## DA

### Settlement DA

#### Current law is not a barrier to space settlement.

Gesl 18 [Paul M. Gesl (Maj, USAF JD), “PREPARING FOR THE NEXT SPACE RACE: Legislation and Policy Recommendations for Space Colonies,” A Research Report Submitted to the Faculty In Partial Fulfillment of the Graduation Requirements for the Degree of MASTER OF OPERATIONAL ARTS AND SCIENCES (April 2018). <https://apps.dtic.mil/sti/pdfs/AD1053024.pdf>] CT

Existing Legal Framework for Space Colonies

In 1967, the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies (OST) entered into force.43 This document, which is over 50 years old, was drafted when space issues were very different, yet it is still the primary binding international law on space activities. The OST places several limitations on potential colonization; however, it does not forbid the activity.

The first hurdle to a potential colony is Article II of the OST. “Outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.”44 One could argue that this would prevent any colonization. In fact, some do just that. Attorney Michael Listner, who founded Space Law and Policy Solutions, views this article as a non-starter for colonization efforts. “When a private citizen makes a claim to private, real property, basically, that’s saying the United States is making a claim as well, because of that continuing jurisdiction, the U.S. government always has.”45 The publication theoutline.com, relying on an interview with Listner,took this one step further, arguing that this means “any base or settlement on Mars would have to be free to use by anyone who can travel there. A person can’t just set up a colony, claim independence, and create rules that restrict access to it.”46 However, Lister’s interpretation is incorrect as it is too strict an interpretation of the language. Theoutline.com appears to take the interpretation to an untenable conclusion that is not supported by the evidence. Even though this position is not credible, it is important to discuss because as the United States moves towards colonization, it will face similar criticisms from opponents. Article II of the OST was not written to ban establishing a colony on a celestial body. Instead it was written to prevent a country from claiming a celestial body, such as the moon, as their own sovereign territory. This more permissive interpretation is supported by other provisions of the OST.

The OST contains language that supports establishing colonies. Article IV, while generally a prohibitive Article, states, “The use of any equipment or facility necessary for peaceful exploration of the Moon and other celestial bodies shall also not be prohibited.”47 If this leaves any doubt, Article XII likely clears up the confusion.

All stations, installations, equipment and space vehicles on the Moon and other celestial bodies shall be open to representatives of other States Parties to the Treaty on a basis of reciprocity. Such representatives shall give reasonable advance notice of a projected visit, in order that appropriate consultations may be held and that maximum precautions may be taken to assure safety and to avoid interference with normal operations in the facility to be visited.48

This Article establishes two important facts under the treaty. First, space colonization is acceptable under the OST. A colony easily fits within the definition of a station or installation. Quite simply, if the drafters of the OST intended to prevent States from establishing colonies, they would have most certainly done so in uncertain terms. Second, a State can establish a colony either unilaterally, or with a selected group of international partners. The visits discussed in Article XII would not be necessary if every colony needed to be open to the international community. This also eviscerates claims like those cited by theoutline.com, discussed above. If any colony were open to any party that could reach it, the visits by representatives in Article XII would be nonsensical. Looking at these details in the language of the entire treaty is important, because without it, one could argue that Article I in the OST would prevent a State from establishing a colony. If a space colony established by a single State would deny other states free access to an area of a celestial body (namely the area where the colony is established), then facilities would be banned outright. However, Article XII directly undercuts this weak argument.

It is important to note that the OST equally applies to commercial entities. Private corporations are currently leading the way in planning for space colonization. A company that did not sign, or even exist when the OST was signed, is still bound by its provisions. Article VI establishes that these entities have to conform to the treaty, and more importantly that “the appropriate State Party to the Treaty” must both authorize and supervise these companies. 49 While not binding, the United Nations has spoken on the matter.

Space activities should require authorization by a competent national authority; such authority or authorities, as well as the conditions and procedures for granting, modifying, suspending and revoking the authorization, should be set out clearly within the regulatory framework; States might employ specific procedures for the licensing and/or for the authorization of different kinds of space activities.”50

These two citations together indicate that the United States must authorize and supervise the activities of commercial companies operating in space. If those activities include colonization, then legislation must appropriately supervise it.

#### But, non-appropriation makes space settlement impossible.

Kerkonian 17 [Aram Daniel Kerkonian (Institute of Air and Space Law Faculty of Law, McGill University Montréal, Quebec), “The Legal Aspects of Permanent Human Settlement on Celestial Bodies,” A thesis submitted to McGill University in partial fulfillment of the requirements of the degree of Masters of Laws (LLM) (Oct 2017). <https://escholarship.mcgill.ca/downloads/tq57nt396>] CT

Article II prohibits the appropriation of outer space, simultaneously limiting and preserving the rights afforded under Article I: States are limited from claiming ownership or securing property rights in space thereby preserving for all other States the general freedom to use and explore. As the “non-appropriation” principle, Article II prevents an entity from claiming ownership over a particular spot in space, a plot of land on a celestial body or even an orbit around a moon151; while exploration and use are permitted, ownership is prohibited. Therefore, regardless of the scope of use or degree of reliance on a particular phenomenon of outer space, an entity cannot claim an individual benefit permanently. As a result, the USSR could not claim the orbit in which Sputnik made its maiden voyage152, the USA could not claim the Sea of Tranquility as its territory after planting its flag on the Moon153 nor could the equatorial countries exclude others from using the geostationary orbit located approximately 36,000 km above their territories154.

Although the OST does not define “appropriation” 155, the prohibition outlined in Article II must be understood to limit not only explicit claims of property or ownership but also, what can be called, “appropriation by action” – an activity that, without ever claiming to do so, appropriates outer space through its indirect consequences. An appropriate understanding of appropriation, therefore, becomes vital when determining whether proposed new and emerging technologies (such as permanent human settlement or space mining) may appropriate outer space, in one way or another, without ever claiming to do so.156 Although a truly meaningful investigation into the definition of appropriation is outside the scope of this thesis, moving forward without a useful conceptualization would be imprudent; therefore, a brief investigation into the drafting parties’ motivations for including the non-appropriation principle is warranted.

During Article II’s deliberations, many State representatives announced their support of the non-appropriation principle as a way of ensuring space activities would not undermine the general objectives of the OST (that outer space serve the interest of all States and not just the State undertaking a particular activity). Specifically, there was a desire that outer space not devolve into another domain of exploitation and imperialism, as had the New World and Africa during the fifteenth through nineteenth centuries.157 As Judge Manfred Lachs reminds: “Need one recall how frequently the practices of dividing and disposing of lands and whole continents led to conflict and strife? The lesson should have been learnt.”158 Indeed, for many of the negotiating parties the lesson had been learned. Rather poignantly, the years in which such space-related discussions were taking place were also a period of great decolonization and independence, with States acutely aware and hyper-prescient of the consequences of imperialism.

Since there is no evidence that space harbours other life forms, some have argued that mimicking the imperialism of the past in space would not result in harm as it did on Earth. What must be remembered, however, is that imperialism generates great inequality aside from the fact that it often subjugates certain classes. Ambitious territorial landgrabs in space, currently only possible for developed space-faring States, would cement economic advantages far into the cosmos and further exacerbate the inequality amongst nations on Earth. This will be the case regardless of whether alien civilizations exist. There is no question that space affords humanity great opportunity – what is questionable is how such opportunity will be distributed.159 Prohibiting appropriation was one method chosen by the negotiating parties to ensure the satisfaction of the OST’s underlying objective that space activities benefit all of humanity and not simply those with exploitative capabilities.160

The appropriation of outer space, therefore, can be accomplished by an activity that results in the same kinds of consequences as private ownership – exclusive use, profiting, unilateral decision making, etc. While such characteristics are necessarily true of certain activities (such as orbital positions 161), they are temporary and often available for someone else to use nearly simultaneously. A human settlement, with its notable permanence in a particular location, is neither temporary nor can it be used by multiple users concurrently – once established, its location will be restricted to other users.162 The general argument that space is vast (and so a single settlement site will not reduce the available real estate or subsequent users can simply choose another suitable site) undercuts the reality that space, while expansive, offers certain irreplaceable advantages depending on location.163 Notwithstanding, any realistic permanent human settlement will necessarily require affixing its structures to the ground, thereby appropriating that specific area in favour of the structure’s owner. In discussing this position, Judge Lachs reiterates that all activities in space ought to be for the benefit of all countries and Dr. Nicolas Matte draws the conclusion that: “moveable objects ‘attached to celestial bodies become immovables’, which grants the State to which they belong a right to the ‘soil’ of celestial bodies or at least a right to the surface’. Thus it is contended that ‘we arrive at an ownership… by technical and industrial occupation, without giving it a name.”164 Both Judge Lachs and Dr. Matte warned against State appropriation of celestial bodies to avoid the ever-present conflicts on Earth caused by similar situations.

In an attempt to get around this prohibition on national appropriation, some private enterprise proponents developed a nuanced argument focussing on the inclusion of the word “national” to claim that private, non-governmental entities were not prohibited from appropriating outer space and celestial bodies.165 Indeed, a plain language, straightforward reading of Article II suggests that since only national sovereignty is listed as a prohibited ground, other forms of appropriation may be permitted. Notwithstanding that Article VI makes it clear that States are responsible for their private entities’ space activities (thus if a private entity claimed sovereignty, their State would be responsible and thereby violate Article II), most delegates participating in the negotiations of Article II were of the opinion that it prohibited both public and private appropriation.166 This remains the consensus today.167 Plainly, the appropriation of outer space by private entities would have similar consequences as State appropriation – imperialistic exploitation conducted by SpaceX is still imperialistic exploitation. Therefore, arguments that claim private entities can appropriate outer space are legally invalid.

The conclusion, therefore, seems to be that any permanent human settlement would necessarily appropriate the celestial body upon which it is located and therefore violate Article II. Although there is no denying that States or private entities can establish stations or installations in space, the intention and permanence of the structures may give rise to an activity that violates international law.168 However, if the settlement activity were undertaken in a particular manner (as will be explored more thoroughly in Chapter 165 “ 3, an interpretation of Article II, in light of the object and purpose of the overall treaty, may justify its violation.

#### **AND, even if it’s theoretically possible, without private appropriation space settlement will not happen – no incentives, and would result in conflict.**

Thomas 05 [Jonathan Thomas, “Privatization of Space Ventures: Proposing a Proven Regulatory Theory for Future Extraterrestral Appropriation,” 1 BYU Int'l L. & Mgmt. R. 191 (2005). https://digitalcommons.law.byu.edu/ilmr/vol1/iss1/7]CT

The current corpus juris spatialis based on res communis has received wide criticism by legal commentators, in part because of the practical limitations of its idealistic principles in application. For example, one commentator addressing the potential problems of future colonization of celestial bodies argued that the prohibition against private and national appropriation may cause deleterious effects when colonizers build settlements. Although these colonizers may occupy the property, they will have no legal control of their communities and could be uprooted for the purposes of putting that property to a better use for the benefit of common heritage. This risk may serve as a strong disincentive to the preservation of sectarian colonization in a res communis society.

Other commentators argue that the current corpus juris spatialis based on the idealistic res communis principle has actually slowed the development of outer space exploration because privately and publicly funded organizations cannot appropriate outer space.61 Under the corpus juris spatialis, there exists no probability or possibility of return on investments, which results in insufficient monetary incentive for businesses or private persons. Even with the daunting needs created by increasing population and consumption, and decreasing resources on earth, many states may not even attempt to exploit extraterrestrial resources because the current corpus juris spatialis does not guarantee that their own citizens will benefit from the investments made with their tax dollars. A future lack of resources, combined with a body of law that mandates common ownership of potential resources, may create a black market for extraterrestrial resources, or it may engender armed conflicts over the lack of supplies available to states.63

While there is little past precedent to justify it, and little present sentiment to support it, the current corpus juris spatialis clings to the idea that in the future, humans will be able to share the resources of space in common. One commentator illustrates these idealistic ideas and assumptions:

The articles of the various [outer space J treaties all predicate themselves upon the theory that mankind will work together for the common good with no real advantage to be gained other than the praise of his fellow man. It assumes that people are able to co-operate, and that they will indeed do so whenever dealing with outer space ventures. While the global effort in researching, developing and exploring space for the sheer joy of the information obtained, accomplished in the spirit of teamwork is a noble goal, it is clear that a world full of economic strife is ripe to intervene.64

These assumptions of the Outer Space Treaty and the Moon Treaty are unrealistic at present. Perhaps someday humankind will develop ideal characteristics that the Outer Space Treaty and Moon Treaty would like it to engender. In the meantime, it may be impractical to attempt to solve the dilemma of space appropriation based on characteristics yet to be consistently demonstrated.

Furthermore, res communis principles would become problematic as applied to space law due to the following problems: (1) the application of res communis theory in the Western world has been unsuccessful; and (2) scarcity of resources in res communis society is fatalistic to the society. It could be argued that the success of res communis ideology, albeit on a small scale, indicates that humankind should be able to implement the res communis ideology into corpus juris spatialis. While res communis ideology has seen some success in other societies, it is not prudent to assume that it will enjoy the same successful application in our increasingly capitalistic, modern society. Societies that have successfully implemented res communis ideology have had entirely different goals and values systems than those of the capitalist societies that are now developing the means for further space exploration. 65 While the isolated successes of communal societies in Africa and the Australian Outback are indeed admirable, they are certainly not the pioneers of space exploration and appropriation. Furthermore, it is difficult to posit that capitalistic nations can successfully switch to a res communis ideology. Groups that originated in capitalistic societies and subsequently switched to communal living have ultimately failed and reverted back to the individual ownership system from which they came. 66

The second problem with using res communis as a basis for property endowment in outer space law is the damaging effect of individual appropriation on the community when scarcity arises. Even in a res communis society where the community owns all property, individual members of the community nonetheless use certain parts of that property to the exclusion of the rest of the community. Such individual use and appropriation against the community is seen as permissible under res communis ideology supported by Lockean notions of property endowment; an individual may exclude the community from property if he or she mixes his or her labor with that property. This individual appropriation does not have a damaging impact on the community as long as there IS "'enough and as good left in common for others.71 However, when there IS scarcity, the rights of the community against the individual become increasingly hostile.

In outer space, scarcity will always be an Issue and thus will limit the utility of res communis based on Lockean principles of property endowment.72 The universe potentially may contain billions of solar systems and planets, but some celestial bodies may prove to be gold mines, while others prove to be "the Sahara."73 More important than the scarcity of limited resources, however, is the scarcity created by human lifespan and technological limitations. The time that space travel presently takes in comparison to the average human life span limits our ability to exploit celestial resources. Furthermore, technological limitations already have created issues of scarcity: such as the increasing problems of satellite positioning and traffic in geostationary orbit.

#### **Space Settlement is coming now and prevents inevitable extinction. Settlement requires private industry and rule of law.**

Gesl 18 [Paul M. Gesl (Maj, USAF JD), “PREPARING FOR THE NEXT SPACE RACE: Legislation and Policy Recommendations for Space Colonies,” A Research Report Submitted to the Faculty In Partial Fulfillment of the Graduation Requirements for the Degree of MASTER OF OPERATIONAL ARTS AND SCIENCES (April 2018). <https://apps.dtic.mil/sti/pdfs/AD1053024.pdf>] CT

Why the United States Needs to Think About Space Colonization Now

The United States’ space policies under the previous two Presidential administrations have not matched the ambition of the commercial sector. The author has criticized the National Space Policies of both President Obama and George W. Bush as being too “Earth-Centric.”6 Based on the current state of technologies, it is easy to dismiss space colonization as, at best, a problem to worry about tomorrow and, at worst, mere science fiction. This is irresponsible. Reaching space is difficult. Colonizing it will be even more difficult; however, we cannot overlook it as a likely possibility. NASA viewed space colonization as an endeavor within humanity’s reach in the 1970s.7 Now it is beginning to take shape as a reality. In 2015 at the Pioneering Space National Summit, policy makers, industry leaders and advocates agreed that “The long term goal of the human spaceflight and exploration program of the United States is to expand permanent human presence beyond low-Earth orbit in a way that will enable human settlement and a thriving space economy. This will be best achieved through public-private partnerships and international collaboration (emphasis in original).”8 Additionally, there have been several attempts in Congress to pursue space settlement.9 Private industry appears to be taking the lead in this race. Elon Musk, the CEO of SpaceX intends to establish a colony of a million settlers on the surface of Mars.10 SpaceX is targeting the first manned missions to make this a reality to launch in 2024.11 Mr. Musk envisions the full colonization to take 40-100 years.12 Even if this timeline misses its ambitious deadline by a decade, humanity will be a multi-planetary species in many readers’ lifetimes. It is important to note that Mr. Musk recently stated that SpaceX is “building the first Mars, or interplanetary ship, and I think we’ll be able to do short trips, flights by first half of next year.”13 Even though he joked that the company might miss their timeline, his comments highlight that colonization is an issue that is fast approaching.14 Another factor to consider is that a legal framework needs to be developed before a Martian colony is at its full capacity. Mr. Musk envisions using SpaceX’s BFR to send approximately 100 people per flight to Mars.15 Additionally, SpaceX appears to be planning for humans living on the lunar surface in their Moon Base Alpha.16 SpaceX is not alone in their ambitions. United Launch Alliance (ULA) published their plans to expand the population of humans living and working in space. Their Cis-lunar 1,000 framework is a 30-year plan to develop the cis-lunar economy and grow the population of humans living and working in space from six to 1,000.17 Space colonization is more important to our species than the economic benefits of a space economy and the conquests of exploration. The current world population is 7.4 billion people.18 According to the World Wildlife Foundation and the Global Footprint Network, “the equivalent of 1.7 planets would be needed to produce enough natural resources to match our consumption rates and a growing population.”19 The problem will likely grow worse as the population of the planet continues to grow. According to the United Nations, the Earth’s population will grow to over 11 billion people by 2100.20 Based partially on this, “Prof [Stephen] Hawking said it was only a matter of time before the Earth as we know it is destroyed by an asteroid strike, soaring temperatures or over-population.”21 Hawking further stated that, “When we have reached similar crisis in or (sic.) history there has usually been somewhere else to colonise (sic.). Columbus did it in 1492 when he discovered the new world. But now there is no new world. No Eutopia (sic.) around the corner. We are running out of space and the only places to go are other worlds.”22 The late Professor Hawking is not alone in his view, the National Space Society observed the benefits of expanding into space. “Outer space holds virtually limitless amounts of energy and raw materials, which can be harvested for use both on Earth and in space. Quality of life can be improved directly by utilization of these resources and also indirectly moving hazardous and polluting industries and/or their waste products off planet Earth.”23 These are just several of the many compelling reasons to colonize space advocated by groups such as the National Space Society and the Space Frontier Foundation.24 ULA appears to be taking steps to meet their ambitions for the future. ULA announced the first step towards making their Cis-lunar 1,000 vision a reality. In October 2017, they announced a partnership with Bigelow Aerospace to launch a habitat to low lunar orbit.25 The launch is expected to be completed before the end 2022.26 Some feel that colonization is going to happen, no matter what governments do.27 If colonization is going to happen, then it is in the United States’ best interest to develop a legal framework that supports the efforts and protects our citizens who will travel to and live in these habitats. This is important for several reasons. First, private corporations appear to have an interest in colonizing space, so it is in humanity’s future whether the government is involved nor not. However, governments can take actions that will accelerate things.28 Second, it is in the best interest of the United States’ economy to support commercial companies that are expanding into space. Third, if the United States does not create a favorable legal framework for space colonization, someone else will. Finally, as humanity expands away from the surface of the Earth, it is important to create a free society based on the principles of the Rule of Law rather than some other form of government, or an anarchistic company town.

#### An extinction event is inevitable, unpredictable, and the risk is growing. Space settlement is the only solution and it requires a thriving private space industry including orbital installations, mining, and tourism.

Hertzler and Rench 16 [Kevin Hertzler and Rebecca McCauley Rench (PhD), “GLOBAL EXTINCTION or a Space-Industrial Complex,” Potomac Institute for Policy Studies (2016). <https://www.potomacinstitute.org/steps/images/PDF/Articles/HertzlerSTEPS_2016Issue3.pdf>] CT

Yet, the bigger existential threat of annihilation of all humanity, by nuclear holocaust or natural forces, is currently considered too remote to be taken seriously. The geological record has preserved the rise and decline of many species throughout earth’s history, whether their extinctions were the result of asteroid impacts, volcanic activity, solar flares, or gamma ray bursts from distant star systems. To think humanity above the historical trends of the universe is conceited and illogical. Perhaps it is time to reconsider the annihilation threat and to entertain the need for an off-Earth sustainable colony.

Humanity might not get a second chance at survival. The idea of an extinction event has long been fuel for science fiction writers, and is exemplified in the novel by Neal Stephenson entitled Seveneves. 3 In Seveneves, humanity will be wiped out on Earth within two years unless nations collaborate to put a small group of astronauts and scientists on the International Space Station in hopes they survive and repopulate the planet. Science fiction has been known to become science fact, both in ways that are beneficial to society, and in ways that have negative consequences. A study of threats and a dystopian future is also inculcated into academia, with Niklas Bostrom, the founder of the “Future of Humanity Institute,” as a recognized leader. While the risk in any given year might be quite small, there is almost certainly an eventual global extinction event. With a growing population and the speed of destructive technological advancements, the annual risk of humanity’s downfall may be increasing. When the inevitable is presented as a certain future, or happens before we can react, what will be humanity’s last collective thought? Given our current technological prowess, perhaps the time to take action is now. During a Wall Street Journal All Things Digital conference,4 Elon Musk said:

Either we spread Earth to other planets, or we risk going extinct. An extinction event is inevitable and we’re increasingly doing ourselves in.

World renown physicist Steven Hawking agrees and recently told a gathering at the Big Think:5

I believe that the long-term future of the human race must be in space. It will be difficult enough to avoid disaster on planet Earth in the next hundred years, let alone the next thousand, or million. The human race shouldn’t have all its eggs in one basket, or on one planet. Let’s hope we can avoid dropping the basket until we have spread the load.

The timing and the nature of this event remains truly unknown. Predictions suggest an existential event may come from space or be the product of our own hand, but we will likely remain ignorant of the cause until its near arrival. What we do know is that if humanity is still inhabiting only one planet, our unique life stories will be tragically and permanently erased. Thus, we confront the realization of the likelihood of a global extinction event that we have absolutely no control over, that we currently have no defense for, and no plans to escape from. We are deluded into believing that since an extinction event is rare, it can not occur in our lifetime. Consider the attitude expressed in the Jet Propulsion Laboratory’s Near Earth Object program’s website6 which states:

On an average of every several hundred thousand years or so, asteroids larger than a kilometer could cause global disasters … No one should be overly concerned about an Earth impact of an asteroid or comet. The threat to any one person from auto accidents, disease, other natural disasters and a variety of other problems is much higher than the threat from [Near Earth Objects] NEOs. Over long periods of time, however, the chances of the Earth being impacted are not negligible so that some form of NEO insurance is warranted. At the moment, our best insurance rests with the NEO scientists and their efforts to first find these objects and then track their motions into the future. We need to first find them, then keep an eye on them.

However, what will our response be if we find an NEO larger than a kilometer that is on a collision course with Earth? A database is not an insurance policy and leaves open the issue of an appropriate response. Currently, our only real hope lies with mitigation strategies predicated on intercepting7 or redirecting8 NEO objects. The former suggests using a robotic spacecraft that is weighted or carries a nuclear explosive and the latter will redirect the NEO object with a robotic spacecraft. However, as NASA states in their “Asteroid and Comet Watch” website9 a response requires decades of warning time if the NEO object is larger that a few hundred meters.

We needed Sputnik to motivate our resolve for the domination of space. The mental contrast of one day dreaming about space travel through science fiction, and then seeing it live on television in the living room, stimulated our imaginations. President Kennedy’s speech inspired a nation and the decade-long pursuit that saw a surge in academic scholarship and technological advances. There are many technologies and spinoffs10 woven into the fabric of the world culture that owe their birth to that speech and subsequent technology development.

Can we expect the development of a humanity insurance policy before a crisis begins? It might require funding of NASA at levels similar to the 1960s, when we successfully landed men on the moon. It might require the development of a space-industrial complex that could help drive future economic growth. It might require that we spread out to other planets and achieve Earth independence to stave off global human extinction, even on our watch. It does require that we take the threat, and its inevitability, seriously and devote resources to preventing our extinction.

The ancient seafarers were motivated to take risks for the sake of curiosity and the desire for exploration and resources.11 The drive to leave the planet and set up colonies is similar: There is the allure, the curiosity, the adventure, and the insurance. It could, and should, be an international effort justified based on the purpose of planning for the preservation of humanity.

Certain plans are underway. Mars One is a nonprofit organization that promotes its plans for a Mars settlement within fifteen years.12 Elon Musk’s company SpaceX is reportedly developing plans to send large numbers of people to Mars.13 And NASA recently released a comprehensive strategy14 that leverages nearterm space activities with a comprehensive capability development culminating in an independent human presence on Mars. The NASA plan, at a minimum, would provide a future with a sustainable presence for humanity in deep space and provide an answer to many global extinction scenarios. Some of these plans are more logistically feasible than others, but all demonstrate the ambition of a select sect of humanity interested in pursuing off-Earth colonization. This strategy is well reasoned and has the potential to save humanity as well as provide a much needed economic boost by creating a space-industrial complex with the nascent private-public partnerships15 for mining asteroids, manufacturing propellant on the moon, creating fuel depots, and launching humans into space. The spinoff technologies would fuel real job growth as evidenced by the Apollo program of the 1960s. Rather than a short lived event to win a space race, this modern space age will be designed as a sustained effort in human space colonization. The current roadblocks preventing this strategy from moving forward are budgets, political priorities, and the changeable public interests; the exact same denouement of the moon landings over 40 years ago. An article posted on the Washington Post website by Joel Achenbach made the following observation:16

At the moment NASA can’t even get an astronaut to the International Space Station without buying a seat on a Russian rocket. A new NASA space capsule that was conceived in 2005 likely won’t be ready until 2023, according to NASA’s latest estimate, and it’s built for 21-day missions, not for trips to Mars.

The same article quotes Doug Cooke, a former NASA associate administrator as saying:

There needs to be more of a plan for actually getting there [Mars]. You can’t have a flatline budget indefinitely and think you’re going to put all of this together by 2030.

We must support the mission of human space exploration and colonization with both our interests as well as our national budget priorities if we want any hope of surviving the inevitable existential global extinction event.

#### Space settlement outweighs every impact. Even slight delays result in an unfathomable loss of life.

Bostrom 03 [Nick Bostrom, “Astronomical Waste: The Opportunity Cost of Delayed Technological Development,” Utilitas Vol. 15, No. 3 (2003): pp. 308-314. https://nickbostrom.com/astronomical/waste.html#\_edn8,] CT

II. THE OPPORTUNITY COST OF DELAYED COLONIZATION

From a utilitarian perspective, this huge loss of potential human lives constitutes a correspondingly huge loss of potential value. I am assuming here that the human lives that could have been created would have been worthwhile ones. Since it is commonly supposed that even current human lives are typically worthwhile, this is a weak assumption. Any civilization advanced enough to colonize the local supercluster would likely also have the ability to establish at least the minimally favorable conditions required for future lives to be worth living. The effect on total value, then, seems greater for actions that accelerate technological development than for practically any other possible action. Advancing technology (or its enabling factors, such as economic productivity) even by such a tiny amount that it leads to colonization of the local supercluster just one second earlier than would otherwise have happened amounts to bringing about more than 10^29 human lives (or 10^14 human lives if we use the most conservative lower bound) that would not otherwise have existed. Few other philanthropic causes could hope to match that level of utilitarian payoff. Utilitarians are not the only ones who should strongly oppose astronomical waste. There are many views about what has value that would concur with the assessment that the current rate of wastage constitutes an enormous loss of potential value. For example, we can take a thicker conception of human welfare than commonly supposed by utilitarians (whether of a hedonistic, experientialist, or desire-satisfactionist bent), such as a conception that locates value also in human flourishing, meaningful relationships, noble character, individual expression, aesthetic appreciation, and so forth. So long as the evaluation function is aggregative (does not count one person’s welfare for less just because there are many other persons in existence who also enjoy happy lives) and is not relativized to a particular point in time (no time-discounting), the conclusion will hold. These conditions can be relaxed further. Even if the welfare function is not perfectly aggregative (perhaps because one component of the good is diversity, the marginal rate of production of which might decline with increasing population size), it can still yield a similar bottom line provided only that at least some significant component of the good is sufficiently aggregative. Similarly, some degree of time-discounting future goods could be accommodated without changing the conclusion.[7]

III. THE CHIEF GOAL FOR UTILITARIANS SHOULD BE TO REDUCE EXISTENTIAL RISK

In light of the above discussion, it may seem as if a utilitarian ought to focus her efforts on accelerating technological development. The payoff from even a very slight success in this endeavor is so enormous that it dwarfs that of almost any other activity. We appear to have a utilitarian argument for the greatest possible urgency of technological development. However, the true lesson is a different one. If what we are concerned with is (something like) maximizing the expected number of worthwhile lives that we will create, then in addition to the opportunity cost of delayed colonization, we have to take into account the risk of failure to colonize at all. We might fall victim to an existential risk, one where an adverse outcome would either annihilate Earth-originating intelligent life or permanently and drastically curtail its potential.[8] Because the lifespan of galaxies is measured in billions of years, whereas the time-scale of any delays that we could realistically affect would rather be measured in years or decades, the consideration of risk trumps the consideration of opportunity cost. For example, a single percentage point of reduction of existential risks would be worth (from a utilitarian expected utility point-of-view) a delay of over 10 million years. Therefore, if our actions have even the slightest effect on the probability of eventual colonization, this will outweigh their effect on when colonization takes place. For standard utilitarians, priority number one, two, three and four should consequently be to reduce existential risk. The utilitarian imperative “Maximize expected aggregate utility!” can be simplified to the maxim “Minimize existential risk!”.

## CP

### Legal Trust CP

#### TEXT: The Outer Space Treaty ought to be amended to establish an international legal trust system governing outer space.

Finoa 21 [Ivan Finoa (Department of Law University of Turin), “Building a New Legal Model for Settlements on Mars,” A. Froehlich (ed.), Assessing a Mars Agreement Including Human Settlements, Studies in Space Policy 30, 2021. <https://doi.org/10.1007/978-3-030-65013-1_7>]CT

7.5 A Proposal for an International Legal Trust System

Since several legal and policy issues may arise from the actual legal framework, a new international legal regime for outer space shall: (a) Provide for property rights or a lease allocation system, both incentivising investments in the space sector. The system would be supervised and led by the United Nations (UN) through the United Nations Office for Outer Space Affairs (UNOOSA). (b) Establish the rule of law in outer space. A laissez faire system could turn into anarchy whereby countries and companies could race to grab as many resources as possible bringing considerable potential conflict. (c) Recognise outer space as common heritage of mankind, instead of res communis.24 (d) Provide a sustainable exploitation of celestial bodies, to avoid the uncontrolled production of space debris or to prevent the complete exhaustion of the celestial bodies’ masses or their natural orbits.25 The United Nations should manage the ordered and sustainable economic development in outer space for the present and future generations. (e) Prevent the militarisation of outer space and favours the international collaboration, which are the same aims of the Outer Space Treaty’ drafters. (f) Consider the weak points of the Moon Agreement which led to nations’ refusal to sign. Only a widely accepted agreement would have the power of law in the international context.

The abovementioned requirements could be met by establishing an international Legal Trust System (ILTS). A trust is an arrangement that assigns assets to one or more trustees that will manage them in the interest of one or more beneficiaries. The latter may include the trustee or the settlor.26 Translated in the ILTS, mankind would assume the role of settlor and beneficiary of the outer space resources. The UNOOSA would act as main trustee of outer space resources and trading property rights and leases to companies and countries. The rights over the celestial bodies or over its resources would depend on the nature of the celestial body itself. For example, property rights are preferable to a lease over asteroids, as they could just disappear after the exploitation. Both leases and property rights can be provided over lands and mining sites on Mars. Leases or defeasible titles are preferable for some land mass on those celestial bodies which could hypothetically be used by humankind pending an Earth disaster. In the case of lucrative activities, such as mining, companies will choose whether to get the exclusive use over the resource through payment of the lease or through annual payment linked to net proceeds or to production charges.

7.6 The Functioning of the International Legal Trust System

When a company is interested in leasing or buying an outer space resource, before starting any operations, it must send a plan of work to the United Nations. The plan of work shall include all the details of the activity that would be carried out; it shall be consistent with pre-established parameters of sustainability and shall not interfere with other space activities. If the UN approves the company plan of work, the country of the company assumes the role of co-trustee for the specific resource. Thus, as a cotrustee, countries must investigate whether all activities of their national companies are consistent with the plan of work authorised by the UN. These supervisory duties would be added to the responsibility of nations for all space objects that are launched within their territory.27 The UN, as main trustee, would oversee that countries are performing their duties. This model would be the ordinary one. There would be also an extraordinary model, in which the UN would be the only trustee. This model would be possible in two instances: when the country of the applicant for a private company is not technologically able to act as a trustee or when the applicant of the activity is a country itself. Furthermore, as stated previously, the beneficiaries of this trust are the countries of the world and their citizens; hence all mankind would take concrete profit from lease transactions and benefit sharing. The income from the sales, leases and benefit sharing can be distributed to mankind by financing international global goals, following a similar model of the 17 Sustainable Development Goals adopted by the United Nations in 2015, which addressed poverty, inequality, climate change, environmental degradation, and peace and justice. Finally, the International Legal Trust System would meet acceptance because every country would obtain benefit sharing to improve its living standard and space faring nations would rely on property rights.

#### The legal trust would incentivize investment in space while preventing conflict and ensuring sustainable development and the equitable distributions of resources.

Finoa ’20 – Ivan Finoa [Department of Law, University of Turin], “An international legal trust system to deal with the new space era,” 71st International Astronautical Congress (IAC) – The CyberSpace Edition, (12-14 October 2020). <<https://d1wqtxts1xzle7.cloudfront.net/66728932/_IAC_20_E7.VP.8.x58518_An_international_legal_trust_system_to_deal_with_the_new_space_era_BY_IVAN_FINO-with-cover-page-v2.pdf?Expires=1642044926&Signature=asvt6StaK5n9UnpXuJIlo4ziI839WzFYjDZy37bm70ObGy3vFJyHwWNGxhn2beze4QzYDPPX0pVEXAwYvDaINVNxN01Ify8YwG5loNRddlat-grf3iawic7KvwqPowxFe2GuemVvbB-KW8ZVBxigwS-gelSKIVy4KYR9UgiDrM6e6deEBnUTcULSwmsH-JdHNg13ytZ3vNVMMlxZW2MPOCRuB2WlOHdCLoC86VqafSoMwuec-d~Aisbgyt5F2vO-GjvI60bR7h2MSp0iT6P7apIDUUpHUsDGbvcdxp22HSxXdlvr7lSqtLnL5rKxujGDYq~R9B~WuGiorVL2hn74UQ__&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA>>CT

Considering the worsening climate change, in the future outer space might be our last Noah’s Ark. Now, humans must look to space as an opportunity to support growing resource requirements. Asteroids are rich in metals, which could be transported back to Earth. Unfortunately, the existing international legal framework discourages investments in the space economy. Once an enterprise invests billions of dollars in discovering and developing a mining site, it cannot claim any ownership because of the non-appropriation principle stipulated in Article 2 of the Outer Space Treaty (OST). Thus, other entities could legally access and exploit the same resource without any participation in the initial financial investment, increasing the risk of potential conflict. Bearing this in mind, the question arises, which legal regime could ensure effective allocation of resources, avoiding a chaotic space race to acquire valuable assets? The aim of this research is to argue that the first two articles of OST should be amended, to set up an international legal trust system which would guarantee different kinds of rights, dependently on the nature of the celestial body. E.g., property rights could be preferable to a lease over asteroids, as they could be exploited to their disappearance. This proposed system would be led by the United Nations Office for Outer Space Affairs (UNOOSA), as the main trustee. The co-trustees would be the nations of the world. Prior to initiating any space activity, every entity would send a request to their national government. If all the legal parameters are respected, the nation would forward the operational request to the UNOOSA. In the case of acceptance, UNOOSA would record the permit on an international public registry. The country in which the company has been registered would investigate whether the activities of its national company are consistent with the permit. This would be the ordinary model. The extraordinary model would be when the applicant for the space activity is a state, then the trustee would be the UN. All lucrative activities would be subject to benefit-sharing. Finally, this research will demonstrate the valuable outcome of the International Legal Trust System and its advantages for all humankind. Private companies would rely on property rights, while the benefit-sharing could be used to finance the 17 Sustainable Development Goals adopted by the UN in 2015, which address peace, climate change, inequalities and poverty.

## Case

### AT Inequality

#### Disregard their Stockwell evidence – the article itself says it shouldn’t be cited – we would know you took this card from us check the cites. Stockwell ‘20

Samuel Stockwell, 7-20-2020, "Legal ‘Black Holes’ in Outer Space: The Regulation of Private Space Companies," E-International Relations, <https://www.e-ir.info/2020/07/20/legal-black-holes-in-outer-space-the-regulation-of-private-space-companies/> //marlborough JH

This content was originally written for an undergraduate or Master's program. It is published as part of our mission to showcase peer-leading papers written by students during their studies. This work can be used for background reading and research, but should not be cited as an expert source or used in place of scholarly articles/books.

#### No solvency

#### Exploitation will still exist on earth, they can’t solve all inequality

#### Govs perpetuate inequality on earth and will continue to do so in outer space

### Cap good

#### Cap sustainable esp in space---profit motive drives tech innovation and makes resources infinite---only way to solve environmental collapse and extinction.

McAfee 19—cofounder and codirector of the MIT Initiative on the Digital Economy at the MIT Sloan School of Management, former professor at Harvard Business School and fellow at Harvard’s Berkman Center for Internet and Society (Andrew, “Looking Ahead: The World Cleanses Itself This Way,” *More from Less: The Surprising Story of How We Learned to Prosper Using Fewer Resources—and What Happens Next*, Chapter 14, pg 278-292, Kindle, dml)

As today’s poor countries get richer, their institutions will improve and most will eventually go through what Ricardo Hausmann calls "the capitalist makeover of production." This makeover doesn't enslave people, nor does it befoul the earth. As today’s poor get richer, they'll consume more, but they'll also consume much differently from earlier generations. They won't read physical newspapers and magazines. They'll get a great deal of their power from renewables and (one hopes) nuclear because these energy sources will be the cheapest. They’ll live in cities, as we saw in chapter 12; in fact, they already are. They'll be less likely to own cars because a variety of transportation options will be only a few taps away. Most important, they'll come up with ideas that keep the growth going, and that benefit both humanity and the planet we live on. Predicting exactly how technological progress will unfold is much like predicting the weather: feasible in the short term, but impossible over a longer time. Great uncertainty and complexity prevent precise forecasts about, for example, the computing devices we’ll be using thirty years from now or the dominant types of artificial intelligence in 2050 and beyond. But even though we can't predict the weather long term, we can accurately forecast the climate. We know how much warmer and sunnier it will be on average in August than in January, for example, and we know that global average temperatures will rise as we keep adding greenhouse gases to the atmosphere. Similarly, we can predict the "climate" of future technological progress by starting from the knowledge that it will be heavily applied in the areas where it can affect capitalism the most. As we've seen over and over, tech progress supplies opportunities to trim costs (and improve performance) via dematerialization, and capitalism provides the motive to do so. As a result, the Second Enlightenment will continue as we move deeper into the twenty-first century. I'm confident that it will accelerate as digital technologies continue to improve and multiply and global competition continues to increase. We’ll see some of the most striking examples of slim, swap, evaporate, and optimize in exactly the places where the opportunities are biggest. Here are a few broad predictions, spanning humanity's biggest industries. Manufacturing. Complex parts will be made not by the techniques developed during the Industrial Era, but instead by three- dimensional printing. This is already the case for some rocket engines and other extremely expensive items. As 3-D printing improves and becomes cheaper, it will spread to automobile engine blocks, manifolds and other complicated arrangements of pipes, airplane struts and wings, and countless other parts. Because 3-D printing generates virtually no waste and doesn't require massive molds, it accelerates dematerialization. We'll also be building things out of very different materials from what we're using today. We're rapidly improving our ability to use machine learning and massive amounts of computing power to screen the huge number of molecules available in the world. Well use this ability to determine which substances would be best for making flexible solar panels, more efficient batteries, and other important equipment. Our search for the right materials to use has so far been slow and laborious. That's about to change. So is our ability to understand nature's proteins, and to generate new ones. All living things are made out of the large biomolecules known as proteins, as are wondrous materials such as spiders' silk. The cells in our bodies are assembly lines for proteins, but we currently understand little about how these assembly lines work—how they fold a two-dimensional string of amino acids into a complicated 3-D protein. But thanks to digital tools, we're learning quickly. In 2018, as part of a contest, the AlphaFold software developed by Google DeepMind correctly guessed the structure of twenty-five out of forty-three proteins it was shown; the second-place finisher guessed correctly three times. DeepMind cofounder Demis Hassabis says, "We [haven't] solved the protein-folding problem, this is just a first step... but we have a good system and we have a ton of ideas we haven't implemented yet." As these good ideas accumulate, they might well let us make spider-strength materials. Energy. One of humanity's most urgent tasks in the twenty-first century is to reduce greenhouse gas emissions. Two ways to do this are to become more efficient in using energy and, when generating it, to shift away from carbon-emitting fossil fuels. Digital tools will help greatly with both. Several groups have recently shown that they can combine machine learning and other techniques to increase the energy efficiency of data centers by as much as 30 percent. This large improvement matters for two reasons. First, data centers are heavy users of energy, accounting for about 1 percent of global electricity demand. So efficiencies in these facilities help. Second, and more important, these gains indicate how much the energy use of all our other complicated infrastructures— everything from electricity grids to chemical plants to steel mills—can be trimmed. All are a great deal less energy efficient than they could be. We have both ample opportunity and ample incentive now to improve them. Both wind and solar power are becoming much cheaper, so much so that in many parts of the world they're now the most cost-effective options, even without government subsidies, for new electrical generators. These energy sources use virtually no resources once they're up and running and generate no greenhouse gases; they're among the world champions of dematerialization. In the decades to come they might well be joined by nuclear fusion, the astonishingly powerful process that takes place inside the sun and other stars. Harnessing fusion has been tantalizingly out of reach for more than half a century—the old joke is that it's twenty years away and always will be. A big part of the problem is that it's hard to control the fusion reaction inside any human- made vessel, but massive improvements in sensors and computing power are boosting hope that fusion power might truly be only a generation away.

#### ---Physical limits aren’t absolute---laundry list of warrants.

Bailey 18 [Ronald; February 16; B.A. in Economics from the University of Virginia, member of the Society of Environmental Journalists and the American Society for Bioethics and Humanities, citing a compilation of interdisciplinary research; Reason, “Is Degrowth the Only Way to Save the World?” https://reason.com/2018/02/16/is-degrowth-the-only-way-to-save-the-wor; RP]

Unless us folks in rich countries drastically reduce our material living standards and distribute most of what we have to people living in poor countries, the world will come to an end. Or at least that's the stark conclusion of a study published earlier this month in the journal Nature Sustainability. The researchers who wrote it, led by the Leeds University ecological economist Dan O'Neill, think the way to prevent the apocalypse is "degrowth."

Vice, pestilence, war, and "gigantic inevitable famine" were the planetary boundaries set on human population by the 18th-century economist Robert Thomas Malthus. The new study gussies up old-fashioned Malthusianism by devising a set of seven biophysical indicators of national environmental pressure, which they then link to 11 indicators of social outcomes. The aim of the exercise is to concoct a "safe and just space" for humanity.

Using data from 2011, the researchers calculate that the annual per capita boundaries for the world's 7 billion people consist of the emission of 1.6 tons of carbon dioxide per year and the annual consumption of 0.9 kilograms of phosphorus, 8.9 kilograms of nitrogen, 574 cubic meters of water, 2.6 tons of biomass (crops and wood), plus the ecological services of 1.7 hectares of land and 7.2 tons of material per person.

On the social side, meanwhile, the researchers say that life satisfaction in each country should exceed 6.5 on the 10-point Cantril scale, that healthy life expectancy should average at least 65 years, and that nutrition should be over 2,700 calories per day. At least 95 percent of each country's citizens must have access to good sanitation, earn more than $1.90 per day, and pass through secondary school. Ninety percent of citizens must have friends and family they can depend on. The threshold for democratic quality must exceed 0.8 on an index scale stretching from -1 to +1, while the threshold for equality is set at no higher than 70 on a Gini Index where 0 represents perfect equality and 100 implies perfect inequality. They set the threshold for percent of labor force employed at 94 percent.

So how does the U.S. do with regard to their biophysical boundaries and social outcomes measures? We Americans transgress all seven of the biophysical boundaries. Carbon dioxide emissions stand at 21.2 tons per person; we each use an average of 7 kilograms of phosphorus, 59.1 kilograms of nitrogen, 611 cubic meters of water, and 3.7 tons of biomass; we rely on the ecological services of 6.8 hectares of land and 27.2 tons of material. Although the researchers urge us to move "beyond the pursuit of GDP growth to embrace new measures of progress," it is worth noting that U.S. GDP is $59,609 per capita.

On the other hand, those transgressions have provided a pretty good life for Americans. For example, life satisfaction is 7.1; healthy life expectancy is 69.7 years; and democratic quality stands at 0.8 points. The only two social indicators we just missed on were employment (91 percent) and secondary education (94.7 percent).

On the other hand, our hemisphere is home to one paragon of sustainability—Haiti. Haitians breach none of the researchers' biophysical boundaries. But the Caribbean country performs abysmally on all 11 social indicators. Life satisfaction scores at 4.8; healthy life expectancy is 52.3 years; and Haitians average 2,105 calories per day. The country tallies -0.9 on the democratic quality index. Haiti's GDP is $719 per capita.

Other near-sustainability champions include Malawi, Nepal, Myanmar, and Nicaragua. All of them score dismally on the social indicators, and their GDPs per capita are $322, $799, $1,375, and $2,208, respectively.

The country that currently comes closest to the researchers' ideal of remaining within its biophysical boundaries while sufficient social indicators is…Vietnam. For the record, Vietnam's per capita GDP is $2,306.

"Countries with higher levels of life satisfaction and healthy life expectancy also tend to transgress more biophysical boundaries," the researchers note. A better way to put this relationship is that more wealth and technology tend to make people happier, healthier, and freer.

O'Neill and his unhappy team fail drastically to understand how human ingenuity unleashed in markets is already well on the way toward making their supposed planetary boundaries irrelevant. Take carbon dioxide emissions: Supporters of renewable energy technologies say that their costs are already or will soon be lower than those of fossil fuels. Boosters of advanced nuclear reactors similarly argue that they can supply all of the carbon-free energy the world will need. There's a good chance that fleets of battery-powered self-driving vehicles will largely replace private cars and mass transit later in this century.

Are we about to run out of phosphorous to fertilize our crops? Peak phosphorus is not at hand. The U.S. Geological Survey (USGS) reports that at current rates of mining, the world's known reserves will last 266 years. The estimated total resources of phosphate rock would last over 1,140 years. "There are no imminent shortages of phosphate rock," notes the USGS. With respect to the deleterious effects that using phosphorus to fertilize crops might have outside of farm fields, researchers are working on ways to endow crops with traits that enable them to use less while maintaining yields.

O'Neill and his colleagues are also concerned that farmers are using too much nitrogen fertilizer, which runs off fields into the natural environment and contributes to deoxygenated dead zones in the oceans, among other ill effects. This is a problem, but one that plant breeders are already working to solve. For example, researchers at Arcadia Biosciences have used biotechnology to create nitrogen-efficient varieties of staples like rice and wheat that enable farmers to increase yields while significantly reducing fertilizer use. Meanwhile, other researchers are moving on projects to engineer the nitrogen fixation trait from legumes into cereal crops. In other words, the crops would make their own fertilizer from air.

Water? Most water is devoted to the irrigation of crops; the ongoing development of drought-resistant and saline-tolerant crops will help with that. Hectares per capita? Humanity has probably already reached peak farmland, and nearly 400 million hectares will be restored to nature by 2060—an area almost double the size of the United States east of the Mississippi River. In fact, it is entirely possible that most animal farming will be replaced by resource-sparing lab-grown steaks, chops, and milk. Such developments in food production undermine the researchers' worries about overconsumption of biomass.

And humanity's material footprint is likely to get smaller too as trends toward further dematerialization take hold. The price system is a superb mechanism for encouraging innovators to find ways to wring ever more value out less and less stuff. Rockefeller University researcher Jesse Ausubel has shown that this process of absolute dematerialization has already taken off for many commodities.

After cranking their way through their models of doom, O'Neill and his colleagues lugubriously conclude: "If all people are to lead a good life within planetary boundaries, then the level of resource use associated with meeting basic needs must be dramatically reduced." They are right, but they are entirely backward with regard to how to achieve those goals. Economic growth provides the wealth and technologies needed to lift people from poverty while simultaneously lightening humanity's footprint on the natural world. Rather than degrowth, the planet—and especially its poor people—need more and faster economic growth.

#### Cap solves---

#### Inequality and Poverty.

Teixeira and Judis 17—senior fellow at both The Century Foundation and American Progress AND editor-at-large at Talking Points Memo, former senior writer at The National Journal and a former senior editor at The New Republic (Ruy and John, “Why The Left Will (Eventually) Triumph: An Interview With Ruy Teixeira,” <http://talkingpointsmemo.com/cafe/why-left-will-eventually-win-ruy-teixeira>, dml)

Judis: In your book, you explain at several points that you are no longer a socialist and instead support a reformed capitalism. When we met many years ago, we were in a socialist organization. When did this transformation occur? Teixeira: What happened is that I began to think a lot about how economies actually work. When I was a socialist, I **didn’t think very carefully** and **long** about what **actually** a socialist economy would look like. I had this **general idea** that the capitalist system was **inefficient** and **prone to crisis** and that one should **somehow tamp down the profit motive** and limit the freedom of action of capitalists. But **the more I thought** about how economies worked, it was **hard to gainsay** that the market was **absolutely essential** for the efficient delivery of goods and services. And the more I read, the more I realized my viewpoint was closer to social democrats than to socialists. Capitalism needs to be **regulated**, it needs to be **pointed in the right direction**, you **need to have a big safety net**, but you **can’t replace it**. Judis: Was there something that happened, a book you read, that changed your mind? Teixeira: I would say it was an obscure book by Alec Nove called “The Economics of Feasible Socialism.” Judis: That’s amazing. I was deeply influenced by the same book. Teixeira: Nove was a historian of the Soviet Union. He came from a Menshevik family, and he basically laid out the way the standard conceptions of socialism that a lot of people on the left had couldn’t work. If you wanted to **think rationally about what’s feasible**, the way economies and people tend to work, you **had to have a market**. The goal as I see it is a mixed economy that works as well as possible, and of course you have not gotten that in the West for the last several decades. The mixed economy just needs improvement and modification. Judis: And what kind of improvements would that be? Teixeira; I favor what economists are calling a model of **equitable growth**. It would mean **substantial government investment** in creating new opportunities for the middle and aspirational classes. It could include a dramatic expansion of the educational system and a Manhattan-style investment in bringing down the price of clean energy and building the infrastructure to match. Granted, these kind of proposals would not get through Congress now, but it is the kind of agenda that I am optimistic that the Democrats will endorse and that the country will **eventually embrace**. The Left Prospers in Prosperity Judis: Your book is titled “The Optimistic Leftist,” but if you look at the terrain of politics today, the center-left or left of center parties are decimated. The Democrats haven’t been in such bad shape nationally and in the states since the 1920s. The Dutch Labor Party got less than 10 percent in the recent election. Jeremy Corbyn and British Labor may be routed in June. The French Socialist candidate came in fifth with 6 percent. Why is this happening? And given that this is happening, what grounds do you have for thinking that the left will suddenly find itself on top? Teixeira: The way I look at it we are going through a **long transition** from an industrial capitalist system to a **post-industrial services-based capitalist system**. So far this transition has **not gone well**. It hasn’t had the outcomes that people want. We have **slow productivity growth** and **rising inequality**. The central point I’d make is that **by and large**, **poor economic times** are **not good for the left**. They **make people reactive**, **pessimistic**, **trying to hold onto their own**, and **not supportive of collective endeavors** to help the way society functions. And we’ve seen all that in spades in the last decade. Really that kind of situation is **best for the right**, and the left has had a very difficult time figuring out a way forward. The Democrats have their problems, but in Europe, you see the problems crystallized. Europe’s mainstream left was based in the industrial working class and has had a terrible time adjusting to the transition to post-industrial capitalism and figuring out what a new model of capitalism and capitalist growth would look like. They have thrown in their lot with a much more right-wing approach, beginning with the Third Way in the ’90s. The idea behind it was that capitalism can pretty well function on its own and we just have to let it rip. We’re still coming out of that phase, and I think the mainstream social democrats with their collaboration with austerity in places like France and the Netherlands are reaping the whirlwind. But if you look at other parts of the left, they are actually doing relatively well. If you look at the Netherlands election, the green left did very well, and if you add up the votes of the Socialist Party (a left-socialist party), the greens, Democrats 66 (a left social-liberal party) and the social democrats, the left **hasn’t been totally decimated**. What has really been decimated is the Party of Labor, as the social democrats in the Netherlands are called. We are seeing the same thing in France where the Socialist Party (the French social democrats) candidate did terribly, but [independent socialist Jean-Luc] Melenchon did quite well. The left **still has strength**, but it is **divided up among different political tendencies**. It is going to have to **reorganize itself around an economic program** that is going to deliver what people want, which is **better growth** and **better distribution**. Until that happens, the left will be **in a quagmire**. Judis: I want to look more closely at your argument that the left does better in good times and the right in bad times. Bill Clinton got elected in the wake of a recession in 1992, Barack Obama might not have won the presidency in 2008 if the financial crash hadn’t happened that September. The Populists came out of the farm crisis in 1880s and early 1890s; the New Deal out of the Great Depression. I am not saying that bad times is better for the left, but only that there isn’t a necessary connection in either case and that you are making too facile an assumption about which times promote which politics. Teixeira: Bad times do propel people into motion and produce protest and reaction, but looked at from when you can accomplish the goals of the left of **making society better** and **implementing important reforms**, I think it is **typically easier** when the economy is **expanding fairly rapidly** and **living standards are going up** than when the reverse is true. It is **not a perfect relationship**, but **by and large** I think it’s true. So yeah, Obama can get elected in a situation where he was aided by an economic downturn, but his ability to **put together a progressive coalition** that could **stick together for a long time** and continue to implement reforms was **very much undermined by the economic situation**. Judis: Let’s turn it around and look at the connection between the right and good and bad times. In America, the 1920s were relatively good times, and the Republicans controlled the government the whole decade. Teixeira: The 1920s were not nearly as good a time people think it was. It was a time of relatively slow per capita income growth. It was very unequally distributed, the industrial working class did somewhat well, but the rural areas did poorly, and there were four recessions between 1918 and 1929. It was not such a great time. It was relatively poor compared to the Progressive Era. Judis: So the Republicans did well in the 1920s because they were really bad times? Teixeira: There was a sense of real uncertainty, real economic paranoia. Judis: I don’t think you could call the 1920s bad times. You could call it uneven times. “Bad times” is stretching it. In addition, you have the real bad times of the Depression staring you in your face which is the time of the greatest advance in terms of a left and social democracy in our history. Teixeira: Desperate times make for desperate measure sometimes. There is **no guarantee they will help the left rather than the right**. I think that’s what we saw in the U.S. Obviously it didn’t work out so well in Europe. When I make the general analysis that the left is better off in a period of economic expansion and rising living standards, it doesn’t correspond exactly to the political outcomes you’ll have in those different periods. I am saying that **in a general sense**, the left has the **easiest time making advances** and **improving society** when things are going well **rather than when are going poorly**. Judis: Let’s look at Europe. In some of the countries in Northern Europe that are doing well, the center-right parties are in charge. Teixeira: Yes, but I think you can make the case the center-right parties aren’t exactly in charge in Europe. They also have their problems. The rise of populism in Europe is blowing apart the party system. Judis: You have got Holland, Denmark, Germany, and Austria. Those are all countries that are doing pretty well compared to the rest of the EU and that have center-right governments. Teixeira: The Netherlands is not doing that well. It’s all relative. Their recovery has been somewhat better. Their employment level has been high compared to other European countries, but there are a number of cuts in social services, wages haven’t been going up much, there is a lot more insecurity. Judis: Isn’t Germany doing well? Teixeira:. Germany is doing relatively well, but it hasn’t been a period of expansive growth for them either. There is a lot of wage stagnation and compression there. I **never meant to imply** that you can **perfectly predict social reform from economic outcomes**. But I think it **provides an important lens** on when the left does well and when the left does poorly. By and large when you look at Europe, you see the ~~straitjacket~~ [**dilemma**] that the Eurozone has created in the economies. People are **fearful**, they are **pessimistic**, they are **passive**. This is **very bad for the left**. Until you **break out** of that [dilemma] ~~straitjacket~~, the left is **not going to be able to do that well**, and the right is **going to continue to do relatively well** compared to them, and you’ll see the **continued rise in populism** because people have no faith in the system. So what I am trying to do is to get the left to focus on **getting to a new stage of capitalist growth** and **being able actually to deliver rising incomes**. There is No Alternative to the Left Judis: So let’s talk about how this political change will come about. What I took from your book is that we are currently suffering from secular stagnation, and that to get to a new stage of growth, we will have to implement the kind of left program that you describe. I worry that this argument contains a contradiction. On the one hand, the left can’t get its program enacted as long as times are bad. On the other hand, the only way to get out of bad times is for the left to get its program enacted. Teixeira: I see what you are asking. I think it is going to be **two steps forward**, **one step back**. We are sort of **slouching** toward the next stage of capitalism. I **don’t think it’s going to be pretty**. Political and economic factors are going to propel us in that direction. Ultimately, people want things to work better, they want their problems to be solved. And the **only way** we are going to get there is along the road I have described. I think this **equitable growth** approach that the Democrats united around is the future. The level of growth is going to vary over time, but I think the Democrats are the ones who are going to put us there and I think they are going to be rewarded for it. Judis:. But how does that happen? Isn’t there a crisis scenario implicit in your account? At some time, the current Third Way or neoliberal approach results in another Great Recession and at that point people will buy into a left-wing approach, the left-wing approach will create prosperity and at that time we will have an enduring left-wing or Democratic majority. Isn’t a step like this missing from your argument? Teixeira:. That certainly could be the way it goes down, but it’s **not clear we are required to have a recession** on the level we did in 2007 and 2008, or whether this sort of rolling crisis we have combined with other political events might do it. I don’t know, it’s hard to predict, but I think the great economist Herbert Stein said, if something cannot go on forever, it will stop. Judis: The great socialist Rosa Luxembourg said the choice was socialism or barbarism. I am not saying we are heading toward barbarism, but I think there is a determinism in your argument. I think you are saying that people will eventually choose a politics that will best help them. Reason will prevail. And I am not sure if that holds up historically. When you talk about the EU, you say eventually they will consolidate into a fiscal monetary union. I am not sure that is going to happen. It’s also possible that the Eurozone could break up and that there could be a lot of chaos. We have periods in history where things don’t happen in the best of all possible ways. Teixeira: The trajectory is **ultimately going to take us** to a **different** and **better place**. I think **eventually we will adapt** and we will **get something better** than we have because it is the **only solution to the ongoing problems**. **There is no alternative**. Judis: Countries are sometime structurally unable to do what is in their best interest. In the U.S., we have this strong anti-statist tradition going back to the revolution that seems to get in the way every time we want to do something like what you are proposing. It is possible that contrary to Hegel, the rational won’t turn out to be the real. Teixeira: Of course it is possible, but if you look at the history of the United States, **despite the anti-statist bias** and **despite all the other political problems**, the way the country has evolved over time is toward a **larger government** that **does more** and **provides more for people**. And we **obviously have evolved tremendously** in the social realm as well. Governments don’t do what is rational in the short term, at least rational in the sense you are describing it, but political systems **evolve over time** in a way that is consistent with the values and priorities of the left, and I expect that to continue over time. The 2016 Election Judis: Let’s talk about the 2016 election. Why did Clinton lose to such a weak opponent? Teixeira: The Democrats have an evolving majority that consists of groups like minorities, professionals, young people, single women and what have you, and that’s a true fact. It’s growing over time and it will continue to grow, but it was always mathematically true that if you take the declining group, the white non-college voters, and they move sufficiently in the direction of the other party, that will be enough to undermine your coalition. You won’t win. That’s exactly what happened in 2016. These voters moved rapidly away from the Democrats both in local and state races and in the presidential election. Judis: Why did they move? Teixeira: They do not have any faith that the Democrats share their values and are going to deliver a better life for them and their kids, and I think Hillary Clinton was a very efficient bearer of that meme. Whether she wanted to or not, the message she sent to these voters is that you are really not that important and I don’t take your problems seriously, and frankly I don’t have much to offer you. And that’s despite the fact that her economic program and policies would have actually been very good for these people. There was a study of campaign advertising in 2016 that showed Hillary outspent Trump significantly and that almost none of her advertising was about what she would actually do. Almost all of it was about how he was a bad dude. Voters were **fed up with stagnation** and with the Democrats and they **turned to someone who thought could blow up the system**. The way the Democrats and the left could **mitigate that problem** is to show these voters that they **take their problems seriously** and have their interests in mind, and could improve their lives. I **don’t think there is any way of doing that** without a **new model of economic growth**.

#### 3---Climate.

Fickling 20 (David, Bloomberg Opinion columnist covering commodities, as well as industrial and consumer companies, citing a report from the International Energy Agency, “Capitalism Caused Climate Change; It Must Also Be the Solution,” Bloomberg, 10/14/20, <https://www.bloomberg.com/opinion/articles/2020-10-14/capitalism-caused-climate-change-it-must-also-be-the-solution>, ccm)

After that, though, things fall apart. Thanks to ongoing economic weakness, governments and businesses lose the capacity to carry out the spending needed to remake the world’s energy system. Investment in fossil fuels falls by 10% relative to expectations under current policies, but spending on renewables and nuclear drops by 5% as well, so that $2.2 trillion less is spent by 2030.

Rather than investing to replace our power plants and appliances with lower-carbon alternatives, we eke out their polluting lives a little bit longer. By 2030, annual emissions are about 29% higher than they would be under Sustainable Development.

This desktop model of how the world could develop reflects a profound truth. The atmosphere can accommodate about 500 billion metric tons more carbon dioxide to give an even chance of keeping warming below 1.5 degrees — but the world’s current industrial base is currently pumping out roughly 33 billion tons a year, and will continue to do so unless we can replace it.

Retrofitting the world’s energy systems is going to require vast sums of money. Renewable power alone will need an average $569 billion of investment every year over the coming decade under the IEA’s Sustainable Development Scenario. That’s almost twice the rate seen over the past five years, and not far behind what the entire oil and gas sector would spend under the same settings. If anything, the world needs a target that’s more ambitious still.

If we can get up to speed, that volume of spending will create its own momentum. One justified complaint of anti-capitalist climate activists is that our political systems frequently put their thumbs on the scale to favor powerful incumbent businesses, which at present are mostly the polluting ones. But a system where investment dollars are flowing away from fossil fuels and toward decarbonization is one where power, too, is shifting away from the carbon economy.

Even under the IEA’s less ambitious Stated Policies Scenario, the $15.14 trillion that gets spent globally on fossil fuel generation and production by 2040 is smaller than the $15.97 trillion spent on renewables and nuclear — and doesn’t include the amounts that go to energy efficiency and grid networks.

Under the Sustainable Development Scenario, which has historically often been a better guide to the path of the energy transition, low-carbon power ends up with $2.70 of spending for every $1 going to fossil fuel extraction and generation. That’s a world in which renewables will increasingly set the rules of the game, encouraging governments to remove the remaining subsidies that support oil, gas and coal.

Since the industrial revolution, the fossil-fueled engine of capitalist growth has conspired to put the world in its current climate crisis. Harnessing that power to drive the carbon transition is now our best hope of turning that disaster around.