# 1st Off - Mining CP

#### Counterplan:

#### Property rights for asteroids should be governed by the doctrine of appropriation. Private appropriation of non-asteroid celestial bodies should be prohibited

**the legal framework that strikes the best balance of providing economic incentives for mining while preventing unbeneficial land claims requires a doctrine of appropriation – AFF prevents that**

#### No link turns -- rules of appropriation solve waste and abstract claims and alternative approaches don’t

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

Like water during the expansion of the American West, the exploration of space can be financed and incentivized by granting rights in resources to those who secure new resources and put them to beneficial use. Some legal scholars have suggested the traditional rule of capture be applied to asteroids,69 or that rights to asteroids be purchased directly from an international agency and owned as chattel.70 However, like water during America’s westward expansion, asteroids are not easily classified under traditional property regimes. Thus, a doctrine of appropriation would be more appropriate for asteroids than a traditional rule of capture or a chattel system, because a system based on the traditional rule of capture or chattel would result in waste, abstract claims, and complicated legal issues.

First, asteroid claims cannot be adjudicated under the traditional rule of capture, or as chattel, because such systems would be incredibly wasteful. As of now, scientists have observed approximately 450,000 asteroids in our solar system.71

But only a fraction of the observable bodies will be cost effective to mine. While it might one day be possible for a single entity to finance several mining missions at once, current costs associated with such a venture would limit almost any space-mining program to one or two asteroids, at least initially.72 The traditional rule of capture could allow an entity to quickly claim multiple asteroids merely by landing on them and planting a flag, without requiring the entity to show it can reasonably use the resources they have claimed.

Even worse would be a system where the same corporation could claim asteroids simply by discovering their existence and registering the claim. Allowing this type of unregulated claim would incentivize larger corporations capable of space travel to quickly claim reachable asteroids, but the claims could easily outpace those entities’ realistic expectations on what they could use. Under a traditional rule of capture system, the solar system could be divvied up long before the resources could conceivably be mined. A rule similar to the doctrine of appropriation used for water claims in the United States would alleviate this concern by limiting claims to those where a claimant can show a reasonable beneficial use for the resource.

Another concern posed by the traditional rule of capture or chattel system would be the creation of abstract claims. Some legal scholars have advocated for a system where asteroids would be categorized as chattel, and rights in asteroids would be granted to an entity that could identify an asteroid and register ownership of it with an international agency.73 The advantage of such a system would be that it would allow an international agency to keep track of asteroids, and it would allow for the mapping of the reachable solar system. The problem with this approach, however, is that it would result in abstract claims. If an entity could claim the rights to an asteroid without actual possession, there is nothing to prevent that company from claiming ownership long in advance of any real possibility of landing on it. One of the reasons for creating the doctrine of appropriation was to limit abstract claims over resources that were not being used in any reasonable way. Just as the plaintiffs in Hague had no recourse against the third party who wasted the natural gas reserve, there would be no cause of action against an entity that has the rights to an asteroid, but chooses not to exercise them.74 This may be particularly harmful to society because asteroids contain volatiles that may be essential to creating rocket fuel in space, which, in turn, may be crucial to deep space exploration.

Using asteroid-bound volatiles to make rocket fuel would reduce the cost and increase the range of space exploratory missions, possibly improving the human race’s ability to explore and develop space. Under a system were entities could claim asteroids without actual possession, those entities could exclude others from landing on the asteroids and using such resources, even when such resources are languishing unused in space. To prevent the creation of such abstract claims over asteroids, the doctrine of appropriation could be modified as to only grant rights only to entities who are able to demonstrate both actual possession and beneficial use. This would ensure that asteroids claims are limited to those where the resources are actually being used, thus, maximizing the utility of such celestial bodies to society.

Finally, asteroids cannot be adjudicated under the traditional rule of capture or a chattel system because their unique propensity to collide with other celestial bodies would result in vexing legal issues. Pop culture has popularized the notion of an asteroid crashing into the surface of Earth in movies and books, but interspace collisions may be a real concern. Asteroids are constantly moving through space, and they often crash into other asteroids or space debris, and sometimes onto the surface of planets. So real is the concern that space agencies regularly keep track of NEOs, or Near Earth Objects, which include around 10,000 asteroids large enough to be tracked in space.75 Imagine the scenario in the popular movie Armageddon, where society wrestles with the mechanics of destroying a huge asteroid that is headed straight for Earth.76 It would be strange, indeed, if the situation were further complicated by an entity owning the asteroid. Would the Earth have to compensate the company for the loss of resources, or would the company be forced to assume liability for the damage caused by the collision? What if the asteroid, rather than crashing into Earth, crashed instead into another asteroid owned by different entity? It makes sense that a company with actual possession of an asteroid should have a claim for actual mining equipment destroyed, but it seems unreasonable to treat the entire rock as the entity’s chattel. By limiting asteroid claims under a doctrine of appropriation-like system, society will be saved the headache of attempting to adjudicate such absurd situations.

Because the traditional rule of capture or a chattel system for the ownership of asteroids would result in waste, abstract claims, and absurd legal dilemmas, a modified doctrine of appropriation should replace existing outdated international space law relating to asteroids.’

**plan solves- it preserves international mechanisms for dispute management and coop- AND- incentivizes asteroid mining**

**Heise, 18** -- Managing Notes Editor, Michigan Journal of International Law

[Jack, "Space, the Final Frontier of Enterprise: Incentivizing Asteroid Mining Under a Revised International Framework, 40 Mich. J. Int'l L. 189, 2018, <https://repository.law.umich.edu/mjil/vol40/iss1/5>, accessed 6-24-21]

III. A New International Framework to Govern the Space Economy

Asteroid mining creates tension within the OST as an activity that is prohibited by the treaty’s terms but largely in line with the treaty’s purpose. As such, the OST should be modified to allow for greater certainty and predictability with respect to asteroid mining. The possibility that asteroid mining could be illegal under international law likely disincentivizes entry into this new endeavor by adding risk and uncertainty. This section outlines what a revised framework should look like. First, the law governing space should remain international in nature to further the interests of peaceful cooperation and facilitate dispute resolution. Second, this framework should present minimal regulatory barriers for entry given the benefits that asteroid mining could bring to all mankind. The development of whaling law provides a use-ful historical example of how norms and rules for the asteroid mining industry could evolve in a way that facilitates efficient governance of this endeavor.

A. The Desirability of an International Framework

The preservation of space as a zone **governed by international law**, in contrast to a system predicated on national jurisdiction, is desirable in that it **promotes peace**, **facilitates dispute resolution**, and allows for more **coordinated efforts** in addressing issues relevant to all entities operating in space.98 As illustrated by the recent legislative activity in the United States and Luxembourg, the risk of inaction is the resultant domination of the extraterrestrial environment by individual nations rather than by international agreement.99 It would take only minor changes to the OST to resolve some of the ambiguities in the status quo and help bring the benefits of asteroid mining to humanity as a whole. A revision of this treaty rather than a wholesale abandonment of the agreement—whether that abandonment is in fact or merely in practice—would better maintain the international character of space.

The OST reflects Cold War era concerns about the militarization of space.100 Private companies, now ascendant in the growing space economy, simply do not have the military capacity or intention of sovereign governments. In short, the factual backdrop for the signing of the OST has changed. One straightforward means of authorizing private companies to extract space resources would be to revise the OST to **clarify** that the language in Article II prohibiting national appropriation **does not apply to private companies**. This could be achieved by simply **adding a sentence to the end of Article VI**: Under the revised treaty, companies shall remain under the supervision of the countries in which they are based but are not capable of national appropriation by use or occupation. This revision would create something of a line-drawing problem given the partnerships between sovereign space agencies and private companies,101 as well as a possible loophole by which unscrupulous nations could take advantage of the corporate form. Additional safeguards might be necessary to prevent this possibility. This revision could, however, promote peaceful coexistence and uniformity in space law, as well as create certainty as to the legality of asteroid mining by private companies.

Another possibility is to create a new set of international rules for extraction of space resources. Assignment of such property rights could take the form of a first-come, first-served system102 or it could depend on an Earth-side registration process.103 Arguably, extraction is different than the forbidden uses enumerated in the OST in that it is a temporary occupation and not inherently an exercise of military might or the flexing of sovereign muscle.104 While the United States and Luxembourg both interpret asteroid mining to be legal under the existing treaty,105 the promulgation of rules governing the endeavor would add clarity as to the legality of the enterprise. This approach would have the advantage of treating sovereign actors and private companies alike, but would require more substantial revision of the OST, or a new international agreement altogether.

An amended OST or a new treaty governing the extraction of space resources would have the benefit of **maintaining the peaceful order of space**. While admittedly the product of a different era, the post-national and peaceable foundation of the OST is still desirable in an international environment where many nations are armed to the proverbial nuclear teeth. Peaceful use of outer space is a laudable objective and one served most effectively by international agreement rather than by competing national claims of sovereignty.106

An international system would also facilitate dispute resolution. In a borderless and extra-jurisdictional realm like outer space, a system predicated on national sovereignty and ownership is not instructive as to whose laws—or whose choice of law rules—would control in the event of disputed title of an asteroid or the commission of a tort between two actors from different nations.107 The United Nations Convention on the Law of the Sea (the “UNCLOS”) established the International Tribunal for the Law of the Sea (the “ITLOS”) as a means of providing a venue in which similar disputes could be adjudicated between actors with conflicting legal regimes.108 Outer space has a great deal of similarity to the high seas: both are vast, both are easily treated as a non-appropriable international commons, and both are an in-between space in the sense of existing between bodies of terra firma. 109 An international mechanism like ITLOS ought to be established for resolving space disputes such that parties can seek a neutral arbiter to resolve conflict and laws can be uniformly applied to all entities irrespective of their country of origin.110

Finally, an international system could more easily **allow for cooperation** between nations and private entities in addressing issues that affect the spacefaring community as a whole. The emergence of **space debris** and the use of **nuclear power** sources in space are examples of developing issues that bear on the ease and safety of space travel for all.111 Left to national governments or individual corporations, it seems plausible that lack of oversight could result in a tragedy of the commons.112 By contrast, an international framework is well-suited to consider the problems of the space ecosystem in a way that transcends national boundaries. The UNCLOS Preamble, for example, demonstrates an awareness that “problems of ocean space are closely interrelated and need to be considered as a whole.”113 The compelling interests of peace, uniformity, and cooperation in outer space illustrate the desirability of an international framework to govern asteroid mining; to tweak rather than jettison the existing law. The resulting clarity and predictability would incentivize asteroid mining through reducing legal risk and uncertainty.

A counterproposal to an international framework is a system in which nations assign property rights according to domestic law. It would be possible to take a terra nullius approach to property rights relating to celestial bodies.114 In the Western Sahara advisory opinion, the International Court of Justice defined terra nullius as “a legal term of art employed in connection with ‘occupation’ as one of the accepted legal methods of acquiring sovereignty over territory.”115 For a nation to peaceably acquire sovereignty through occupation, the land must be “terra nullius—a territory belonging to no-one—at the time of the act alleged to constitute the ‘occupation[.]’ ”116 This legal approach was prevalent during the colonial era: explorers and emigrants acting in the name of European sovereigns declared ownership of territory by right of discovery and occupation.117 By authorizing U.S. citizens to extract materials from asteroids through the Commercial Space Launch Competitiveness Act, the United States has started down a path in which property rights in space flow from the jurisdiction of individual sovereign nations.118 Luxembourg has taken a similar approach through its own legislation.119

There are some notable advantages to this approach. The absence of an international policing or enforcement mechanism in space arguably points in favor of regulation by nations with spaceflight capacity. Given the generally acknowledged challenges of enforcing international law,120 one might wonder whether domestic governments might be better positioned to monitor and control private entities based within their borders. A nation-centric approach would also likely incentivize investment in asteroid mining, prompting countries and private actors to invest more aggressively so as not to lose the new space race.121 Assuming, as this Note does, that the development of the asteroid mining industry is in the interest of humanity as a whole, this approach has some appeal.

However, a nation-centric, first possession framework has drawbacks that highlight the desirability of an international governance regime for asteroid mining. First, the experience of colonization was one that prompted conflict between colonizers.122 The peaceful character of space is one of the great achievements of the OST, and it should not be jettisoned. Second, a regime characterized by national actors could spark a race to the bottom with respect to domestic regulation, leading to the same “flags of convenience” problem present in the maritime context as asteroid mining and spaceflight companies relocate to avoid taxes, labor and safety standards, and tort liability.123 An international framework, by contrast, could more easily prevent this problem by facilitating the creation of uniform standards for labor, safety, and liability, making relocation to under-regulated states a less attractive prospect. The drawbacks of a system governed by individual nations, in conjunction with the advantages of a global system illustrated above, point to the desirability of a revised framework governing asteroid mining that is international in character.

B. A System with Minimal Regulatory Barriers to Entry

Whatever approach is chosen to resolve the ambiguities in the OST ought not to be overly restrictive or create burdensome regulatory obstacles for private asteroid mining companies. Substantial regulation could discourage investment and hamper the development of an already capital-intensive and high-risk industry.124 The ideal regulatory system for asteroid mining should maintain an international character for the reasons described in the previous section but should not impose cumbersome regulation on asteroid mining companies at this stage in their development. Rather, allowing norms to **develop over time** through the resolution of disputes between asteroid mining companies would likely result in the **most efficient regulatory system** and would be more attractive to companies and nations that might be tempted to disregard the treaty.

The development of whaling custom offers insight into the extent to which “property rights may arise anarchically out of social custom.”125 The analogy to asteroid mining is strong in that both are extractive, high-risk, and capital-intensive industries that take place in what is effectively mare liberum (free sea).126 Herman Melville in Moby-Dick suggests the whaling industry was not governed by a “formal whaling code,” but rather that the “fishermen have been their own legislators and lawyers in this matter.”127 Over time, the custom developed that “I. A Fast-Fish belongs to the party fast to it [and] II. A Loose-Fish is fair game for anybody who can soonest catch it.”128 While Melville concedes that “the commentaries of the whalemen themselves sometimes consist in hard words and harder knocks—the Coke-upon-Littleton of the fist,”129 he also notes that this code is “universal, undisputed law applicable to all cases”130 that prevents “vexatious and violent disputes [arising] between the fishermen.”131 By and large, whalers were able to govern themselves by crafting norms over time that suited their needs.

Robert Ellickson, in his Hypothesis of Wealth-Maximizing Norms, cited the development of whaling norms as supporting the idea that, “when people are situated in a close-knit group, they will tend to develop for the ordinary run of problems norms that are wealth-maximizing.”132 Ellickson defines wealth-maximizing norms as those that minimize the sum of transaction costs and deadweight losses that the members of a group objectively incur.133 Those involved in the group activity are likely to develop rules in a utilitarian manner, preferring “bright-line rules that would eliminate arguments to fuzzy rules that would prolong disputes.”134 The few asteroid mining companies currently in existence are not only a close-knit group under Ellickson’s definition,135 but are best positioned to create rules that will give rise to greater clarity and reduce transaction costs due to their proximity to and soon-to-be-developed experience with the business of asteroid mining. Rules like these would incentivize asteroid mining through greater legal clarity and predictability, thus facilitating the delivery of asteroid mining’s benefits to all mankind.

The UNCLOS ratification debate helps illustrate why a more substantial regulatory regime might prove counterproductive for the international community. One of the primary reasons cited by American opponents of ratification is that accession to the treaty would subject American mining companies “to the whims of an unelected and unaccountable bureaucracy and would force them to pay excessive fees to the International Seabed Authority for redistribution to developing countries.”136 While other commentators have dismissed these concerns as “pure nonsense,” noting that these same companies favor accession to the treaty for the sake of having a clear legal claim to mined minerals,137 it is easy to imagine that a similar scheme of bureaucratic redistribution in the context of asteroid mining might be disregarded by the United States. A decision by nations leading the way on asteroid mining to opt out of a treaty would for all practical purposes cripple future treaty efforts. A key advantage of the proposed regulatory framework described in this Note is a practical one: it would offer the attractive prospect of legal clarity without an international bureaucratic bogeyman, making it more likely that key national stakeholders like the United States would sign on.

Conclusion

Maintaining the international character of outer space while allowing private companies to develop their own governing norms under a slightly revised OST would preempt the outbreak of a new race by sovereign governments to colonize space; create **greater certainty** for those undertaking the enterprise of **asteroid mining**; and permit the development of an efficient system tailored to maximize returns on celestial investment. The asteroid mining industry has the potential to confer benefits on all mankind as a means of facilitating space travel, spurring the development of science and technology, mitigating the potential for a calamitous asteroid impact, and facilitating climate change mitigation efforts. As such, it is in the interest of all nations to revise the OST to allow greater certainty in this endeavor. While the “entire unimaginable infinity of creation”138 is still out of reach based on our existing physics and engineering capabilities, asteroid mining is a critical step in beginning to harness celestial resources and more fully explore the intricacies of the universe around us.

**Even pricing in the costs of mining, the economic benefits outweigh- the counterplan jumpstarts a space economy that spills over to tech innovation, planetary defense, and climate change**

**Heise, 18** -- Managing Notes Editor, Michigan Journal of International Law

[Jack, "Space, the Final Frontier of Enterprise: Incentivizing Asteroid Mining Under a Revised International Framework, 40 Mich. J. Int'l L. 189, 2018, <https://repository.law.umich.edu/mjil/vol40/iss1/5>, accessed 6-24-21]

A casual Internet search for asteroid mining is likely to turn up **sky-high dollar value estimates of asteroids**. From Neil deGrasse Tyson saying that asteroid mining will make the first trillionaire,12 to a Goldman Sachs note stating that a single asteroid could contain **$25–$50 billion** worth of platinum relative to a $2.6 billion cost of an asteroid-grabbing spacecraft,13 to reports that NASA is sending a probe to an asteroid worth **$10,000 quadrillion**, the profit element of this enterprise is not lost on observers.14 However, these estimates depend on the extraction of metals like platinum, their return to Earth, and sale at the current market price, which, as the aforementioned Goldman Sachs note concedes, would “crater the global price of platinum . . . .”15

Instead of attempting to mine metals, the initial step in asteroid mining proposed by Planetary Resources, the most prominent asteroid mining company in existence today, is to **mine asteroids for water**.16 By making propellant available in space, asteroid mining “increases the payload capacity of rockets, enables the creation of a space highway with fuel depots located at various points of need throughout the Solar System, and allows spacecraft to **travel much farther**.”17 In other words, the business of asteroid mining, at least in its infancy, is not about harvesting valuable metals and returning them to Earth,18 but rather about **providing raw materials** to enable the **growth of the space economy**.

The impetus to provide in-space materials to the space economy is a matter of physics. Launching an object into space is expensive: SpaceX’s Falcon 9—with the capacity to carry just over 50,000 pounds of payload into low Earth orbit19—costs an estimated $36.7 million to launch and uses between $200,000 and $300,000 in fuel each trip.20 If asteroid mining companies were able to provide some of the **propellant in space**, that would **not only reduce fuel costs**, but would **reduce the overall launch weight**, **freeing up more space for payload**.21

In sum, should asteroid mining companies be able to provide fuel in space, it could **dramatically reduce the costs** of transporting rockets and cargo into space—both into **low Earth orbit** and to **more distant targets**, like Mars. Having this infrastructure in place could also **reduce the long-term costs** of the asteroid mining business itself, given that the business model involves launching objects into space. While a 2012 study estimated the total cost of an asteroid retrieval mission at $2.6 billion,22 a substantial reduction in launch costs would result in meaningful savings.23 This model of asteroid mining as a provider of in-space resources, then, can facilitate the growth of the space economy: future forays into space would have their costs greatly reduced by a “space highway with fuel depots.”24

B. Public and Private Actors in the Asteroid Mining Space

Both private companies and the space agencies of sovereign governments bear mentioning in a full discussion of asteroid mining. The role of the private sector in space has expanded substantially in the past decade, leading some commentators to suggest that the private sector has eclipsed the public sector in this arena.25 The asteroid mining industry, as detailed above, both depends upon and tends to facilitate this development. Sovereign space agencies, by contrast, conduct a waning share of activity in space and increasingly operate by way of public-private partnerships as an investor in the space economy.26 This marks an important shift from the factual backdrop of the original OST in that private, independent companies are increasingly taking the wheel.

As explored above, the asteroid mining business facilitates the **growth of the space economy** by reducing launch costs. However, the future of asteroid mining as a **lucrative industry** also depends upon the existence and growth of a **robust space economy**. The **symbiotic relationships** that could develop between private companies deserves emphasis. The viability of asteroid mining depends on a space economy to which asteroid mining companies can **sell fuel and metals**: the lack of a current market in asteroid resources should **resolve itself** “when the space population hits critical mass, demanding infrastructure.”27 For spaceflight companies,28 a crucial component to reduce costs is access to propellant in space.29

Sovereign governments continue to play a significant, albeit declining, role in the space economy. NASA’s share of the national budget decreased from 4.4% in 1966 to 0.5% in 2014.30 Its current strategy centers on partnership with the private space economy: “NASA helps mitigate financial risk, while the private sector conducts research and innovation more efficiently than NASA can . . . .”31 Similarly Luxembourg, which lacks its own space agency,32 opened a 200 million Euro fund in 2016 to bring asteroid mining companies to the country.33 Planetary Resources has availed itself of opportunities offered by both NASA and Luxembourg, performing contract work with the former and securing funding from the latter.34

While sovereign governments do hold some of the purse strings relevant to asteroid mining companies and the space economy as a whole, private companies are increasingly displacing national space agencies.35 A private space economy that is **increasingly independent from sovereign governments** tends to undermine the factual framework upon which the original OST relied.36 Specifically, Article VI assigns responsibility for nongovernmental entities to national governments, the implicit assumption likely being that private entities would be acting at the behest of a sovereign.37 This concern is increasingly unsubstantiated in an environment in which private, independent companies are ascendant.38

C. Global Benefits of Asteroid Mining Asteroid mining has the potential to facilitate space travel, an outcome the OST holds to be in the interest of **humanity as a whole**.39 The potential of asteroid mining to **reduce the cost of spaceflight**, moreover, could **facilitate the growth of the space economy**. Asteroid mining thus aligns with another stated purposes of the OST in the sense that an expanded space economy could provide **substantial benefits to all mankind**.40 **First**, in seeking to face the challenges posed by space travel, the public sector space race gave rise to **numerous technological innovations**, ranging from LEDs to emergency blankets to memory foam.41 It seems likely that the private space race would result in a **similar degree of innovation**, the products of which could **benefit people across the globe**.

**Second**, a successful mission to Mars could provide benefits beyond a mere sense of interplanetary accomplishment. NASA suggests that, given the parallels between the formation and evolution of Mars and Earth, a voyage there could help “us learn more about our own planet’s history and future.”42 The scientific advancements from such a mission cannot currently be anticipated and are **difficult to predict**, but “expand[ing] the frontiers of knowledge” in this manner could well bring **benefits to all mankind**.43

**Third**, the development of asteroid mining technology could also help **advance asteroid diversion tactics**. The **development of the technology** required to conduct successful asteroid mining operations could “help us to divert any incoming asteroids.”44 This is of **great importance** since NASA recently eliminated its Asteroid Redirect Mission due to funding cuts;45 NASA’s project was hailed by some scientists as a “critical step in demonstrating we can protect our planet from a future asteroid impact . . . .”46 Asteroid mining could step in and **fill an important void**. While the probability of an Armageddon-causing impact is low, the effects of an **impact** would be **extremely severe**.47 Even **some mitigation** of this risk as a byproduct of asteroid mining would be a **benefit to humanity as a whole**.

**Finally**, reduced launch costs could facilitate measures to **combat global climate change**. One proposed solution for canceling out predicted increases in average worldwide temperature is to “prevent[] . . . about **1%** of incoming solar radiation—insolation—from reaching the Earth. This could be done by **scattering into space** from the vicinity of Earth an appropriately small fraction of total insolation.”48 Asteroid mining could facilitate such measures in that “[t]echnologies that could **greatly decrease the cost of space-launch** could make a telling difference in the practicality of all types of **spacedeployed scattering systems of scales** appropriate to insolation modulation.”49 There are certainly intermediate measures to combat climate change that ought to be taken first, but asteroid mining would **facilitate this expedited solution**. While some of the benefits of asteroid mining would doubtless accrue primarily to those nations with asteroid mining companies within their borders, the benefits noted in this section—space exploration as a **general proposition**, **technological and scientific development**, improvement of **asteroid diversion technology**, and facilitated means of **swiftly countering climate change**—would **inure substantially to the benefit of all mankind**.

**Asteroids cause extinction- causes famines and economic decline**

**Higgins, 18** -- correspondent at Vox

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Asteroids are rocks that revolve around the sun and that occasionally collide with the Earth. An asteroid large enough to **cause a global catastrophe** hits Earth **every 120,000 years**, scientists estimate. It’s likely what **killed the dinosaurs**, and if an asteroid even **one-tenth the size** of the one that **caused their extinction** hit Earth today, the results would be **devastating**. Scientists estimate it could **release enough particles** to **block the sun for months** and cause a **famine** **killing hundreds of millions**.

NASA announced in 2011 that it had mapped more than 90 percent of objects in space larger than 1 kilometer in diameter, and that none of them are likely to hit Earth. But there’s **still a lot we don’t know** about smaller objects that, while unlikely to cause a global catastrophe, could have a **big enough local impact** to **disrupt social and economic systems**.

## 2. Locke NC

**the Locke NC**

**I negate and value justice as implied by the resolution. The standard is consistency with Lockean property rights**

**Property rights are a natural extension of the concept of self-ownership- these rights are pre-political**

**Smith, 15** -- formerly Senior Research Fellow for the Institute for Humane Studies, a lecturer on American History for Cato Summer Seminars, and Executive Editor of Knowledge Products

[George H., "John Locke: The Justification of Private Property," Libertarianism.org, 10-19-15, https://www.libertarianism.org/columns/john-locke-justification-private-property, accessed 6-25-21]

My last essay discussed John Locke’s theory of a negative commons. This was the moral status of natural resources prior to the emergence of private property, a situation in which every person had an equal right to use unowned land and other natural goods. I included this topic in my lengthy series on “Freethought and Freedom” because it was germane to understanding how natural‐​law philosophers during the seventeenth century moved from the traditional Christian doctrine of private property to a more secular approach. But it would be an unwarranted stretch to include additional essays on Locke within my series on freethought, so I hereby begin a new series devoted to Locke’s ideas. This series will discuss not only Locke’s theory of property in more detail but also other features of his political theory, such as his theory of government and his defense of the rights of resistance and revolution against established governments.

The most important source for understanding Locke’s justification of private property is the celebrated chapter “Of Property,” which comprises Chapter V of The Second Treatise of Government. But we also find significant remarks about property in Chapter IV (“Of Adam’s Title to Sovereignty by Donation”) of the First Treatise. Although most of my discussion is based on Locke’s treatment in the Second Treatise, I may occasionally draw upon his comments in the First Treatise.

According to Locke, in the “natural state”—that original condition in which every person had an **equal right** to use natural resources provided by the “spontaneous hand of Nature”—no one had “a private Dominion, exclusive of the rest of Mankind,” over those resources. But such resources would have been **useless** for human survival and well‐​being **unless** they could be **appropriated by individuals** for their personal use. So how can a transition from unowned resources to private ownership be morally justified? How can one person legitimately claim an exclusive right to use a resource that, in its natural state, could be used by anyone? Locke’s treatment of this problem remains highly controversial among scholars. His theory has been used to justify everything from laissez‐​faire to the welfare state to full‐​blown socialism. Which of these conflicting interpretations should be covered in my survey of Locke’s political ideas is a judgment call, and I frankly remain uncertain about my final decision. I fear that many of my readers will have little if any interest in the fine points of Lockean scholarship, however much those points may interest specialists. Fortunately perhaps, I can delay my decision until a later time. Before we can appreciate the ambiguity in some of Locke’s statements about property, we must first understand his overall approach. Hence the purpose of this essay (and probably the next installment as well) is to provide a barebones account of how John Locke justified private property, while postponing a consideration of the more controversial features until a later time.

There is another reason why an overview is desirable before I delve into more technical matters. Only a relative handful of my readers are likely to have actually read Locke’s Two Treatises of Government. The status of John Locke in the modern libertarian movement is rather like that of Adam Smith. Both figures are widely known to nonacademic libertarians, as are their leading ideas, but it is a safe guess that the major works of these philosophers remain largely unread. This is understandable. The workaday libertarian is more interested in ideas that he can use in the struggle to establish a free society than he is in arcane historical theories and controversies. And if this libertarian believes that he can find adequate justifications of private property in the writings of modern libertarian philosophers, such as Rothbard, Hayek, and Rand, then why should he spend his time reading earlier and quite possibly less satisfactory accounts?

As I have attempted to demonstrate throughout my many Lib​er​tar​i​an​ism​.org essays, the issues discussed by early classical liberals are essential to understanding the origin and evolution of modern libertarian ideas. In addition, many of the internecine controversies among early classical liberals may be found, alive and kicking, in the modern libertarian movement. The fundamental problems attending an adequate defense of individual freedom are perennial; they arise again and again from one generation of libertarians to the next, however much the particular contexts may differ. There is much to be learned from reading the books of John Locke, Adam Smith, and other intellectual giants in the history of freedom—knowledge that is directly relevant to the problems confronted by modern libertarians.

Having presented my preliminary case for the relevance of John Locke, I shall now explain the basic principles that underlay his case for private property.

The key to Locke’s moral transition from common dominion to private ownership was his conception of **self‐​ownership**, or property in one’s person. As Locke put it in what was destined to become one of the most influential passages in the history of political thought:

Though the Earth, and all inferior Creatures be common to all Men, yet every Man has a **Property in his own Person**. This no Body has any Right to but himself. The Labour of his Body, and the Work of his Hands, we may say are properly his. Whatsoever then he removes out of the State that Nature hath provided, and left it in, he hath **mixed his Labour with**, and joined to it something that is his own, and thereby **makes it his Property**. It being by him removed from the common state nature placed it, it hath by his labour something annexed to it, that excludes the common right of other Men. For this Labour being the unquestionable Property of the Labourer, no Man but he can have a right to what that is once joined to, at least where there is enough, and as good left in common for others.

Locke continued:

He that is nourished by the Acorns he pickt up under an Oak, or the Apples he gathered from the Trees in the Wood, has certainly appropriated them to himself. No Body can deny but the nourishment is his. I ask then, When did they begin to be his? When he digested? Or when he eat? Or when he boiled? Or when he brought them home? Or when he pickt them up?

Locke answered these questions by selecting the last of these options. The acorns became the private property of the owner when he picked them up, for it was in the gathering that labor was first expended. “That labour put a distinction between them and common. That added something to them more than Nature, the common Mother of all, had done, and so they became his private right.” But this raises a crucial question: “Was it a Robbery thus to assume to himself what belonged to all in Common?” Locke replied that to require universal consent would lead to universal starvation. More is involved here than the practical problem of obtaining the permission of every person on earth. Morally speaking, such consent is not required because, according to both reason and revelation, humans “have a right to their Preservation.” Thus if even the right to eat acorns and other natural goods could not be morally justified without first obtaining the consent of every commoner, “Man had starved, notwithstanding the Plenty God had given him.” (It should be noted that self‐​preservation had long been defended as a fundamental right—indeed, as a duty—by natural‐​law philosophers. In the thirteenth century, for example, Thomas Aquinas maintained that “whatever is a means of preserving human life belongs to the natural law, and whatever impedes it is contrary to it.”)

When Locke wrote that “every Man has a Property in his own Person,” he was using “property” in its older meaning to signify rightful dominion over something. (See my discussion in The Philosophy of the Declaration of Independence: Part 2.) Hence it was quite common during the seventeenth and eighteenth centuries to speak of property in one’s conscience, property in one’s freedom, property in one’s labor, property in one’s happiness, and even (as we find with James Madison) property in one’s time. Whereas we might say that “this computer is my property,” earlier philosophers might have said, “I have a property in this computer.” Locke included life, liberty, and estate (i.e., external goods) in his generic conception of property, so when he argued that the primary purpose of government is to protect property rights, he was not merely referring to material objects. Rather, he meant that a government should **protect those fundamental rights** (including the right to enjoy the fruits of our labor) that are **essential to self‐​preservation** and happiness.

Locke stressed labor as the foundation of private property because some form of labor is the **basic method** by which we sustain ourselves, even if that labor consists of nothing more than picking up acorns off the ground. Humans **cannot survive** without labor, so coercively to expropriate the fruits of another man’s labor is to violate his fundamental right of self‐​preservation. Labor is involved in every life‐​sustaining activity.

**The only legitimate purpose of a state is to protect property rights**

**Tuckness, 18** -- Associate Professor of Political Science, Director of the Public Policy and Administration Program, Iowa State University

[Alex, "Locke's Political Philosophy", The Stanford Encyclopedia of Philosophy, Summer 2018 Edition, Edward N. Zalta (ed.), https://plato.stanford.edu/archives/sum2018/entries/locke-political/, accessed 6-24-21]

John Locke (1632–1704) is among the most influential political philosophers of the modern period. In the Two Treatises of Government, he defended the claim that men are by nature free and equal against claims that God had made all people naturally subject to a monarch. He argued that **people have rights**, such as the right to life, liberty, and **property**, that have a **foundation independent of the laws** of any particular society. Locke used the claim that men are **naturally free and equal** as part of the justification for understanding **legitimate political government** as the result of a social contract where people in the state of nature **conditionally transfer** some of their rights to the government in order to better ensure the **stable, comfortable enjoyment** of their **lives**, **liberty**, and **property**. Since governments exist by the consent of the people in order to protect the rights of the people and promote the public good, governments that fail to do so can be resisted and replaced with new governments. Locke is thus also important for his defense of the right of revolution. Locke also defends the principle of majority rule and the separation of legislative and executive powers. In the Letter Concerning Toleration, Locke denied that coercion should be used to bring people to (what the ruler believes is) the true religion and also denied that churches should have any coercive power over their members. Locke elaborated on these themes in his later political writings, such as the Second Letter on Toleration and Third Letter on Toleration.

**My contention is that consistency with Lockean property rights negates**

**First, there is no morally relevant difference between space and Earth**

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[Kurt Anderson, Property Rights in Outer Space, 58 J. Air L. & Com. 1041, 1993, <https://scholar.smu.edu/jalc/vol58/iss4/4>, accessed 6-24-21]

The powers necessary to constitute an efficient system of property rights on Earth have been found, by deduction from first principles by political philosophers influential in the development of the Western institutions and from history and practice in the courts, to be the power to exclude, to use, and to dispose. 98 The resulting system is also inherently equitable as it benefits society as a whole and as it protects investments and expectations. This system would remain equitable so long as the initial allocation of any new resource was, and is, not based on mere usurpation of unclaimed property, but is based on investment in the property that adds to its value. 99

This system of property rights relies on the provision of powers to the holder of the property. The source of the power is ultimately in the state that enforces the liabilities of parties corresponding to the powers of owners: the liability to exclusion, the liability for interference with use, and the liability to respect contracts and to refrain from hindering disposition. °0 This implies that sovereign power is essential to any functioning system of property rights, and in the absence of a general sovereign body, sovereignty is to be found in the nation-state.

How does the **extension** of man's activities into space and onto the celestial bodies **change** the **basic necessities** of an **efficient** and **equitable property rights system**? The movement of activities into space affects **only the place** of activities. The **nature of those activities** and of the **actor** remain **unchanged**. The nature of **efficiency** and **equity** are likewise unchanged, and the need for **certain securities** and **guarantees** to foster productive activity by man is **unchanged**. **The same property rights system** that is most beneficial on Earth will be **most beneficial on the celestial bodies**.

The principles of the Outer Space Treaty **do not necessarily contradict** these property concepts. It has already been shown that the notion of property rights, including the power to use and dispose, are not incompatible with the general principles of the Outer Space Treaty.20 ' The principle of access in space is also appropriate when properly interpreted. ° But, in regulating access, governing bodies must make proper account for the use of various portions of space and of the rights of the user to be free of harmful interference. 3 Although the provision of Article II against national appropriation contradicts these property concepts, it is inconsistent with the notions of jurisdiction and ownership found elsewhere in the treaty.2 0 4 This provision should therefore be modified and replaced with a concept of reasonable use or investment.20 5 Such a provision should provide for initial allocation of unclaimed property only upon productive use or investment. This would allow for the security of national sovereignty while preventing the non-productive reservation of vast resources by non-users.20 6

**Second, appropriation of outer space is consistent with the doctrine of res nullius**

**Butler, 17** -- Staff Attorney with the State of Montana

[Dennison A., Who Owns the Moon, Mars, and Other Celestial Bodies: Lunar Jurisprudence in Corpus Juris Spatialis, 82 J. Air L. & Com. 505, 2017, <https://scholar.smu.edu/jalc/vol82/iss3/3>, accessed 6-24-21]

However, the doctrine of **res nullius** could apply. Res nullius, or terra nullius, is an international law principle used to describe land or territory that has **not yet been subject to the sovereignty of any state** or for which a prior sovereignty has relinquished sovereignty over the area.55 Australia was claimed by the British settlement in Cooper v. Stuart56 under the doctrine of terra nullius. Other areas claimed under terra nullius include the Western Sahara,57 Svalbard,58 Greenland,59 Antarctica,60 Scarborough Shoal,61 New Zealand,62 and Guano Islands.63

The doctrine of discovery is another theory implicated regarding property rights on celestial bodies and terra nullis. The doctrine of discovery is an international law principle under which European countries, colonists, and settlers made legal claims against the lands of indigenous peoples all over the world from the fifteenth through the twentieth century.64 Even today, the doctrine of discovery is applied in New Zealand,65 Canada,66 and Australia.67 Examples also include China, which invoked this doctrine in 2010 when it planted its flag to claim sovereignty over the bed of the South China Sea.68 In 2007, Russia also used this doctrine when it laid claim to the Arctic Ocean seabed.69 Similarly, Canada and Denmark each claimed sovereignty over an island off the west coast of Greenland in 2005.70 In fact, the Supreme Court of the United States of America cited the doctrine of discovery as a basis for property ownership as recently as 2005.71 Traditionally, discovery created an:

inchoate title to a territory that must be perfected by its effective occupation. . . . To turn a first discovery into a complete title, a European country had to actually occupy and possess the newly found lands. This was usually done by building forts or settlements. This physical possession had to be accomplished within a reasonable amount of time after the first discovery to create a complete title.72

For an interesting case study, the Scarborough Shoal was claimed by China under the principles of discovery in the thirteenth century, whereas the Philippines claimed the Shoal under the theory of terra nullius. 73

Furthermore, the international doctrine of discovery is **consistent with John Locke’s labor theory of property**. Locke’s theory famously posits that before government existed, all men had **common access** to Earth’s resources as given by God.74 In order to survive, individuals had to appropriate resources for themselves.75 Through their **own labor** and effort, men were able to **gain private property rights** if they did not waste the resources they claimed.76

The labor of his body, and the work of his hands, we may say are properly his. Whatsoever then he removes out of the state that nature hath provided, and left it in, he hath mixed his labor with, and joyned [sic] to it something that is his own, and thereby makes it his property. It being by him removed from the common state nature placed it in, it hath by his labor something annexed to it, that excludes the common right of other men . . . at least where there is enough, and as good, left in common for others.77

The United States prides itself in and was established under the idea that “all men are created equal.”78 The spirit of entrepreneurship has not only had an influence on America’s economic system but has also directly impacted every aspect of our lives.79 Adam Smith declared, “[l]ittle else is requisite to carry a state to the highest degree of opulence from the lowest barbarism but peace, easy taxes and a tolerable administration of justice.”80 To justify his position he went on to say:

As every individual . . . endeavours [sic] . . . to employ his capital in the support of domestic industry, and so to direct that industry that its produce may be of the greatest value, every individual necessarily labours [sic] to render the annual revenue of the society as great as he can . . . . [While] he intends only his own gain . . . he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention.81

The ability to profit through ones own work has been one of the leading contributors to economic wealth not only in the United States, but also in free trade zones such as Hong Kong.82 This allows individuals to profit from the work of their own labor and to subsequently enjoy the benefits or suffer the losses from those risks.83

One of the best examples that can be analogized to territory in space is the Homestead Act of 1862.84 President Abraham Lincoln signed the bill into law, allowing individuals to acquire a freehold title in fee simple to 160 acres of land if they: (1) filed an application; (2) improved the land; and (3) filed for a deed.85 This right was limited to individuals who were over twenty-one years old or the head of a family and had lived on the land for at least five years.86 Nonetheless, the Homestead Act of 1862 gave individuals a chance to directly enjoy the fruits of their labor. Allowing individuals to profit or suffer from their own sweat is an exemplification John Locke’s labor theory.87 The Homestead Act of 1862 was also imitated, with some modification, by Canada88 in 1872 and by several Australian colonies89 in the 1860s.

Allowing people the ability to profit or loss from their own risk in working land directly allowed the settlement and cultivation of most of the land west of the Mississippi River. Between 1862 and 1938, “almost 1.5 million households were given title to 246 million acres of land.”90 That area is approximately the acreage of California and Texas combined.91 Some have estimated that even today $46.3 billion is generated every year directly because of the industrious pioneers.92

Structuring property ownership laws on the Moon, Mars, and other celestial bodies after the Homestead Act of 1862 would allow companies, individuals, and even countries to claim property if they “**improve[ ] the land**”93 in some way. This would prevent entities from claiming extraterrestrial property without having first demonstrated a proper use for it.94 On top of that, entities would have an incentive to profit from their own effort. Like President Lincoln encouraging Americans to settle the West, incentivizing entities to claim extraterrestrial property on the Moon and Mars would accelerate space colonization and promote utilization of resources already available.

The desire and profit is great for entities to explore the Moon and outer space. However, the treaties that currently exist, forbidding country and private ownership, destroy any incentive to use the resources found thereon. If the laws allowed people, companies, or countries to claim ownership to what they could manage, it would create significant incentive for both private and government groups to invest the resources necessary to establish ownership and control over the property on Mars, the Moon, and other celestial bodies.95 Furthermore, allowing entities to claim property rights over only what they can manage would pave the way for **everyone to profit** as lunar exploration and colonization become more feasible and affordable.