## 1

#### Interpretation – The affirmative can only garner offense from “the appropriation of outer space by private entities being unjust”. To clarify, they can’t garner offense off of methods to solve private entities appropriating outer space such as treaties or actor action.

#### Violation – They have extra offense from adopting a binnding international agreement, and esblishing outer space as a global common subject to regulatory deliming and liability

#### Standards:

#### 1] Limits – Only our interp accurately sets the upper limit to the topic. The CI will let the aff garner offense from any possible way to reduce property rights/private appropriation, which can range from treaties like OST, PTD, Common Heritage or state/actor action, which there are hundreds of. 0% chance the neg can prep for all possible offense relating to space possible and forces random LARP generics, turns edu by spreading us thin

#### 2] Neg-flex – Forces the negative to allows fall back onto generics that can never have the potential to engage with affirmative on a content level. Aff gets 2 months to pigeonhole and prep out everyneg arg

#### Voters -

#### 1] Education – 2-month time limit on the topic means every round is valuable. Specific education about the direct question the resolution asks is the only take away we get from this event. Precision in what they aff can read forces concise topic research in a limited area that allows us to deeply explore every area of the topic.

#### 2] Fairness – Fairness controls engagement with the 1AC and what we are actually able to do in the round. If the game stops becoming fair we have no reason to play in the first place. If every round was 80/20 skewed towards the aff then no one would ever be able to play the game. Fairness is key to clash and is an internal link into any of their offense

#### Paradigms -

#### Extra T is drop the debater – We indict your ability to read and garner offense from the affirmative in the first place.

#### Competing interps over reasonability – Reasonability is always arbitrary and innvites judge intervention

#### No RVIs on Extra T –

#### 1] Extra T is a gateway issue – Affirmative is always proactive while the neg is reactive. we always have to hyper tailor T args to the affirmative while the aff can just prep out the few

#### 2] Illogical – You don’t get to win for following the rules

#### 3] Deterrence – deters debaters from calling out untopical affs, otherwise unfair affs always win

#### outweighs 1AR theory, it’s a forced reaction to untopical affs

## 2

#### [Ranganathan 16] The aff is not a true “Global Commons” but having the technologically advanced “govern access to global resource *in the name of all*” – UNCLOS and the current international system proves that the basic assumptions of the “Common Heritage of Mankind” justified nothing but interventionist programs at the interest of the hegemonies

Ranganathan 16 [(Surabhi Ranganathan is a University Senior Lecturer in International Law, a Deputy Director of the Lauterpacht Centre for International Law, and a Fellow and Director of Studies in Law at King's College. She is also a fellow of the Cambridge Centre for Environment, Energy and Natural Resource Governance (C-EENRG).) Ranganathan, S. (2016). Global Commons. European Journal of International Law, 27(3), 693–717. | <https://sci-hub.st/https://doi.org/10.1093/ejil/chw037|>] Comrade PW

TOC = Tradegy of the Commons

CHM = the Common Heritage of Mankind

Parochialism = relating to the local, limited outlook and perspective

4 Juxtaposing Hardin and Pardo: Politics and Epistemologies At the outset, the concepts of TOC and CHM seem to emerge from different worldviews for all that they address the same subject – commons. TOC outlines the threat of a dystopian future, overrun with people and under-nourished with resources; CHM grounds itself in a techno-utopian vision in which the oceans will supply fresh resources for continued human flourishing. TOC, evidenced in the politics of its author, is a parochial vision of the world that is split into so many inward-looking ‘lifeboats’; CHM is a cosmopolitan vision of spaceship Earth, in which ‘mankind’ is the ultimate subject of law-making. Decolonization, for Hardin, was the context in which TOC would come to bite, and he was supportive of coercive international relations between developed and developing states; decolonization for Pardo presented the need to think about the needs of developing states and enable their access to global resources – CHM was the encapsulation of these hopes. However, I hope that the analysis in the foregoing sections has given cause to complicate, rather than perpetuate, this summary of differences. Both interventions reveal parochial and cosmopolitan tendencies if we consider where, between home and world, their focus lay. Hardin’s parochialism needs no further elaboration, but it is well to keep in mind that, like other practitioners of the dynamic of difference, his imaginary was a global one – his fear was that a failure to adopt a lifeboat ethics would lead to the Earth’s carrying capacity being exceeded by its population. Pardo’s cosmopolitan proposal, on the other hand, emerged from a parochial ambition, namely to establish Malta’s presence in international affairs and obtain for it the benefits that would flow from hosting the headquarters of some international organization on its territory Moreover, Pardo’s intervention, like Hardin’s, had both illiberal and imperial dimensions. Pardo sought to bring the largest possible area of the seabed within a centralized licensing regime, asking states to forsake national claims to extended continental shelves. Moreover, although he dwelled on the possible appropriation and militarization of the seabed by technologically advanced states, and urged that benefits from exploitation should flow to developing states, his envisaged administrative authority vested the right of rule in the hands of the former. He argued for a special agency that would be led by technologically advanced states rather than UNGA oversight in which all states would have an equal vote. His plea, thus, was for a few – advanced – states to govern access to, and use of, a global resource in the name of all. Although this article does not examine later deployments of CHM and TOC, it is worth mentioning that such assertions have also sought to reframe resources lying within national jurisdictions as objects of global governance.135 However, the illiberal and imperial dimensions of Hardin’s intervention were of a different order; he advocated not simply constraints on economic activity in an international area but, rather, an interventionist American (more generally, Western) foreign policy that would effectively determine the reproductive choices of Third World people – and rejected educative ‘family planning’ approaches embraced by UN agencies and organizations like Planned Parenthood.136 His eugenicist assumptions, clothed in assertions of ecological concern, allowed him to simultaneously defend enclosures and heavy consumption by rich Western people and withhold resources from poor and Third World people. A third theme is the role that an integrative approach played in the production and impact of both TOC and CHM. As discussed above, it is by combining facts and theories culled from various disciplines that both Pardo and Hardin developed their imaginaries of the commons. Both emphasized technology and rationality-based theories as the framework within which to understand social and economic issues. Hardin, building on a biological account of individual selfishness and brute rationality (except where tempered by civilizational influences, as among rich Western people), joined to assertions about the deleterious impact of technological advances that lowered mortality rates of poor and Third World peoples and improved access to food and other resources, argued against both laissez-faire and welfare economics, advocating the far-reaching enclosure of resources and coercive taxes on the use of public goods.

#### [S&H 19] The belief that exploration of outer space would lead to universality and some sort of “Given the logic underlying cosmocapitalism, we must find out a new type of global democracy if we wish to have any chance of halting and reversing it”is underpinned by naively humanistic neoliberal understanding of beings that only paves the way for a cartography of capital

Shammas & Holen 19 [ (Victor Lund Shammas is Associate Professor of Sociology at the Department of Sociology and Social Work, University of Agder, Norway. His research interests include comparative penology, political economy, critical theory, ethnographic methods, and theology.Thomas B. Holen is an independent scholar at Oslo, Norway) “One Giant Leap for Capitalistkind: Private Enterprise in Outer Space.” Palgrave Communications, vol. 5, no. 1, 29 Jan. 2019, www.nature.com/articles/s41599-019-0218-9, 10.1057/s41599-019-0218-9. Accessed 9 Dec. 2021.] Comrade PW

Outer space necessarily reduces inter-human difference to a common denominator or a shared species-being. An important leitmotiv in many Hollywood science fiction movies, including Arrival (2016), is that a first encounter with an alien species of intelligent beings tends to flatten all human difference (including ethnoracial and national categories), thereby restoring humankind to its proper universality (see also Novoa, 2016). Ambassadors of Earth as a whole, not representatives of particular nations, step forth to meet alien emissaries. But even in the absence of such an encounter, the search for habitable domains (or rather, profitable locales) beyond Earth will necessarily forge a shared conception of the human condition, initiated with the Pale Blue Dot photograph in 1990. Typical of this sentiment are the words of the astronomer Carl Sagan, who famously observed of this photograph: ‘On it everyone you love, everyone you know, everyone you ever heard of, every human being who ever was, lived out their lives'. This naïvely humanistic vision has been one of the dominant tropes in the discourse on space since the 1950s, and it remains strong today, as with the claims of the United Nations Office for Outer Space Affairs (UNOOSA) that their task is to ‘uphold the vision of a more equitable future for all humankind through shared achievements in space'. This representational tendency mobilizes humanism to generate enthusiasm about space-related activities. But such representations are increasingly being recuperated by capitalist enterprise, so that it is not humankind but its modulation by space capitalists that will launch into the dark unknown. It is not humankind but capitalistkind that ventures forth. In early 2018, NASA was set to request $150 million in its 2019 budget to ‘enable the development and maturation of commercial entities and capabilities which will ensure that commercial successors to the ISS…are operational when they are needed', only one of many signs that space is becoming a space for capitalism. According to one estimate, the value of just one single asteroid would be more than $20 trillion in rare earth and platinum-group metals (Lewis, 1996), a precious prize indeed for profit-hungry corporations.10 Even the UNOOSA spoke vociferously in favor of the commercialization of space, appealing variously to the ‘industry and private sector' and elevating the ‘space economy' to a central pillar in its Space2030 Agenda (including the ‘use of resources that create and provide value and benefits to the world population in the course of exploring, understanding and utilizing space'), even as the UN agency falls back on a humanistic, almost social-democratic vision of the equitable distribution of benefits (and profits) from space mining, exploration, and colonization (UNOOSA, 2018). We find evidence of this strategic humanism in all manner of pronouncements from NewSpace entrepreneurs. To take but one example: Naveen Jain, the chairman and co-founder of MoonEx, a lunar commercialization firm, has claimed that ‘from an entrepreneur’s perspective, the moon has never truly been explored'. The moon, Jain has claimed, ‘could hold resources that benefit Earth and all humanity' (Hennigan, 2011). We should note the recourse to the trope of all of humanity by this NewSpace entrepreneur, mimicked in the 1979 Moon Agreement, a UN treaty, which also held that the Moon’s resources are ‘the common heritage of mankind' (Tronchetti, 2013, p. 13).11 In a purely factual sense, of course, Jain is wrong: Google Moon offers high-resolution images of the lunar surface,12 and the moon has already been explored, in the sense of being mapped, albeit rudimentarily and with room for further data collection. Crucially, however, these cartographic techniques have not been put to capitalist uses: mapping minerals, for instance, or producing detailed schemata that might one day turn the Moon into a ‘gas station' for commercial space ventures, as Wilbur Ross, Trump’s Secretary of Commerce, has proposed (Bryan, 2018). What is lacking, in short, are capitalist maps of the Moon, i.e., a cartography for capital. But as Klinger (2017: 199) notes, even though no one is ‘actively mining the Moon' at present, at least ‘six national space programs, fifty private firms, and one graduate engineering program, are intent on figuring out how to do so'; furthermore, Klinger draws attention to mapping efforts that have revealed high an abundance of rare earth metals, thorium, and iron in the Moon’s ‘Mare Procellarum KREEP' region (Klinger, 2017, p. 203). We have already noted that it is not humanity, conceived as species-being, a Gattungswesen, that makes its way into space. The term Gattungswesen, of course, has a long intellectual pedigree, harking back to Hegel, Feuerbach, Marx, and others. The term can ‘be naturally applied both to the individual human being and to the common nature or essence which resides in every individual man and woman', Allan Wood (2004, p. 17) writes, as well as ‘to the entire human race, referring to humanity as a single collective entity or else to the essential property which characterizes this entity and makes it a single distinctive thing in its own right'. Significantly, the adherents of NewSpace often resort to the idea of humanity in its broad universality (e.g., Musk, 2017), but this denies and distorts the modulation of humanity by its imbrication with the project of global (and post-global, i.e., space-bound) capitalism. It is precisely the sort of false universality implied in the humanism of the supporters of NewSpace that Marx subjected to a scathing critique in the sixth of his Theses on Feuerbach. Here Marx noted that the human essence is not made up of some ‘abstraction inherent in each single individual' (1998, p. 570). Instead, humans are defined by the ‘ensemble of social relations' in which they are enmeshed. Under NewSpace, it is not humanity, plain and simple, that ventures forth, but a specific set of capitalist entrepreneurs, carrying a particular ideological payload, alongside their satellites, instruments, and supplies, a point noted by other sociologists of outer space, or ‘astrosociologists' (Dickens and Ormrod, 2007a, 2007b).

#### [Landis 21] Capitalism causes warming and extinction – prioritization of profits, commodification of nature, and its impulse to expand – only the alt solves

Landis 8-10 [(Tina Landis is the author of a new book entitled “[Climate Solutions Beyond Capitalism](https://store.pslweb.org/Climate-Solutions-Beyond-Capitalism_p_69.html).”) (2021, August 11). “Code red” climate report and the failure of capitalism. Retrieved September 26, 2021, from Liberation News website: <https://www.liberationnews.org/code-red-climate-report-and-the-failure-of-capitalism/>] Comrade PW

The [UN Intergovernmental Panel on Climate Change](https://www.nytimes.com/2021/08/09/climate/un-climate-report-takeaways.html) report released August 9 warns of a “code red for humanity” if we fail to drastically cut greenhouse gas emissions by 2050. Compiled by 234 scientists and based on analysis of 14,000 studies, the new report states that even rapidly cutting emissions immediately means warming will continue beyond 2040 — meaning adaptation measures, as well as immediate mitigation efforts, are crucial. The [report](https://www.ipcc.ch/report/sixth-assessment-report-working-group-i/) states: “Global surface temperature will continue to increase until at least the mid-century under all emissions scenarios considered. Global warming of 1.5°C and 2°C will be exceeded during the 21st century unless deep reductions in carbon dioxide (CO2) and other greenhouse gas emissions occur in the coming decades.” We are currently on track to reach 3 C warming based on global emissions reduction pledges, which would be catastrophic. The report’s [Interactive Atlas](https://interactive-atlas.ipcc.ch/) forecasts various scenarios for each degree of temperature increase and its impact on precipitation and temperatures in different regions globally and shows the dire impacts if we fail to act now. Every corner of the globe is already experiencing ever worsening impacts of the climate crisis — from droughts and wildfires, to temperature extremes, floods and severe storms. Our [climate is unraveling](https://www.liberationnews.org/inaction-from-government-as-climate-unravels-coast-to-coast/) and still little is being done to turn the tide despite decades of warnings from the scientific community and the existence of actual solutions. The Earth’s systems are rapidly destabilizing faster than previous IPCC reports warned, which tend to be conservative in their predictions. If our so-called “leaders” continue to fail to act, humanity’s future is very uncertain as the life-sustaining systems of the planet falter. The endless growth model of capitalism, that treats everything on the planet as a commodity to be exploited with complete disregard for future generations, is the root cause of climate change. The capitalist “expand-or-die” model is incompatible with sustainability and is rapidly driving the majority of species toward extinction — including our own. Meanwhile, the billionaires play “astronaut” in their “space race” as the working class around the globe suffers in the real world from climate change. And the millionaires in Congress waste precious time debating the bandaid passive solutions in Biden’s infrastructure bill that may achieve some minor reductions in greenhouse gas emissions, but do nothing to steer the train off course from hurtling over the cliff. These millionaire “representatives” have proven time and again to be completely out of touch and unconcerned with the plight of those they claim to represent. From COVID relief and eviction moratoriums to an increased minimum wage, they squabble over even throwing tiny crumbs to the working class while they eagerly hand out trillions to the banks, corporations and military industrial complex. These wealthy politicians, and their billionaire corporate backers, can continue life as usual largely free of the climate impacts that the working class deals with in our “new normal.” They can just go to their second or third home if one burns down or gets washed away in a flood. They can shift their investments so that they actually make profits off these disasters. And they likely don’t even notice the increased costs for food and clean water as droughts impact availability — beyond perhaps seeing an increase in their return on investments in these sectors. Their economic status protects them from the reality that the rest of us face. It is poor communities and communities of color that are forced to live in inadequate housing that isn’t weatherized to withstand temperature extremes or to keep out wildfire smoke. It is working-class people who froze to death in their homes in the deep freeze in Texas in February and working-class people in the Pacific Northwest who died in the severe heatwave in June. It is low-income residents in the rural West whose wells are running dry, unable to afford to drill deeper wells, while Big Agriculture drains the precious aquifer for cash crops. It is the immigrant farmworkers who face lethal heatwaves and wildfire smoke working in the fields of California. It is poor communities and communities of color that are forced to live in floodplain areas where the affordable housing is, who have their homes washed away from the ever increasing severe storms. It is working-class urban communities that live in sweltering heat islands where temperatures are up to 7 F higher than in wealthy neighborhoods with trees and vegetation — which during prolonged heat waves can mean life or death. It is working-class people who are priced out of flood and fire insurance, who are left homeless when climate disasters occur. It is indigenous communities and low-income rural communities that bear the brunt of pollution and ecological destruction from extractive industries that make profits while continuing to fuel the climate crisis. The climate crisis is a class war. The rich can install state-of-the-art air filtration in their mansions so they can breathe easily while the world burns. They can move to higher elevation while the coastal areas are inundated by sea level rise. The 1% richest, the capitalist owners, have caused the climate crisis and their wealth should be used to solve it. We must stand up and demand that the government take action to protect the people from the unfolding catastrophe and do everything possible to stem the crisis. We cannot allow fear to demobilize us. There are real solutions and must join together and demand real action. And if our “leaders” continue to stall and make excuses, we must rise up and replace them with people and a system that truly does represent us. And that system is socialism, where the resources and knowledge of society are used for the benefit of all of humanity and the planet. Under socialism, our representatives would be those most qualified and knowledgeable to do the job, not those who have the millions needed to pay for campaign ads and a marketing team. Our representatives would be scientists, ecologists, engineers, medical doctors, educators, farmers and other leaders from our communities, who understand the problems and the solutions. These are the people we need in leadership — people who are workers themselves — who can mobilize all sectors of society to make the transition to an equitable and ecologically-regenerative society where humanity and all life have a positive, livable future.

#### [Beller 17] The language and system of control that capitalism is artificially set up to eradicate the communicability of a revolution, but the spectre of communism still haunts and linger over the continent. The aff is a top-down nation state change that inevitbale gets coopted by capitalism; the alt is a bottom up cybernetic communism that hijacks and interrupts the capitalist forms of control – through attacks on the cybernetic extension of lives, alternative practices, and different ways of living – as a pre-req for revolution to take place

[Beller, J. (2017). Preface to the revolution: digital specters of communism and the expiration of politics. Social Identities, 24(2), 238–254. doi:10.1080/13504630.2017.1321719 ] Recut Comrade PW

This becoming obsolescent of linguistic debate and the wholesale sublation of the political by the economic in the ‘Sekend’ World, is particularly remarkable, given the prior Soviet demands on linguistic acumen. If one buys, even provisionally, the underlying assumption here, that whether nominally capitalist or not, the discursive situation of citizens and their states was being reorganized by the informatics of capitalism by visual, social and linguistic means, than it becomes easier to see that whether via the first world or the second, we seem to arrive by 1989 at the liquidation of linguistic command and thus of politics as such – at least in relation to capitalism. Agreeing with Godzich’s (2014) notion that the ‘amputation of a third of the whole word affects the whole’, we observe that the tech revolution and the collapse of the Soviet Union meant precisely the subordination of linguistic command to capitalist machines and media at a higher level. The colonization of discourse by capital’s different ‘sectors’ (Debord, 1995), meant that neither the word nor the world would be organized any longer by sovereign subjects. Of course it really never was, but the historical development of modern subjectivity in capitalism via the exchange of equivalents posited the subject of exchange not only as equal with other subjects, but as at once a convenient site of command-control and the necessary pathway to freedom. However the bureaucratic organization of production, which we now understand as composed at once of financialized institutions and the importation of bureaucratic thinking into machines in the form of algorithms (characterized by the distinct dystopian possibility of a unified institution/algorithm of Capital at ‘the top’) would foreclose that path and grasp the subject as an interface among interfaces. Language belongs to the bureaucracy and to the machines – which are increasingly the same entities. Google, we note in passing, did not rename itself Alphabet for nothing – it is perhaps more aware than most of the functionalization of language by financialized digitization. The corollary here is that of Moten and Harney’s insight: all that today goes under the name ‘politics’ is in fact the politics of capital (meaning to say the practices of politics are informatic generators that can be harvested as data and metadata for capitalist valorization) and that under current conditions, the removal of the scare quotes from ‘politics’ is no longer possible in as much as the signifier itself is the/a property (in all senses) of capitalist mediation. This, of course, is what is meant by virtuosity at the linguistic level, but it took Moten and Harney, with their careful attention to the persistence of racism, to draw the full conclusion of not just the failure of the political as a category, but, of politicization as symptomatic of a new form of governance structurally subordinated to the logistics of racial capital and therefore a complicit participant in oppression. In this view, politics is a subroutine of computational capital. If we believe Baudrillard (and Franco Berardi says we should), what became mass media in ‘The West’ was always already postsocialist. Commenting on media coverage of Paris 1968 in his 1972 essay ‘Requiem for the Media’, Baudrillard writes, ‘transgression and subversion never get “on the air” without being subtly negated as they are transformed into models, neutralized into signs, they are eviscerated of their meaning’ (2003, p. 283). Baudrillard refers to the ‘imposition of models’ as an aspect of ‘the terrorism of the code’ (2003, p. 285), which he sees functioning as ‘a decentralized totalitarianism’ (2003, p. 286), ‘The code’, which we must here remember to understand was a new way of talking about language within the frameworks of semiotics, communication theory and computation, prevents reciprocity for Baudrillard – who, it should be noted, wrote one of the most important books on capital and sign function, For a critique of the political economy of the sign. For Baudrillard in ‘Requiem’ the code is de facto counter-revolutionary and its very function enacts a postsocialist ethic, since all struggle against hierarchy and the capitalist foreclosure of democratic representation is functionally liquidated immediately through the sheer fact of its reportage. The code contains socialism – in the sense of enforcing its imprisonment and cancellation. It is a medium of governance. Thus it is postsocialist before the arrival of socialism. And therefore, before the arrival of ‘Postsocialism’. Which is to suggest that Postsocialism is the logical consequence of finacialization’s colonization of discourse through code – the very practice and practical application of communication and information theory. Here we begin to get at the deeper meanings and consequences of what is called Digital Culture, 1 and 2. As experiments on Pavlov’s dogs with both acid and with electric shock amply showed, instrumental reason, but one could retrospectively say ‘programming’, applied to reflexes in order to condition or re-condition them in accord with the will of the ‘scientist’ (the word is the same with and without quotation marks, until proven otherwise), may use pain or the anticipation of pain to inhibit even what Pavlov calls ‘the freedom reflex’. Thus we push the date of postsocialism/postcommunism back even further. If by communism was meant autonomy, self-determination, community or communion, or even, as Groys suggests, the reliance on language as a system of command-control over the economy, reflexo-logical programming (pace Eisenstein, who used ideas drawn from Pavlovian conditioning to construct both his theories of montage and his films) hailed a future (premised on Reflexology and shortly thereafter Taylorism/Fordism, and later the deterriotrialized factory of the cinema) was designed to be postcommunist even before the Bolsheveik revolution – unless, perhaps, one considers the revolutionary potential of the destruction of (bourgeois) subjectivity. But in brief we have the foreclosure of inter-subjective reciprocity by the coding of sign function and the organization of ‘subjective’ sovereignty by machinic automation. Thus the Soviet critique of cybernetics under Stalinism, while more truthful about the West than most English-speaking readers will acknowledge, may also deflect or displace some self-criticism. Ben Peters tells us that ‘in 1954 the fourth edition of the Kratki˘ı filosofski˘ı slovar’ (Concise dictionary of philosophy) cast cybernetics as a slightly ridiculous, although still harmful, anti-Marxist “reactionary pseudoscience …”’. In sum, one sees from either side of the iron curtain a generalized movement towards the computational management and administration of social practice – a seemingly necessary evolution for the organization of complexity and scale that confronted the super-powers. From this perspective, Orwell’s three worlds, Oceania, Eastasia and Eurasia, were always-already postsocialist, and the variants of ‘democracy’ as either the Free Enterprise System, the Soviet Union or Communism, were all names for the advance of capitalism. From the standpoint of capitalist hegemony, the various collapses and transformations in the three worlds manifest the ‘objectivity’ of a computational capital that could no longer be dismissed and that tended everywhere to functionalize language as a computational subroutine. Here we approach the full meaning of platform sovereignty. The communism of computational capital As early as 1950 Norbert Wiener warned the world about letting the genie (of cybernetics) out of the bottle and thus of further displacing labor by converting humans into either cogs or irrelevant entities. The emergent ‘human use of human beings’ as Weiner entitled his 1950 volume on cybernetics appears to be at once a continuation of earlier forms of usury, an extraordinary innovation that allows humans to engineer automata enabling the real-time application of statistical and algorithmic methods to human practices such that human metabolic undertakings may be structured and organized through algorithmic governance in order to extract obedience and more importantly, profit and finally, a selffulfilling prophecy haunted by slavery, colonialism, patriarchy, hierarchy and white supremacy in societies that are purportedly postracial, postcolonial and postsocialist. In my own view, this process of cyberneticization is so endemic that it is arguable that all thought has become machine mediated and thus all intelligence is, strictly speaking, artificial – now even more artificial. Cybernetics understood as a development of computational capital is a matter of dialectics and indicates a thoroughgoing transformation of the life-world on a planetary scale. Allowing for some poetic exceptions (which may indeed be as vast as ‘the surround’), algorithmic governance is inexorably imbrecated with thought and practice post 1989, and was already in fact imbrecated with thought in the second world, albeit by other means. The troubling conclusion is that ‘We’ are the intelligence of computers, which is another way of saying that the species has been slated for subsumption by automata and this has taken place differently and unevenly across different sectors. Thus even as we limn the degree to which our own autonomy has been limned by automation, channeling Morpheus from The Matrix (1999) and suggesting that ‘because you are a slave, Neo … ’, does nothing to change the still haunting fact that some slaves are more equal than others. ‘Post-socialism’ in no way vitiates the need for socialism – the conversation on this topic could remember that. Indeed as Atanasoski and Vora (2017) conclude for the introduction to this special issue, The ‘post’ in [postsocialism] signals not the death of socialism, the fall of the Berlin Wall and the disintegration of the U.S.S.R., or the politics of ‘transition’ in formerly state socialist nations, but rather it signifies an epistemological shift that makes evident how the Cold War imposed a false historical binary, delimiting both socialism and capitalism as singular visions and practices. A postsocialist approach to temporality insists that the end of the Cold War was not in fact the end of history, but the re-igniting of the multiplicity of socialisms and socialist legacies acting in the world today. (p. 6) As I have been suggestion all along these dialectical dreams were being captured as they emerged by the very media of their emergence. And yet there are so many dreams. With varying inflections, a kind of totalitarian imaginary has been in play since at least the mid-twentieth century, with roots that go back well into the nineteenth. The real specter of modernity, with its positing of innovation, connection and cosmopolitanism, is communism – a planetary hauntology if there ever was one. The subsumption of the species by cybernetics and computation makes sense, if we heed the shade cast on human exceptionalism by Turing (1950) in ‘Computing, Machinery and Intelligence’. Turing, recall, strongly suggested that there was no way to disprove the possibility that there is a rule set governing human behavior. The implication is that the entire domain of human existence including theology, cosmology and spirituality and more generally thought, is a technical effect – the execution of a program. Computational advancement, and history itself, is thus not rupture but emergence. Understood in this way, artificial intelligence allows for the perception that all intelligence is artificial – at least in the sense that it has no essential being or immaterial spirit. The materiality of the spirit, what Marx must have meant (going out on a limb here) by species being, is, in this framework at least, the world-historical repressed that underpins modernity’s theology of civilization. What was truly spectral in Western civilization’s unprecedented barbarity was not just communism, but its synonym – whatever was meant, however hypocritically or paradoxically, in the highest invocations of ‘the human’. As Bostrom (2014) suggests, the logical conclusion from Turing’s insights were already drawn in 1965 by I. J. Good chief statistician of Turing’s code-breaking team in World War II: Let an ultraintelligent machine be defined as a machine that can far surpass all the intellectual activities of any man [sic] however clever. Since the design of machines is one of those intellectual activities, an ultraintelligent machine could design even better machines; there would then unquestionably be an ‘intelligence explosion,’ and the intelligence of man would be left far behind. Thus the first ultraintelligent machine is the last invention man need ever make, provided that the machine is docile enough to tell us how to keep it under control. (p. 4; Good, 1965, p. 33; cited in Bostrom, 2014, p. 4) The collective loss of human control, visible in what would be historically the sublation of homo sapiens or ontologically the subsumption of homo-sapiens by computation, informed the aspirations for control and thus for Norbert Weiner with cybernetics – the root of which is kubernetes or governance. The loss of the human was to be restored by the saving power of technology. The loss of subjective agency to a total system also haunts the works of Niklas Luhman, Maturana and Varela, and the notion of autopoesis: in which systems can only know themselves and are inherently closed off to any outside. Communication becomes predicated on the non-transcendence of the communicative situation; the loss of the outside based on a self/other dipole proffers the paradigm of emergence, which is itself a variant on totalitarianism in as much as it fully closed. With emergence, whatever crosses the threshold is always already internal to the system. Thus within the framework of computational capital’s autopoesis in which all communication is always-already financialized, anti-capitalist struggle is structurally and thus by definition radically excluded from communicability and is itself in a condition of subalternity, erasure and spectrality.8 To get to this unholy place in which language and psychic function are but valueproductive sub-routines of the violent calculus of capitalist hierarchies and the profit motive (precisely, the autopoesis of capital, and precisely, again, the medium as the message, but in a far more sinister key), one needs, in my view at any rate, the rise of what I call the calculus of the image, and the simultaneous rise of attention economies, to scramble and re-organize psycho-semiotic domain – to mount the ‘liquidation of tradition’ by visuality – and now, to impose with Digital Culture 2.0 the large-scale adaptation of fully computable algorithms that will increase the granular resolution of the social metabolism by the monetizeable interface known as the screen. SOCIAL IDENTITIES 249 The wager I want to close with here (and wager we must) is that from the global sixties forward, there was a radical shift in the organization of sign function and the varied responses to the endeavors of hegemonic powers and their institutions constituted, loosely speaking, an emergent world literature, radical forms of deconstruction, ‘magical’ realisms, the blurring of documentary genres, shifts in narrative forms and forms of embodiment and the generation of discourses necessary for social revolution. Not just counter-histories but counter-codes and anti-codes, rising up in response to digital colonialism, the program of neo-imperialism and the white mythology of technological development. This formation, a dialectical scramble sometimes designated wholesale as postmodernism, contained within itself strains of a rejection of aspects of the standardization of codification and the ‘post-socialism’ of the code. Radical energies fought the computational and financial encroachments of a postsocialism that conscripted socialism by endeavoring to script and thus conscript social interaction before socialism could ever arrive. They imagined communities and communions counter to what was being officially imagined or cancelled. Culture, let’s call it, was, from the capitalist side, macropolitically harnessed as means of production through financialized visuality and digitization, yet, from let’s just say the peoples’ side, this medium of life and meaning had to address or otherwise battle the postsocialist and postcommunist totalitarian conformity hegemonically encoded by the financialized media of representation, or risk betraying the transmission of struggle. Thus radical cultural practitioners encounter such a postsocialist encoding as, to use the formulation deployed by the late Patrick Wolfe to characterize settler colonialism in his essay ‘Settler Colonialism and the Elimination of the Native:’ ‘a structure not an event’ (Wolfe, 2006, p. 2). Following the lead of Kauanui (2016), we might hypothesize that the logic and practices of a settler colonialism that ‘destroys to replace’ and is ‘inherently but not invariably genocidal’, serves as a kind of template for organizing postsocialism as well (Wolfe, 2006, 387; cited in Kauanui, 2016). Capital settles into the bios the way white American settlers settle into native land – through continuing violence. Rather than agreeing with official history that there has been a revolution that was defeated, better I think to say that there was a revolution taking place planet-wide, a revolution that was diverse, multipronged, multi-lingual and distributed – one that is /many that are still here and ongoing. Such a notion signals a new role for poesis in the elaboration-generation-simulation of ontologies and affects, new practices of aesthesis and poesis capable of recalling, amplifying and transmitting strivings for justice and peace. At times this revolution was (these revolutions were) persistence and endurance, at other times active, armed confrontation and at others everything in between. This energy, this non-compliance, this planning behind the scenes, this running from the new law and its police, this aesthetic, pragmatic, and all too real escape from the domain of power, in short, this overt, covert, fugitive struggle, constitutes ‘the general antagonism’. So, not a defeated revolution but revolutions and modes of living that were partially defeated by cybernetic and algorithmic counter-revolution and the programmatic decimation and dispossesion of laboring populations. I say ‘partially’ because to me it makes more sense to say that there remains a distributed revolution, subterranean but nonetheless palpable, a revolution finding lines of flight, forms of fugitivity and community, alternative practices, ways of caring and living, waged everyday, including today, that is at once ongoing and undefeated, albeit its victories, wagers, wounds, requirements and struggles are distributed unequally. This revolution is at once world-wide, in our persons and indeed in the cybernetic extensions of species life, which is also to say, it too burns in the bios and the techne. This revolution is (these revolutions are) wagered and waged against/before/alongside/beyond/beneath capitalist conscription. The end of politics therefore means the ghost of politics, a ‘politics’ there and not there. The end of communism means the ghost of communism. A hauntology, as Derrida might say. Present, denied full appearing, spectral. Representation structured, institutionalized, functionalized and financialized such that under present conditions the full appearance of anything, including communism, occurs only by means of its commodification and hollowing out, for example, China. Precisely this virtualization of the political, a category strategically negated and poetically replaced by analytic feeling in The Undercommons and the affective scenes of its many becomings, haunts postcommunism. Yet even without ‘politics’ or ‘communism’, ‘we’ might feel the practices and spirits of the many forms of love unable to fully appear, by no means solitary endeavors; ‘we’ are aware of many others and of the necessity of many others and of our mutual embrace. Otherwise in the bright white carbon-based light of the digitized day we confront life, virtualized from the standpoint of computational capital’s own brand of ‘communism’. Computational capital: a virtualization of life itself that has sublated what was once thought of as living, a vast distributed automaton driven by a relentless pursuit of value that thus far has kept communism imprisoned in quotation marks.

# Case

#### Their aff is based on a coersive model – their models are imperailist and innherently contradictory to an idea of global democratic governance models

Vollmer 20 [Sarah Louise Vollmer (St. Mary's University School of Law), “The Right Stuff in Geospace: Using Mutual Coercion to Avoid an Inevitable Prison for Humanity,” 51 ST. MARY'S L.J. 777 (2020). <https://commons.stmarytx.edu/thestmaryslawjournal/vol51/iss3/6?utm\_source=commons.stmarytx.edu%2Fthestmaryslawjournal%2Fvol51%2Fiss3%2F6&utm\_medium=PDF&utm\_campaign=PDFCoverPages> ]CT

The regimes governing Antarctica, the High Seas, the Atmosphere, and the radio-frequency spectrum evidence that mutually coercive delimitation can honor the common heritage of mankind, without encroaching on the peaceful enjoyment and benefits attributable to these areas. ¶ a. Antarctica ¶ In the 1950s, there was concern that Antarctica would succumb to Cold War hysteria, becoming a target for international discord and nuclear arms testing.141 In a move to reestablish global scientific exchange, the international scientific community hosted the International Geophysical Year project, and after identifying the potential of Antarctica, sought to protect it from any ruinous power posturing.142 This necessity for regulating permissible activity resulted in the formation of the ATS.143 Subsequent technological advancement revealed mineral deposits, triggering commercial interest in exploiting its natural resources. The threat catalyzed the promulgation of the Madrid Protocol.144 Again, these delimitations did not sever humanity’s utility in Antarctica. Rather, mankind conceded to the prohibition of deleterious usage in the interest of preserving its scientific utility.145¶ b. The High Seas¶ Similar to Antarctica, the High Seas faced threats in the 1960s when nation-states began unilaterally and arbitrarily, extending resource recovery activities further into the depths of international waters.146 In the interest of equity, particularly the interests of landlocked nations, UNCLOS delimited sovereign access to the seas, allowing usage only within the established exclusive economic zones (EEZs).147 An annex to UNCLOS provided a procedural framework in which resource recovery enterprises could operate in international common areas beyond the EEZs, precluding the unilateral capture of global resources by one nation.148 Once more, a mutually coercive framework removed certain freedoms in the interest of mankind without unjustly limiting equitable access to resources. ¶ c. The Atmosphere¶ Divergent from the problems of the ice and sea, atmospheric regulation resolved an issue more analogous to geospace debris proliferation. Atmospheric utility is quite simple: breathable air and protection from deadly cosmic radiation. When satellite imagery revealed the sizable hole in the ozone layer, the Montreal Protocol to the Vienna Convention placed an outright ban on ozone-depleting chemicals in everyday consumables.149 This prohibition directly addressed the source of the negative externality, forcing humanity to internalize the externality through alternate investment in refrigerants. Recent evidence of the reduction of ozone loss validates the mutually coercive delimitation within the Montreal Protocol.150¶ d. Regulating the Telecommunication Spectrum¶ The business model and financial strategy of telecommunications entities influence satellite deployment planning. Typically, orbital placement aims to “maximize [a] potential user base,” and if that base happens to encompass, for instance, the continental United States, market competition drastically narrows the availability of slots for satellite positioning.151 Realizing that satellite acquisition becomes moot without conscientious “use of telemetry and control . . . required for spaceflight,”152 the Space Radiocommunication Conference convened to revise the Radio Regulations in 1963,153 granting the ITU authority to allocate radio frequencies among spacefaring entities.154 Originally, the ITU:¶ [A]llocated orbits and frequencies solely through a first-in-time system. This led to concern that developed countries would secure all of the available slots before developing countries had the technological capacity to use them. Although some orbits and frequencies are still allocated on a first-in-time basis, each state is now guaranteed a certain number of future orbits and frequencies, regardless of its current technological capacity.155¶ The FCC regulates the segment of the electromagnetic spectrum allocated to the United States.156 Arguably, the ITU and agencies like the FCC engage in de facto appropriation of the more highly sought-after orbits.157 Yet to an extent, the ITU’s delimiting of the radio-frequency spectrum remedied the negative externalities of non-appropriation in geospace, such as the overcrowding of active satellites and the resultant interference. Where the ITU’s scheme does not remedy the byproduct of geospace resource use, it succeeds in ensuring communication capabilities remain free from inequitable use.158¶ e. The OST’s Ineffective Delimitations¶ The recurrent theme among the aforementioned regulatory schemes is the preservation of utility within the commons concerned.159 The frameworks each provide a means to enjoy shared resources while removing the potential for destruction. The OST’s nonproliferation provisions properly regulate the usage of the space commons to further the enjoyment of space’s true utility: scientific discovery and telecommunications. Likewise, the Liability Convention reinforces the necessity to maintain heightened situational awareness to guarantee the mutual, uninterrupted enjoyment of activity in space.160 But nation-states exploit the loop-holes within these documents to avoid internalizing some of their externalities. Specifically, the Liability Convention only assigns liability for damage caused to space objects when fault can actually be determined.161 Though it would be simple to assign fault to a collision caused by an intact and inoperative satellite, it is virtually impossible to identify the owner of smaller pieces of debris. Further, while the ITU reserves slots for nations not represented in space,162 it does nothing to stop those capable of reaching geospace from littering the commons and destroying the utility of reserved slots.163 Holistically, none of the delimitations in the Corpus Juris Spatialis negate the cause of the growing belt of debris in geospace.¶ As a sui generis resource, the mere occupation of LEO or GSO equates to the reduction of the overall utility of geospace. When an entity launches a rocket into space, the accompanying payload causes either (1) temporary reduction of the aggregate utility of geospace or (2) permanent reduction of the aggregate utility of geospace.164¶ The first delimitation prong will recommend bifurcating the applicability of the Corpus Juris Spatialis, with separate regimes for outer space and geospace. While the commercialization of outer space is not overly injurious to the international commons or interests of developing nations, the overcrowding of affluent spacefaring entities vying for orbital acquisition puts immense pressure on the finite resources within geospace. Therefore, demarcating the upper limit of geospace will allow entities to continue exploring the universe without imposing the restrictions placed on those seeking geospace positioning.165 This modification will allow continued use of both regions, but coerce more sustainable usage of geospace with the assistance of the secondary prong below. ¶ 2. Global Liability ¶ Operating under the theory that humanity holds an implied property right in the global commons but limited under the non-appropriation clause to protect those interests through traditional property mechanisms, the logical alternative is to impose liability on actions violative of the global interest.166 Further, assuming humanity collectively benefits from utilization of this commons, then humanity likewise must internalize the cost of the negative externalities imposed.167 This means that spacefarers, as members of the global collective, hold both the right and obligation to protect that right for others.168 Therefore, anyone utilizing or benefitting from the utilization of the geospace commons has an equitable duty to ensure its sustainability. Under traditional tort theories, when one has a duty, breach of that duty causally linked to a measurable injury is actionable. In terms of the duty to humanity when utilizing geospace, the culmination of Kessler Syndrome represents the measurable injury.¶ Kessler informed the scientific community in 1970 of the probable cataclysmic chain-reaction and destructive conclusion of unabated geospace debris pollution.169 This theory, reiterated consistently since its dissemination, materialized in 2009.170 Fundamentally, every spacefaring entity and approving launching state knows of this monumental threat to the utility of geospace. Yet to date, mitigation guidelines remain non-binding, and four-figure satellite constellations continue to receive approval.171 To incorporate a time-honored risk calculation method, the Hand Formula is instructive and evidences a trend toward unapologetic endangerment to the utility of geospace in isolation of the associated tort regime.¶ Let us assume the burden to mitigate space debris is $18.5 million172 but the probable magnitude of not mitigating the accumulation of space debris equates to reverting our technological capabilities back to the 1800s. Considering the accumulation of debris from the accidental or intentional breakup of geospace satellites, the probability of Kessler Syndrome fully concluding in the absence of a comprehensive mitigation protocol is one hundred percent.173 While difficult to quantify, the value of our scientific progress attributable to the advent of space travel far outstrips the burden to mitigate space debris. Should Kessler Syndrome become our reality, the measurable injury is the cost of reestablishing global communications without the usage of satellite relays. To add insult to injury, the invaluable utility of geospace will cease to exist.¶ A viable alternative would institute a regime of shared global liability which makes consideration of capital investors as well as nonparticipating beneficiaries in the interest of equity. That is, should the inevitable prison for humanity become a reality, the entire global community will be liable to pay an equitable share of the overall cost of recovery efforts.174 The Liability Convention should undergo a similar trifurcation, adding this new scheme to the current strict and absolute liability mechanisms.175 As such, shared global liability will consider the responsibility of nation-states and private entities in isolation.176 This will coerce cooperation among all agencies, nations, and private entities because the equitable share of responsibility will drive collective resolution. ¶ V. CONCLUSION¶ In light of the emerging global sentiments regarding environmental conservation and sustainability, instituting a regime that clearly defines a legal consequence in the event of environmental ruin boasts greater coercive force than non-binding resolutions. 9 This international agreement aligns with the universal value that the international community places on the utility of geospace.177 In essence, it protects geospace by forcing the signatory to face the reality of their negative externalities. It is unlikely that a nation-state exists that does not value space exploration and the benefits attributable.¶ In April of 2019, in the spirit of the Sustainable Development Goals (SDGs), COPUOS adopted an agenda that focused on the long-term sustainability of the space commons, space traffic management, equitable uses of GSO, and the mitigation of space debris.178 Mindful of space’s critical role in attaining many of the SDGs, the Committee put forth guidelines to facilitate capacity building without prejudice to any one nation-states’ economic capabilities. To be sure, the Guidelines for the Long-Term Sustainability of Outer Space Activities are an important step forward, but many delegates reiterated the importance of developing binding instruments, particularly in light of developments in “space resource exploitation, large constellations, and space debris remediation.”179 ¶ Looking forward, research continues to advance the availability of debris mitigation mechanisms, such as the European Space Agency’s newly-commissioned ClearSpace-1 satellite.180 Mission objectives increasingly include end-of-life procedures to place satellites in appropriate orbits to decrease clutter in areas where active satellites operate.181 In the context of private entities, Planetary Resources—originally positioned to become a principle player in the space mining industry—merged with Consensys Space and quickly launched TruSat, a crowd-sourced situational awareness forum that compiles the reports of private citizens to track objects in geospace.182 These developments instill confidence in the international community’s sentiments toward ameliorating this ever-approaching catastrophe. It is with great hope that this trend continues, and COPUOS promulgates binding regulations to ensure the sustainability of geospace for the common heritage of mankind. “But we can never do nothing. That which we have done for thousands of years is also action. It also produces evils.”183

#### Their ev is not the aff

Dardot 18 [Pierre Dardot, “What democracy for the global commons?,” The Commons and a New Global Governance, ed. Samuel Cogolati and Jan Wouters (2018). <https://d1wqtxts1xzle7.cloudfront.net/58613276/What_Democracy_-_Dardot_Leuwen_2018.pdf?1552469271=&response-content-disposition=inline%3B+filename%3DWhat_democracy_for_the_global_commons.pdf&Expires=1642726034&Signature=YJi8AG6~Y---mP0qsop4i3t~Z5bVLtQYwuDtUdXm6sdKaYwCJFFzQOL-OiY9nIH~JZsophnChwMlUMSGOCDVh7NhHmUonD28k9fU9PrfN2nYTNV2x8XnvoK2KtelSRvRyWN78eA7uC1isTAf1pO5~abPS9XQnORhjp9nPXjpIuBqLrrJhIUCKNjEorJ0u1h63DxkORBKVZfFh-TawG~PS~WdamGNqfljxjaP1G5bG-hUh1aNw0CuXhnqdd8yeH0-uT7iXVNu8cDl2zOtobIiAmD0SBKxjUXP8SYLkvNO0BETnpIzetK7gW8yksHtYjt-WasarhkMQpHeNwvJOY8QeA__&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA>] CT

The first requires, above all, a political imagination, and the second assumes that we extend the observation of collective practices and experimentations already underway.¶ 4.2.1 The dual federation of the commons¶ In order to introduce the first point, we must return to our discussion of the commons. Early on in this chapter, we established that the commons are institutional matters to the extent that they determine the rules of common use. In this sense, the commons emerge from what we might legally refer to as the ‘public’, not only in the orthodox economics sense of the collective nature of ‘public goods’, but also in terms of the public in opposition to the private. It is important to note that this public sui generis is non-state public. What exactly does this mean? The state’s public aims to ensure universal access to services but it does so by allowing state administration to monopolize the management of these services, thereby excluding users reduced to mere consumer status. The non-state public of the commons guarantees universal access via user participation in this management. Note that non-state does not mean anti-state, but rather, autonomous from the state. But what are we to make of the state itself? Under what conditions can it itself become a common? And how can we conceptualize its articulation to what belongs to the infra- and supra-state levels? Moreover, how can the different types of commons be organized among themselves? ¶ The magnitude of these questions led us to imagine a political system, that of non-centred federalism, which was inspired by Proudhon (1863). Indeed, he designed a dual federation of social and economic organizations, representing the municipalities as well as the production units and working companies, both of which should be governed by the principle of democracy. In a similar way, we can distinguish, on the one hand, the social-economic commons (common of river, common of forest, seed bank, production unit and so on) independently constituted of territoriality and administrative borders and, on the other hand, political commons formed through the process of increasingly integrating territories (municipalities, regions, states, international groupings of states). Yet, in all of this we are neither statists nor anarchists. We are even reluctant to consider a single global government or a single world state, which would imply a centralized form of authority that is incompatible with the democracy required by the institution of the commons.

### Adv 1

#### Turn – The management of space debris is rooted in a militarized approach to the future that culminates in the *full-spectrum dominance* of the globe

**Reno 20** (Joshua Ozias Reno, Associate Professor of Anthropology at Binghamton University. PhD from the University of Michigan, “The Wrong Stuff”, chapter 4 of Military Waste: The Unexpected Consequences of Permanent War Readiness Univ of California Press, Feb 4, 2020 Pg. 127-130)DR 19

**Space debris** can be dangerous to orbiting vessels and, as such, it represents an ever-growing hazard to human uses of Earth space. But these objects are hard to track and easy to mistake for something else, even for people who spend all of their time looking up at the night sky. Like space exploration itself, this is a difficult problem to solve, so it is not surprising that **only the most powerful and prominent space agencies imagine they are capable of finding space debris**, let alone clearing it from orbital environments. A core dimension of that power and prominence, moreover, is about having military ambitions that extend beyond the surface of the planet. And, **from the very beginnings**, doing so has meant enrolling amateur or civilian scientists in DoD plans for outer-space.

Historically, **solving space-related challenges has meant getting funds and resources from wealthy and powerful nations**. **With the growth of** a permanent war economy, **such expenditure** is very often **tied** **to** imagined or real military applications. Consequently, the history of space exploration has been and continues to be shaped by tensions and networks between **civilian and military** scientific objectives. But these seemingly opposed **groups** also align and become indistinguishable, especially insofar as they embrace a fascination with developing the latest technology and an unrelenting faith in its ability to solve all problems. This is also known as techno-solutionism. Evgeny Morozov (2013) developed this idea related to utopian appraisals of the internet. His account draws heavily on **Hannah Arendt’s** *On Violence* (1970), a book which openly criticizes **US administrations** that thought they could solve global problems through technically ingenuous forms of death and destruction. Broadly defined, techno-solutionism is faith that technical fixes can solve any problem…even when they are targeting a realm like **outer space**, one that is already saturated with the leftovers of generations of technological problem-solving. According to Gökçe Günel (2019, 129), any technical adjustment is not only about “functionality, effectiveness, or use, but rather the ways in which its materially and conceptually indeterminate existence mobilizes potential towards a technically adjusted future.” In this sense, **technical fixes for space debris are more about extending the possibility of future technical intervention in orbital environments**, rather than, for instance, **encouraging ethical reflection** on whether people should create debris at all.

Space debris is not just any problem, it is **one that originated** **with** and threatens **space science** and, as such, shows the limits of technical solution-making in general. If it is problematic to see space debris as a technical glitch, as noise in an otherwise perfectly rendered human design, that is because such a view can **mislead us** into thinking that all it takes is a little more ingenuity, a bit more mastery, to solve the problem entirely. But, following Virilio (2007), every new technical innovation and improvement brings a new disaster, an unprecedented act of contamination. If **space debris represents inevitable traces** that human artifacts and projects leave behind in the space beyond Earth, then, whatever the future may hold, this problem is unavoidable. If people want to continue to escape their earthly confines, space debris will have to be reckoned with. Space debris is a possibility that haunts all uses of space *tout court*, rather than an incidental by-product of space exploration and travel.

#### Legal barriers block solvency.

Listner 12 (Michael J. Listner is an attorney and the principal of Space Law and Policy Solutions, a firm that counsels governmental and private organizations on matters relating to space law and policy, including issues surrounding space debris. He serves as General Counsel to Space Safety Magazine and contributes to that publication as well. Michael holds a Bachelor of Science (B.S.) in Computer Information Systems from Franklin Pierce University and obtained his Juris Doctorate (J.D.) from Regent University School of Law. He is a member of the New Hampshire Bar and a member of the International Institute of Space Law (IISL). “Legal issues surrounding space debris remediation.” The Space Review. August 6, 2012. http://www.thespacereview.com/article/2130/1)

The most prominent issue surrounding cleanup of orbital space debris rests with Article VIII of the Outer Space Treaty, in which space objects, including nonfunctioning satellites and other space debris, continue to belong to the country or countries that launched them.2 There is no right of salvage analogous to the right found in maritime law, which means that even though a satellite or some other space object may not be functioning, it does not imply that it has been abandoned by the nation that launched it. Without consent from the nation that launched and operates or otherwise owns the satellite or space object, it cannot be disposed of or otherwise interfered with. This is further complicated by the fact that international space law deems fragments and components from space objects as individual space objects in and of themselves, which would require identification to determine the owner and either individual or blanket consent to remove it from orbit.

Ancillary to ownership are issues dealing with licensing and compliance with International Traffic in Arms Regulations (ITAR). Methodologies to remove intact derelict satellites may include the use of mechanisms that will rendezvous, attach, and physically move the derelict from a stable orbit to either a graveyard orbit, where it will not interfere with other space objects, or into a less stable orbit that would ensure the destruction of the derelict within a short period of time. This methodology of space debris removal requires an intimate knowledge of the spacecraft so that an effort to remove it would not result in fragmentation and the creation of additional space debris, which in the case of space objects belonging to the United States could trigger ITAR.

Compounding the ITAR issue is that of intellectual property rights. Disclosure of sufficient technical details regarding a derelict spacecraft could implicate intellectual property, including confidential and proprietary technical information as well as patents. Licensing agreements between the owners and former operators of the derelict satellites would have to be negotiated, as would confidentiality and nondisclosure agreements to protect the rights of the owners. Furthermore, ITAR issues could arise if a derelict satellite registered to the United States is slated for removal by a methodology operated by a foreign government, especially if exporting of spacecraft-related technical data outside the United States is involved. Before such exporting and subsequent satellite disposal could take place, licenses or other waivers would be required to address these issues.

Any discussion of legal issues would not be complete without noting the issue of liability. Removal of space debris will presumably be carried out by governmental organizations and nongovernmental organizations (NGOs), either exclusively or concurrently. Removal of space debris is not without risk, and regardless of whether NGOs or governmental organizations are performing the activity, Article VI of the Outer Space Treaty requires that the country under whose jurisdiction they fall retain responsibility for their activities and any accidents during their activities.3 Complicating the responsibility under Article VI of the Outer Space Treaty, the Liability Convention takes the issue of liability in Article VII of the Outer Space Treaty a step forward.

The Liability Convention envisions two scenarios where damage could be caused by a space object. The first scenario envisions a space object that causes damage to the surface of the Earth or an aircraft in flight, which applies a strict liability standard. The second scenario envisions an event where a space object causes damage someplace other than the surface of the Earth, i.e. outer space or another celestial body, and applies a fault standard.4It would be the second scenario of the Liability Convention that would be the applicable standard for accidents related to space debris removal if an accident created additional space debris or damaged a functioning spacecraft, either through accidents that cause further space debris contamination or the inadvertent loss of space objects not marked for disposal. The inherent risk to the nation sponsoring space debris remediation would present governmental organizations and particularly NGOs with significant liability and may require substantial third-party liability insurance to cover potential incidents.

One of the more vexing issues of space debris general is finding a suitable definition. The term “space debris” is used commonly enough when discussing the veritable junkyard of expended space objects in orbit as or even naturally occurring objects such as asteroids or meteors. While there is yet to be an acceptable legal definition of what space debris is there have been proposals for defining space debris but mostly in the context of legally binding treaties and liability for space debris.

For example, Lieutenant Colonel Joseph S. Imburgia suggests a definition of space debris that could be used in a legally binding treaty.5 Lt. Colonel Imburgia proposes the following definition of space debris to include:

…all man-made objects, including fragments and elements thereof, in Earth orbit or reentering the atmosphere, that are non-functional, regardless of whether the debris is created accidently or intentionally; the term includes but is not limited to, fragments of older satellites and rocket boosters resulting from explosions or collisions, as well as any non-functional space object, such as dead satellites, spent rocket stages or other launch vehicles, or components thereof;

This technical description of space debris is part of a draft of a proposed international treaty to deal with space debris in the context of liability and responsibility for the present and future crop of space debris in orbit. The current treaty proposals to deal with space debris, including the draft proposed by Imburgia focus on the current problem of responsibility and liability for damages caused by space debris and do not create a solution in terms of remediation. Furthermore, a strictly legal approach in the form of a treaty focused at the UN level has little chance of being implemented any time soon given the competing geopolitical interests of the various nations who make up the UN as well as the Committee on the Peaceful Uses of Outer Space (COPUOS).

A more practical approach to remediation of space debris is to apply a quasi-legal definition that directly addresses the problem of ownership. As mentioned above, one the primary issue with removing space debris is that there are no salvage rights to space debris because of the ownership issues related to Article VIII of the Outer Space Treaty. Therefore, before space debris can be removed from orbit, the ownership issue must be addressed. To that end a definition of space debris taking into account the following elements may be appropriate:

“Space debris” is:

a space object as defined by Article I(d) of the Liability Convention and Article I(b) of the Registration Convention;

that no longer performs its original function or has no tangible function;

that either re-enters the atmosphere, remains in Earth orbit, in outer space or on the Moon or another celestial body,

is either created intentionally or through the actions or inactions of a launching state;

may have economic value to a launching state;

may have historical value to a launching state;

and/or may have continued national security value to a launching state.

Incorporating provisions of the Liability Convention and the Registration Convention are sure to controversial since the effectiveness of both treaties is a matter of debate. More so, is the definition of “space object”. A “space object” is similarly defined by both of these treaties, and it includes not only objects launched into space by a launching state but also components from the object. There is debate about the definition of “space object” in the context of both these treaties in that it is vague as to its meaning; however, the use of the term and definition in the domestic space laws of some nations makes the case that the term as defined has legal precedent.6

The challenge with such a definition is that in and of itself it does not solve all the issues surrounding space debris removal. This definition also does not address the issue of space objects whose national origin and hence their launching state is unknown.7

Defining space debris in this manner not only will take into account the current body of international space law, but will also provide the basis of decision making for a nation to determine whether a particular object has value, and whether it can be expressly abandoned and subsequently disposed of.8 More so, a definition incorporating these elements is not an end-all for solving the legal issues surrounding space debris remediation, but rather it would need find itself as part of a quasi-legal protocol or as part of an annex to one or more of the existing space law treaties to set out the rules and protocols for space debris removal. Regardless, the idea of a definition of space debris that focuses on the issues surrounding remediation instead of placing blame is a proactive one and one that is needed to address the present and future situation.

A final legal hurdle that must be addressed is the legal act of removing space debris. This act in the context of space debris as defined for remediation does not have sufficient legal precedent to be performed en masse. However, before discussing this issue in earnest, it is recognized that the retrieval of space object belonging to another nation is not entirely without precedent.

#### There is no impact.

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Kessler Syndrome is overhyped. A chorus of online commenters great any news of upcoming low earth orbit satellites with worry that humanity will to lose access to space. I now think they are wrong. What is Kessler Syndrome? Here’s the popular view on Kessler Syndrome. Every once in a while, a piece of junk in space hits a satellite. This single impact destroys the satellite, and breaks off several thousand additional pieces. These new pieces now fly around space looking for other satellites to hit, and so exponentially multiply themselves over time, like a nuclear reaction, until a sphere of man-made debris surrounds the earth, and humanity no longer has access to space nor the benefits of satellites. It is a dark picture. Is Kessler Syndrome likely to happen? I had to stop everything and spend an afternoon doing back-of-the-napkin math to know how big the threat is. To estimate, we need to know where the stuff in space is, how much mass is there, and how long it would take to deorbit. The orbital area around earth can be broken down into four regions. Low LEO - Up to about 400km. Things that orbit here burn up in the earth’s atmosphere quickly - between a few months to two years. The space station operates at the high end of this range. It loses about a kilometer of altitude a month and if not pushed higher every few months, would soon burn up. For all practical purposes, Low LEO doesn’t matter for Kessler Syndrome. If Low LEO was ever full of space junk, we’d just wait a year and a half, and the problem would be over. High LEO - 400km to 2000km. This where most heavy satellites and most space junk orbits. The air is thin enough here that satellites only go down slowly, and they have a much farther distance to fall. It can take 50 years for stuff here to get down. This is where Kessler Syndrome could be an issue. Mid Orbit - GPS satellites and other navigation satellites travel here in lonely, long lives. The volume of space is so huge, and the number of satellites so few, that we don’t need to worry about Kessler here. GEO - If you put a satellite far enough out from earth, the speed that the satellite travels around the earth will match the speed of the surface of the earth rotating under it. From the ground, the satellite will appear to hang motionless. Usually the geostationary orbit is used by big weather satellites and big TV broadcasting satellites. (This apparent motionlessness is why satellite TV dishes can be mounted pointing in a fixed direction. You can find approximate south just by looking around at the dishes in your northern hemisphere neighborhood.) For Kessler purposes, GEO orbit is roughly a ring 384,400 km around. However, all the satellites here are moving the same direction at the same speed - debris doesn’t get free velocity from the speed of the satellites. Also, it’s quite expensive to get a satellite here, and so there aren’t many, only about one satellite per 1000km of the ring. Kessler is not a problem here. How bad could Kessler Syndrome in High LEO be? Let’s imagine a worst case scenario. An evil alien intelligence chops up everything in High LEO, turning it into 1cm cubes of death orbiting at 1000km, spread as evenly across the surface of this sphere as orbital mechanics would allow. Is humanity cut off from space? I’m guessing the world has launched about 10,000 tons of satellites total. For guessing purposes, I’ll assume 2,500 tons of satellites and junk currently in High LEO. If satellites are made of aluminum, with a density of 2.70 g/cm3, then that’s 839,985,870 1cm cubes. A sphere for an orbit of 1,000km has a surface area of 682,752,000 square KM. So there would be one cube of junk per .81 square KM. If a rocket traveled through that, its odds of hitting that cube are tiny - less than 1 in 10,000. So even in the worst case, we don’t lose access to space. Now though you can travel through the debris, you couldn’t keep a satellite alive for long in this orbit of death. Kessler Syndrome at its worst just prevents us from putting satellites in certain orbits. In real life, there’s a lot of factors that make Kessler syndrome even less of a problem than our worst case though experiment. Debris would be spread over a volume of space, not a single orbital surface, making collisions orders of magnitudes less likely. Most impact debris will have a slower orbital velocity than either of its original pieces - this makes it deorbit much sooner. Any collision will create large and small objects. Small objects are much more affected by atmospheric drag and deorbit faster, even in a few months from high LEO. Larger objects can be tracked by earth based radar and avoided. The planned big new constellations are not in High LEO, but in Low LEO for faster communications with the earth. They aren’t an issue for Kessler. Most importantly, all new satellite launches since the 1990’s are required to include a plan to get rid of the satellite at the end of its useful life (usually by deorbiting) So the realistic worst case is that insurance premiums on satellites go up a bit. Given the current trend toward much smaller, cheaper micro satellites, this wouldn’t even have a huge effect. I’m removing Kessler Syndrome from my list of things to worry about.