## 1

#### Interpretation: “Appropriation of outer space” by private entities refers to the exercise of exclusive control of space.

TIMOTHY JUSTIN TRAPP, JD Candidate @ UIUC Law, ’13, TAKING UP SPACE BY ANY OTHER MEANS: COMING TO TERMS WITH THE NONAPPROPRIATION ARTICLE OF THE OUTER SPACE TREATY UNIVERSITY OF ILLINOIS LAW REVIEW [Vol. 2013 No. 4]

The issues presented in relation to the nonappropriation article of the Outer Space Treaty should be clear.214 The ITU has, quite blatantly, created something akin to “property interests in outer space.”215 It allows nations to exclude others from their orbital slots, even when the nation is not currently using that slot.216 This is directly in line with at least one definition of outer-space appropriation.217 [\*\*Start Footnote 217\*\*Id. at 236 (“Appropriation of outer space, therefore, is ‘the exercise of exclusive control or exclusive use’ with a sense of permanence, which limits other nations’ access to it.”) (quoting Milton L. Smith, The Role of the ITU in the Development of Space Law, 17 ANNALS AIR & SPACE L. 157, 165 (1992)). \*\*End Footnote 217\*\*]The ITU even allows nations with unused slots to devise them to other entities, creating a market for the property rights set up by this regulation.218 In some aspects, this seems to effect exactly what those signatory nations of the Bogotá Declaration were trying to accomplish, albeit through different means.219

#### Private appropriation of extracted space resources is distinct from appropriation “of” outer space. Despite longstanding permission of appropriation of extracted resources, sovereign claims are still universally prohibited.

Abigail D. Pershing, J.D. Candidate @ Yale, B.A. UChicago,’19, "Interpreting the Outer Space Treaty's Non-Appropriation Principle: Customary International Law from 1967 to Today," Yale Journal of International Law 44, no. 1

II. THE FIRST SHIFT IN CUSTOMARY INTERNATIONAL LAW’S INTERPRETATION OF THE NON-APPROPRIATION PRINCIPLE Since the drafting of the Outer Space Treaty, several States have chosen to reinterpret the non-appropriation principle as narrower in scope than its drafters originally intended. This reinterpretation has gone largely unchallenged and has in fact been widely adopted by space-faring nations. In turn, this has had the effect of changing customary international law relating to the non-appropriation principle. Shifting away from its original blanket application in 1967, States have carved out an exception to the non-appropriation principle, allowing appropriation of extracted space resources.53 This Part examines this shift in the context of the two branches of the United Nation’s customary international law standard: State practice and opinio juris. A. State Practice The earliest hint of a change in customary international law relating to the interpretation of the non-appropriation clause came in 1969, when the United States first sent astronauts to the moon. As part of his historic journey, astronaut Neil Armstrong collected moonrocks that he brought back with him to Earth and promptly handed off to the National Aeronautics and Space Administration (NASA) as U.S. property.54 Later, the USSR similarly claimed lunar material as government property, some of which was eventually sold to private citizens. 55 These first instances of space resource appropriation did not draw much attention, but they presented a distinct shift marking the beginning of a new period in State practice. Having previously been limited by their technological capabilities, States could now establish new practices with respect to celestial bodies. This was the beginning of a pattern of appropriation that slowly unfolded over the next few decades and has since solidified into the general and consistent State practice necessary to establish the existence of customary international law. Currently, the U.S. government owns 842 pounds of lunar material.56 There is little question that NASA and the U.S. government consider this material, as well as other space materials collected by American astronauts, to be government property.57 In fact, NASA explicitly endorses U.S. property rights over these moon rocks, stating that “[l]unar material retrieved from the Moon during the Apollo Program is U.S. government property.”5 The U.S. delegation’s reaction to the language of the 1979 Moon Agreement further cemented this interpretation that appropriation of extracted resources is a permissible exception to the non-appropriation clause of Article II. Although the United States is not a party to the Moon Agreement, it did participate in the negotiations.59 The Moon Agreement states in relevant part: Neither the surface nor the subsurface of the moon, nor any part thereof or natural resources in place, shall become property of any State, international intergovernmental or nongovernmental organization, national organization or nongovernmental entity or of any natural person.60 In response to this language, the U.S. delegation made a statement laying out the American view that the words “in place” imply that private property rights apply to extracted resources61—a comment that went completely unchallenged. That all States seemed to accept this point, even those bound by the Moon Agreement, is further evidence of a shift in customary international law.62 B. Opinio Juris: Domestic Legislation Domestic law, both in the United States and abroad, provides further evidence of the shift in customary international law surrounding the issue of nonappropriation as it relates to extracted space resources. Domestic U.S. space law is codified at Section 51 of the U.S. Code and has been regularly modified to expand private actors’ rights in space.63 Beginning in 1984, the Commercial Space Launch Act provided that “the United States should encourage private sector launches and associated services.”64 The goal of the 1984 Act was to support commercial space launches by private companies and individuals.65 It did not, however, specifically discuss commercial exploitation of space. The first such mention of commercial use of space appeared in 2004, with the Commercial Space Launch Amendments Act.66 This Act specifically aimed at regulating space tourism but did not explicitly guarantee any private rights in space.67 The most significant change in U.S. space law came with the passage of the Spurring Private Aerospace Competitiveness and Entrepreneurship (SPACE) Act in 2015. As incorporated into Section 51 of the Code, this Act provides: A United States citizen engaged in commercial recovery of an asteroid resource or a space resource under this chapter shall be entitled to any asteroid resource or space resource obtained, including to possess, own, transport, use, and sell the asteroid resource or space resource obtained in accordance with applicable law, including the international obligations of the United States.68 Whereas the idea that private corporations might go into space may have seemed far-fetched to the drafters of the Outer Space Treaty, the SPACE Act of 2015 was the first instance of a government recognizing such a trend and officially supporting private companies’ commercial rights to space resources under law. With the new 2015 amendment to Section 51 in place, U.S. companies can now rest assured that any profits they reap from space mining are firmly legal—at least within U.S. jurisdictions. Although the United States was the first country to officially reinterpret the non-appropriation principle, other countries are following suit. On July 20, 2017, Luxembourg passed a law entitled On the Exploration and Utilization of Space Resources with a vote of fifty-five to two.69 The law took effect on August 1, 2017.70 Article 1 of the new law states simply that “[s]pace resources can be appropriated,” and Article 3 expressly grants private companies permission to explore and use space resources for commercial purposes.71 Official commentary on the law establishes that its goal is to provide companies with legal certainty regarding ownership over space materials—a goal that the commentators regard as legal under the Outer Space Treaty despite the non-appropriation principle.72 The next country to enact similar legislation may be the United Arab Emirates (UAE). According to the UAE Space Agency director general, Mohammed Al Ahbabi, the UAE is currently in the process of drafting a space law covering both human space exploration and commercial activities such as mining.73 To further this goal, in 2017 the UAE set up the Space Agency Working Group on Space Policy and Law to specify the procedures, mechanisms, and other standards of the space sector, including an appropriate legal framework.74 C. Opinio Juris: Legal Scholarship Other major space powers are also considering similar laws in the future, including Japan, China, and Australia. 75 Senior officials within China’s space program have explicitly stated that the country’s goal is to explore outer space and to take advantage of outer space resources.76 The general international trend clearly points in this direction in anticipation of a potential “space gold rush.” 7 Mirroring the shift in State practice and domestic laws, the legal community has also changed its approach to the interpretation of the nonappropriation principle. Whereas at the time of the ratification of the Outer Space Treaty the majority of legal scholars tended to apply the non-appropriation principle broadly, most legal scholars now view appropriation of extracted materials as permissible.78 Brandon Gruner underscores that this new view is historically distinct from prior legal interpretation, noting that modern interpretations of the Outer Space Treaty’s non-appropriation principle differ from those of the Treaty’s authors.79 In contrast to earlier legal theory that denied the possibility of appropriation of any space resources, scholars now widely accept that extracting space resources from celestial bodies is a “use” permitted by the Outer Space Treaty and that extracted materials become the property of the entity that performed the extraction.80 Stressing the fact that the Treaty does not explicitly prohibit appropriating resources from outer space, other authors conclude that the use of extracted space resources is permitted, meaning that the new SPACE Act is a plausible interpretation of the Outer Space Treaty.81 However, scholars have been careful to cabin the extent to which they accept the legality of appropriation. For instance, although Thomas Gangale and Marilyn Dudley-Rowley acknowledge the legality of private appropriation of extracted space resources, they nonetheless emphasize that “[o]wnership of and the right to use extraterrestrial resources is distinct from ownership of real property” and that any such claim to real property is illegal.82 Lawrence Cooper is also careful to point out this distinction: “[t]he [Outer Space] Treaties recognize sovereignty over property placed into space, property produced in space, and resources removed from their place in space, but ban sovereignty claims by states; international law extends this ban to individuals.”83 Although there remain some scholars who still insist on the illegality of the 2015 U.S. law and State appropriation of space resources generally,84 their dominance has waned since the 1960s. These scholars are now a minority in the face of general acceptance among the legal community that minerals and other space resources, once extracted, may be legally claimed as property. 85 Taken together, the elements described above—statements made in the international arena, de facto appropriation of space resources in the form of moon rocks, the adoption of new national policies permitting appropriation of extracted space resources, and the weight of the international legal community’s opinion— indicate a fundamental shift in customary international law. The Outer Space Treaty’s non-appropriation clause has been redefined via customary international law norms from its broad application to now include a carve-out allowing appropriation of space resources once such resources have been extracted.

#### Violation: Starlink is a series of satellites – that doesn’t appropriate anything and is distinct from broadly banning sovereignty of outer space per 1ac Estes. Independently, aff is about exploration which isn’t appropriation.

#### Standards:

#### Limits – their interpretation means that affs about any outer space activity would be topical: mining, photography, sending rovers, collecting ice cores, launching satellites, deflecting debris, can’t sell rocks on EBAY, etc. This explodes neg prep burdens since outer space activity is so vague – no generics exist to answer both the photography and the rovers aff, so affs would just win with a tiny impact every round. At worst, they’re extra-T which proves all of our offense OR they don’t solve.

#### Ground – allowing debates about extracting any space resource denies the neg links to core generics like space democracy bad, space colonization good, the moon pic, the property rights NC, etc. – that kills clash by forcing negatives to the fringes of argumentation that disagree with everything and kills fairness by giving the aff a major prep advantage since they only need to frontline the few negative arguments that link to their aff.

#### Fairness and education are voters – debate’s a game, and fairness is necessary to determine the winner of the game, and education is the reason why schools fund debate.

#### Drop the debater – dropping the argument doesn’t rectify abuse since winning T proves why we don’t have the burden of rejoinder against their aff.

#### Use competing interps – reasonability invites arbitrary judge intervention since there’s no consensus as to what’s reasonable.

#### No RVIs – fairness and education are logical litmus tests and they incentivize baiting theory and prepping it out which turns substance crowdout

## 2

### Text

#### Text: The colonization of outer space by private entities is just. All other appropriation of outer space by private entities is unjust.

### Speed T/L

Colonization solves the case–

#### 1] Space colonization is good and possible – new developing tech and adaptation solves civil war, extinction, and civilization collapse. Aslo gives runway time to deal with any potential accidents.

Kennedy ’19 [Fred, “To Colonize Space Or Not To Colonize: That Is The Question (For All Of Us)”, 12-18-2019, Forbes, https://www.forbes.com/sites/fredkennedy/2019/12/18/to-colonize-or-not-to-colonize--that-is-the-question-for-all-of-us/?sh=65a8d2702367]//pranav

It’s important to distinguish between colonize and explore. Exploration already enjoys broad approval here in America. In June, 77% of U.S. respondents told Gallup pollsters that NASA’s budget should either be maintained or increased – undeniable evidence of support for the American space program (as it’s currently constituted). By any measure, we’ve done an admirable job of surveying the solar system over the past 60 years – an essential first step in any comprehensive program of exploration. Unmanned probes developed and launched by the United States and the Soviet Union conducted flybys of the Moon and the terrestrial planets not long after we reached Earth orbit, and since then, we’ve flown by the outer planets. Multiple nations have placed increasingly sophisticated robotic emissaries on the surfaces of the Moon, Mars, Venus and Saturn’s largest moon, Titan. Most stunningly, in a tour de force of technology and Cold War chutzpah, the U.S. dispatched humans to set foot on another world, just 50 years and a few months ago. But after only six such visits, we never returned. Moon habitats in lava tubes, crops under glass domes, ice mining at the south pole? No. NASA’s Artemis program may place a man and a woman on the Moon again in 2024. But that’s hardly colonization. For perspective, let’s look closer to home. Sailors from an American vessel may have landed on Antarctica as early as 1821 – the claim is unverified – but no scientific expeditions “wintered” there for another 75 years. The first two of these, one Belgian and one British, endured extreme cold and privation – one inadvertently, the other by design. And yet, 200 years after the first explorer set foot on the continent, there are no permanent settlements (partially as a result of a political consensus reached in the late 1950s, but in no small part due to the difficulty of extracting resources such as ore or fossil fuels through kilometers of ice). Less than 5,000 international researchers and support staff comprise the “summer population” at the bottom of the world. That number dwindles to just 1,100 during the harsh Antarctic winter, requiring millions of tons of supplies and fuel to be delivered every year – none of which can be produced locally. To suggest that Antarctica is colonized would be far overstating the sustainability of human presence there. If Antarctica is hard, the Moon, Mars, asteroids, and interplanetary space will be punishingly difficult. Writing in Gizmodo this past July, George Dvorsky describes the challenges to a human colony posed by low gravity, radiation, lack of air and water, and the psychological effects of long-term confinement and isolation inside artificial structures, in space or on planetary surfaces. Add to this the economic uncertainties of such a venture – where the modern analog of a Dutch or British East India Company would face enormous skepticism from investors regarding the profitability of shipping any good or finished product between colonial ports of call – and it becomes clear why nation states and mega-corporations alike have so far resisted the temptation to set up camp beyond geosynchronous orbit. Perhaps, many argue, we should focus our limited resources on unresolved problems here at home? Yet a wave of interest in pursuing solar system colonization is building, whether its initial focus is the Moon, Mars, or O’Neill-style space habitats. Jeff Bezos has argued eloquently for moving heavy industry off the home planet, preserving Earth as a nature reserve, and building the space-based infrastructure that will lower barriers and create opportunities for vast economic and cultural growth (similar to how the Internet and a revolution in microelectronics has allowed Amazon and numerous other companies to achieve spectacular wealth). Elon Musk and Stephen Hawking both suggested the need for a “hedge” population of humans on Mars to allow human civilization to reboot itself in the event of a catastrophe on Earth – an eggs-in-several-baskets approach which actually complements the arguments made by Bezos. And while both are valid reasons for pursuing colonization, there’s a stronger, overarching rationale that clinches it. I’ll assert that a fundamental truth – repeatedly borne out by history – is that expanding, outwardly-focused civilizations are far less likely to turn on themselves, and far more likely to expend their fecundity on growing habitations, conducting important research and creating wealth for their citizens. A civilization that turns away from discovery and growth stagnates – a point made by NASA’s Chief Historian Steven Dick as well as Mars exploration advocate Robert Zubrin. As a species, we have yet to resolve problems of extreme political polarization (both internal to nation states as well as among them), inequalities in wealth distribution, deficiencies in civil liberties, environmental depredations and war. Forgoing opportunities to expand our presence into the cosmos to achieve better outcomes here at home hasn’t eliminated these scourges. What’s more, the “cabin fever” often decried by opponents of colonization (when applied to small, isolated outposts far from Earth) turns out to be a potential problem for our own planet. Without a relief valve for ideological pilgrims or staunch individualists who might just prefer to be on their own despite the inevitable hardships, we may well run the risk of exacerbating the polarization and internecine strife we strive so hard to quell. Focusing humanity’s attention and imagination on a grand project may well give us the running room we need to address these problems. But the decision cannot be made by one country, or one company, or one segment of the human population. If we do this, it will of necessity be a truly international endeavor, a cross-sector endeavor (with all commercial, civil, and defense interests engaged and cooperating). The good news: Critical technologies such as propulsion and power generation systems will improve over time. Transit durations between celestial destinations will shorten (in the same way sailing vessels gave way to steam ships and then to airliners and perhaps, one day, to point-to-point ballistic reusable rockets). Methods for obtaining critical resources on other planets will be refined and enhanced. Genetic engineering may be used to better adapt humans, their crops and other biota to life in space or on other planetary surfaces – to withstand the effects of low or micro-gravity, radiation, and the psychological effects of long-duration spaceflight.

2] solves endo-colonialism per 1AC Featherstone – gives the state a place to outwardly expand which stops them from turning inwards.

PICs are good –

1] Reciprocal: permutation includes all of the plan and part of the counterplan is legit even though it’s partially inclusive of the counter-plan

2] Leads to better plantexts: prevents affs from reading plantexts that have negative implications based on the rhetoric or implementation of the plan.

3] Every counterplan is a PIC: they must include all or part of the plan.

## 3

The standard is minimizing material violence.

#### Pleasure and pain are the starting point for moral reasoning—they’re our most baseline desires and the only things that explain the intrinsic value of objects or actions

**Moen 16**, Ole Martin (PhD, Research Fellow in Philosophy at University of Oslo). "An Argument for Hedonism." Journal of Value Inquiry 50.2 (2016): 267.

Let us start by observing, empirically, that **a widely shared judgment about intrinsic value** and disvalue **is that pleasure is intrinsically valuable and pain is intrinsically disvaluable**. On virtually any proposed list of intrinsic values and disvalues (we will look at some of them below), pleasure is included among the intrinsic values and pain among the intrinsic disvalues. This inclusion makes intuitive sense, moreover, for **there is something undeniably good about the way pleasure feels and something undeniably bad about the way pain feels**, and neither the goodness of pleasure nor the badness of pain seems to be exhausted by the further effects that these experiences might have. “Pleasure” and “pain” **are** here **understood inclusively**, as encompassing anything hedonically positive and anything hedonically negative. 2 The special value statuses of pleasure and pain are manifested in how we treat these experiences in our everyday reasoning about values. If you tell me that you are heading for the convenience store, **I might ask: “What for**?” This is a reasonable question, for when you go to the convenience store you usually do so, not merely for the sake of going to the convenience store, but for the sake of achieving something further that you deem to be valuable. You might answer, for example: “To buy soda.” This answer makes sense, for soda is a nice thing and you can get it at the convenience store. I might further inquire, however: “What is buying the soda good for?” This further question can also be a reasonable one, for it need not be obvious why you want the soda. You might answer: “Well, I want it for the pleasure of drinking it.” If I then proceed by asking “But what is the pleasure of drinking the soda good for?” the discussion is likely to reach an awkward end. **The reason is that the pleasure is not good for anything further; it is simply that for which going to the convenience store and buying the soda is good**. 3 As Aristotle observes: “**We never ask** [a man] **what** his **end is in being pleased, because we assume that pleasure is choice worthy in itself**.”4 Presumably, a similar story can be told in the case of pains, for if someone says “This is painful!” we never respond by asking: “And why is that a problem?” We take for granted that **if something is painful, we have a sufficient explanation of why it is bad**. If we are onto something in our everyday reasoning about values, it seems that **pleasure and pain are both places where we reach the end of the line in matters of value. Although pleasure and pain thus seem to be good candidates for intrinsic value and disvalue**, several objections have been raised against this suggestion: (1) that pleasure and pain have instrumental but not intrinsic value/disvalue; (2) that pleasure and pain gain their value/disvalue derivatively, in virtue of satisfying/frustrating our desires; (3) that there is a subset of pleasures that are not intrinsically valuable (so-called “evil pleasures”) and a subset of pains that are not intrinsically disvaluable (so-called “noble pains”), and (4) that pain asymbolia, masochism, and practices such as wiggling a loose tooth render it implausible that pain is intrinsically disvaluable. I shall argue that these objections fail. Though it is, of course, an open question whether other objections to P1 might be more successful, I shall assume that if (1)–(4) fail, we are justified in believing that P1 is true itself a paragon of freedom—there will always be some agents able to interfere substantially with one’s choices. The effective level of protection one enjoys, and hence one’s actual degree of freedom, will vary according to multiple factors: how powerful one is, how powerful individuals in one’s vicinity are, how frequent police patrols are, and so on. Now, we saw above that what makes a slave unfree on Pettit’s view is the fact that his master has the power to interfere arbitrarily with his choices; in other words, what makes the slave unfree is the power relation that obtains between his master and him. The difﬁculty is that, in light of the facts I just mentioned, there is no reason to think that this power relation will be unique. A similar relation could obtain between the master and someone other than the slave: absent perfect state control, the master may very well have enough power to interfere in the lives of countless individuals. Yet it would be wrong to infer that these individuals lack freedom in the way the slave does; if they lack anything, it seems to be security. A problematic power relation can also obtain between the slave and someone other than the master, since there may be citizens who are more powerful than the master and who can therefore interfere with the slave’s choices at their discretion. Once again, it would be wrong to infer that these individuals make the slave unfree in the same way that the master does. Something appears to be missing from Pettit’s view. If I live in a particularly nasty part of town, then it may turn out that, when all the relevant factors are taken into account, I am just as vulnerable to outside interference as are the slaves in the royal palace, yet it does not follow that our conditions are equivalent from the point of view of freedom. As a matter of fact, we may be equally vulnerable to outside interference, but as a matter of right, our standings could not be more different. I have legal recourse against anyone who interferes with my freedom; the recourse may not be very effective—presumably it is not, if my overall vulnerability to outside interference is comparable to that of a slave— but I still have full legal standing.68 By contrast, the slave lacks legal recourse against the interventions of one speciﬁc individual: his master. It is that fact, on a Kantian view—a fact about the legal relation in which a slave stands to his master—that sets slaves apart from freemen. The point may appear trivial, but it does get something right: whereas one cannot identify a power relation that obtains uniquely between a slave and his master, the legal relation between them is undeniably unique. A master’s right to interfere with respect to his slave does not extend to freemen, regardless of how vulnerable they might be as a matter of fact, and citizens other than the master do not have the right to order the slave around, regardless of how powerful they might be. This suggests that Kant is correct in thinking that the ideal of freedom is essentially linked to a person’s having full legal standing. More speciﬁcally, he is correct in holding that the importance of rights is not exhausted by their contribution to the level of protection that an individual enjoys, as it must be on an instrumental view like Pettit’s. Although it does matter that rights be enforced with reasonable effectiveness, the sheer fact that one has adequate legal rights is essential to one’s standing as a free citizen. In this respect, Kant stays faithful to the idea that freedom is primarily a matter of standing—a standing that the freeman has and that the slave lacks. Pettit himself frequently insists on the idea, but he fails to do it justice when he claims that freedom is simply a matter of being adequately (and reliably) shielded against the strength of others. As Kant recognizes, the standing of a free citizen is a more complex matter than that. One could perhaps worry that the idea of legal standing is something of a red herring here—that it must ultimately be reducible to a complex network of power relations and, hence, that the position I attribute to Kant differs only nominally from Pettit’s. That seems to me doubtful. Viewing legal standing as essential to freedom makes sense only if our conception of the former includes conceptions of what constitutes a fully adequate scheme of legal rights, appropriate legal recourse, justiﬁed punishment, and so on. Only if one believes that these notions all boil down to power relations will Kant’s position appear similar to Pettit’s. On any other view—and certainly that includes most views recently defended by philosophers—the notion of legal standing will outstrip the power relations that ground Pettit’s theory.

#### Extinction comes first under any framework.

Pummer 15 [Theron, Junior Research Fellow in Philosophy at St. Anne's College, University of Oxford. “Moral Agreement on Saving the World” Practical Ethics, University of Oxford. May 18, 2015] AT

There appears to be lot of disagreement in moral philosophy. Whether these many apparent disagreements are deep and irresolvable, I believe there is at least one thing it is reasonable to agree on right now, whatever general moral view we adopt: that it is very important to reduce the risk that all intelligent beings on this planet are eliminated by an enormous catastrophe, such as a nuclear war. How we might in fact try to reduce such existential risks is discussed elsewhere. My claim here is only that we – whether we’re consequentialists, deontologists, or virtue ethicists – should all agree that we should try to save the world. According to consequentialism, we should maximize the good, where this is taken to be the goodness, from an impartial perspective, of outcomes. Clearly one thing that makes an outcome good is that the people in it are doing well. There is little disagreement here. If the happiness or well-being of possible future people is just as important as that of people who already exist, and if they would have good lives, it is not hard to see how reducing existential risk is easily the most important thing in the whole world. This is for the familiar reason that there are so many people who could exist in the future – there are trillions upon trillions… upon trillions. There are so many possible future people that reducing existential risk is arguably the most important thing in the world, even if the well-being of these possible people were given only 0.001% as much weight as that of existing people. Even on a wholly person-affecting view – according to which there’s nothing (apart from effects on existing people) to be said in favor of creating happy people – the case for reducing existential risk is very strong. As noted in this seminal paper, this case is strengthened by the fact that there’s a good chance that many existing people will, with the aid of life-extension technology, live very long and very high quality lives. You might think what I have just argued applies to consequentialists only. There is a tendency to assume that, if an argument appeals to consequentialist considerations (the goodness of outcomes), it is irrelevant to non-consequentialists. But that is a huge mistake. Non-consequentialism is the view that there’s more that determines rightness than the goodness of consequences or outcomes; it is not the view that the latter don’t matter. Even John Rawls wrote, “All ethical doctrines worth our attention take consequences into account in judging rightness. One which did not would simply be irrational, crazy.” Minimally plausible versions of deontology and virtue ethics must be concerned in part with promoting the good, from an impartial point of view. They’d thus imply very strong reasons to reduce existential risk, at least when this doesn’t significantly involve doing harm to others or damaging one’s character. What’s even more surprising, perhaps, is that even if our own good (or that of those near and dear to us) has much greater weight than goodness from the impartial “point of view of the universe,” indeed even if the latter is entirely morally irrelevant, we may nonetheless have very strong reasons to reduce existential risk. Even egoism, the view that each agent should maximize her own good, might imply strong reasons to reduce existential risk. It will depend, among other things, on what one’s own good consists in. If well-being consisted in pleasure only, it is somewhat harder to argue that egoism would imply strong reasons to reduce existential risk – perhaps we could argue that one would maximize her expected hedonic well-being by funding life extension technology or by having herself cryogenically frozen at the time of her bodily death as well as giving money to reduce existential risk (so that there is a world for her to live in!). I am not sure, however, how strong the reasons to do this would be. But views which imply that, if I don’t care about other people, I have no or very little reason to help them are not even minimally plausible views (in addition to hedonistic egoism, I here have in mind views that imply that one has no reason to perform an act unless one actually desires to do that act). To be minimally plausible, egoism will need to be paired with a more sophisticated account of well-being. To see this, it is enough to consider, as Plato did, the possibility of a ring of invisibility – suppose that, while wearing it, Ayn could derive some pleasure by helping the poor, but instead could derive just a bit more by severely harming them. Hedonistic egoism would absurdly imply she should do the latter. To avoid this implication, egoists would need to build something like the meaningfulness of a life into well-being, in some robust way, where this would to a significant extent be a function of other-regarding concerns (see chapter 12 of this classic intro to ethics). But once these elements are included, we can (roughly, as above) argue that this sort of egoism will imply strong reasons to reduce existential risk. Add to all of this Samuel Scheffler’s recent intriguing arguments (quick podcast version available here) that most of what makes our lives go well would be undermined if there were no future generations of intelligent persons. On his view, my life would contain vastly less well-being if (say) a year after my death the world came to an end. So obviously if Scheffler were right I’d have very strong reason to reduce existential risk. We should also take into account moral uncertainty. What is it reasonable for one to do, when one is uncertain not (only) about the empirical facts, but also about the moral facts? I’ve just argued that there’s agreement among minimally plausible ethical views that we have strong reason to reduce existential risk – not only consequentialists, but also deontologists, virtue ethicists, and sophisticated egoists should agree. But even those (hedonistic egoists) who disagree should have a significant level of confidence that they are mistaken, and that one of the above views is correct. Even if they were 90% sure that their view is the correct one (and 10% sure that one of these other ones is correct), they would have pretty strong reason, from the standpoint of moral uncertainty, to reduce existential risk. Perhaps most disturbingly still, even if we are only 1% sure that the well-being of possible future people matters, it is at least arguable that, from the standpoint of moral uncertainty, reducing existential risk is the most important thing in the world. Again, this is largely for the reason that there are so many people who could exist in the future – there are trillions upon trillions… upon trillions. (For more on this and other related issues, see this excellent dissertation). Of course, it is uncertain whether these untold trillions would, in general, have good lives. It’s possible they’ll be miserable. It is enough for my claim that there is moral agreement in the relevant sense if, at least given certain empirical claims about what future lives would most likely be like, all minimally plausible moral views would converge on the conclusion that we should try to save the world. While there are some non-crazy views that place significantly greater moral weight on avoiding suffering than on promoting happiness, for reasons others have offered (and for independent reasons I won’t get into here unless requested to), they nonetheless seem to be fairly implausible views. And even if things did not go well for our ancestors, I am optimistic that they will overall go fantastically well for our descendants, if we allow them to. I suspect that most of us alive today – at least those of us not suffering from extreme illness or poverty – have lives that are well worth living, and that things will continue to improve. Derek Parfit, whose work has emphasized future generations as well as agreement in ethics, described our situation clearly and accurately: “We live during the hinge of history. Given the scientific and technological discoveries of the last two centuries, the world has never changed as fast. We shall soon have even greater powers to transform, not only our surroundings, but ourselves and our successors. If we act wisely in the next few centuries, humanity will survive its most dangerous and decisive period. Our descendants could, if necessary, go elsewhere, spreading through this galaxy…. Our descendants might, I believe, make the further future very good. But that good future may also depend in part on us. If our selfish recklessness ends human history, we would be acting very wrongly.” (From chapter 36 of On What Matters)

## Case

### Framing

1] util hijacks – reason speed, cap, etc. are all bad is bc they cause pain

2] only util explains why accidents would matter OR the ac framework requires conseqeunces which means our offense o/w

3] if I win a util warrant vote neg – we’ve impact turned every part of their syllogism

4] Featherstone is is/ought fallacy – just bc state COULD be endo-colonial, doesn’t mean it always will be – independently rez isn’t a question of what the state would do, but what private entitites would do

5] fallacy of origin – just because freedom is important doesn’t mean we have an ethical obligation to stop it

6] no impact to acceleration per the 1ac – don’t grant them one in the 1ar – also means u should vote neg on presumption bc they don’t do anything to resolve it

7] crostwaith is threat construction and puts them in a double bind – either tech accidents are inevitable which means they can never solve OR space appropriation doesn’t cause accidents which means appropriation is good.

8] vote neg on presumption – we’ve recognized tech could have potential for accidents that’s enough

### Tech T/L

**Their theory totalizes the relationship between tech and social relations – that’s catastrophically wrong**

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A major irony of Feenberg’s book is the following contradiction: on several occasions, he criticizes, and distances himself from, technological determinism; key parts of his argument suggest, however, that he himself flirts with, if not subscribes to, technological determinism. He rightly maintains, and convincingly demonstrates, that ‘society and technology are inextricably imbricated’.240 This insight justifies **the underlying assumption that there is no comprehensive study of society without a critical sociology of technology**. Yet, to contend that ‘[s]ocial groups exist through the technologies that bind their members together’241 **is misleading. For not all social groups are primarily defined by the technologies that enable their members to relate to, and to bond with, one another**. Indeed, **not all social relations, or social bonds, are based on, let alone determined by, technology**.

**Of course**, Feenberg is right to argue that **‘technologically mediated groups influence technical design through their choices and protests’**.242 Ultimately, though, the previous assertion is tautological. This becomes clear if, in the above sentence, we replace the word ‘technological(ly)’ with terms such as ‘cultural(ly)’, ‘linguistical(ly)’, ‘political(ly)’, ‘economic(ally)’, or indeed another sociological qualifier commonly used to characterize the specificity of a social relation. Hence, we may declare that ‘culturally, linguistically, politically, and economically mediated groups influence cultural, linguistic, political, and economic conventions through their choices and protests’. **In saying so, we are stating the obvious. If**, however, **we aim to make a case for** cultural, linguistic, political, or economic **determinism, then this is problematic to the extent that we end up reducing the constitution of social arrangements to the product of one overriding causal set of forces** (whether these be cultural, linguistic, political, economic, technological, or otherwise).

While declaring that he is a critic of technological determinism, Feenberg – in central passages of his book – gives the impression that he is one of its fiercest advocates. Feenberg’s techno-Marxist evolutionism is based on the premise that ‘progress is realized essentially through technosystem change’243 – that is, on the assumption that, effectively, human progress is reducible to technological development. Feenberg is right to stress that ‘[t]echnical progress is joined indissolubly to the democratic enlargement of access to its benefits and protection from its harms’.244 ‘Concretization’,245 understood in this way, conceives of progress as a ‘local, context-bound phenomenon uniting technical and normative dimensions’.246 We may add, however, that **progress has not only technical (or technological) but also economic, cultural, and political dimensions, which contain objective, normative, and subjective facets. At times, the differentiation between these aspects is blurred, if not lost, in Feenberg’s account, given his tendency to overstate the power of technology at the expense of other crucial social forces**. In other words, **progress is not only ‘inextricably entangled with the technosystem’**,247 **but it is also indissolubly entwined with the economic, cultural, and political systems in which it unfolds and for (or against) which it exerts its** objective, normative, and subjective **power**.

The preceding reflection takes us back to the problem of techno-reductionism:

The struggle over the technosystem began with the labor movement. Workers’ demands for health and safety on the job were public interventions into production technology.248

**All struggles over social (sub)systems have not only a technological but also various other (notably economic, cultural, and political) dimensions. Demands made by particular subjects** (defined by class, ethnicity, gender, age, or ability – or a combination of these sociological variables) **are commonly expressed in public interventions not only into** production **technology, but also into economic, cultural, and political systems. In all social struggles** (including class struggle), **technology can be an important means to an end, but it is rarely an end in itself**. Put differently, **social struggles are partly – but seldom essentially, let alone exclusively – about technology**.

### Tech Good

#### 1 – innovation- it solves every existential threat – cumulative extinction events outweigh the aff

Dylan **Matthews 18**. Co-founder of Vox, citing Nick Beckstead @ Rutgers University. 10-26-2018. "How to help people millions of years from now." Vox. https://www.vox.com/future-perfect/2018/10/26/18023366/far-future-effective-altruism-existential-risk-doing-good

If you care about improving human lives, you should overwhelmingly care about those quadrillions of lives rather than the comparatively small number of people alive today. The 7.6 billion people now living, after all, amount to less than 0.003 percent of the population that will live in the future. It’s reasonable to suggest that those quadrillions of future people have, accordingly, hundreds of thousands of times more moral weight than those of us living here today do. That’s the basic argument behind Nick Beckstead’s 2013 Rutgers philosophy dissertation, “On the overwhelming importance of shaping the far future.” It’s a glorious mindfuck of a thesis, not least because Beckstead shows very convincingly that this is a conclusion any plausible moral view would reach. It’s not just something that weird utilitarians have to deal with. And Beckstead, to his considerable credit, walks the walk on this. He works at the Open Philanthropy Project on grants relating to the far future and runs a charitable fund for donors who want to prioritize the far future. And arguments from him and others have turned “long-termism” into a very vibrant, important strand of the effective altruism community. But what does prioritizing the far future even mean? The most literal thing it could mean is preventing human extinction, to ensure that the species persists as long as possible. For the long-term-focused effective altruists I know, that typically means identifying concrete threats to humanity’s continued existence — like unfriendly artificial intelligence, or a pandemic, or global warming/out of control geoengineering — and engaging in activities to prevent that specific eventuality. But in a set of slides he made in 2013, Beckstead makes a compelling case that while that’s certainly part of what caring about the far future entails, approaches that address specific threats to humanity (which he calls “targeted” approaches to the far future) have to complement “broad” approaches, where instead of trying to predict what’s going to kill us all, you just generally try to keep civilization running as best it can, so that it is, as a whole, well-equipped to deal with potential extinction events in the future, not just in 2030 or 2040 but in 3500 or 95000 or even 37 million. In other words, caring about the far future doesn’t mean just paying attention to low-probability risks of total annihilation; it also means acting on pressing needs now. For example: We’re going to be better prepared to prevent extinction from AI or a supervirus or global warming if society as a whole makes a lot of scientific progress. And a significant bottleneck there is that the vast majority of humanity doesn’t get high-enough-quality education to engage in scientific research, if they want to, which reduces the odds that we have enough trained scientists to come up with the breakthroughs we need as a civilization to survive and thrive. So maybe one of the best things we can do for the far future is to improve school systems — here and now — to harness the group economist Raj Chetty calls “lost Einsteins” (potential innovators who are thwarted by poverty and inequality in rich countries) and, more importantly, the hundreds of millions of kids in developing countries dealing with even worse education systems than those in depressed communities in the rich world. What if living ethically for the far future means living ethically now? Beckstead mentions some other broad, or very broad, ideas (these are all his descriptions): Help make computers faster so that people everywhere can work more efficiently Change intellectual property law so that technological innovation can happen more quickly Advocate for open borders so that people from poorly governed countries can move to better-governed countries and be more productive Meta-research: improve incentives and norms in academic work to better advance human knowledge Improve education Advocate for political party X to make future people have values more like political party X ”If you look at these areas (economic growth and technological progress, access to information, individual capability, social coordination, motives) a lot of everyday good works contribute,” Beckstead writes. “An implication of this is that a lot of everyday good works are good from a broad perspective, even though hardly anyone thinks explicitly in terms of far future standards.” Look at those examples again: It’s just a list of what normal altruistically motivated people, not effective altruism folks, generally do. Charities in the US love talking about the lost opportunities for innovation that poverty creates. Lots of smart people who want to make a difference become scientists, or try to work as teachers or on improving education policy, and lord knows there are plenty of people who become political party operatives out of a conviction that the moral consequences of the party’s platform are good. All of which is to say: Maybe effective altruists aren’t that special, or at least maybe we don’t have access to that many specific and weird conclusions about how best to help the world. If the far future is what matters, and generally trying to make the world work better is among the best ways to help the far future, then effective altruism just becomes plain ol’ do-goodery.\*

#### 2 – Peacekeeping---algorithmic governance enables effective responses to global atrocities

John Karlsrud 14, Senior Research Fellow and Manager of the Training for Peace programme at NUPI, Peacekeeping 4.0: Harnessing the Potential of Big Data, Social Media, and Cyber Technologies, in “Cyberspace and International Relations: Theory, Prospects and Challenges,” https://www.researchgate.net/profile/Hakan\_Mehmetcik/publication/285282612\_A\_New\_Way\_of\_Conducting\_War\_Cyberwar\_Is\_That\_Real/links/5c63f67d45851582c3e47db7/A-New-Way-of-Conducting-War-Cyberwar-Is-That-Real.pdf

Brought together, the data can enable international organizations to follow and possibly prevent evolving situations and crises. This potential has been recognized; and, following the financial crisis, the UN Secretary-General created UN Global Pulse to explore opportunities for using real-time data to gain a more accurate understanding of population wellbeing, especially related to the impacts of global crises. The availability of real-time data holds great promise for helping us detect the early signs of stress on vulnerable populations. It represents an unprecedented opportunity to track the human impacts of crises as they unfold, and to get real-time feedback on how well policy responses are working (UN Global Pulse 2012b). As such, research undertaken by UN Global Pulse, notably though its networks of country-level “Pulse Labs,” may give the UN a better ability to follow, respond to and mitigate the impact of natural disasters and complex crises.

However, more than 90 % of the information will be unstructured, potentially rich in useful information. Turning structured and unstructured information into actionable data requires efficient ways of structuring and analyzing the information in real time in a data ecosystem (WEF 2010, p. 4). This process is often called “reality mining” (UN Global Pulse 2012a, p. 18; Eagle and Pentland 2006) or “data mining”—discovering patterns in large data sets (Cheshire 2011; Helbing and Balietti 2012). So, how can the UN and other multilateral actors make use of this data? Cooperation has been initiated with Google and other large corporations that are at the forefront in harvesting actionable data from the “data deluge” (The Economist 2010b).

Concurrently with this development, the digital divide is closing at an increasing speed. According to the World Bank, 44.9 out of every 100 people in subSaharan Africa had a mobile subscription in 2010 (World Bank 2012a), and by 2016 this figure will reach 91.3 (Portio Research 2012), although the high number may mask persons have more than one subscription. The percentage of population with access to internet is also increasing (World Bank 2012b). This means that the amount of both structured and unstructured data that can be analyzed and can inform multilateral efforts for conflict prevention and international security is increasing rapidly and can give a more even and realistic picture of the situation in question. However, there is a need to be realistic. There is great variance in the access to data between countries such as Syria and the Democratic Republic of Congo, and many have more than one mobile subscription to strengthen their resilience against patchy networks.

Other co-influencing factors are the rapid spread of 3G networks in developing countries and affordable smart phones at prices down to $50 or less (Jidenma 2011). There is also a current global mega-trend of access to the internet through mobile devices: “in a world where there are 6.3 bn mobile users and 2.3 bn internet users, the default access mode to broadband services is mobile” (Ulf Ewaldsson, Ericsson, quoted in ITU 2012a). According to the International Telecommunication Union, “the ubiquitous mobile phone provides an important foundation for the uptake of mobilebased Internet [in the developing world]. With the majority of countries worldwide having launched 3G mobile-broadband services, the prospects are promising” (ITU 2012b, p. 39, Evans 2012).

In the areas of conflict prevention, humanitarian action, and development, the UN has made some initial steps. But what then is the situation in the areas of peacekeeping and peacebuilding? Unfortunately, little progress has been made so far. Notwithstanding the inclusion of surveillance drones in one peacekeeping mission, the development of Joint Mission Analysis Cells and Joint Operations Centres (which I will return to in the next section), the use of mobile phones in community alert networks in eastern Congo, and the heightened focus on the strategic planning and coordination capacity of peacekeeping and peacebuilding operations, much work remains before peacekeeping operations can be said to be tapping the potential of big data, social media, and cyber-technology effectively, entering the age of “Peacekeeping 4.0.”

The good part of this story is that much work already has been undertaken in the similar and parallel fields of conflict prevention, humanitarian action and development. Many lessons from these fields could easily be imported, while other innovative approaches can be accessed through increased cooperation and coordination. Accomplishing this will require overcoming various bureaucratic hurdles and turfism, driven by support from engaged member states and the Secretary-General. Finally, the uptake of digital information in the planning of UN peace operations may also have implications for how the interaction between the UN, member states and civil society is theorized. IR theorists have increasingly underscored the importance of civil society actors as potential norm entrepreneurs (Keck and Sikkink 1998), and more recent research looking at the relationship between media and international organizations emphasize the potential role civil society and new technology can play in democratizing the access to information, but also the potential for groups spreading disinformation and incite hatred.

This chapter will seek to explore what chances the availability of Big Data and new technologies offer for peacekeeping and as well as inherent challenges. The chapter proceeds as follows: First, I narrow in on some key initiatives in the areas of conflict prevention, humanitarian action, and development that can be relevant to peacekeeping. The following section provides a short background on peacekeeping and its evolution from the end of the Cold War until present, noting some of the steps taken to date. Thirdly, I discuss some of the challenges and opportunities facing policymakers, and relate these to the area of peacekeeping in particular. Finally, the chapter sums up and offers some recommendations for policymakers among member states, in the UN, and among civil society, as well as pointing out areas in need of further research, to enable the UN to enter the era of fourth generation peacekeeping—“Peacekeeping 4.0.”

2 Cyberization of Conflict Prevention, Humanitarian Action, and Development

The age of Big Data and social media has dawned on the fields of humanitarian activity, social activism, and development. Here the application of big data and social media has advanced a great deal further than in the areas of peacekeeping and peacebuilding, particularly among civil society organizations (CSOs) and other independent actors.

One of these initiatives is Ushahidi. Ushahidi is a “web based reporting system that utilizes crowdsourced data to formulate visual map information of a crisis on a real-time basis” (Ushahidi 2012a). Ushahidi, which means “testimony” in Swahili, was originally a website established after the election violence in Kenya in 2008 to map incidents of violence (Ushahidi 2012b). Using crowdsourcing as a method means that everyone with access to common digital communication channels can contribute data.1 The data can be provided via text messages, email, twitter and web-forms. One recent example is Syria Tracker—a website set up to monitor violent incidents involving civilians in Syria: “Syria Tracker is a crowdsourced effort developed by individuals concerned about the harm inflicted upon civilians in Syria” (Syria Tracker 2012). Ushahidi and Syria Tracker are part of a tendency of “how non-state actors are increasingly collaborating online to tackle issues traditionally managed by governments” (Leson 2012).

Also in the area of monitoring and evaluation, internet platforms are being established to ease the sharing and coordination of information. One example is the ActivityInfo website established by UNICEF, OCHA, and bedatadriven; it “that helps humanitarian organizations to collect, manage, map and analyze indicators…and allow for real time monitoring of the humanitarian situation in the eastern part of the Democratic Republic of Congo” (ActivityInfo 2012).

Analyzing the use of Google searches or Twitter messages can give strong indications of evolving situations, or whether an epidemic is spreading. Paul and Dredze (2011) found a very strong correlation coefficient (0.958) between tweets and official flu statistics, where the tweets were in real time and the statistics available only afterwards. Analyzing trending topics in Google searches or Facebook and blog posts can also yield significant data (Ginsberg et al. 2009). Google Dengue Trends uses aggregated Google search data to estimate dengue activity (Google 2012a); there is a similar service for influenza (Google 2012b). Following the earthquake in Port-au-Prince, Haiti, researchers from Sweden’s Karolinska Institutet and Columbia University in New York used mobile phone data, tracking 1.9 million SIM cards (Bengtsson et al. 2011, p. 2). They were able to follow the population flows and destinations of 648,717 people who had been displaced (ibid.:3). Later that year, the same team followed population movement after a cholera outbreak (Bengtsson et al. 2010, p. 2).

Multilateral actors have started to catch on. The UN Secretary-General has created UN Global Pulse; the World Bank has begun discussing how big data can be used for development (World Bank 2012c), and has established “Mapping for Results” to visualize and track its programs and projects on the ground (World Bank 2012d). However, much remains to be done. In 2009, the UN Global Pulse Initiative launched the Rapid Impact and Vulnerability Analysis Fund (RIVAF).

However, a recent report published by the initiative reveals a focus on the use of traditional indicators, and a lack of focus on conflict and post-conflict countries, even though many of the UN agencies, funds, and programs involved in the RIVAF initiative operate in precisely such locations (UN Global Pulse 2011). Further work is necessary in this area, also to focus the energies of developmentoriented organizations to conflict and post-conflict countries and utilize the potential offered by big data, social media, and cyber-technology.

The UN has engaged with the Crisis Mappers community since 2010 (UN 2012a, p. 4, Crisis Mappers 2012); among other things, the Standby Task Force has supported OCHA crowdsourcing data for South Sudan, collecting “a total of 1,767 unique rows of data and 15,271 unique pieces of information records” in a mere 3 days (Standby Task Force 2012). At a recent meeting in New York to discuss the status of implementation of the UN’s Crisis Information Strategy, it was agreed that there is a need for Crisis Information Managers, and that the efforts towards convergence in crisis information management could support the “endeavours of ‘One UN’ and better coordination within the UN and the international community in general” (Swiss Mission to the United Nations 2012). A Crisis Management Training Course has since been established, with the first course being given in February 2013 at the International Peace Support Training Centre (IPSTC) in Nairobi, Kenya. The course will train civilians, military and police “working in multidimensional peace and humanitarian operations … to integrate new information technology into an information management system [and] demonstrate the opportunities and challenges of new ICTs [Information and Communication Technology] and social media tools…” (ICT4Peace 2012a). The challenge now will be to get the UN onboard and send staff to these courses, providing the organization with staff trained personnel that can enable it to make use of Big Data, ICTs and social media in its operations. The UN in Sudan has taken one step in this direction. With support of the United Kingdom, UNDP has run a Crisis Recovery and Mapping Analysis project since 2007 (UNDP 2012a), aimed at supporting both the UN country team (UNCT) and national authorities in making their activities more evidence-based and conflict-responsive (see also Bott and Young 2012).2

In Georgia, the Caucasus Research Resource Centers and Saferworld have joined forces with developers to produce Elva, combining “the data-rich mapping of Ushahidi with the meticulous requirements of human-rights researchers” (Sifry 2012). The platform is used to create a community safety network where a community representative, using SMS, can report violent or security incidents on a weekly basis. A similar initiative was developed by Columbia University in connection with the Voix des Kivus program in the Democratic Republic of Congo (DRC) to “overcome the problems associated with the collection of conflict data” (van der Wind and Humphreys 2012). It involved distributing prepaid cellphones, solar chargers, and code sheets to community representatives in 18 villages in Eastern Congo (ibid.). For both projects, protecting the identity of those reporting against possible reprisals became an important concern (ibid., p. 24; see also Puig 2012).

Together with the crisis mapping community, OCHA is experimenting with developing twitter dashboards for humanitarian crises. These use “Machine Learning (ML) techniques and social computing methods… to extract relevant information from twitter and aggregate this information according to Cluster for analytical purposes” (Meier 2012). A similar dashboard for peacekeeping operations “that looks across social media content and perhaps uses corporate data” could be envisaged (Interview with Meier 2012).

### Cap Good

#### Market failure wrong and capitalism creates *sustainable living conditions* – India and China prove

Smith 17. Noah Smith is a Bloomberg View columnist. He was an assistant professor of finance at Stony Brook University, and he blogs at Noahpinion [“Free-Market Failure Has Been Greatly Exaggerated,” 11-15-2017, *Bloomberg*, URL: https://www.bloomberg.com/view/articles/2017-11-15/free-markets-improved-more-lives-than-anything-ever]//vikas

As someone who has done decades of pioneering work in the field of trade and growth, and who has been intimately involved in practical policy-making, Rodrik is as much of an expert on this topic as anyone . But although his criticisms are accurate, he overlooks much of the good that neoliberalism has done. Rodrik very wisely explains why it's so easy for economists to seem like shills for simplistic free-market policies. Confronted with a desire for quick fixes and easy explanations, many economists instinctively revert back to the toy models they learned in their introductory economics courses -- models where free-market competition solves almost any problem. As Rodrik notes, these models represent a common fable -- University of Connecticut law professor James Kwak calls it "economism" -- that ignores a million and one important features of real-world markets. **Government institutions**, for example, **matter a lot** -- from the corporatism of 20th century Japan to Germany's innovative unions**, there are many flavors of capitalism** that all seem to work fairly well. And without good institutions, capitalism can easily degenerate into inefficient monopoly, crash-prone financial excess, short-sighted environmental destruction, or a number of other undesirable conditions. But when it comes to the harms that neoliberalism has wrought, Rodrik cherry-picks quite a bit. He focuses on two countries -- Mexico and Chile. In the 1970s and 1980s, under dictator Augusto Pinochet, Chile took advice from a number of free-market economists, but the results were underwhelming. Since undertaking its own free-market reforms and signing the North American Free Trade Agreement, Mexico's economy has underperformed more interventionist countries like South Korea and China. These examples of neoliberal disappointment are real enough. It's no accident that both come from Latin America -- the region where neoliberal advice, in the form of a 10-point plan called the Washington Consensus, garnered the most publicity. The Washington Consensus has been the target of bitter criticism for years, and Rodrik himself has been one of its most prominent detractors. But Latin America is only one part of the world. Elsewhere, broadly neoliberal ideas have been much more of a success. Rodrik's essay should have taken these into consideration. Take China. **In the 1980s, after decades of economic and social disaster under Mao Zedong, China started experimenting with a market economy under** party leader **Deng Xiaoping**. The regime began to allow small businesses and granted limited land rights. **State**-owned **enterprises were partially privatized.** The country opened to foreign investment, and went from a state of isolation to the world's biggest trading economy. By 2005, China's market economy passed its state-run economy in size. What happened after China's market reforms is now well-known -- **the most dramatic explosion of economic growth in world history.** As Rodrik points out, state intervention still plays a prominent role in China's economy. But the shift from a rigid command-and-control economy to one that blended state and market approaches -- and the liberalization of trade -- was undoubtedly a neoliberal reform. Though Deng's changes were mostly done in an ad-hoc, common sense manner, he did invite famed neoliberal economist Milton Friedman to give him advice. A decade after China began its experiment, India followed suit. In 1991, after a sharp recession, **Prime Minister Narasimha Rao and Finance Minister Manmohan Singh scrapped a cumbersome system of business licensing, eased curbs on foreign investment, ended many state-sanctioned monopolies, lowered tariffs and** did a bunch of other neoliberal things. Although the results were not as dramatic as in China, **there was a** sustained **rise in economic growth**: It's almost impossible to overstate how important the growth explosions of India and China have been. So many people live in these two supergiant countries -- almost 40 percent of humanity, several times the total living in the developed world -- that together they determine the entire shape of human progress. During the last three decades, India and China have done more to reduce world poverty than any other force in history: Dry facts and figures shouldn't obscure the poignant human reality of this miracle. People who once bathed in dirty rivers, defecated outside and saw a quarter of their children die before age 5 are getting food, shelter and clean water. Hundreds of millions of **indigent farmers have moved on to better lives in cities.** Child mortality in India is down by almost five-sixths. It could reasonably be argued that nothing this good has ever happened before in human history. And **India and China's growth appears far from over.** So sure, the Washington Consensus didn't boost Latin America into the ranks of rich countries. And the neoliberal reforms in the former Soviet Union met with mixed success. But India and China account for more than three times as many people as all of those countries combined. Their sweeping reduction in extreme poverty alone makes neoliberalism a qualified success. Though the free-market approach unquestionably has its shortcomings, it would be wrong to label it "bad economics," as Rodrik does. The truth, as usual, is more complicated.

#### Cap solves space exploration – takes out endo-colonization stuff.

**Blundell ‘4** [John, director general of the Institute of Economic Affairs, “Mission to Mars must go private to succeed”, Feb 2, http://news.scotsman.com/marsexploration/Mission-to-Mars-must-go.2499794.jp]

Bush is not finding the billions himself. Rather the tab will be picked up by US taxpayers in perhaps 20 years’ time. **What arrests me is the** unchallenged **assumption that space exploration must be a nationalised industry**. The Soviet effort may be stalled but the Chinese seem committed to joining the race. The European Space Agency is a strange combination of nationalised bodies. NASA is a pure old-fashioned nationalised entity. I argue **we should relinquish the expectationthat space has to be limited to vast quangos.** The mindset we all share is an echo of the rivalry between the evaporated USSR and the still dynamic US. The first bleeps of the Sputnik galvanised the US into accelerating its space effort.   **What we need is capitalists in space. Capitalism needs property rights, enforcement of contracts and the rule of law.** The ideological tussle does not cease once we are beyond the ionosphere.   With the exception of Arthur C Clarke, **none of us imagined the entertainment potential from satellites**. Geostationary lumps of electronic gadgetry beam us our BSkyB television pictures. I remain in awe that Rupert Murdoch can place a device in the skies above Brazil that sends a signal to every home in each hemisphere. Who could have foreseen that mobile phones could keep us chattering without any wiring, or that global position techniques could plot where we all are to within a metre? **These are business applications. Business is already in space.**   Markets detect and apply opportunities that are not envisaged by even the most accomplished technicians. I’m not saying Murdoch has special competences. I imagine he is as baffled by digital miracles as I am. The point is that **companies define and refine what public bodies cannot achieve**. Lift the veil of course and all those **satellite firms are an intricate web of experts supplying ideas and services. We have an infant space market.**   What use will the Moon be? Is there value on Mars other than the TV rights? The answer is nobody can know. We can only make some guesses. The Spanish ships that set off for the US thought they would get to India. The Portuguese knew they’d reach China. The English followed them westwards seeking gold. In fact, they got tobacco. Events always confound expectations.   The arguments for putting men on Mars are expressly vague from President Bush. Perhaps he was really bidding for votes.   From my reading the **best results may be medical. Zero, or low, gravity techniques may allow therapies of which we are ignorant.** It seems facetious to suggest tourism may be a big part of space opportunity but as both the North and South poles are over-populated and there is a queue at the top of Mount Everest, a trip to the Sea of Tranquility may prove a magnet for the wealthy. **Instead of NASA’s grotesque bureaucracy it may be Thomas Cook will be a greater force for exploration.**   NASA could be a procurement body. It need not design and run all space ventures. It could sub-contract far more extensively. Without specialised engineering expertise it is not easy to criticise projects such as the shuttle. It seems to be excessively costly and far too fragile.   **There are private space entrepreneurs already.** They are tiddlers up against the mighty NASA. Yet Dan **Goldin, the NASA leader, says he favours the privatisation of space: "We can’t afford to do solar system exploration until we turn these activities over to the cutting edge private sector...**   "Some may say that commercialising portions of NASA’s functions is heresy. Others may think we are taking a path that will ruin the wonders of space. I believe that **when NASA can creatively partner, all of humankind will reap the benefits of access to open space".   Is it possible the Moon has a more noble future than merely a branch office of NASA? Is it tolerable that Mars could be a subsidiary of the USA? Could it be nominally a further state of the union? These are not silly questions. In time space will be defined by lawyers and accountants as property rights will need to be deliberated**.   One possibility may be that both environments are so hostile that Mars and the Moon will never be more than token pockets for humanity. On the evidence so far it is the orbiting satellites that have made us see the Earth through new eyes. **We can survey and explore the planet better from 200 miles up than stomping on the surface. The emerging commercial body of space law is derived from telecommunications law**.   It is perplexing and contrary to our immediate senses. How can you own or exchange something as intangible as digital messages bouncing off satellites? Yet we all pay our mobile phone bills.   **Many of the business results of space exploration are unintended consequences of NASA’s early adventures. Computer development would probably have been slower but for the need for instrumentation for Apollo**.   Are there prospects for Scottish firms in space? The prizes will not go to only the mega corporations. Perhaps Dobbies, the Edinburgh garden centre group, can create new roses by placing pots beyond gravity. Edinburgh University laboratories, or rather their **commercial spin offs, could patent new medicines**. Is it possible the genetic magicians at the Bush could hitch a ride into space and extend their discoveries?   NASA is a monopolist. All monopolies are bad for business. They only stunt opportunities. They blunt alternatives.   **By opening space to entrepreneurship we will be starting on what FA Hayek memorably describes as "a discovery procedure". Science is an open system. So is capitalism.**

The Virilio 10 ev ab exploration bad doesn’t have an internal link to accident being inevitable.

#### Cap solves disease mutation

Jackson 16. Kerry, Pacific Research Institute; 12/19/16; Free Market Policies Needed To Incentivize Creation Of New Life-Saving Treatments; https://www.pacificresearch.org/article/free-market-policies-needed-to-incentivize-creation-of-new-life-saving-treatments/

“Our strongest antibiotics don’t work and patients are left with potentially untreatable infections,” Director Dr. Tom Frieden said when the CDC issued its warning. He asked doctors, hospitals and public health officials to “work together” to “stop these infections from spreading.” The 2014 Report to the President expressed a similar concern: “The evolution of antibiotic resistance is now occurring at an alarming rate and is outpacing the development of new countermeasures capable of thwarting infections in humans. This situation threatens patient care, economic growth, public health, agriculture, economic security and national security.” For those thinking this sort of thing shouldn’t be happening when medical science is more advanced than can almost be conceived, be assured that it is. And unless there are public policy interventions, it’s likely to get worse. “More and more microorganisms will continue to gain resistance to the current drug therapies because (antimicrobial resistance, or AMR) is basic evolution,” Wayne Winegarden writes in the Pacific Research Institute’s newly-released report “Incenting the Development of Antimicrobial Medicines to Address the Problem of Drug-Resistant Infections.” The International Federation of Pharmaceutical Manufacturers says the problem is caused by “a dearth of new antibiotic medicines.” At the same time that there’s been an increase in AMR, there has been “a sharp decline in the development of new antibiotic medicines.” The group reports that only two new classes of antibiotics have been discovered in the last three decades compared to 11 in the previous 50 years. The answers to many medical problems are still not within reach of researchers. But the hazards of AMR can be diminished. Winegarden suggests we begin with public health campaigns that encourage handwashing, which he calls a highly effective and low-cost way to reduce the spread of infection. He further recommends policy that would address the problem of antibiotic overuse and greater use of vaccines to cut the incidents of infection. But Winegarden’s primary concern is establishing the correct incentives for developing new antimicrobial medicines that would be effective against AMR microorganisms. He’s specifically referring to policies “based on a thorough understanding of the disincentives that are currently inhibiting their development.” “These disincentives are well-recognized,” he writes. “Despite the medical need, and despite the generally strong return on investment for many other drug classes, the return on investment for developing new antimicrobial medicines (particularly antibiotics) is too low.” Producing a new drug is a grinding and expensive endeavor. It can take 10 to 15 years to develop a single prescription drug that is introduced to the market, and a company can spend as much as $5.5 billion on research and development for each medication that is eventually approved and prescribed. Less than 2 percent of all projects launched to create new drugs succeed. This is not an environment in which pharmaceutical companies can get too amped up about pursuing new treatments. Yet new drug approvals increased over the last decade. Don’t look for a surge of antimicrobial drugs in that pipeline, though. Winegarden says that particular drug class is among several that “face unique impediments” that serve as disincentives for innovation. To overcome the steep hill that impedes the development of new AMR drugs, lawmakers must implement policies that unleash the incentives of the free market. Policymakers also should look at the 1983 federal Orphan Drug Act and its market-oriented reforms that increased the number of drugs developed to treat rare diseases. More than 400 have been introduced to the market since the law was enacted, compared to fewer than 10 in the 1970s. Put another way, government needs to remove its anchors from the process and let the market do what it does so well. In this case, that’s restoring patients’ health, enriching innovative companies that create jobs, and inspiring biotech start-ups such as the group of Stanford undergraduates that has been capitalized to develop new antibiotics. If the proper incentives are in place, the needed treatments will follow.

#### Pandemics end civilization – no burnout

Kerscher 14. Karl-Heinz, professor and management consultant “Space Education”, Wissenschaftliche Studie, 2014

The death toll for a pandemic is equal to the virulence, the deadliness of the pathogen or pathogens, multiplied by the number of people eventually infected. It has been hypothesized that there is an upper limit to the virulence of naturally evolved pathogens. This is because a pathogen that quickly kills its hosts might not have enough time to spread to new ones, while one that kills its hosts more slowly or not at all will allow carriers more time to spread the infection, and thus likely out-compete a more lethal species or strain. This simple model predicts that if virulence and transmission are not linked in any way, pathogens will evolve towards low virulence and rapid transmission. However, this assumption is not always valid and in more complex models, where the level of virulence and the rate of transmission are related, high levels of virulence can evolve. The level of virulence that is possible is instead limited by the existence of complex populations of hosts, with different susceptibilities to infection, or by some hosts being geographically isolated. The size of the host population and competition between different strains of pathogens can also alter virulence. There are numerous historical examples of pandemics that have had a devastating effect on a large number of people, which makes the possibility of global pandemic a realistic threat to human civilization.

#### Cap solves warming

Hansen and Wethal 14 Arve Hansen is a Research Fellow in interdisciplinary development studies and geography at the Centre for Development and the Environment, University of Oslo, Norway. Ulrikke Wethal is a Research Fellow in development and economic geography at the Centre for Development and the Environment, University of Oslo, Norway. October 10, 2014, “Emerging Economies and Challenges to Sustainability: Theories, Strategies, Local Realities”, https://books.google.com/books?id=uxbEBAAAQBAJ&printsec=frontcover&source=gbs\_atb#v=onepage&q&f=false

As discussed in Chapter 3 by McNeill and Wilhite, the Kuznets curve has been used to describe the alleged relation between the environment and economic growth. The idea is that, as economies grow, growth will first lead to environmental degradation, but beyond a certain point, the fruits of this same growth can be used to prevent or ameliorate degradation. However, in advanced economies, most reduction in environmental degradation has taken place due to outsourcing of production rather than any innovative way of mitigating the challenges. In terms of achieving global sustainable development, the exportation of environmental problems through a relocalisation of production makes no positive contribution. While there has been increasing acknowledgement of the environmental crisis we are facing, radical action remains absent. So-called green-washing has been the main response to the call for sustainable development. This is not, we argue, necessarily because the idea of sustainable development is wrong, but mainly because countries are not willing to commit deeply to the required trans-formations. It is also because of the lack of visions that are both viable and appeal to large segments of societies. Economic growth enables job creation and increases living standards, and can allow governments to avoid the uncomfortable questions of more radical redistribution. Halting growth in a capitalist economy leads to recessions and unemployment. Even though it tends to hit the poorest hardest, the ramifications are felt across all groups in society. For a powerful political party (whether in a one-party system or a democracy) to preach no-growth or degrowth in this context is political suicide. Politics is the art of the possible (as von Bismarck famously said), and green-washing and technological fixes are much more palatable alternatives than the societal trans-formations required by deeper understandings of sustainability.

**Warming causes extinction & turns every impact – no adaptation & each degree is worse**

**Krosofsky ’21** [Andrew, Green Matters Journalist, “How Global Warming May Eventually Lead to Global Extinction”, Green Matters, 03-11-2021, https://www.greenmatters.com/p/will-global-warming-cause-extinction]//pranav

Eventually, yes. **Global warming will invariably result in the mass extinction of millions of different species,** humankind included. In fact, **the Center for Biological Diversity says that global warming is currently the greatest threat to life on this planet**. **Global warming causes a number of detrimental effects on the environment that many species won’t be able to handle long-term**. Extreme weather patterns are shifting climates across the globe, eliminating habitats and altering the landscape. **As a result, food and fresh water sources are being drastically reduced**. Then, of course, **there are the rising global temperatures themselves, which many species are physically unable to contend with**. Formerly frozen arctic and antarctic regions are melting, increasing sea levels and temperatures. Eventually, **these effects will create a perfect storm of extinction conditions**. The melting glaciers of the arctic and the searing, **unmanageable heat indexes being seen along the Equator are just the tip of the iceberg, so to speak.** **The species that live in these climate zones have already been affected by the changes caused by global warming.** Take polar bears for example, whose habitats and food sources have been so greatly diminished that they have been forced to range further and further south. **Increased carbon dioxide levels in the atmosphere and oceans have already led to ocean acidification**. **This has caused many species of crustaceans to either adapt or perish and has led to the mass bleaching of more than 50 percent of Australia’s Great Barrier Reef**, according to National Geographic. According to the Center for Biological Diversity, the current trajectory of global warming predicts that more than 30 percent of Earth’s plant and animal species will face extinction by 2050. By the end of the century, that number could be as high as 70 percent. We won’t try and sugarcoat things, humanity’s own prospects aren’t looking that great either. According to The Conversation, **our species has just under a decade left to get our CO₂ emissions under control. If we don’t cut those emissions by half before 2030, temperatures will rise to potentially catastrophic levels. It may only seem like a degree or so, but the worldwide ramifications are immense.** The human species is resilient. We will survive for a while longer, even if these grim global warming predictions come to pass, **but it will mean less food, less water, and increased hardship across the world — especially in low-income areas and developing countries. This increase will also mean more pandemics, devastating storms, and uncontrollable wildfires**.