## Locke NC

#### First off: 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

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[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

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[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

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[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.

## Alaska CP

#### CP: The establishment of an international space body modeled on the International Seabed Authority is just. This new international space body ought to license outer space resources and levy a royalty on production and mandate that revenues are deposited in a Space Resource Fund that pays a yearly dividend to every citizen on Earth.

#### Solves inequality

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[Morgan, and Kevin Orrman-Rossiter, PhD candidate, History & Philosophy of Science, The University of Melbourne, "All of humanity should share in the space mining boom," Conversation, 4-17-16, https://theconversation.com/all-of-humanity-should-share-in-the-space-mining-boom-57740, accessed 6-25-21]

One solitary asteroid might be worth trillions of dollars in platinum and other metals. Exploiting these resources could lead to a global boom in wealth, which could raise living standards worldwide and potentially benefit all of humanity. There are already companies, such as Planetary Resources, hoping to make mining in space a reality. Peter Diamondis, co-founder of Planetary Resources and founder of the XPrize Grand Challenges, believes that the benefits to humanity give us a moral imperative to explore and utilise space. He has also declared “there are twenty-trillion-dollar checks up there, waiting to be cashed!” However, behind the utopian rhetoric and dazzling dreams of riches lie some very real problems. Ownership and the Outer Space Treaty The framework of international space law is given by the Outer Space Treaty (OST), which entered into force in 1967. Among its main principals, the OST includes these statements: the exploration and use of outer space shall be carried out for the benefit and in the interests of all countries and shall be the province of all mankind and, outer space is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means Because the OST is generally interpreted as preventing anything like private fee-simple ownership, it is sometimes claimed to be an obstacle to commercial ventures in space. But such claims simply do not hold water. There are numerous terrestrial examples where resources are profitably exploited in the absence of fee-simple ownership. Governments routinely licence companies to engage in timber extraction, mining, offshore oil exploration and other activities, receiving royalties payments on production. In the United States, revenues from such royalties totalled some US$13.5 billion dollars in 2014 from federally owned or managed lands alone. Nevertheless, some proponents of mining in outer space argue for serious modification or an end to the Outer Space Treaty and claim, against the evidence, that without fee-simple ownership, there is no incentive for commercial exploitation. The Unites States’ Space Act of 2015 was just one volley – and a deliberately vague one at that – in this ongoing international debate. A balanced approach? The riches exist, but how will humanity benefit from mining in outer space, or for that matter, other global commons such as the deep sea floor? Behind the lofty rhetoric of benefits to humanity, there is a dark shadow of voodoo economics, the shambling, walking dead figure of trickle down economics– and the possibility of a world where a few trillionaires enjoy the view from space while others barely eke a living on its surface. Yet we do suggest that commercial interests and profit seeking can be a healthy part of the exploration of outer space. Yet outer space is not the Wild West frontier of Frederick Jackson Turner, nor do we live in the Gold Rush days of Jack London’s tale of greed and death. In the common heritage of space, with multiple state and private actors engaging in exploration and potentially exploitation, international cooperation and oversight will benefit all. The Alaskan model There is a balanced, pragmatic approach that will promote commercial and profit driven activities, while also producing tangible benefits to all of humanity. Importantly, this pragmatic approach has a well established precedent that has existed for nearly 40 years. And this comes not from a social democracy or left-wing ideology, but was the brainchild of a libertarian, Republican governor of Alaska, Jay Hammond. That model is the Alaska Permanent Fund Corporation (APFC) created in 1976, and its unique “citizen’s dividend”. The APF is a resource wealth fund, which derives its revenue primarily from leases on oil fields. In 1977, Hammond suggested that “rather than permitting government to spend all public monies earned through the exploitation of the public’s resources for what government thinks best, let’s grant shares to Alaskans.” The first dividend payment was made in 1982, and in 2015 that payment amounted to US$2,072. Linking a citizen’s dividend to a sovereign wealth fund was unique, but the idea of a citizen’s dividend has a long and venerable tradition. One of the earliest advocates was no less than the political theorist and American Revolutionary, Thomas Paine. International body How would this work for outer space? We need an international body similar to the International Seabed Authority, which was established by the United Nations Convention on the Law of the Sea, or the International Telecommunications Union, which allocates satellite orbits. This would provide the stable business and investment environment that entrepreneurs seek by ensuring international law and obligations are met. This body could license outer space resources and levy a royalty on production, which is part of standard business practice between petroleum and other mining companies and governments here on Earth. In turn, these revenues, or a significant portion thereof, would be deposited in a Space Resource Fund, possibly under the aegis of the World Bank. And every single citizen on Earth, say aged 18 or above, would receive a dividend on a yearly basis as their rightful share as owners of the common province of humankind. Crucially, we are not suggesting redistribution, which has been an obstacle to the International Seabed Authority and the Moon Treaty in the past, but a fair share dividend of wealth that truly belongs to everyone. Our model doesn’t provide a handout, or a welfare cheque, or charity from a trillionaire philanthopist; it pays every owner in a global commons a share of what is rightfully theirs. Even tiny dividends by the standards of the world’s wealthy nations would make a difference for some developing world farmers. If there truly are trillions of dollars out there, then this might be something fundamentally world changing. We accept that Larry Page and Sir Richard Branson – founding investors and advisors in Planetary Resources – and its founders Eric Anderson and Peter Diamandis, truly want humanity to benefit from outer space, and that they truly believe in corporate social responsibility and a sustainable future. We would encourage them to embrace the idea that the sky really does belong to all of us, as the common “province of all mankind”. By paying rent for the right to exploit resources in space and royalties on production, the same way oil companies pay to exploit oil in the Gulf of Mexico, they’ll be engaging in business as usual. They will have bought the right to make a potentially enormous profit and prove they really are responsible global citizens. And they’d get a citizen’s dividend cheque too.

## Space Col DA

#### CP: The appropriation of outer space by private entities through bounded first possession by landfall is just.

#### CP is the best system to develop Mars – common ownership chills first movers and is less efficient.

Collins 08 (Lecturer, The City Law School, City University, London, UK. B.A.Hon., J.D.(Toronto), M.Sc., B.C.L. (Oxford)), "EFFICIENT ALLOCATION OF REAL PROPERTY RIGHTS ON THE PLANET MARS" B.U. J. SCI. & TECH. L. [Vol.14:201, NCS, DOA 2/5/22, https://www.bu.edu/jostl/files/2015/02/Collins\_142.pdf

As an alternative to fixing future claims on Mars based upon a re-allocation of pre-existing ones, the most efficient mechanism of real property allocation of an un-owned res nullius planet Mars would be a limited form of first possession: the allotment of only a portion of land to the first arriving organization, not the entire surface of the planet. The size of the allocation would be set at the optimal level to encourage exploration and development while conserving land for future explorers. The first landers could claim all terrain, for example, within a hundred kilometer radius of their landing point subject to an increase if productive use is made of an even larger portion. The rest of the planet would remain un-owned and available to become possessed by subsequent explorers. This bounded first possession is in keeping with the language of the Outer Space Treaty and Moon Treaties that prohibit only sovereign claims to the celestial body, which could be interpreted to mean the planetary sphere itself. Such a credible interpretation reads in the word “entire” to the following provision for the purpose of clarity: “neither the entire surface or entire subsurface of the Moon [or Mars] shall become the property of any State”.”74 Partial allocation as described is just because landing on one minuscule portion of a world should not entitle a claimant to ownership of all of it, much of which may be left completely idle by the original explorer, resulting in an inefficient use of the planet’s resources. The problem of inefficient races to achieve the legal right to first possession will be avoided by this regime, as second and third place finishers will be rewarded with other plots of land on the surface. Consequently pre-mature and therefore non-productive missions will be avoided because there is no risk of exclusion for failing to land first; the marginal benefit of arriving second will be as high as the marginal benefit of arriving first. Of course, the pride engendered by first arrival, such as that generated by the first Moon landing, would help to encourage earlier Mars expeditions rather than later ones. Incentive to settle on Mars before others may similarly result from the fact that some regions of the planet could be more valuable than others. For example, just as the flat, northern hemisphere would may be more conducive for agriculture than the rugged southern hemisphere, the equatorial zone would probably hold greater value because of their warmer climates.75 Part of the concern of developing nations in espousing the Common Heritage principle for planetary bodies was that the planet’s resources would already be depleted by the time nations with weaker initial resource endowments (the developing world) are capable of exploiting the land on Mars.76 Plot ownership would address this concern since vast regions of Mars would likely remain un-owned for centuries, giving developing nations a chance to “catch up”. Private easements and restrictive covenants arrived at by bargaining among the landed owners (rather than through international political consensus) and enforced through private litigation would control competing land uses such as over exploitation or pollution in order to produce an efficient allocation of resources. At least in the early stages of colonization there would be no need to incur the cost of a special “Mars Court” to adjudicate such disputes. Instead, landowners could litigate in the courts of their choice on Earth, subject to that court’s own rules on taking jurisdiction. For example, an American corporation owning land on Mars could bring suit in nuisance against another American landowner in the Federal court of the United States.77 Disputes between sovereign landowners on Mars could similarly be brought in the International Court of Justice.78 Again, it is expected that such private land use adjudication among fewer parties should be less costly than public control of commonly held land through regulation.79 Moreover, bargaining among a limited number of initial owners should arrive at the most efficient manner of land use without the need to resort to lawsuits. Excessive land use regulation resulting from the need to satisfy all decision-makers could diminish the overall productivity of the land, especially if such regulations were imposed ex post after valuable resources had already been wasted. It is further expected that landowners on Mars would adopt the self-imposed obligation to engage in reasonable and productive use of that land in order to maximize the value of their own holdings. Such “injunctions against waste”80 would become more significant in later stages of settlement when vacant land on Mars had become scarcer. Accordingly, if a plot is not being used efficiently, for example, by an owner that held expertise in space travel but not in colonization, then title in the land could be transferred on the authority of a court, perhaps through the Common Law doctrine of adverse possession,81 to another party that had these skills and intentions. Should a terraforming project be undertaken – transforming the whole of Mars into an environment that could sustain life - landowners would have an incentive to “free ride” by not contributing resources to such an inherently communal project, allowing them to benefit from the labors of others without cost. Perhaps a mandatory fee could be imposed upon all residents by a court in order to address this problem – although it is unclear what legal precedent could be invoked to do so - in advance of the establishment of zoning or centralized governance on the planet.82 Market forces should provide, however, that a party not adding value to its land through development would have an incentive to sell or lease it to a party that would make a more productive use of it. Thus, the first explorers might wish simply to sell their claims as suggested above. To facilitate such bargaining among landowners, the establishment of a land registry system, which would set standardized plot dimensions and record transactions and would represent one of the few costs associated with private ownership of land on Mars, would be necessary.83 The recognition of bounded land claims on a planet appears already to be envisioned by the text of the Moon Treaty which as noted above, permits individual states to retain jurisdiction and control over their personal property, such as bases and equipment, that is brought to the moon.84 However, as noted above, the rights in such chattels are not equivalent to the full property rights exercised by terrestrial landowners since there is no exclusivity – treaty requires parties to allow others to use these equipment and facilities when requested.85 On one hand such compulsory property sharing is economically efficient because it would encourage further development by minimizing one of the costliest aspects of settlement. A subsequent arrival could benefit from existing infrastructure devoting resources to the more productive development of the region without redundant expenditure that would impede overall progress. However, the common property regime envisioned by the space treaties ignores the reality that without adequate compensation for such sharing there might be an incentive to free-ride by waiting for another explorer to incur the initial costs of establishing a Mars base with oxygen/fuel production facilities. It would therefore be more cost effective to be the second or third Mars colonizer, potentially inducing a strategic waiting game. To resolve this problem it should be permissible to charge a fee for the use of one’s facilities because such fees represent the fundamental economic gain of granting property rights in land on Mars. Developed land, such as land with a base upon it that could sustain human life, becomes valuable to subsequent visitors, and this can generate revenue that will offset the initial costs. Bargaining would naturally set the use fee at an optimal level that encouraged subsequent parties to land and make use of existing facilities and would not be too low to deter the initial landing and construction. Thus, the direction to share resources in the Moon Treaty might be unnecessary – sharing might increase wealth for all parties, much as land values increase in proportion to the rise in population of an area. Given that large scale inhabitation of Mars might only result from a catastrophe on Earth, there may be some need to incorporate the common law defense of necessity for emergency trespass, although this defense would not preclude the payment of reasonable compensation for use or damage to existing infrastructure.86

#### Colonization of Mars is feasible but requires investment incentive now.

Martin & Saydam 21

(BA Journalism University of Central Lancashire, Media & Content Coordinator for The University of New South Wales Serkan Saydam received his BSc, MSc and PhD degrees in Mining Engineering from the Dokuz Eylul University, Izmir, Turkey and completed his Postdoctoral Fellowship at the University of Witwatersrand, Johannesburg, South Africa. He then worked at De Beers for 3 years as project manager in Johannesburg, South Africa. Serkan joined the School of Mining Engineering as a Senior Lecturer in 2006 and was promoted to Associate Professor in 2012. Serkan then was then promoted to the Professorial role in 2017 and he is currently working as a Professor and Director of Research at the School of Minerals and Energy Resources Engineering at UNSW. A key focus of his research is to address the current needs and future challenges faced by the mining industry. These are generally very complex engineering problems, as mining environments become more extreme and constraints are imposed due to increasing social, environmental, and health and safety standards. His fields of research include ground control, mine planning & design, technology integration, new mining methods and off-Earth mining. In addition, he established research collaboration with NASA's Jet Propulsion Laboratory & Kennedy Space Center, and Luxembourg Space Agency as well more than 20 research organisations and universities globally. He has more than 250 publications and graduated 18 PhD students. Serkan is currently Fellow Member of Australian Institution of Mining and Metallurgy; President of the ISRM Commission on Planetary Rock Mechanics; Deputy Director of the Australian Centre for Space Engineering Research (ACSER) at UNSW; Deputy Secretary General and Council Member of the SOMP (The Society of Mining Professors). <https://newsroom.unsw.edu.au/news/science-tech/mars-settlement-likely-2050-says-unsw-expert-%E2%80%93-not-levels-predicted-elon-musk>, USNW Sydney Newsroom, 3/10/21, NCS, <https://newsroom.unsw.edu.au/news/science-tech/mars-settlement-likely-2050-says-unsw-expert-%E2%80%93-not-levels-predicted-elon-musk> brackets for spelling mistake

Robotic mining that can provide water and fuel is the key to developing a colony on the red planet within the next 30 years. Mars will be colonised by humans by the year 2050, as long as autonomous mining processes quickly become more commercially viable. That’s the view of Professor Serkan Saydam from UNSW Sydney in the wake of the amazing landing on Mars by NASA’s Perseverance rover. Perseverance is expected to provide answers about whether forms of life ever existed on the red planet, but it is also designed to help address the challenges of future human expeditions there. Professor Saydam, from the School of Mineral Energy Resources Engineering, says the main focus in terms of creating a colony on Mars is finding water – and being able to extract it and process it using robots before humans land. “Everything is all about water,“ Prof. Saydam says. “You use water as a life support, plus also being able to separate out the hydrogen to use as an energy source. “The process for having humans on Mars will be to set up operations, go there and produce water with robots first, and then be able to extract the hydrogen to make the energy ready before people arrive. “Innovation in robotics and autonomous systems are clearly important so that we have the water ready and the hydrogen separated and ready for when human beings land. “At the moment, we don’t have ability to do it. There are significant research efforts, specifically here at UNSW under ACSER (Australian Centre for Space Engineering Research), about the best way to do it, but there is no consensus yet. It also depends on how many people we expect to be living on Mars. Is it five, or 5000, or 50,000, or even more?“ Entrepreneur Elon Musk has claimed he’s confident there will be a city of 1 million on Mars by 2050, transported there by 1000 Starships proposed by his SpaceX venture, with plans for up to three rocket launches per day. Prof. Saydam says that may be unrealistic in the specific timeframe, but admits that demand for travel and a potential colonisation of Mars is what’s needed to drive the technological developments required. “I think the technology is ready and we already have the knowledge, but the main problem is having the focus,“ says Prof. Saydam, who is organising an International Future Mining Conference in December 2021 that will feature former NASA astronaut Pamela Melroy and Honeybee Robotics vice-president Kris Zacny. “It’s a bigger question: ‘Why don’t we do that already on earth? Why are we still using human beings for physical work in mining here?’ We have huge experience in mining, but still heavily depend on humans. “One issue is that demand is not there. For companies to get involved in developing products (for Mars missions), they need to be able to produce minerals or something that can be used for manufacturing goods and then sell it. “At the moment, everything is just a cost and there is no revenue for companies.“ However, that could be starting to change. United Launch Alliance, a joint venture between Lockheed Martin and Boeing who are heavily invested in the rockets used to launch spaceships, has publicly announced they will pay $500 per kilogram for fuel – derived from water – supplied on the moon. That rises to $3000 per kilogram if the fuel is available in a low-earth orbit. “That immediately creates a market,“ Prof. Saydam says. “Plus, if Elon Musk does what he says and puts people on the surface of Mars in 20 years, then that also creates a market. “I believe a colony on Mars is going to happen, but between 2040 and 2050 is more feasible. This could be shortened depending on the technological advances that can reduce the costs or [form] from stronger motivation. “What I think will happen is that first of all we will do these activities on the moon and have a colony there. Then we can use the moon as a petrol station to get to Mars and beyond. “But before 2050, I think we will have settlements on both the moon and Mars.“

#### And, private appropriation is key – fear of expropriation.

Collins 08 (Lecturer, The City Law School, City University, London, UK. B.A.Hon., J.D.(Toronto), M.Sc., B.C.L. (Oxford)), "EFFICIENT ALLOCATION OF REAL PROPERTY RIGHTS ON THE PLANET MARS" B.U. J. SCI. & TECH. L. [Vol.14:201, NCS, DOA 2/5/22, https://www.bu.edu/jostl/files/2015/02/Collins\_142.pdf

III. THE CURRENT LEGAL REGIME FOR PROPERTY IN OUTER SPACE In order to frame the discussion of future real property claims on Mars, this article will briefly discuss existing law on property in space. There are currently two relevant international treaties: The Outer Space Treaty and the Moon Treaty, both of which establish that Mars (and the other planets) are res communis: common property owned by the people of Earth. The former agreement, signed in 1967 as the result of efforts of the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS), establishes that space is “the province of all mankind” and “free for exploration and use by all states without discrimination of any kind, on a basis of equality” and also that there should be “free access to all areas of celestial bodies”, 16 clearly precluding the exclusivity of possession that is the foundation of ownership. Celestial bodies, including Mars, cannot be the subject of national appropriation by claims of sovereignty.17 The Outer Space treaty was signed by the United States, the USSR and 89 other nations and as such it can be viewed as a legally binding commitment in international law. The later Moon Treaty, ratified by only seven countries, establishes that all resources outside the earth are the “common heritage of mankind” and that no entity, either public or private can exclusively own any space resource,18 and that there must be “equitable sharing” by all state parties in the benefits derived from space resources, taking into consideration the needs of developing countries.19 This language of public ownership mirrors The Law of the Sea convention, which establishes that no nation can own the world’s oceans.20 The Moon Treaty permits the retention of “samples” taken from planetary bodies, although it encourages that such materials be made available to other nations for the purposes of scientific experiment.21 The laws of space, interpreted by some to allow for commercial mining, thus recognize the concept of personal property.22 Although the Moon Treaty allows parties to retain ownership of the equipment, vehicles and installations that they place there23 this is not true ownership in the common law sense since there is no right to exclude because Article XV requires that all vehicles, installations and equipment shall be open to use by all other parties. This partial acknowledgement of private personalty may hold the potential for “quasi-sovereignty” involving ownership of objects on the surface of planets by individuals or corporations.24 The simple delineation between equipment and land may be difficult to draw on Mars, however, because the planet’s atmosphere necessitates artificial construction, such as a greenhouse, in order to render the surface agriculturally productive or habitable. According to the common law, a chattel (in which ownership is retained in space) loses its status as a chattel and becomes a fixture when it is so affixed to land that it becomes part of the land,25 and evidently according to treaty at that point ownership is lost. In this way a base built upon the soil or rock of Mars for the purpose of habitation or as a greenhouse, even if it is resting upon the planet’s surface under its own weight without attachment, as long as it is intended to permanently improve the land, will become a fixture26 and is therefore common property. Thus, there is a strong risk that an investment such as a base that possibly costs billions of dollars in preparation and transportation would become public property once it was placed upon the planet’s surface. Together the space treaties embody the now widely-criticized notion27 that every human, as represented by the states in which they are members, has an effective “right” to Mars. Under this regime the allocation of Martian resources, possibly including land itself, will be determined by the “administrative model” in which each nation decides the distribution based on each country having an equal vote, much like the current United Nations regime.28 Not surprisingly, the United States and the Soviet Union rejected the limitations on the use of space resources, refusing to sign the Moon Treaty. Indeed none of the signatories of the Moon Treaty has space travel capability, suggesting that it does not reflect any practical concerns in space exploration and development. Rather, the Moon Treaty illustrates resistance to the idea of private advancement through the acquisition or use of space resources as expressed through the voting dominance of less-developed nations in intergovernmental organizations.29 Still, as many legal commentators have noted, the benefit sharing doctrines enunciated in the treaties are fortuitously vague and as such have little force in international law. At best they are loose policy guidelines, not concrete obligations.30 Interestingly, the treaties also present inconsistent principles: the Moon Treaty’s common ownership concept contradicts the prohibition against national appropriation found in the Outer Space Treaty,31 although this is little more than a semantic distinction. The ambiguity of these treaties and the fact that the Moon Treaty has not been ratified by space-faring nations suggests that property law in space remains, hopefully for the purpose of incentivization, clouded. Many commentators, notably Carl W. Christol, further assert the need to clarify and formalize the law of space exploration generally.32 An internationally recognized legal regime for property rights on Mars is essential; otherwise uncertainty (if not the fear of expropriation in the name of mankind) will endanger financial investment both in reaching and then colonizing the planet.

#### Life on earth is doomed – countless eventualities and unforeseen dangers.

Meyer 16

(Robinson Meyer is a staff writer at The Atlantic. He is the author of the newsletter The Weekly Planet, and a co-founder of the COVID Tracking Project at The Atlantic.), "Human Extinction Isn't That Unlikely", The Atlantic, 4/29/16, NCS, https://www.theatlantic.com/technology/archive/2016/04/a-human-extinction-isnt-that-unlikely/480444/

Nuclear war. Climate change. Pandemics that kill tens of millions. These are the most viable threats to globally organized civilization. They’re the stuff of nightmares and blockbusters—but unlike sea monsters or zombie viruses, they’re real, part of the calculus that political leaders consider everyday. A new report from the U.K.-based Global Challenges Foundation urges us to take them seriously. The nonprofit began its annual report on “global catastrophic risk” with a startling provocation: If figures often used to compute human extinction risk are correct, the average American is more than five times likelier to die during a human-extinction event than in a car crash. Partly that’s because the average person will probably not die in an automobile accident. Every year, one in 9,395 people die in a crash; that translates to about a 0.01 percent chance per year. But that chance compounds over the course of a lifetime. At life-long scales, one in 120 Americans die in an accident. Yet the risk of human extinction due to climate change—or an accidental nuclear war, or a meteor—could be much higher than that. The Stern Review, the U.K. government’s premier report on the economics of climate change, assumed a 0.1-percent risk of human extinction every year. That may sound low, but it adds up when extrapolated to century-scale. Across 100 years, that figure would entail a 9.5 percent chance of human extinction. And that number might even underestimate the risk. Another Oxford survey of experts from 2008 posited the annual extinction risk to be a higher figure, 0.2 percent. And the chance of dying from any major global calamity is also likely higher. The Stern Review, which supplies the 9.5-percent number, only assumed the danger of species-wide extinction. The Global Challenges Foundation’s report is concerned with all events that would wipe out more than 10 percent of Earth’s human population. “We don’t expect any of the events that we describe to happen in any 10-year period. They might—but, on balance, they probably won’t,” Sebastian Farquhar, the director of the Global Priorities Project, told me. “But there’s lots of events that we think are unlikely that we still prepare for.” For instance, most people demand working airbags in their cars and they strap in their seat-belts whenever they go for a drive, he said. We may know that the risk of an accident on any individual car ride is low, but we still believe that it makes sense to reduce possible harm. So what kind of human-level extinction events are these? The report holds catastrophic climate change and nuclear war far above the rest, and for good reason. On the latter front, it cites multiple occasions when the world stood on the brink of atomic annihilation. While most of these occurred during the Cold War, another took place during the 1990s, the most peaceful decade in recent memory: In 1995, Russian systems mistook a Norwegian weather rocket for a potential nuclear attack. Russian President Boris Yeltsin retrieved launch codes and had the nuclear suitcase open in front of him. Thankfully, Russian leaders decided the incident was a false alarm. Climate change also poses its own risks. As I’ve written about before, serious veterans of climate science now suggest that global warming will spawn continent-sized superstorms by the end of the century. Farquhar said that even more conservative estimates can be alarming: UN-approved climate models estimate that the risk of six to ten degrees Celsius of warming exceeds 3 percent, even if the world tamps down carbon emissions at a fast pace. “On a more plausible emissions scenario, we’re looking at a 10-percent risk,” Farquhar said. Few climate adaption scenarios account for swings in global temperature this enormous. Other risks won’t stem from technological hubris. Any year, there’s always some chance of a super-volcano erupting or an asteroid careening into the planet. Both would of course devastate the areas around ground zero—but they would also kick up dust into the atmosphere, blocking sunlight and sending global temperatures plunging. (Most climate scientists agree that the same phenomenon would follow any major nuclear exchange.) Yet natural pandemics may pose the most serious risks of all. In fact, in the past two millennia, the only two events that experts can certify as global catastrophes of this scale were plagues. The Black Death of the 1340s felled more than 10 percent of the world population. Eight centuries prior, another epidemic of the Yersinia pestis bacterium—the “Great Plague of Justinian” in 541 and 542—killed between 25 and 33 million people, or between 13 and 17 percent of the global population at that time. No event approached these totals in the 20th century. The twin wars did not come close: About 1 percent of the global population perished in the Great War, about 3 percent in World War II. Only the Spanish flu epidemic of the late 1910s, which killed between 2.5 and 5 percent of the world’s people, approached the medieval plagues. Farquhar said there’s some evidence that the First World War and Spanish influenza were the same catastrophic global event—but even then, the death toll only came to about 6 percent of humanity. The report briefly explores other possible risks: a genetically engineered pandemic, geo-engineering gone awry, an all-seeing artificial intelligence. Unlike nuclear war or global warming, though, the report clarifies that these remain mostly notional threats, even as it cautions: [N]early all of the most threatening global catastrophic risks were unforeseeable a few decades before they became apparent. Forty years before the discovery of the nuclear bomb, few could have predicted that nuclear weapons would come to be one of the leading global catastrophic risks. Immediately after the Second World War, few could have known that catastrophic climate change, biotechnology, and artificial intelligence would come to pose such a significant threat.

#### Space col brings infinite expected value – outweighs.

Baum 16

[Seth D. Baum, Executive Director of the Global Catastrophic Risk Institute, “The Ethics of Outer Space: A Consequentialist Perspective,” 2016, Springer, pp. 115-116, EA]

Space colonization is notable because it may be able to bring utterly immense increases in intrinsic value. Early colonies might start small, given that other planets and moons have inhospitable environments. However, it may be possible to build large indoor colonies or create more hospitable outdoor environments (i.e., terraforming). Even just on other planets and moons in the Solar System, space colonies could multiply the total area available for human habitation. And there are many more planets around other stars, as ongoing research on exoplanets is now learning. One recent study estimates 22 % of Sun-like stars have Earth-like exoplanets (Petigura et al. 2013), implying billions to tens of billions of potentially habitable planets across the galaxy. Opportunities at any given star may also be quite a bit greater than those available only on planets. Earth only receives about one two-billionth of the Sun’s radiation. To collect all the Sun’s radiation, humanity would need a Dyson swarm (named after Dyson 1960), which is a series of structures that surrounds a star, collecting its radiation to power a civilization. A Dyson swarm around the Sun could potentially enable a civilization a billion times larger than is possible on Earth. Likewise, Dyson swarms around one billion stars would bring humanity approximately 1018 (one billion–billion) times more energy per unit time. Space colonies could also increase the amount of time available for human civilization. Earth will remain habitable for a few billion more years (O’Malley-James et al. 2014). Stars will continue shining for about 1014 more years (Adams 2008). That gives us an additional 105 times more energy, for a total of 1023 times more energy than is available on Earth. After the stars fade, other energy sources may be available. And even if our current universe eventually becomes uninhabitable, it may be possible to move to other universes (Kaku 2005). The physics here is speculative, but it cannot be ruled out, and hence there is a nonzero chance of a literally infinite opportunity for space colonization (Baum 2010a). Whether the opportunity is infinite or merely, say, 1023 times larger than what can be done on Earth, the opportunity is clearly immense. As long as space colonization is an improvement (Sect. 8.3.1), then it would seem that the consequentialist should prioritize space colonization. The sooner space colonization begins, the more of its immense opportunity can be gained. Indeed, Ćirković (2002) estimates 5 × 1046 human lifetimes are lost for every century in which space colonization is delayed.

#### The CHM has a laundry list of failings.

Martin Del Campo 21:

#### Jose A. Martin del Campo[Bachelor's Degree in Aerospace, Aeronautical and Astronautical/Space Engineering from Texas A&M School of Law], Finders Keepers: Who Has Say Over Private Property in Space, 7 Tex. A&M J. Prop. L. 199 (2021). <https://scholarship.law.tamu.edu/cgi/viewcontent.cgi?article=1155&context=journal-of-property-law> AVKAW

Outer space and the Earth’s oceans share many similarities, which makes the law of the sea appear ideal to build a suitable system to guide property rights in outer space. However, the common heritage principle embedded in UNCLOS III presents an obstacle to granting the freedom to exploit outer space resources. The original authors of the Moon Agreement also agreed with the sentiment of UNCLOS III, which heavily influenced the Moon Agreement.164 One particular note taken from UNCLOS III was the regulation of seabed mining.165 The Moon Agreement intended that resources falling outside the territories of nation-states—in this case, off-Earth resources—belong to the common heritage of mankind.166 Developed nations are concerned with the possible commercial exploitation of outer space and the protection of such investments.167 Some argue that the common heritage principle found in UNCLOS III conflicts with the purpose of the Outer Space Treaty because the meaning of the common heritage principle is unclear.168 Moreover, they claim that interpretations of the common heritage principle clash between developed and developing countries.169 Developing nations interpreted the common heritage principle to mean that all space resources are the common property to all nations, and international control is necessary for redistributing wealth and technology between nations.170 The United States, however, took a more laissez-faire approach and interpreted the common heritage principle to mean free access in exploring and exploiting space resources.171 In drafting a treaty, agreement on definitions is necessary to create reciprocal commitments between the signatories.172 Thus, signatories are only bound to their respective interpretations at the signing of the treaty.173 Drafters would likely impute the UNCLOS III interpretation of the common heritage principle to the Moon Agreement.174 As defined in the UNCLOS agreements, the common heritage principle holds that all nations are entitled to a share in profits from the exploitation of seabed resources.175 UNCLOS III empowers the Sea Bed Authority, which is, in part, controlled by a two-thirds vote of signatory nations,176 to maintain the extraction of seabed resources in conformity to the common heritage principle.177 In attempting to reconcile the interpretations, the developing nations would likely win out as they did in UNCLOS III because of their superior number compared to already established space-faring nations.178 Thus, space-faring nations would be outvoted for their proposed interpretation and be bound to the developing nations’ definition of the common heritage principle.179 This development would, therefore, operationally incorporate UNCLOS III’s interpretation of the common heritage principle into the Moon Agreement because of the desire of developing nations to have a system similar to the Sea Bed Authority.180 Under this approach, there are two points of contention with the Outer Space Treaty principles.181 The first issue is that developing nations regard the benefit for all of mankind as meaning ownership by all nations.182 Second, the owner not only has the right to use their property, but also to exclude others who are opposed by the majority of owners.183 Others argue, however, that accepting the developing countries’ interpretation of mankind to mean all nations violates the Benefit Clause of the Outer Space Treaty.184 Each nation would perceive itself to be an owner in which they are entitled to a vote and a share of the benefits.185 However, a plurality of nations would likely fail to represent humankind adequately, and the plurality alone would achieve their interest.186 Developing nations—who would likely make up the majority of voting members and desire a regime similar to the International Seabed Authority—could then require that the nations in defiance of the Benefit Clause receive the profits of space activities.187 This provision was not meant to reward those that did not contribute to or take part in the risk of the activity.188 In contrast to the common heritage principle, the “benefit” provision does not mandate wealth distribution in which only a segment of humankind receives a benefit.189 Common ownership would also impact the free use principle of the celestial body.190 By requiring a majority approval, free use would be limited without permission.191 As the majority, developing nations’ interest could hamper the development of celestial exploitation because of the competition of their mining operations with the importation of new minerals.192 The ability of developing nations to limit or eliminate the free use principle directly conflicts with the general purpose of the Outer Space Treaty.193 An implementation of the law of the sea before the advocation of restrictions seems to be a more relevant model than the adoption of the UNCLOS agreement. The space law regime today bears substantial similarities to the ocean law following the 1958 UNCLOS but preceding the 1982 UNCLOS III agreement.194 At that time, an agreement existed on vague freedoms of the sea, but little could be agreed upon otherwise.195 States also possessed the ability to pick and choose from which of the 1958 provisions they would adhere to as states can do now among the existing outer space treaties.196 Also, as with the pre-1982 UNCLOS agreement, a relatively small number of nations with the ability to exploit the realm defined as the space regime.197 Today’s space law is characterized by broad principles that are exposed to unilateral interpretation.198 A new space law regime cannot adopt the common heritage principle of UNCLOS if private entities are to conduct space activities successfully. A new regime must take into account the interest of all of humankind and not the will of the developing majority nations. For a successful transition, the new governing authority must be fair and allow the development of space mining to occur equitably. The core of the law of the sea is, therefore, unsatisfactory as the building blocks of a future space regime.

## Space debris

#### Now the debris advantage:

#### They solve 0% of this advantage- satellites don’t count as appropriation because no territory is being permanently claimed as a company’s property, just being temporarily occupied

#### Be extremely skeptical of their internal links: a] no internal link to nuclear war- the OST bans use and deployment of nukes in space b] all of their scenarios for escalation are extremely nebulous- which actors escalate? c] even without NewSpace, countries already have satellites and ASATs in space that inevitably trigger their impacts d] they have no evidence that says appropriation is key

#### The continued attempts to debris clean-up means better tech is on the way

**Weiner 21** [Chloee Weiner,  “New Effort To Clean Up Space Junk Reaches Orbit”. 3-21-2021. NPR. https://www.npr.org/2021/03/21/979815691/new-effort-to-clean-up-space-junk-prepares-to-launch. Accessed 7-18-2021]

A demonstration mission to test an idea to clean up space debris launched Monday morning local time from the Baikonur Cosmodrome in Kazakhstan. Known as **ELSA-d**, the mission will **exhibit technology that could help capture space junk**, the millions of pieces of orbital debris that float above Earth. The more than 8,000 metric tons of debris threaten the loss of services we rely on for Earth-bound life, including weather forecasting, telecommunications and GPS systems. The spacecraft works **by attempting to attach itself to dead satellites and pushing them toward Earth to burn up in the atmosphere.** ELSA-d, which stands for End-of-Life Services by Astroscale, will be carried out by a "servicer satellite" and a "client satellite" that launched together, according to Astroscale, the Japan-based company behind the mission. Using a magnetic docking technology, the servicer will release and try to "rendezvous" with the client, which will act as a mock piece of space junk. The mission, which will be run from the U.K., will carry out this catch and release process repeatedly over the course of six months. The goal is to prove the servicer satellite's ability to track down and dock with its target in varying levels of complexity. The spacecraft is not designed to capture dead satellites already in orbit, but **rather future satellites that would be launched with compatible docking plates on them.** Space junk has been a growing problem for years as human-made objects such as old satellites and spacecraft parts build up in low Earth orbit until they decay, deorbit, explode or collide with other objects, fragmenting into smaller pieces of waste. In 2019, for example, India blew apart one of its satellites orbiting Earth, creating hundreds of pieces of debris that threatened to collide with the International Space Station. According to a recent report by NASA, at least 26,000 of the millions of pieces of space junk are the size of a softball. Orbiting along at 17,500 mph, they could "destroy a satellite on impact." More than 500,000 pieces are a "mission-ending threat" because of their ability to impact protective systems, fuel tanks and spacecraft cabins. And the most common debris, more than 100 million pieces, is the size of a grain of salt and could puncture a spacesuit, "amplifying the risk of catastrophic collisions to spacecraft and crew," the report said. According to NASA, cleaning up space — and addressing the risks associated with debris — depend on preventing the accumulation of more waste and actively removing it. Space Junk: How Cluttered Is The Final Frontier? SHORT WAVE Space Junk: How Cluttered Is The Final Frontier? The development of other cleanup technologies has been underway for years. **In 2016, Japan's space agency sent a 700-meter tether** into space to try **to slow down and redirect space junk**. **In 2018**, a device called **RemoveDebris successfully cast a net around a dummy satellite**. The **European Space Agency also plans to send a self-destructing robot into orbit in 2025,** which the organization's former director general has **referred to as a space "vacuum cleaner." These effort**s could prove increasingly **important as private space ventures like SpaceX continue to clutter** low Earth **orbit with** a "mega-constellation" of **satellites**.