# Durham Round 1

**I negate the resolution Resolved: The appropriation of outer space by private entities is unjust**

**In this debate today, my value is justice because we are debating about how the appropriation of space by PRIVATE ENTITIES is just**

**My value criterion is utilitarianism(util) or in other words, maximizing pleasure and minimizing pain.**

**Prefer this criterion:**

**1.** **People making laws must do the most good for the greatest number of people**

**Cummiskey 96**

(“Kantian Consequentialism,” David Cummiskey [philosophy chair at Bates College], 1996 - http://cmscontent.bates.edu/prebuilt/kantian.pdf)

We must not obscure the issue by characterizing this type of case as the sacrifice of individuals for some abstract “social entity.” It is not a question of some persons having to bear the cost for some elusive “overall social good.” Instead, the question is whether some persons must bear the inescapable cost for the sake of other persons. Robert Nozick, for example, argues that “to use a person in this way does not sufficiently respect and take account of the fact that he is a separate person, that his is the only life he has.” But why is this not equally true of all those whom we do not save through our failure to act? By emphasizing solely the one who must bear the cost if we act, we fail to sufficiently respect and take account of the many other separate persons, each with only one life, who will bear the cost of our inaction. In such a situation, what would a conscientious Kantian agent, an agent motivated by the unconditional value of rational beings, choose? A morally good agent recognizes that the basis of all particular duties is the principle that “rational nature exists as an end in itself” (GMM 429). Rational nature as such is the supreme objective end of all conduct. **If** one truly believes that **all** rational **beings have** an **equal value, then the rational solution** to such a dilemma **involves maximally promoting the lives and liberties of as many** rational **beings as possible** (chapter 5). In order to avoid this conclusion, the non-consequentialist Kantian needs to justify agent-centered constraints. As we saw in chapter 1, however, even most Kantian deontologists recognize that agent-centered constraints require a non-value-based rationale. But we have seen that Kant’s normative theory is based on an unconditionally valuable end. **How can a concern for the value of [people] rational beings lead to a refusal to sacrifice [people] rational beings even when this would prevent other more extensive losses of [people] rational beings?** If the moral law is based on the value of rational beings and their ends, then what is the rationale for prohibiting a moral agent from maximally promoting these two tiers of value? If I sacrifice some for the sake of others, I do not use them arbitrarily, and I do not deny the unconditional value of rational beings. Persons may have “dignity, that is, an unconditional and incomparable worth” that transcends any market value (GMM 436), but **persons [people]** also **have a fundamental equality that dictates** that **some must** sometimes **give way for the sake of others** (chapters 5 and 7). The concept of the end-in-itself does not support the view that we may never force another to bear some cost in order to benefit others. If one focuses on the equal value of all rational beings, then equal consideration suggests that one may have to sacrifice some to save many.

**Definitions:**

**Outer Space: the physical universe beyond the earth's atmosphere.**

**(Definition from Oxford Languages,** [**https://www.google.com/search?q=outer+space+meaning&rlz=1C1CHBF\_enUS913US913&oq=outer+space+meaning&aqs=chrome..69i57j0i512l7j0i22i30l2.2492j0j7&sourceid=chrome&ie=UTF-8&safe=active&ssui=on**](https://www.google.com/search?q=outer+space+meaning&rlz=1C1CHBF_enUS913US913&oq=outer+space+meaning&aqs=chrome..69i57j0i512l7j0i22i30l2.2492j0j7&sourceid=chrome&ie=UTF-8&safe=active&ssui=on)**v)**

**Private Entities: A partnership, corporation, individual, nonprofit organization, company, or any organized group that is not government-affiliated can be considered a private entity.**

**(Definition from https://www.questtrustcompany.com/2020/09/28/what-are-private-entities/)**

### Contention 1: Innovation

#### Space exploration and appropriation has practical innovative benefits in public health, transportation, biomedicine, and conservation

**Thales 20** [Thales Group, “Exploring Space to Prepare for Earth’s Future,” <https://www.thalesgroup.com/en/group/journalist/magazine/exploring-space-prepare-earths-future>, November 25, 2020, Accessed on 12/18/21, rpHS-VM]

Does space exploration have any more practical benefits? Many innovations in fields ranging from metals and alloys to biology and medicine are the result of space exploration. Some applications — like ceramic coatings in our kitchens, air purification systems, smoke detectors and scratch-resistant glass — are already part of our daily lives. Materials tested in space, under unique conditions that are difficult to replicate on Earth, can help us to develop stronger, lighter, higher-performance products. One of the experiments conducted by French ESA astronaut Thomas Pesquet on the International Space Station (ISS2), for example, involved testing innovative materials designed to prevent bacterial growth. These new materials have considerable potential for public health and safety applications in hospitals, public transport and the food industry. The current COVID-19 pandemic brings the importance of this kind of research into sharp focus. Let me give you another practical example. Long-duration missions are tough on the human body. Astronauts suffer loss of muscle mass and bone density, as well as accelerated wear and tear on the circulation system. Monitoring them in space and after they return to Earth is a chance to learn about the effects of ageing and support research into conditions like osteoporosis. Drawing on our experience in pressurised modules and orbital infrastructure, we’re currently working on a habitation module that could be used in remote or hostile locations like polar bases, desert camps, military outposts and offshore oil and gas platforms. So space is a crucible for innovation? Yes, but it’s much more than that. Space exploration is a driving force in our efforts to address the major challenges facing society today. It’s educating us about our responsibilities to the Earth and its resources. How is it doing that? Astronauts have to survive on limited food, raw materials, sunlight, energy, water and oxygen. Most of the water consumed on the ISS, for example, is derived from urine and other recycled wastewater. So new techniques had to be developed to make sure it’s completely safe to drink. In 2015, for example, a Cygnus3 cargo spacecraft carried a 3D printer into orbit to conduct tests under zero-gravity conditions. With this kind of printer, astronauts could eventually produce any spare parts they need directly aboard ship. In October 2020, a Cygnus craft delivered essential supplies to the ISS, including food, water, oxygen, propellant, and space parts. One of the many scientific experiments contained in the cargo module involves the testing of a drug that could be used for the treatment of leukemia. All these experiments being handled by astronauts inside the ISS will be re-used in the near future to improve not only the medical sectors, but many others as well. The EDEN ISS project, meanwhile, aims to develop ways to cultivate food crops in extraterrestrial environments in order to provide food for the ISS and, eventually, for space exploration vehicles and planetary outposts. Space travel is a great opportunity to test the circular economy. Based on the experience of astronauts, humanity can learn how to better conserve the planet’s resources.

#### Space privatization prevents war and ensures sustainably sourced space projects for public good

Frankowski 17 [(Paweł, assistant Professor at the Chair of International Relations and Foreign Policy, Institute of Political Science and International Relations, Jagiellonian University) “Outer Space and Private Companies: Consequences for Global Security,” 2017, pg. 144-145] TDI

To conclude, privatization of space security can develop in unexpected way, but in today’s space environment private actors would rather play the role of security regulators than security providers. When investment in space technologies is less profitable than other areas of economy, private actors would focus on soft law and conflict prevention in space, and new private initiatives will appear. For example, apart from important space companies, as SpaceX or Blue Origin active in outer space, other private actors as Secure World Foundation (SWF), who focus on space sustainability, will play more important role in crafting international guidelines for space activities.38 This path the way for future solutions and projects, as cleaning the space debris, extracting resources from asteroids and planetoids, refuelling satellites, providing payload capabili-ties for governmental entities on market-based logic, will be based on activity non-state actors, providing soft law and regulatory solutions, where space faring states are unable to find any compromise. Therefore private companies will be in fact global (or space) regulators, as part of UNCOPUS, being involved in space activities.39 The last argument for private involvement in space security comes from an approach based on common good and resilience of space assets, emphasized by the Project Ploughshares, as an important part of space security. As of 2017 there are more than 700,000 man-made objects on the Earth’s orbit bigger than 1 cm, while 17,000 of them are bigger than 10 cm.40 Some of them are traced by SSA systems, both American and European, but these systems are public-military owned, and private operators are not granted any access to this data. Any collision of space object with space debris, even with small particles, might result in a chain reaction, called Kessler’s syndrome, and not only private but public, and military assets will be destroyed or impaired. In such conditions, a reluctant cooperation between the public and private sector, and unwillingness to share vulnerable data by public actors seem to confirm that private space activity is more than necessary. This is an apparent case when logic of mistrust between state powers must be overcome by private actors, perhaps by suggesting common preferences for debris mitigation, and space situational awareness. In the case of space debris, Space Data Association, an initiative supported by private sector, with its main aim to enhance data sharing between commercial satellite operators, could be an example of nascent public good provided by private actors for the sake of global security.

#### It also allows for innovation in issues of military

Frankowski 17 [(Paweł, assistant Professor at the Chair of International Relations and Foreign Policy, Institute of Political Science and International Relations, Jagiellonian University) “Outer Space and Private Companies: Consequences for Global Security,” 2017, pg. 133-134] TDI

Literature on privatization of military services has expanded, especially after 2002 and involvement of private companies in Iraqi operation. When appreciating an outlook of different scholars dealing with private military companies it is worth to follow Prado7 and argue that transferring provisions of services to private hands or acquiring from private entities without developing independent system on state’s behalf can be beneficial for the state for at least four reasons. First reason is price, and cost of private provisions could be lower because private companies can provide services with fewer people, with outsourced services, also to third countries. Price of military service, to far extent depends on costs of trained personnel, when private companies hire former soldiers, with completed training before. Moreover, the cost of public security services is based on the benefits coming to soldiers after their years of service. For example for overall military budget of the United States (1 trillion USD), more than 200 billion USD, has been spent for pensioners, veterans’ benefits or retiree health services. Secondly, the push for private security may result in more efficient usage of financial and human resources, and soldiers may perform more valuable duties.8 Therefore, PMCs can provide better service for the same price or the same services lowering the price. This will allow moving financial resources to another public service or arguing that public money has been better spent. Thirdly, with private security providers, states can avoid lengthy red tape procedures, with for example standardization of military procurements, time for mobilization and deployment. While such problems are important during armed conflict, they have also become more and more important during the planning of infrastructure, using assets, and regulating activity. The demand for more flexible and less troublesome activity in security realm is constantly increasing, both in Europe and in the Western Hemisphere. Finally, governments may turn for private resources for the lack of choice, when the state does not have necessary technical or material capabilities to provide security services in a timely fashion.9 However, some authors suggest that looking for private solutions in security cannot be analysed in isolation from pressure coming from political processes in larger scale.10 Nevertheless, distinguishing between economic power of private actors, and lack of capacity on behalf of the state, as driving factors for privatization of security services not necessarily answers the question why space assets, crucial for power of any important state in the world politics, are developed by private actors, being to some extent neglected by governments.

### Contention 2 Mining

#### Commercial asteroid mining is coming now – lower costs and improving tech make it economically viable – and the legal basis is already in place in multiple countries– that helps acquire water for rocket fuel and rare earth metals

**Gilbert 21**

Alex Gilbert is a complex systems researcher and a PhD student in space resources at the Colorado School of Mines. "Mining in Space Is Coming." Milken Institute Review, April 26, 2021, [www.milkenreview.org/articles/mining-in-space-is-coming](http://www.milkenreview.org/articles/mining-in-space-is-coming). [Quality Control] -recut CAT

Space exploration is back. after decades of disappointment, a combination of better technology, falling costs and a rush of competitive energy from the private sector has put space travel front and center. indeed, many analysts (even some with their feet on the ground) believe that commercial developments in the space industry may be on the cusp of starting the largest resource rush in history: mining on the Moon, Mars and asteroids. While this may sound fantastical, some baby steps toward the goal have already been taken. Last year, NASA awarded contracts to four companies to extract small amounts of lunar regolith by 2024, effectively beginning the era of commercial space mining. Whether this proves to be the dawn of a gigantic adjunct to mining on earth — and more immediately, a key to unlocking cost-effective space travel — will turn on the answers to a host of questions ranging from what resources can be efficiently. As every fan of science fiction knows, the resources of the solar system appear virtually unlimited compared to those on Earth. There are whole other planets, dozens of moons, thousands of massive asteroids and millions of small ones that doubtless contain humungous quantities of materials that are scarce and very valuable (back on Earth). Visionaries including Jeff Bezos imagine heavy industry moving to space and Earth becoming a residential area. However, as entrepreneurs look to harness the riches beyond the atmosphere, access to space resources remains tangled in the realities of economics and governance. Start with the fact that space belongs to no country, complicating traditional methods of resource allocation, property rights and trade. With limited demand for materials in space itself and the need for huge amounts of energy to return materials to Earth, creating a viable industry will turn on major advances in technology, finance and business models. That said, there’s no grass growing under potential pioneers’ feet. Potential economic, scientific and even security benefits underlie an emerging geopolitical competition to pursue space mining. The United States is rapidly emerging as a front-runner, in part due to its ambitious Artemis Program to lead a multinational consortium back to the Moon. But it is also a leader in creating a legal infrastructure for mineral exploitation. The United States has adopted the world’s first space resources law, recognizing the property rights of private companies and individuals to materials gathered in space. However, the United States is hardly alone. Luxembourg and the United Arab Emirates (you read those right) are racing to codify space-resources laws of their own, hoping to attract investment to their entrepot nations with business-friendly legal frameworks. China reportedly views space-resource development as a national priority, part of a strategy to challenge U.S. economic and security primacy in space. Meanwhile, Russia, Japan, India and the European Space Agency all harbor space-mining ambitions of their own. Governing these emerging interests is an outdated treaty framework from the Cold War. Sooner rather than later, we’ll need new agreements to facilitate private investment and ensure international cooperation. What’s Out There Back up for a moment. For the record, space is already being heavily exploited, because space resources include non-material assets such as orbital locations and abundant sunlight that enable satellites to provide services to Earth. Indeed, satellite-based telecommunications and global positioning systems have become indispensable infrastructure underpinning the modern economy. Mining space for materials, of course, is another matter. In the past several decades, planetary science has confirmed what has long been suspected: celestial bodies are potential sources for dozens of natural materials that, in the right time and place, are incredibly valuable. Of these, water may be the most attractive in the near-term, because — with assistance from solar energy or nuclear fission — H2O can be split into hydrogen and oxygen to make rocket propellant, facilitating in-space refueling. So-called “rare earth” metals are also potential targets of asteroid miners intending to service Earth markets. Consisting of 17 elements, including lanthanum, neodymium, and yttrium, these critical materials (most of which are today mined in China at great environmental cost) are required for electronics. And they loom as bottlenecks in making the transition from fossil fuels to renewables backed up by battery storage.

#### The plan’s ban on appropriation of outer space prevents commercial mining

Meyers 15

Meyers, Ross. J.D. candidate at the University of Oregon Law School. "The doctrine of appropriation and asteroid mining: incentivizing the private exploration and development of outer space." Or. Rev. Int'l L. 17 (2015): 183. Italics in original. [Quality Control] -recut CAT

The doctrine of appropriation is a reasonable rule for adjudicating asteroid claims, and it could easily be modified to apply to asteroid mining. In the context of water rights, the doctrine of appropriation requires that the claimant be a landowner in order to claim the right to use a water source. It does not make sense, however, for the international community to grant complete ownership over asteroids toa single entity, so the landowner requirement of the rule should be removed. A similar modification would need to be made to the "beneficial use" language of the doctrine. In the context of water rights, an appropriator obtains rights only to water that he or she can reasonably put to beneficial use. The metals contained in asteroids have a high level of marketability. For that reason, a mining entity could potentially put any amount of obtained metal to beneficial use, in the sense that the resources can be sold. This, however, would defeat the purpose of the rule, which is to limit such unreasonable claims. To ameliorate this problem, the doctrine of appropriation could be modified to define "beneficial use "constructively by providing that beneficial use is assumed for any resources that have been removed from the asteroid that the mining entity can reasonably hope to transport to market in a return journey. With the astronomical cost of undertaking a trip to such an asteroid, this modification would limit mining entities to only what they can carry back, thereby leaving the untapped resources available to other entities capable of making the same trip. Considering the size and profitability of metal deposits on asteroids, this modification to the doctrine of appropriation would not be overly burdensome to corporate interests. At the same time, it would satisfy the economic imperative of promoting the rapid development of asteroid resources. By changing the landowner requirement, and qualifying the “beneficial use" language, the doctrine of appropriation would be essentially ready for application to asteroid mining claims. The only other changes necessary would be some additional requirements that are common to other space related provisions, like those found in the Outer Space Treaty of 1968. For example, a reporting requirement or clause guaranteeing asylum for other astronauts. A functional rule might read something like this: State parties or private entities may, upon actual possession, lay claim to natural resources found on or below the surface of asteroids. Rights to appropriate are given in order of seniority, starting with the first party to land on the surface of the asteroid and establish control over the resources, be it water, methane, metal, or any other beneficial substances. A party will be said to have established control over a resource once he has mined the substance and removed it from the asteroid. A senior appropriator may use as much of the asteroid's resources as he can take from the asteroid and put to beneficial use, and may continue to enlarge his share until another junior appropriator begins to appropriate resources from source for beneficial use. For the purposes of this Agreement, "beneficial use “refers to the amount of resources that an appropriator has removed from the asteroid that the actor may reasonably hope to bring home in a return voyage. Resources in excess of what an appropriator can reasonably hope to transport to market in a single voyage do not qualify as having a beneficial use, and are therefore not yet claimed. This means that the extraction of metal from an asteroid does not serve to provide ownership if the appropriator plans on letting the resources languish until another voyage is undertaken to secure the resources and bring them back to Earth. Junior appropriators receive rights in the source of resources (the asteroid) as they find it, and may prevent the senior appropriator from enlarging his share to the junior appropriator’s detriment under a no-injury rule. No state party will attempt to hinder other parties from landing on or using the asteroid, and parties will assist other entities on an asteroid, should they need emergency assistance. Mining claims on asteroids will be reported to the Secretary-General of the United Nations, and state parties agree to release the location of the asteroid, and any scientific findings to the United Nations, the general public, and the scientific community. In the event that the asteroid is on a collision course with any other celestial body, all state parties agree to follow the course of action suggested by the United Nations. Should the United Nations decide the asteroid must be destroyed, no state party may claim liability for resources contained within the asteroid, but not yet captured. This provision applies only to asteroids as classified by the scientific community, and does not apply to planets, comets, meteorites, or any other celestial body not mentioned. There is no doubt that asteroids may be extremely beneficial to mankind, both as a source of resources and as a jumping-off point to far off locations in space. The human-race has progressed scientifically and technologically to the point that space travel is within commercial reach, and the need for new international laws governing the ownership of space has never been more apparent. The Outer Space Treaty of 1968made great strides in developing rational rules for space and many of its provisions should be maintained in their original form. However, by allowing ownership of asteroids under the doctrine of appropriation, the international community can incentivize the exploration and development of space in a way that reflects the needs of society in general, without vesting an absolute monopoly in a single entity. The doctrine of appropriation helped drive American westward expansion, and its application to space mining would help drive the human race in its expansion into the space, the final frontier.

#### That wrecks the 1ACs warming advantage – climate solutions depend on REMs

Arrobas et al 17

[(Daniele La Porta Arrobas is a senior mining specialist with the World Bank based in Washington DC and has degrees in Geoscience and Environmental Management, Kirsten Hund is a senior mining specialist with the Energy and Extractives Global Practice of the World Bank and holds a Master’s in IR from the University of Groningen in the Netherlands, Michael Stephen McCormick, Jagabanta Ningthoujam has an MA in international economics and international development from JHU and a BS in MechE from Natl University of Singapore, John Drexhage also works at the Intl Institute for Sustainable Development) “The Growing Role of Minerals and Metals for a Low Carbon Future,” World Bank, June 30, 2017, <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/207371500386458722/the-growing-role-of-minerals-and-metals-for-a-low-carbon-future>] TDI -recut CAT

* Full report - https://documents1.worldbank.org/curated/en/207371500386458722/pdf/117581-WP-P159838-PUBLIC-ClimateSmartMiningJuly.pdf

Climate and greenhouse gas (GHG) scenarios have typically paid scant attention to the metal implications necessary to realize a low/zero carbon future. The 2015 Paris Agreement on Climate Change indicates a global resolve to embark on development patterns that would significantly be less GHG intensive. One might assume that nonrenewable resource development and use will also need to decline in a carbon-constrained future. This report tests that assumption, identifies those commodities implicated in such a scenario and explores ramifications for relevant resource-rich developing countries. Using wind, solar, and energy storage batteries as proxies, the study examines which metals will likely rise in demand to be able to deliver on a carbon-constrained future. Metals which could see a growing market include aluminum (including its key constituent, bauxite), cobalt, copper, iron ore, lead, lithium, nickel, manganese, the platinum group of metals, rare earth metals including cadmium, molybdenum, neodymium, and indium—silver, steel, titanium and zinc. The report then maps production and reserve levels of relevant metals globally, focusing on implications for resource-rich developing countries. It concludes by identifying critical research gaps and suggestions for future work.

**Now onto my opponents arguments,**