiguities of the OST, and likely out of concern that the Space Act might violate the treaty, the law included a disclaimer that it was the sense of Congress that nothing in the Space Act asserted American sovereignty over any celestial body.73 This disclaimer should be read as opinio juris of American interpretation of the OST. In 1967, the United States and the Soviet Union shared a concern that other nations would challenge their technological preeminence in space.74 In 2015, this proved no different, except, this time, the United States was alone in its preeminence. **Russia**, in fact, **strongly objected and claimed that the Space Act violated i**nternational **law.**75 Russia **submit**ted **an objection to** the United Nations Committee on the Peaceful Uses of Outer Space (“**COPUOS**”), claiming the Space Act demonstrated “total disrespect for international law order [sic].”76 **Russia** went on to **declare that this law manifested a “doctrine of domination in outer space**.”77 Nonetheless, a careful reading of Russia’s complaint to COPUOS elucidates that Russia never actually asserted that the United States violated the OST.78 To be sure, **Russia came as close as possible** to this, but never outright said it.79 Indeed, the Russians lag behind in investment in outer space and technology and fear American exploitation of space’s vast resources in space without their participation.80 American private investment has accelerated this gap with NASA paying companies like SpaceX $55 million per seat to ferry astronauts to the ISS instead paying the Russians more than $90 million to do the same.81 In fact, in its objection to the Space Act, **Russia stated that the U**nited **S**tates “**could propose** discussing the possibility to reach **uniform understanding** of the status of resources and set forth the structure of the doctrine that would include safety and security aspects.”82 It seems Russia is pining for its prior role of crafting space law with the United States. This also suggests that if Russia had the same capabilities as the United States, its policy would likely be comparable.83

#### US asteroid mining pushes Russia to do the same despite it violating international law- increases the likelihood for tensions to escalate.

Mallick and Rajagopalan 19 [Senjuti Mallick and Rajeswari Pillai Rajagopalan, If space is ‘the province of mankind’, who owns its resources?, 1-24-2019,ORF,https://www.orfonline.org/research/if-space-is-the-province-of-mankind-who-owns-its-resources-47561/, 12-16-2021 amrita]

Meanwhile, **a few other countries**—**which have been critical of the US and** Luxembourg, **at the forefront of** the **space mining** efforts—**have** also **decided to join** the field. **The increasingly competitive and contested nature** of outer space activities is spurring major spacefaring nations to **push the boundaries in** their **space exploration**. **Asteroid mining** could possibly become the next big thing and **is** already **seeing a race** among the space powers. The US and Luxembourg are at the forefront in space resource extraction in terms of the policy frameworks and funding.[xxxvi] **Even as the US has clarified that the** US Space **Act** 2015 **is** being **misunderstood** and that there is no change in the US policy towards national appropriation of space, **the reality** is that it has already **spurred a** major **debate**.[xxxvii] China and Russia are among those countries that are following on the path of the US and Luxembourg in undertaking mining missions in space. According to media reports, Ye Peijian, chief commander and designer of China’s lunar exploration programme has stated that China would send the first batch of asteroid exploration spacecraft around 2020.[xxxviii] Speaking to China’s Ministry of Science and Technology-run newspaper, Science and Technology Daily, Ye said that these asteroids have a high concentration of precious metals, which could rationalise the huge cost and risks involved in these activities as their economic value could run into the trillions of US dollars. Therefore, extraction, mining and transporting them back to Earth through robotic equipment will be a significant activity. Chinese scientists are working on missions to “bring back a whole asteroid weighing several hundred tonnes, which could turn asteroids with a potential threat to Earth into usable resources.”[xxxix] Ye was also quoted as saying that China has plans of “using an asteroid as the base for a permanent space station.”[xl] Helium mining on the moon is also part of China’s goals.[xli] **Russia,** for its part, **is** also **responding to the space-mining developments** of the last decade. For one, it plans to have a permanent lunar base somewhere between 2015 and 2020 for possible extraction of Helium.[xlii] **Even as** Russia’s **official position** on asteroid mining **is that it is forbidden** under the 1967 OST—which states that space is the “province of mankind”—the Russian **industry players** are of the view that they **must follow the** lead taken by the **US** and Luxembourg.[xliii] In early 2018, the director of the Scientific-Educational Center for Innovative Mining Technologies of the Moscow-based National University of Science and Technology MISIS (NUST MISIS), Pavel Ananyev, spoke about the Russian ambitions and proposed activities including space drilling rigs, water extraction on the Moon and 3D printers at space stations.[xliv] **Russia’s private space companies** including Dauria Aerospace, one of the first Russian private space companies, also **hold the opinion that they must go forward** in the same direction and call for a larger space to private sector to engage in extracting space resources.[xlv] **Moscow may not have** yet **actively pursued space mining** and resource extraction, **but it is likely to pick up pace** in the coming years alongside global efforts. Moscow clearly has a capacity gap in terms of funding because its earlier plans to have a permanent base in the Moon by 2015 is yet to happen.

#### Rocky relations with Russia on space issues cause China-Russian alliances—a recommitment is needed.

Taichman 21 [Elya Taichman is currently obtaining his J.D. at Temple University Beasley School of Law where he is a Beasley Scholar, a Law and Public Policy Scholar, and a Staff Editor on the Temple Law Review. Elya Taichman is the former Legislative Director for Congresswoman Michelle Lujan Grisham (current Governor of New Mexico). Elya advised the Congresswoman on foreign policy, national security, space, and economic issues., 2021, The Artemis Accords: Employing Space Diplomacy to De-Escalate a National Security Threat and Promote Space Commercialization,https://digitalcommons.wcl.american.edu/cgi/viewcontent.cgi?article=1131&context=nslb, 12-15-2021 amrita]

The Artemis **Accords are a culmination of American space policy to enable commercialization** of outer space. However, they pose a variety of problems. To start, any future agreements under the accords **may violate** international law – both **the OST** and the VCLT. While the Trump Administration appears willing to ignore this issue, violating international law **is a dangerous precedent and should be avoided**.118 Further, the dual nature of all space technology means that **any commercial activity in space** that the Artemis Accords enable **could** readily **be converted for belligerent purposes**.119 This would both violate international law and threaten national security. Despite these inherent dangers, the **Trump** Administration has **maintained a bellicose rhetoric** on its space policy.120 Although American technology and investments surpass those of Russia and China, such rhetoric serves **to inflame** already **tense relations.** **Russia and China are** each **pursuing** their own space **programs which threaten national security** interests, but the United States has engaged neither in Artemis Accords diplomacy.121 A. Violations of International Law? **At best**, future Artemis Accords agreements **exist in a gray area** of international law. After all, the Moon Treaty failed to update and clarify the gaps in the OST on space exploration and resource exploitation by non-state actors. The Space Act and the Artemis Accords together represent American state practice and opinio juris as to the meaning of the OST. At worst, the Trump Administration would be blatantly and knowingly violating international law, in particular the ban on national appropriation. Certainly, the Artemis Accords **signal a willingness to push i**nternational **law to the limit**, if not to step over the line. In addition to potentially violating the OST, the Artemis Accords may also violate the VCLT. Though the United States has not ratified the VCLT, the “treaty on treaties” is customary international law and thus binding on all states. Article 41 of the VCLT permits two or more parties to a treaty to make bilateral, inter-se agreements or to modify a treaty among themselves.122 Yet, if these side deals are “incompatible with the effective execution of the object and purpose of the treaty as a whole” then the VCLT forbids them.123 NASA made clear that bilateral Artemis Accords agreements with other nations will be “grounded in the Outer Space Treaty” and that resource utilization will be conducted under the “auspices of the Outer Space Treaty.”124 Therefore, the United States appears ready to create bilateral, inter-se agreements every time it signs an Artemis Accords agreement. **Because Article II** of the OST clearly **bans national appropriation, licensing non-state actors** to create mining colonies on the Moon in safety zones **verges on appropriation**, especially when coupled with Article VI’s responsibility clause based on national activity.125 Overall, the Administration advances on very uneven legal footing, which is further **compounded by** the fact that **space tech**nologies **are** inherently **dual purpose**. B. Dual Purpose Any technology – from rocketry, to satellites, to mining equipment – introduced into space is inherently dual purpose. That is, it may readily be converted to military uses. The OST makes clear that nuclear weapons are prohibited in space. It also completely demilitarizes the Moon, under Article IV.126 However, military **personal may** **participate in** scientific research or other peaceful purposes – i.e., **commercial ones**.127 Hence, from a national security standpoint it would be legal for other rival nations, namely Russia and China, to create lunar bases or asteroid mines. But **should conflict arise, such tech**nology and infrastructure could readily **be turned hostile** and harnessed against American infrastructure in space. **This is troubling because for** a country like **China there is no** obvious **distinction between public and private** industry.128 And from China’s perspective, NASA is still teaming up with SpaceX in public-private partnerships and the DoD has many of similar agreements as well. In fact, in its 2020 Defense Space Strategy, the DoD proclaimed its eagerness to “[l]everage commercial technological advancements and acquisition processes.”129 An incident with Russia highlights the dangers of dual-purpose space technologies. On November 26, 2019, Russia launched what appeared to be a single satellite.130 Eleven days later the single satellite “birthed” a second.131 In mid-January the pair floated near KH-11, a multi-billion- dollar U.S. military reconnaissance satellite. The United States complained to Moscow, which moved the satellites away from KH-11. However, on July 15, 2020, the “birthed” satellite launched a missile into outer space. This is the first time the United States has alleged a space-based anti-satellite missile test.132 Although Russia claimed that the satellites are peaceful, it proved that even a so-called peaceful satellite could be secretly armed with military capabilities. Ironically, in a speech that same day to his counterparts in Brazil, India, China, and South Africa, Dmitry Rogozin, head of Russia’s space program, called for a “space free of weapons of any type, to keep it fit for long-term and sustainable use as it is today.”133 It requires little imagination to envision a Chinese or Russian base on the Moon doubling as a commercial mining post and as a secret military garrison. After all, when the Soviets feared American ICBM superiority and a first-strike capability in the early 1960s they chose to place missiles in Cuba.134 Nowadays, a similar dynamic exists, with the US enjoying a comparable advantage. C. Bellicose American Rhetoric The Trump Administration has provided mixed signals to rivals about American intentions in outer space. In 2017, Vice President Mike Pence declared that “America must be as dominant in the heavens as it is on Earth.”135 Citing the fear that Sputnik instilled in Americans, Pence later warned that Russia and China were racing to pass the United States in space technology, especially with respect to the military.136 In its 2020 Defense Space Strategy, the DoD pronounced, “China and Russia present the greatest strategic threat due to their development, testing, and deployment of counterspace capabilities and their associated military doctrine for employment in conflict extending to space.”137 More modestly, however, Stephen Kitay, Deputy Assistant Secretary of Defense for Space Policy, made clear that the United States is still superior in space capabilities; however, the gap is rapidly diminishing.138 Still, this rhetoric is somewhat misleading. American public investment in space dwarfs Russian and Chinese investments combined: in 2018, the United States invested $41 billion whereas China invested $5.8 billion, and Russia invested $4.2 billion.139 Moreover, this spending does not account for private investment in space. Unfortunately, this author has been unable to procure aggregate data on total U.S. private investment. However, for reference, Jeff Bezos has claimed he invests $1 billion each year of Amazon stock to finance Blue Origins.140 Elon Musk spent $100 million to found SpaceX in 2002.141 In 2019, the company raised $1.33 billion in three rounds of funding.142 Additionally, SpaceX has estimated its broadband satellite project, Starlink, will cost at least $10 billion to build and deploy.143 Finally, Bryce Technology reported that start up space ventures raised $5.7 billion in funding in 2019.144 Whatever the total number is, it is quite large and likely in the tens of billions a year. Russia and China simply do not have the same level of private investment. This is not to say that the Administration is wrong for taking foreign threats in outer space seriously. It should, precisely **because the Russians and Chinese take these threats seriously**. The **U**nited **S**tates **should not**, however, **start a space race** when it is already light years ahead of its rivals, **as this would** repeat the mistake of the first space race – **permit**ting **private industry**, which Eisenhower warned against, **to dictate** American **policy and** thereby **create a technocracy**.145 Naturally, this talk of competition begs the question, what do the Russians and Chinese actually want in outer space? D. Engagement with Russia and China? i. Russia **Russia has** strongly **rejected the** Artemis **Accords as a violation of** **i**nternational **law**.146 After the United States excluded Russia from the Artemis Accords, Dmitry Rogozin, Chief of Roscosmos, fumed, “The principle of invasion is the same, whether it be the Moon or Iraq. The creation of a ‘coalition of the willing’ is initiated. Only Iraq or Afghanistan will come out of this.”147 More recently, he called the Artemis Accords a “political project,” and compared it to NATO.148 When asked if Russia would partner with NASA on Artemis, Rogozin answered, “Frankly speaking, we are not interested in participating in such a project.”149 **Ominously**, Rogozin signaled **a Russian shift towards partnering with the Chinese**, “We respect their results…[China] is definitely our partner.”150 In a sign **of how quickly this partnership is forming**, just a few weeks later, Rogozin announced that he and the Director of the China National Space Administration, Zhang Kejian, had agreed to “probably” build a lunar research base together.151 On March 9, 2021, **Russia and China** signed an agreement to **build** **this base** together.152 This partnership is dripping with irony. Recall that, in 2016, Russia issued a complaint about the Space Act before COPUOS.153 But that complaint walked a fine line and never directly claimed that American resource exploitation in space violated the OST.154 Indeed, the Russians appeared more interested in signaling to the United States their interest in “discussing the possibility to reach uniform understanding of the status of resources and set forth the structure of the doctrine that would include safety and security aspects.”155 As discussed, the Russians care less about complying with international law than being able to shape it to suit their own interests. Though they may lack the level of investment and advanced technologies of the United States, they appear willing to join the Chinese who have a long-term plan to achieve space supremacy. Of course, **the creation of Russo-Chinese partnership** and system in space to challenge the Artemis Accords **would render** Rogozin’s **fear of NATO a self-fulfilling** prophecy.

#### A strong Sino-Russian alliance sets the stage for the replacement of the ILO and a new hegemonic era.

Kevin 3-25 [Tony Kevin, Russia and China are sending Biden a message: don't judge us or try to change us. Those days are over, 3-25-2021,Conversation,https://theconversation.com/russia-and-china-are-sending-biden-a-message-dont-judge-us-or-try-to-change-us-those-days-are-over-157771, 12-15-2021 amrita]

Putin’s message to the new US president The tense test of strength began when Biden was asked about Putin in an interview with ABC News’ George Stephanopoulos and agreed he was “a killer” and didn’t have a soul. He also said Putin will “pay a price” for his actions. Putin then took the unusual step of going on the state broadcaster VGTRK with a prepared five-minute statement in response to Biden**. In an unusually pointed manner, Puti**n recalled the US history of genocide of its Indigenous people, the cruel experience of slavery, the continuing repression of Black Americans today and the unprovoked US nuclear bombing of Hiroshima and Nagasaki in the second world war. He **suggested states should not judge others by their own standards:** Whatever you say about others is what you are yourself. Some American journalists and observers have reacted to this as “trolling”. It was not. It was the preamble to Putin’s most important message in years to what he called the American “establishment, the ruling class”. He said the US leadership is determined to have relations with Russia, but only “on its own terms”. Although they think that we are the same as they are, we are different people. We have a different genetic, cultural and moral code. But we know how to defend our own interests. And we will work with them, but in those areas in which we ourselves are interested, and on those conditions that we consider beneficial for ourselves. And they will have to reckon with it. They will have to reckon with this, despite all attempts to stop our development. Despite the sanctions, insults, they will have to reckon with this. **This is new** for Putin. He has **for years made the point**, always politely, **that Western powers need to deal with Russia on a basis of correct diplomatic protocols and mutual respect** for national sovereignty, if they want to ease tensions. But never before has he been as blunt as this, saying in effect: do not dare try to judge us or punish us for not meeting what you say are universal standards, because we are different from you. Those days are now over. **China pushing back against the US**, too Putin’s forceful statement is remarkably similar to the equally firm public statements made by senior Chinese diplomats to US Secretary of State Antony Blinken in Alaska last week. Blinken opened the meeting by lambasting China’s increasing authoritarianism and aggressiveness at home and abroad - in Tibet, Xinjiang, Hong Kong and the South China Sea. He **claimed** such **conduct was threatening “the rules-based order that maintains global stability**”. Yang Jiechi, Chinese Communist Party foreign affairs chief, responded by denouncing American hypocrisy. He said The US does not have the qualification to say that it wants to speak to China from a position of strength. The US uses its military force and financial hegemony to carry out long-arm jurisdiction and suppress other countries. It abuses so-called notions of national security to obstruct normal trade exchanges, and to incite some countries to attack China. He said the US had no right to push its own version of democracy when it was dealing with so much discontent and human rights problems at home. **Russia and China drawing closer together** Putin’s statement was given added weight by two diplomatic actions: Russia’s recalling of its ambassador in the US, and Foreign Minister Sergey Lavrov’s meeting in China with his counterpart, Wang Yi. Beijing and Moscow agreed at the summit to stand firm against Western sanctions **and boost ties between their countries to reduce** their **dependence on the US** dollar in international trade and settlements. Lavrov also said, We both believe the US has a destabilising role. It relies on Cold War military alliances and is trying to set up new alliances to undermine the world order. Though Biden’s undiplomatic comments about Putin may have been unscripted, the impact has nonetheless been profound. Together with the harsh tone of the US-China foreign ministers meeting in Alaska — also provoked by the US side — **it is** clear there has been **a major change** in the atmosphere of US-China-Russia relations. What will this mean in practice? Both Russia and China are signalling they will only deal with the West where and when it suits them. Sanctions no longer worry them. The two powers are also showing they are increasingly comfortable working together as close partners, if not yet military allies. They will step up their cooperation in areas where they have mutual interests and the development of alternatives to the Western-dominated trade and payments systems.**Countries** in Asia and further afield **are closely watching** the development of **this alternative international order**, led by Moscow and Beijing. And they **can also recognise** the **signs of increasing US econ**omic and political **decline**. It is a new kind of Cold War, but not one based on ideology like the first incarnation. It is **a war for international legitimacy**, a struggle for hearts and minds and money in the **very large part** of the world **not aligned to the US** or NATO. The US and its allies will continue to operate under their narrative, while Russia and China will push their competing narrative. This was made crystal clear over these past few dramatic days of major power diplomacy. **The global balance of power is shifting**, and for many nations, the smart money might be on Russia and China now.

#### That causes draw-in through great power wars—goes nuclear.

Forsyth and Mezzell 19 [Jim Forsyth is a Forsyth is the Dean of Air Command and Staff College Maxwell AFB and has a PhD in International Studies from the University of Denver, Ann Mezzell is an Assistant Professor in the Department of International Security, Through the Glass—Darker, Strategic Studies Quarterly , Vol. 13, No. 4, (WINTER 2019), pg. 24-26]

As the article argued in 2007, “technological shifts have continuously altered the methods of war,” but in the end, “political arrangements matter, and the deterrent effect of any weapon should be evaluated within the context of the structure of the international system.”20 This claim is as true now as it was then. Indeed, one might conclude that structure matters even more now than it did 10 years ago, given the shift to multipolarity.21 Under “lopsided” multipolarity—where the United States outweighs both China and Russia militarily—it will maintain power advantages on some fronts, but at smaller margins than it did during the unipolar moment when it reigned supreme. Power diffusion, and related great power competition concerns, will be governed by the continued growth of Asian economic and military clout predominantly from China and India and the relative decline of Western economic influence.22 As China continues to translate economic gains into military modernization, the US will “focus mainly on countering China.”23 Avoiding the perils of security competition will require that the US be more cautious about exercising its power abroad.24 Yet exercising diplomacy and restraint could prove to be challenging. Even scholars who adopt a more circumspect view of emerging multipolarity, and the implications of growing military-technological parity, acknowledge its underlying risks. Barry Posen, who questions the assumption that multipolarity is inherently unstable, nonetheless acknowledges that growing parity will only “mute” great power competition. The diffusion of power will not eradicate “great power adventures.”25 China’s rise is apt to entail alliance reconfigurations and temptations to employ conventional military power.26 In fact, just as the original article predicted, the United States and India, Russia and China, and France and Germany have taken steps toward tightening their security relationships. China’s progress toward narrowing its power gap with the US has already met with a return to US defense budget growth and the establishment of new US defense cooperation commitments—notably with India. In parallel, China and Russia have grown closer, with Presidents Xi Jinping and Vladimir Putin meeting three times in 2018 and China sending a “strong supporting contingent” to Russia’s Vostok-2018 military exercises.27 Given the complexities and uncertainties of multipolarity, the US arsenal of advanced conventional weapons (and those of other great powers) may not only prove ill suited to deterring great power war but also provide occasion for its inadvertent onset. The stealth, speed, and lethality of advanced conventional technologies—allowing for quick and decisive US victories in the Persian Gulf (1991), Kosovo (1999), and Afghanistan (2001)—have proven increasingly enticing to other great powers. Russia and China drew similar lessons from these conflicts, each embarking on military modernization programs geared toward antiaccess/area-denial (A2/AD) and grey zone strategies.28 Advanced conventional weapons already undergird Russia’s and China’s respective salami-slicing campaigns in Eastern Europe and the South China Sea. Russia began modernizing its military following its 2008 war with Georgia, enhancing its ground force readiness and updating its integrated air defense system. The improvements have allowed for significant defensive and force-projection gains (against border states).29 Though Russia has since dialed back modernization efforts in the wake of its economic downturn, China continues to seek avenues for undermining the United States’ conventional weapons edge. The People’s Liberation Army (PLA) still trails the United States in the areas of innovation and operational proficiency. Its modernization achievements, though—especially the development of intermediate-range missiles that threaten US forward bases and carrier strike groups—have substantially augmented China’s “advantage of proximity in most plausible conflict scenarios.”30 As great power rivals continue to chip away at the United States’ once considerable smart-weapons advantage, national security experts are reevaluating the viability of deterrence. On this front, the diffusion of capabilities, as well as the expansion of competition to the space and cyber domains, do more than complicate appraisals of the balance of power; they threaten to upend the foundations of deterrence.31 The arrival of dualcapable hypersonic weapons (and delivery systems)—currently being designed and tested by the US, China, and Russia—will arguably risk jeopardizing strategic stability. Their ultrahigh velocity could reduce warning time to the extent that “a response would be required on first signal of attack”; likewise, their deployment in ready-to-launch mode could trigger preemptive strikes, as others might perceive it as a sign of impending attack.32 Further, cyber weapons’ potential for disabling an opponent’s “early warning and command systems” may diminish the expected costs of first strike under crisis conditions.33 Autonomous weapons also have the potential to fundamentally alter the psychological underpinnings of strategy. And, as Kenneth Payne notes, there is no “a priori reason” to expect that substituting artificial intelligence (AI) for human intelligence—that rapid, accurate, and unbiased information processing and responses—“will necessarily be safer.” Because AI limits the risks of using force, it could make conflict more acceptable to risk-averse states; because its speed and precision favor the offense, it could prove more conducive to aggression than deterrence; and because it shapes a host of processes and technologies rather than a single weapon or system, its effects on strategy (and the challenges of its regulation) could prove counter to deterrence.34 As noted in the original article, nuclear weapons helped sustain the “cold peace” during the Cold War—not because of their awesome destructive power but because that awesome destructive power helped buttress bipolarity.35 The simplicity of bipolarity and superpower balancing, in turn, limited “the dangers of miscalculation and overreaction.”36 Multipolarity, though, makes for complexity; additional great power players provide additional opportunities for miscalculation and overreaction. Given these conditions and the perceived “usability” of advanced conventional weapons relative to nuclear weapons, it seems likely that they will fall short of yielding “the kinds of political structures necessary to enhance deterrence.”37 To counter Posen, the diffusion of advanced conventional technology may well have cheapened the near-term costs and risks of going to war, and particularly engaging in hybrid warfare. Even if the US manages to avoid a direct confrontation with Russia or China, it seems increasingly plausible that it could be dragged into a conflict involving one or more of their allies.

#### We’ll defend normal means as the signatories of the OST adding an optional protocol under Article II.

Tronchetti 7[Fabio Tronchetti is a professor at the International Institute of Air and Space Law, Leiden University, The Netherlands, 2007, <https://iislweb.org/docs/Diederiks2007.pdf>, 12-15-2021 amrita]

ARTICLE II OF THE OUTER SPACE TREATY: A MATTER OF DEBATE The legal content of Article II of the Outer Space Treaty is one of the most debated and analysed topic in the field of space law. Indeed, several interpretations have been put forward to explain the meaning of its provisions. Article II states that: “Outer space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means”. **The text of Article II represents** the final point of a process, formally initiated with Resolution 1721, aimed at conferring to outer space the status of res communis omnium, namely a thing open for the **free exploration** and use by all States **without the possibility of being appropriated**. By prohibiting the possibility of making territorial claims over outer space or any part thereof based on use or occupation, Article II **makes clear that** the customary procedures of **i**nternational **law allowing** subjects to obtain **sovereignty rights over un-owed lands**, namely discovery, occupatio and effective possession, **do not apply to** outer **space.** This prohibition was considered by the drafters of the Outer Space Treaty the best guarantee for preserving outer space for peaceful activities only and for stimulating the exploration and use of the space environment in the name of all mankind. What has been the object of controversy among legal scholars is the question of whether both States and private individuals are subjected to the provisions of Article II. Indeed, **while Article II forbids** expressis verbis the national **appropriation by** claims of **sovereignty**, by means of use and occupation or other means of outer space, **it does not** make **a**ny explicit **mention** **to** its **private** appropriation. Relying on this consideration, some authors have argued that the private appropriation of outer space and celestial bodies is allowed. For instance, in 1968 Gorove wrote: “Thus, at present an individual acting on his own behalf or on behalf of another individual or private association or an international organisation could lawfully appropriate any parts of outer space…”6 . The same argument is used today by the enterprises selling extraterrestrial acres. They base their claim to the Moon and other celestial bodies on the consideration that Article II does not explicitly forbid private individuals and enterprises to claim, exploit or appropriate the celestial bodies for profit7 . However, it must be said, that nowadays there is a general consensus on the fact that **both national appropriation and private** property rights **are denied** under the Outer Space Treaty. Several way of reasoning have been advanced to support this view. Sters and Tennen affirm that the argument that Article II does not apply to private entities since they are not expressly mentioned fails for the reason that they do not need to be explicitly listed in Article II to be fully subject to the non-appropriation principle8 . **Private entities are allowed to carry out** space **activities but**, according to Article VI of the Outer Space Treaty, they **must be authorized** to conduct such activities **by the** appropriate **State** of nationality. But if the State is prohibited from engaging in certain conduct, then it lacks the authority to license its nationals or other entities subject to its jurisdiction to engage in that prohibited activity. Jenks argues that “States bear international responsibility for national activities in space; it follows that what is forbidden to a State is not permitted to a chartered company created by a State or to one of its nationals acting as a private adventurer”9 . It has been also suggested that **the prohibition of national** appropriation **implies prohibition of private** appropriation because the latter cannot exist independently from the former10. In order to exist, indeed, private property requires a superior authority to enforce it, be in the form of a State or some other recognised entity. In outer space, however, this practice of State endorsement is forbidden. Should a State recognise or protect the territorial acquisitions of any of its subjects, this would constitute a form of national appropriation in violation of Article II. Moreover, it is possible to use some historical elements to support the argument that both the acquisition of State sovereignty and the creation of private property rights are forbidden by the words of Article II. During the negotiations of the Outer Space Treaty, the Delegate of Belgium affirmed that his delegation “had taken note of the interpretation of the non-appropriation advanced by several delegations-apparently without contradiction-as covering both the establishment of sovereignty and the creation of titles to property in private law”11. The French Delegate stated that: “…there was reason to be satisfied that three basic principles were affirmed, namely: the prohibition of any claim of sovereignty or property rights in space…”12. The fact that the accessions to the Outer Space Treaty were not accompanied by reservations or interpretations of the meaning of Article II, it is an evidence of the fact that this issue was considered to be settled during the negotiation phase. Thus, summing up, we may say that **prohibition of appropriation of outer space** and its parts is a rule which **is valid for both private and public entity**. The theory that private operators are not subject to this rule represents a myth that is not supported by any valid legal argument. Moreover, it can be also added that if any subject was allowed to appropriate parts of outer space, the basic aim of the drafters of the Treaty, namely to prevent a colonial competition in outer space and to create the conditions and premises for an exploration and use of outer space carried out for the benefit of all States, would be betrayed. Therefore, **the need to protect the non-appropriative nature o**f outer **space emerges** in all its relevance.

#### Current space treaties have zero authority and lack clarity—which creates ineffective regulations

MacWhorter 16 – Kevin, J.D from William and Mary College and Contributor to the William & Mary Environmental Law and Policy Review, “Sustainable Mining: Incentivizing Asteroid Mining in the Name of Environmentalism”, *William & Mary Environmental Law and Policy Review,* 2016, <https://scholarship.law.wm.edu/cgi/viewcontent.cgi?article=1653&context=wmelpr>

Although an academic debate at this point, the legal status of property in space is necessary for any future exploration and exploitation of natural resources in space. Until then, private exploration is severely disincentivized. Further, the technology behind asteroid mining is fast becoming a reality.108 The law must respond. In order to evaluate what the international community needs to accomplish to ensure future exploration, one must explore the international agreements already in place that speak to the issue of property rights. To begin, the United Nations (UN) established the UN Office of Outer Space Affairs (UNOOSA) in 1958 109 to promote international cooperation in space and promote its peaceful use.110 UNOOSA oversees the UN’s Committee on the Peaceful Uses of Outer Space (COPUOS) and implements its decisions.111 The UN founded COPUOS to avoid international rivalries in space.112 The OST, the Liability Convention,113 and the Moon Agreement114 are all within the jurisdiction of COPUOS. There are five international agreements that lay a framework of space law and, more importantly, ownership of objects and celestial bodies in space: • The Treaty on Principles Governing the Activities of Space, Including the Moon and Other Celestial Bodies (OST); 115 • The Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Space Objects Launched into Outer Space(ARRA); 116 • The Convention on International Liability for Damage Caused by Space Objects (Liability Convention); 117 • TheConvention on RegistrationofObjectsLaunched intoOuterSpace (Registration Convention); 118 and • The Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (Moon Treaty). 119 As with all international law, however, the actual authority of these treaties is debatable, because countries often ignore their precepts or disagree on the meaning of their substance.120 International custom, therefore, is the major indication of what international law exactly is.121 The Law of the Sea is an instructive analogy on that point, and as Lyall and Larsen explain, The practice need not be wholly uniform, but must be undertaken in the belief it is binding and required by law as opposed to being merely convenient or mutually beneficial. 122 Further, international law in general was conceived to deal with relations between States, not to deal with private claims of property. 123 International.

# 1AR

#### Resource extraction in space is not a sustainable market – profitability metrics ensure total collapse into monopolization

Gardenyes 2017 (Distri Josep Gardenyes, Marxist and anarchist writer, "New Technologies, Extraterrestrial Exploitation, And The Future Of Capitalism", It's Going Down, January 28 2017, <https://itsgoingdown.org/new-technologies-extraterrestrial-exploitation-future-capitalism/>, mmv)

2017 is the year of Google’s Lunar X Prize, through which the North American corporation (as important to 21st century capitalism as Ford was to 20th century capitalism) is offering $20 million to the first company that manages to send a landing craft to the moon, drive 500 meters, and transmit high-resolution images back to Earth. But they have to do it this year. And there are already various teams that are getting ready to meet the challenge. One of which is Moon Express, which has already become the first company in history to receive legal permission, from the US government in this case, to carry out commercial exploitations on the moon’s surface. If this team makes it to the moon—and they already have the necessary financing and a schedule of test launches—they won’t only win the Prize, they will also drop off a commercial payload that represents the first step in setting up an equipment delivery service to the moon, which will make the lunar mining of Helium-3 (a valuable fuel for nuclear reactors) feasible. Another company, Planetary Resources, claims that the mining of metals and water on asteroids could be a trillion dollar business. For them, water (and the hydrogen it contains, which could be used as spaceship fuel) is “the oil of space.” These are not empty words. Planetary Resources is another company that has a business plan and the technology needed to begin carrying out the mining it envisions. On the 14th of January, Space X returned to space. It’s one of the companies of Elon Musk (who is also preparing self-driving cars for commercial sale; the technology already works and the only obstacle are the legal regulations), the billionaire whose personal crusade is the colonization of Mars in the next two decades. Space X fixed a design flaw in its rockets and on the 14th made an effective launch, deploying 10 commercial satellites from the same rocket, which, subsequently, returned automatically to Earth, landing on a Space X drone ship waiting—with its entirely robotic crew—in the Pacific Ocean. The autonomous and reusable rockets (one could say, environmentally friendly) are one of the foundations of Musk’s plan for reaching Mars in a commercially feasible way. He has already developed a business plan for developing the technology and acquiring the resources needed to complete the mission. These are not isolated or insignificant companies. And the State is also paying attention to extraterrestrial colonization. The UN Treaty on Outer Space, from 1966, holds that space and space objects cannot be armed or claimed as territory, and that any economic activity had to be peaceful and for the good of all humanity. In 2015, in the Commercial Space Launch Competitiveness Act, the US government clarified the legal question, establishing the legal right of private companies to exploit the moon, asteroids, and other space objects. It gives private entities the right to own and sell resources extracted from space objects, but not to possess the object outright. In effect, they can mine the moon until it’s empty, but the private companies working there with their robotic factories couldn’t be considered the owners. The dotcom boom, which burst in 2000, shows that immense amounts of capital can be invested in companies that do not generate any profits for quite a few years before provoking a crash (in this case, it was six years). In fact, the crash didn’t come until the moment when a few new corporations showed the capacity to become profitable and productive, corporations that today are among the most powerful in the world, like Google, Amazon, and Facebook. We are at the beginning of a phase of massive investment and growth in the new sector of extraterrestrial transport and mining. The venture capitalists of this sector enjoy the advantage that the logistical foundation of their dream (everything connected with the launching of satellites, with their crucial military and commercial uses) is already in place and profitable. Similarly, Columbus didn’t have to invent the long-distance ships or the navigation equipment (which had already been developed by the Portuguese in the luxurious commercial circuits of the Indian Ocean), he just had to take them further. They still have a few years to yield profits with extraterrestrial extraction before the bubble bursts. If they achieve it, capitalism will once again undergo an intense growth and the moment of maximum vulnerability and maximum popular rage that the institutions now face will have passed. Extraterrestrial colonization is no longer a trope of science fiction. But speaking of science fiction, we must also point out the great imaginary production carried out by Hollywood and other centers of cultural work, which have redirected our gaze to the colonization of space. Since the 19th century, there have been occasional works that posed journeys beyond Planet Earth, but the current frenetic production is qualitatively and quantitatively incomparable. Its effect is not only the normalization of extraterrestrial activity, it also accustoms us to imagine the first steps of taking our civilization and the capitalist economy beyond the Earth’s gravity well.

#### Goes nuclear

Tønnesson 15 - Stein Tønnesson 15, Research Professor, Peace Research Institute Oslo; Leader of East Asia Peace program, Uppsala University, 2015, “Deterrence, interdependence and Sino–US peace,” International Area Studies Review, Vol. 18, No. 3, p. 297-311

Several recent works on China and Sino–US relations have made substantial contributions to the current understanding of how and under what circumstances a combination of nuclear deterrence and economic interdependence may reduce the risk of war between major powers. At least four conclusions can be drawn from the review above: first, those who say that interdependence may **both inhibit and drive conflict** are right. Interdependence raises the cost of conflict for all sides but asymmetrical or unbalanced dependencies and **negative trade expectations** may generate tensions leading to trade wars among inter-dependent states that in turn increase the risk of military conflict (Copeland, 2015: 1, 14, 437; Roach, 2014). The risk may increase if one of the interdependent countries is governed by an inward-looking socio-economic coalition (Solingen, 2015); second, the risk of war between China and the US should not just be analysed bilaterally but include their allies and partners. Third party countries could drag China or the US into confrontation; third, in this context it is of some comfort that the three main economic powers in Northeast Asia (China, Japan and South Korea) are all deeply integrated economically through production networks within a global system of trade and finance (Ravenhill, 2014; Yoshimatsu, 2014: 576); and fourth, decisions for war and peace are taken by very few people, who act on the basis of their future expectations. International relations theory must be supplemented by foreign policy analysis in order to assess the value attributed by national decision-makers to economic development and their assessments of risks and opportunities. If leaders on either side of the Atlantic begin to seriously **fear or anticipate their own nation’s decline** then they may blame this on external dependence, appeal to anti-foreign sentiments, contemplate the use of force to gain respect or credibility, adopt protectionist policies, and ultimately **refuse to be deterred by** either **nuclear arms** or prospects of socioeconomic calamities. Such a dangerous shift could happen **abruptly**, i.e. under the instigation of actions by a third party – or against a third party. Yet as long as there is both nuclear deterrence and interdependence, the tensions in East Asia are unlikely to escalate to war. As Chan (2013) says, all states in the region are aware that they cannot count on support from either China or the US if they make provocative moves. The greatest risk is **not** that **a territorial dispute** leads to war under present circumstances but that **changes in the world economy** alter those circumstances in ways that render inter-state peace more precarious. If China and the US fail to rebalance their financial and trading relations (Roach, 2014) then a trade war could result, interrupting transnational production networks, provoking social distress, and exacerbating nationalist emotions. This could have unforeseen consequences in the field of security, with nuclear deterrence remaining the only factor to **protect the world from Armageddon**, and **unreliably so**. Deterrence could **lose its credibility**: one of the two great powers might gamble that the other yield in a cyber-war or conventional limited war, or third party countries might engage in conflict with each other, with a view to obliging Washington or Beijing to intervene.

#### Econ collapse outweighs – only rich

#### Asteroid mining is all hype – benefits are exaggerated

Riederer 14 - editor-in-chief of Guernica magazine and writer at The New Yorker

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.