# 1AC

## Framing:

#### 1] Humans are not the only species alive on this planet

#### Extending our ethic past humanity necessitates an ecological view

Callicott 80 [J. Baird Callicott, Philosophy and Applied Sciences @ University of North Texas, “Animal Liberation: A Triangular Affair,” Environmental Ethics, <https://www.pdcnet.org/enviroethics/content/enviroethics_1980_0002_0004_0311_0338>] /Triumph Debate

The philosophical context of the land ethic and its conceptual foundation is clearly the body of empirical experience and theory which is summed up in the term ecology 0 The specter of the naturalistic faIlacy hovers around any claim to discover values in facts (and/or, probably, in scientific theories as weIl), but notwithstanding the naturalistic faIlacy (or the fact/value lacuna), which is essentially a logical problem for formal ethics, there appears very often to be at least a strongly compelling psychological connection between the way the world is imagined or conceived and what state of things is held to be good or bad, what ways of behaving are right or wrong, and what responsibilities and obligations we, as moral agents, acknowledge. 24 **Since ecology focuses upon the relationships between** and among **things, it inclines its students toward a more holistic vision of the world**. Before the rather recent emergence of ecology as a science the landscape appeared to be, one might say, a collection of objects, some of them alive, some conscious, but all the same, an aggregate, a plurality of separate individuals. With this "atomistic" representation of things it is no wonder that moral issues might be understood as competing and mutually contradictory clashes of the "rights" of separate individuals, each separately pursuing its "interests." **Ecology has made it possible to apprehend the** same **landscape as an articulate unity** (without the least hint of mysticism or ineffability). Ordinary organic **bodies have** articulated and **discernible parts** (limbs, various **organs**, myriad **ceIls**); **yet, because of the** character of the **network of relations among those parts, they form** in a perfect familiar sense **a second-order whole**. 'Ecology makes it possible to see land, similarly, as a unified system of integrally related parts, as, so to speak, a third-order organic whole. 25 **Another analogy** that has helped ecologists to convey the particular holism which their science brings to reflective attention is that **land is integrated as a human community is integrated**. The various parts of **the "biotic community**" (individual animals and plants) **depend upon one another** economically so that the system as such acquires distinct characteristics of its own. Just as it is possible to characterize and define collectively peasant societies, agrarian communities, industrial complexes, capitalist, communist, and socialist economic systems, and so on, ecology characterizes and defines various biomes as desert, savanna, wetland, tundra, wood land, etc., communities, each with its particular "professions," "roles," or "niches." Now w**e may think that among the duties we as moral agents have** toward ourselves **is the duty of self-preservation**, which may be interpreted as a duty to maintain our own organic integrity. **It is not uncommon** in historical moral theory, further, **to find that in addition to those peculiar responsibilities we have** in relation both to ourselves and to other persons severally, we also have **a duty to behave in ways that do not harm the fabric of society per se. The land ethic**, in similar fashion, **calls our attention to the recently discovered integrity-**in other words, the unity-**of the biota and posits duties binding upon moral agents in relation to that whole**. Whatever the strictly formal logical connections between the concept of a social community and moral responsibility, there appears to be a strong psychological bond between that idea and conscience. Hence, the representation of the natural environment as, in Leopold's terms, "one humming community" (or, less consistently in his discussion, a third-order organic being) brings into play, whether rationally or not, those stirrings of conscience which we feel in relation to delicately complex, functioning social and organic systems. 26 The **neo-Benthamite humane moralists** have, to be sure, digested one of the metaphysical implications of modern biology. They **insist that human beings must be understood continuously with the rest of organic nature. People are** (and are **only) animals**, and much of the rhetorical energy of the animal liberation movement is spent in fighting a rear guard action for this aspect of Darwinism against those philosophers who still cling to the dream of a special metaphysical status for people in the order of "creation." To this extent the animal liberation movement is biologically enlightened and argues from the taxonomical and evolutionary continuity of man and beast to moral standing for some nonhuman animals. Indeed, pain, in their view the very substance of evil, is something that is conspicuously common to people and other sensitive animals, something that we as people experience not in virtue of our metasimian cerebral capabilities, but because of our participation in a more generally animal, limbic-based consciousness. **If it is pain and suffering that is the ultimate evil besetting human life, and this not in virtue of our humanity but in virtue of our animality, then it seems only fair to promote freedom from pain** **for those animals** who share with us in this mode of experience and to grant them rights similar to ours as a means to this end. Recent ethological **studies** of other primates, ceteceans, and so on, **are not infrequently cited to drive the point home**, **but the biological information of the animal liberation movement seems to extend no further than this**-the continuity of human with other animal life forms. **The more recent ecological perspective especially seems to be ignored** by humane moralists. The holistic outlook of **ecology** and the associated value premium conferred upon the biotic community, its beauty, integrity, and stability may simply not have penetrated the thinking of the animal liberationists, or it could be that to include it w**ould involve an intolerable contradiction with the Benthamite foundations of their ethical theory. Bentham's view of the "interests of the community" was bluntly reductive.** With his characteristic bluster, Bentham wrote, "The community is a fictitious body composed of the individual persons who are considered as constituting as it were its members.” The interest of the community then is, what?-the sum of the interests of the several members who compose it.,,27 **Bentham's very simile-the community is like a body composed of members gives the lie to his reduction of its interests to the sum of its parts** taken severally. **The interests of a person are not those of** his or **her cells summed up and averaged out. Our organic health and well-being**, for example, **requires** vigorous exercise and metabolic **stimulation which cause stress and often pain to various parts of the body and a more rapid turnover in the life cycle of our individual cells**. For the sake of the person taken as whole, some parts may be, as it were, unfairly sacrificed. On the level of social organization, the interests of society may not always coincide with the sum of the interests of its parts. Discipline, sacrifice, and individual restraint are often necessary in the social sphere to maintain social integrity as within the bodily organism. A society, indeed, is particularly vulnerable to disintegration when its members become preoccupied totally with their own particular interest, and ignore those strict and independent interests of the community as a whole. One example, unfortunately, our own society, is altogether too close at hand to be examined with strict academic detachment. The United States seems to pursue uncritically a social policy of reductive utilitarianism, aimed at promoting the happiness of all its members severally. Each special interest accordingly clamors more loudly to be satisfied while the community as a whole becomes noticeably more and more infirm economically, environmentally, and politically. **The humane moralists**, whether or not they are consciously and deliberately following Bentham on this particular, nevertheless, in point of fact, **are committed to the welfare of certain kinds of animals** distributively or **reductively** in applying their moral concern for nonhuman beings. 28 They lament the treatment of animals, most frequently farm and laboratory animals, and plead the special interests of these beings. **We might ask**, from the perspective of the land ethic, **what the effect upon the natural environment taken as whole would be if domestic animals were actually liberated**? There is, almost certainly, very little real danger that this might actually happen, but it would be instructive to speculate on the ecological consequences.

#### 2] The Resolution States Justice, so prefer Justice and Justice collapses to structural Violence

#### Prioritize structural violence – Existential Threats and future risk assessment distorts moral reasoning and justifies ignoring current suffering.

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III The body and the emergency Though the body is often presumed to be the most basic unit where urgency might be detected, only some dictionaries link urgency and the body through a ‘medical’ reference to the compelling need to defecate or urinate.5 Focusing on the different meanings of urgency runs the risk of obscuring language categories, but pushing together the two definitions – urgency as the need to defecate and urinate, and urgency as overwhelming force – is useful here, because my aim is to illustrate that the ethical work of urgency has been hijacked by an hierarchical organization of scales of moral deliberation. Specifically, our research suggests that the urgent body is cast as subjective and impulsive, while larger scales, such as the region, state or society, emerge as the scale of a rational ethics. While these are not new arguments about states (Scott, 1998) and their institutions (Foucault, 1995), geographic insights into toileting and securitizations suggest that **technocratic practices both require and perpetuate an ethical distinction between the body and the large-scale future event**, **with the latter emerging as the only legitimate site of urgent claims and thus the dominant subject of moral reasoning**.In research related to contemporary global toileting, the defecating body’s status as a legitimate ethical concern is more likely to be acknowledged when **threatening the sanitation aims of cities and states**. This is perhaps most evident in large metropolitan areas where uneven access to toilets amplifies social inequalities and human suffering (McFarlane, 2013). Jewitt’s (2011) examination of waste management in India and other countries in the Global South reveals that taboos around feces often justify inequality in two ways; first, by creating conditions of precarity through taboos in discussing personal sanitation and toilet practices, and second, by justifying social exclusion on the basis of inferior sanitation practices. The lack of access to sanitation infrastructure can also provide reasons for excluding informally settled populations from ambitiously modernizing cities. In cities like Kampala, Uganda, planners, development workers, and community organizers frame those who cannot use modern toilet facilities as threatening (Terreni-Brown, 2014a). Terreni-Brown (2014b) describes a group of female migrants selling goods outside of a large, upscale mall in Kampala, and their strategies for balancing the lack of access to a toilet with the danger and humiliation of going in the area behind their street-side location. Their desperate pain, induced by waiting hours until they can finally return to a more private location, contrasts with complaints of city planners and NGO workers who point to moral lethargy in the informal settlements that puts the city at risk. The poor, illegal, marginalized body is not a reasonable scale of urgency, nor is it the product of a thoughtful weighing of circumstances; in the face of a morally rational prioritization of a future Kampala, these bodily urgencies literally have no place in the modern city. Though toileting might be thought of as a special case of bodily urgency, geographic research suggests that the body is increasingly set at odds with larger scale ethical concerns, especially **large-scale future events of forecasted suffering**. Emergency planning is a particularly good example in which the large-scale threats of future suffering can **distort moral reasoning**. Žižek (2006) lightly develops this point in the context of the war on terror, where in the presence of fictitious and real ticking clocks and warning systems, the urgent body must be **bypassed** because there are **bigger scales to worry about**:¶ What does this all-pervasive sense of urgency mean ethically? The pressure of events is so overbearing, the stakes are so high, that they necessitate a suspension of ordinary ethical concerns. After all, displaying moral qualms when the lives of millions are at stake plays into the hands of the enemy. (Žižek, 2006)¶ In the presence of large-scale future emergency, the urgency to secure the state, the citizenry, the economy, or the climate creates new scales and new temporal orders of response (see Anderson, 2010; Baldwin, 2012; Dalby, 2013; Morrissey, 2012), many of which treat the urgent body as impulsive and thus requiring management. McDonald’s (2013) analysis of three interconnected discourses of ‘climate security’ illustrates how bodily urgency in climate change is also recast as a menacing impulse that might require exclusion from moral reckoning. The logics of climate security, especially those related to national security, ‘can encourage perverse political responses that not only fail to respond effectively to climate change but may present victims of it as a threat’ (McDonald, 2013: 49). **Bodies that are currently suffering cannot be urgent**, because they are **excluded from the potential collectivity** that could be **suffering everywhere in some future time**. Similar bypassing of existing bodily urgency is echoed in writing about violent securitization, such as drone warfare (Shaw and Akhter, 2012), and also in **intimate scales** like the street and the school, especially in relation to race (Mitchell, 2009; Young et al., 2014).¶ As **large-scale urgent concerns are institutionalized**, the urgent body is increasingly **obscured through technical planning and coordination** (Anderson and Adey, 2012). The predominant characteristic of this institutionalization of large-scale emergency is a ‘**built-in bias for action’** (Wuthnow, 2010: 212) **that circumvents contingencies**. The urgent body is at best an assumed eventuality, one that will likely require another state of waiting, such as **triage** (e.g. Greatbach et al., 2005). Amin (2013) cautions that in much of the West, governmental need to provide evidence of laissez-faire governing on the one hand, and assurance of strength in facing a threatening future on the other, produces ‘just-in-case preparedness’ (Amin, 2013: 151) of neoliberal risk management policies. In the US, ‘personal ingenuity’ is built into emergency response at the expense of the poor and vulnerable for whom ‘[t]he difference between abjection and bearable survival’ (Amin, 2013: 153) will not be determined by emergency planning, but in the material infrastructure of the city.¶ In short, the urgencies of the body provide justifications for social exclusion of the most marginalized based on impulse and perceived threat, while **large-scale future emergencies effectively absorb the deliberative power of urgency into the institutions of preparedness and risk avoidance**. Žižek references Arendt’s (2006) analysis of the banality of evil to explain the current state of ethical reasoning under the war on terror, noting that people who perform morally reprehensible actions under the conditions of urgency assume a ‘tragic-ethic grandeur’ (Žižek, 2006) by sacrificing their own morality for the good of the state. But his analysis fails to note that bodies are today so rarely legitimate sites for claiming urgency. In the context of the **assumed priority of the large-scale future emergency**, the urgent body becomes **literally nonsense, a non sequitur** within societies, states and worlds that will **always be more urgent**.¶ If the important ethical work of urgency has been to identify that which must not wait, then the capture of the power and persuasiveness of urgency by large-scale future emergencies has consequences for the kinds of normative arguments we can raise on behalf of urgent bodies. How, then, might waiting compare as a normative description and critique in our own urgent time? Waiting can be categorized according to its purpose or outcome (see Corbridge, 2004; Gray, 2011), but it also modifies the place of the individual in society and her importance. As Ramdas (2012: 834) writes, ‘waiting … produces hierarchies which segregate people and places into those which matter and those which do not’. The segregation of waiting might produce effects that counteract suffering, however, and Jeffery (2008: 957) explains that though the ‘politics of waiting’ can be repressive, it can also engender creative political engagement. In his research with educated unemployed Jat youth who spend days and years waiting for desired employment, Jeffery finds that ‘the temporal suffering and sense of ambivalence experienced by young men can generate cultural and political experiments that, in turn, have marked social and spatial effects’ (Jeffery, 2010: 186). Though this is not the same as claiming normative neutrality for waiting, it does suggest that waiting is more ethically ambivalent and open than urgency.¶ In other contexts, however, our descriptions of waiting indicate a strong condemnation of its effects upon the subjects of study. Waiting can demobilize radical reform, **depoliticizing ‘the insurrectionary possibilities of the present by delaying the revolutionary imperative to a future moment that is forever drifting towards infinity’** (Springer, 2014: 407). Yonucu’s (2011) analysis of the self-destructive activities of disrespected working-class youth in Istanbul suggests that this sense of infinite waiting can lead not only to depoliticization, but also to a disbelief in the possibility of a future self of any value. Waiting, like urgency, can **undermine the possibility of self-care** two-fold, first by making people wait for essential needs, and again by reinforcing that waiting is ‘[s]omething to be ashamed of because it may be noted or taken as evidence of indolence or low status, seen as a symptom of rejection or a signal to exclude’ (Bauman, 2004: 109). This is why Auyero (2012) suggests that waiting creates an ideal state subject, providing ‘temporal processes in and through which political subordination is produced’ (Auyero, 2012: loc. 90; see also Secor, 2007). Furthermore, Auyero notes, it is not only political subordination, but the subjective effect of waiting that secures domination, as citizens and non-citizens find themselves ‘waiting hopefully and then frustratedly for others to make decisions, and in effect surrendering to the authority of others’ (Auyero, 2012: loc. 123).¶ Waiting can therefore function as a potentially important spatial technology of the elite and powerful, mobilized not only for the purpose of **governing individuals**, but also to **retain claims over moral urgency**. But there is **growing resistance** to the capture of claims of urgency by the elite, and it is important to note that even in cases where the material conditions of containment are currently impenetrable, arguments based on human value are at the forefront of **reclaiming urgency for the body**. In **detention centers, clandestine prisons, state borders and refugee camps**, geographers point to ongoing struggles against the ethical impossibility of bodily urgency and a rejection of states of waiting (see Conlon, 2011; Darling, 2009, 2011; Garmany, 2012; Mountz et al., 2013; Schuster, 2011). Ramakrishnan’s (2014) analysis of a Delhi resettlement colony and Shewly’s (2013) discussion of the enclave between India and Bangladesh describe people who refuse to give up their own status as legitimately urgent, even in the context of larger scale politics. Similarly, Tyler’s (2013) account of desperate female detainees stripping off their clothes to expose their humanness and suffering in the Yarl’s Wood Immigration Removal Centre in the UK suggests that demands for recognition are not just about politics, but also about the acknowledgement of humanness and the irrevocable possibility of being that which cannot wait. The continued existence of places like Yarl’s Wood and similar institutions in the USA nonetheless points to the challenge of exposing the urgent body as a moral priority when it is so easily hidden from view, and also reminds us that our research can help to explain the relationships between normative dimensions and the political and social conditions of struggle.¶ In closing, geographic depictions of waiting do seem to evocatively describe otherwise obscured suffering (e.g. Bennett, 2011), but it is striking how rarely these descriptions also use the language of urgency. Given the discussion above, what might be accomplished – and risked – by incorporating urgency more overtly and deliberately into our discussions of waiting, surplus and abandoned bodies? Urgency can clarify the implicit but understated ethical consequences and normativity associated with waiting, and encourage explicit discussion about harmful suffering. Waiting can be productive or unproductive for radical praxis, but urgency compels and requires response. Geographers could be instrumental in reclaiming the ethical work of urgency in ways that leave it open for critique, clarifying common spatial misunderstandings and representations. There is good reason to be thoughtful in this process, since moral outrage towards inhumanity can itself obscure differentiated experiences of being human, dividing up ‘those for whom we feel urgent unreasoned concern and those whose lives and deaths simply do not touch us, or do not appear as lives at all’ (Butler, 2009: 50). But when the urgent body is rendered as only waiting, both materially and discursively, it is just as easily cast as impulsive, disgusting, animalistic (see also McKittrick, 2006). Feminist theory insists that the urgent body, whose encounters of violence are ‘usually framed as **private, apolitical and mundane’** (Pain, 2014: 8), are as deeply **political, public, and exceptional** as other forms of violence (Phillips, 2008; Pratt, 2005). Insisting that **a suffering body, now, is that which cannot wait**, has the **ethical effect of drawing it into consideration alongside the political, public and exceptional scope of large-scale futures**. It may help us insist on the body, both as a single unit and a plurality, as a legitimate scale of normative priority and social care.¶ In this report, I have explored old and new reflections on the ethical work of urgency and waiting. Geographic research suggests a contemporary popular bias towards the urgency of large-scale futures, institutionalized in ways that further **obscure and discredit the urgencies of the body**. This bias also justifies the production of new **waiting places** in our material landscape, **places like the detention center** and the waiting room. In some cases, waiting is normatively neutral, even providing opportunities for alternative politics. In others, the technologies of waiting serve to manage potentially problematic bodies, leading to suspended suffering and even to extermination (e.g. Wright, 2013). One of my aims has been to suggest that **moral reasoning is important** both because it **exposes normative biases against subjugated people**, and because it potentially **provides routes toward struggle where claims to urgency seem to foreclose** the **possibilities** of alleviation of suffering

#### 4] Prioritize probability.

Kessler 08 (Oliver; April 2008; PhD in IR, professor of sociology at the University of Bielefeld, and professor of history and theory of IR at the Faculty of Arts; Alternatives, Vol. 33, “From Insecurity to Uncertainty: Risk and the Paradox of Security Politics” p. 211-232)

The problem of the second method is that it is very difficult to "calculate" politically unacceptable losses. If the risk of terrorism is defined in traditional terms by probability and potential loss, then the focus on dramatic terror attacks leads to the marginalization of probabilities. The reason is that even the highest degree of improbability becomes irrelevant as the measure of loss goes to infinity.^o The mathematical calculation of the risk of terrorism thus tends to overestimate and to dramatize the danger. This has consequences beyond the actual risk assessment for the formulation and execution of "risk policies": If one factor of the risk calculation approaches infinity (e.g., if a case of nuclear terrorism is envisaged), then there is no balanced measure for antiterrorist efforts, and risk management as a rational endeavor breaks down. Under the historical condition of bipolarity, the "ultimate" threat with nuclear weapons could be balanced by a similar counterthreat, and new equilibria could be achieved, albeit on higher levels of nuclear overkill. Under the new condition of uncertainty, no such rational balancing is possible since knowledge about actors, their motives and capabilities, is largely absent. The second form of security policy that emerges when the deterrence model collapses mirrors the "social probability" approach. It represents a logic of catastrophe. In contrast to risk management framed in line with logical probability theory, the logic of catastrophe does not attempt to provide means of absorbing uncertainty. Rather, it takes uncertainty as constitutive for the logic itself; uncertainty is a crucial precondition for catastrophes. In particular, catastrophes happen at once, without a warning, but with major implications for the world polity. In this category, we find the impact of meteorites. Mars attacks, the tsunami in South East Asia, and 9/11. To conceive of terrorism as catastrophe has consequences for the formulation of an adequate security policy. Since catastrophes hap-pen irrespectively of human activity or inactivity, no political action could possibly prevent them. Of course, there are precautions that can be taken, but the framing of terrorist attack as a catastrophe points to spatial and temporal characteristics that are beyond "rationality." Thus, political decision makers are exempted from the responsibility to provide security—as long as they at least try to preempt an attack. Interestingly enough, 9/11 was framed as catastrophe in various commissions dealing with the question of who was responsible and whether it could have been prevented. This makes clear that under the condition of uncertainty, there are no objective criteria that could serve as an anchor for measuring dangers and assessing the quality of political responses. For ex- ample, as much as one might object to certain measures by the US administration, it is almost impossible to "measure" the success of countermeasures. Of course, there might be a subjective assessment of specific shortcomings or failures, but there is no "common" currency to evaluate them. As a consequence, the framework of the security dilemma fails to capture the basic uncertainties. Pushing the door open for the security paradox, the main problem of security analysis then becomes the question how to integrate dangers in risk assessments and security policies about which simply nothing is known. In the mid 1990s, a Rand study entitled "New Challenges for Defense Planning" addressed this issue arguing that "most striking is the fact that we do not even know who or what will constitute the most serious future threat, "^i In order to cope with this challenge it would be essential, another Rand researcher wrote, to break free from the "tyranny" of plausible scenario planning. The decisive step would be to create "discontinuous scenarios ... in which there is no plausible audit trail or storyline from current events"52 These nonstandard scenarios were later called "wild cards" and became important in the current US strategic discourse. They justified the transformation from a threat-based toward a capability- based defense planning strategy.53 The problem with this kind of risk assessment is, however, that even the most absurd scenarios can gain plausibility. By constructing a chain of potentialities, improbable events are linked and brought into the realm of the possible, if not even the probable. "Although the likelihood of the scenario dwindles with each step, the residual impression is one of plausibility. "54 This so-called Othello effect has been effective in the dawn of the recent war in Iraq. The connection between Saddam Hussein and Al Qaeda that the US government tried to prove was disputed from the very beginning. False evidence was again and again presented and refuted, but this did not prevent the administration from presenting as the main rationale for war the improbable yet possible connection between Iraq and the terrorist network and the improbable yet possible proliferation of an improbable yet possible nuclear weapon into the hands of Bin Laden. As Donald Rumsfeld famously said: "Absence of evidence is not evidence of absence." This sentence indicates that under the condition of genuine uncertainty, different evidence criteria prevail than in situations where security problems can be assessed with relative certainty.

## 1 – Mars Colonization

#### Private Mars colonization re-intrenches existing ecological problems on Earth, evades adoption of an environmental ethic, and serves only a few

Calanchi 21 [Alessandra Calanchi, Cultural Studies @ The University of Urbino, “An Interplanetary Transplantation, Or, Reloading the Anthropocene on the Red Planet,” Green Letters: Studies in Ecocentrism, <https://www.tandfonline.com/doi/abs/10.1080/14688417.2021.1982401>] /Triumph Debate

In the beginning was the word – and it was a future President’s word. Many would agree that – after the long preparatory phase of the 1950s (Hollings 2008) – the age of space colonisation started with J.F. Kennedy’s New Frontier Speech, on 15 July 1960.5 It had then a first climax with the moon landing on 20 July 1969 and is now on the verge of a new phase which will feature manned crews getting onto planet Mars. And now, reality and storytelling mix together – according to the Mars TV docudrama series (2016–18, two seasons) **6 human missions will leave Earth directed to Mars as soon as 2033**. Since the end of 2019, newspapers, booklets, and websites have kept announcing a ‘rush to Mars in 2020’.7 The conditions seemed perfect because Mars was getting closer to Earth in October. The global pandemic and following economic crises have delayed space activities; nonetheless, NASA’s Perseverance rover landed on Mars on 18 February 2021, after completing a seven-month journey to the red planet; and the United Arab Emirates and China have successfully delivered Mars orbiters too. **Space exploration is now a hot issue**, and we have to keep monitoring the ongoing debate. In the 1960s the expansion in the outer space was mainly wished for by governments, linked as it was to the cold war between the USA and the USSR, while **today more and more funding comes from private enterprise**. Given the strong interrelationships between politics and economics, private sponsoring will undoubtedly open new markets, jobs, and opportunities worldwide. **Private ventures may** even **bypass current legislation** (the Outer Space Treaty**), which states that** nations – **governments** – **cannot claim ownership of other planets8** . Many groups are currently working on the definition and limitation of the outer space and other issues within the recently established Committee on the Peaceful Uses of Outer Space (2020).9 **This changed scenario is as challenging as it is hazardous**. Australian researcher Jai Galliott has explained that **space travel is no longer limited** to an élite group of trained military officers and pilots – **commercial space travel is imminent**, and this demands serious attention to the ethical, legal, social and environmental aspects of space exploration (2015). The dark side of transplantation **The intertwined projects of** **Terraforming/colonisation/transplantation**, whether public or private, **have** **some inescapable drawbacks. First, we can legitimately question if** ethics and **ecology will be respected. An authentically ecological approach cannot approve a radical intervention** on a different bio-system, **which could alter an alien environment. Second, obviously not all human kind will be able to benefit from Terraforming**. Moreover, though we can be fairly sure that no human-like forms of life exist on Mars, **an ethical approach cannot approve of colonising, a term which implies the superiority of the human ‘race’ over other possible forms of life** – a subject over other subjects – whatever they might be. Third, human beings ought to be sure that their cultural heritage is included in the project. To quote the Mars TV series again, we find scientists, doctors, engineers, psychologists, botanists, but no philosophers, artists, writers, and scholars there; we can admire a huge and nice bar lounge, but no books (not even e-books) neither movies or paintings or photo exhibitions are ever shown or recollected. Nobody seems to remember politics, religion, history. From time to time, the colonists have visions of green gardens and blue skies; but they never remember a library, a theatre, or a music concert. Of course, this is just one example. In reality, much work has been done in preserving cultural heritage. Efforts are even being made to develop cultural projects about colonisation and Terraforming, such as the interna tional design contest announced by The Mars Society in 2020: ‘The goal of the contest was to create the best plan for a Mars city state of 1,000,000 people, focusing on making a sizable human urban settlement on the Red Planet as self-supporting as possible and developing the city state’s economy, politics, society, culture and so forth’.10 Nonetheless, **this is the picture of the situation** – planet **Earth marching towards self-destruction** (due to climate change, pollution, wars, pandemics, and growing social and economic inequality) – **and the promise of a possible post-Anthropocene plan B for the human race on** planet Mars. I wrote ‘human race’, **but** of course **it will only be the few lucky ones who will be able to afford the stellar costs of interplanetary travel,** possibly through hibernation or artificially induced torpor or other extremely expensive means.11 Less expensive ways of travelling are currently under consideration, since they could open new markets to space tourism. American spaceflight company Virgin Galactic is working on it, but its competitor, Space Perspective, is actually expected to be able to take people into space for just 120,000 dollars,12 which is considered low cost (Benacchio 2020). Robert Zubrin is one of the most eager supporters of colonisation. In a recent book chapter (in T. James, ed. 2018), by analysing the economic viability of the various phases of colonisation, from Terraforming to Intraplanetary Commerce and Real-Estate, he builds a narration in the future tense. By illustrating the prospects for interstellar exploration technologies, the search for habitable planets, the motivations for space travel and colonisation, and the financial mechanisms required to fund such enterprises, he matches a powerful storytelling with the search for profit at any cost. What is missing is – not unexpectedly – any reference to ecology and ethics. I was therefore quite surprised to find the word ‘ethical’ repeated twice in a self-published book by inventor and magician Andrew Mayne (2016), where, however, the word ‘profit’ recurs as many as 31 times. Many authors do mention either ethics or the environment (or both) from different perspectives. To name a few, Robert Sparrow in ‘The Ethics of Terraforming’ denounces ‘arrogant vandalism’ (1999, 227); Richard York in ‘Toward a Martian Land Ethic’ (2005) extends Leopold’s intuitions on land ethics (1949) and argues that ‘it is unjustified to limit the land ethic to the Earth alone’ (2005, 73). James S. J. Schwartz in ‘On the moral permissibility of Terraforming’, on the contrary, produces an anthropocentric argument and insists that ‘On the assumption that the candidate planet is lifeless, nonanthropocentric views have little, if nothing, to say’ (2013, 3). More recently, Matthew S. Williams in ‘Making Green on the Red Planet: How Might We Build an Economy on Mars?’ assumed a more controversial stand: In the coming decades, space agencies and private ventures want to begin sending humans to Mars. Some of these organizations are actively planning on establishing the first human settlement there. With all this planning, it’s fair to say that the idea of colonizing Mars may be moving from the realm of science fiction into the realm of true possibility. However, this also raises all kinds of issues, which go far beyond the usual technical hurdles and cost assessments. There are also valid questions about whether or not humans could survive on Mars in the long-term. And there are ethical questions concerning how humans might transform Mars’ environment - not just through full-scale terraforming, but through any and all alterations to the Martian landscape. [. . .] (Williams 2019) Matthew S. **Williams defines Mars as the ‘new frontier’** **and** declares that ‘Putting aside the many ugly aspects of that phase in our history (i.e. conquest, genocide, and slavery), which are in any case not likely to be replicated on Mars, there is a clear logic to this approach’ (Williams 2019). Not likely is not enough for me, but it is something anyway. Putting aside, on the contrary, continues to bother me. I think that nothing in history can be put aside, forgotten, or forgiven, especially when it caused thousands of deaths. Quite expectedly, the author of the article then embraces billionaire Elon Musk’s techno-utopian attitude, by affirming that the ‘first base’ will be built before 2028, and ‘a full-fledged Martian city with a population of one million inhabitants’ will be completed by 2050 (Ibidem). Williams rejects the traditional harvesting and exporting models and **thinks that ‘**we should be looking to build an economy “from the ground up”’ (Ibidem). On that matter, he quotes a study by Matthew Weinzierl, where we read that colonists should be able ‘to build a local economy and political/social systems from scratch [. . .] After all, **it will be our best chance in human history to create and study economic societies from a** (nearly) **blank slate’** (Weinzierl 2018). **The idea of a ‘blank slate’** – something very similar to Crossley’s ‘tabula rasa’ (2011) – is both disconcerting and naïve, since **it postulates an anthropocentric vision that almost erases the environment** – in this case, Mars – **to a sort of nothingness, or a primaeval matter to be moulded at will**. Apart from mineral extraction, one of the many projects listed by Williams is a travel infrastructure between Earth and Mars that could make round-trips less expensive, including a working fleet of reusable spacecraft. In his own words, ‘This would likely lead to the development of a true interplanetary economy and the end of scarcity as we know it!’ (2019). In reality, the problem known as ‘scarcity’ – which refers to the gap existing between limited resources and theoretically limitless wants – is unlikely to be solved by colonising Mars or other planets, in the same way as the purpose of the New World colonisation in the 17th century was not equality and wellness for all. When he dreams of a booming economy on the red planet Williams seems to echo the botanical metaphor used by De Crèvecoeur about Europeans who migrated to America – ‘they withered, and were mowed down by want, hunger, and war; but now by the power of transplantation, like all other plants they have taken root and flourished!’ (1782) – yet I doubt that a Martian transplantation would assure that resources would be managed so efficiently as to satisfy the basic needs of all people. More likely, scarcity would continue and the gap between the poor and the rich would only increase. One thing is certain: **if humans really want to colonise Mars, they need to avoid producing so much waste and using so much water as they have done on Earth**. This is the mission of the Amsterdam-based social enterprise Circle Economy, an organisation that promotes the transition to a more sustainable economy (Milne 2019). Nonetheless, **sustainability is a minefield** or, at best, a territory with very blurred borders. **Hence the** [. . .] **absolute necessity of adopting a truly sustainable and multidisciplinary vision** which involves a deeply ethical, ecological, and cultural approach. By ethical we mean that **we ought to be aware that a new phase in the Anthropocene has come, since we are challenged to enlarge the semiosphere so as to include the Outer Space, which means proposing new ecosophic paradigms;** by “ecological” we mean that owing to a change in our Umwelt we should follow an ethical management of the environment, that is respectful of Mars territories as well as of those we will continue to inhabit on Earth; by “cultural” we mean that it has to take into account all of the following: the literary narrations of the past, both utopian and dystopian; the intuitions of Sci Fi fandom and scholarship; and the perspective of post- colonial studies, which problematize the cultural legacy of colonialism and imperialism and analyze the consequences of external control and economic exploitation of people and lands. (Barbanti, Calanchi and Farina 2017, 205-06)

#### A Mars colony does nothing to ensure the survival of anyone, and arguments for it ignore the inherent hostility of the planet to human life

Stoner 17 [Ian Stoner, Philosophy @ Saint Paul University, “Humans Should Not Colonize Mars,” Journal of the American Philosophical Association, https://philpapers.org/rec/STOHSN] /Triumph Debate

#### The range of species-level threats addressed by a Mars colony is relatively narrow (York 2002). A Mars colony would not insure against large-scale threats to the solar system, such as nearby supernovae, invading extraterrestrials, or an early expansion of the sun. Nor would it insure against threats we pose to ourselves, such as war and environmental destruction. We carry these threats to ourselves everywhere we go, and we would carry them with us to Mars. A Mars colony would only insure against externally imposed large-scale environmental threats specific to Earth. A colony on Mars would be unmolested by, for example, a Chicxulub-scale asteroid or comet strike on Earth. But is a Mars colony the best way to hedge against this risk? First, note that while it’s relatively easy to imagine an asteroid or comet impact knocking civilization back a few hundred years, it’s genuinely difficult to imagine a sapiens-extincting impact. Con

#### tra-Niven, Chicxulub didn’t kill the dinosaurs because they lacked a space program; it killed them because they lacked blankets. Now, imagine that you have no vested interest in colonizing Mars, and your concern is to do a flinty eyed cost/benefit analysis of various proposals to hedge against asteroid-based threats to civilization and species survival. You’re presented with the following options. The first is the Musk option: invest the resources required to establish a million-person settlement on Mars that might possibly be self-sustaining in the event of a civilization-ending asteroid strike on Earth. Option two: invest in detection and re-direct capabilities for near-Earth objects. Invest in seed arks and hardened knowledge repositories and energy sources. With proper investment we could come close to eliminating the chance of a civilization-ending, let alone a species-ending impact. This course would be cheaper and more effective than establishing a Mars colony. Even if planetary defenses fail and a strike happens, there is virtually nothing an asteroid could do to Earth that would make it as hostile to human life as Mars already is; even Chicxulub II would leave Earth with non-lethal atmospheric pressure, a radiation-blocking magnetic field, and oxygen, all of which Mars lacks. Musk and others promote Mars colonies as required by a cost/benefit analysis of the best way to discharge our obligation to ensure the survival of our species. But their cost/benefit analysis only appears rational because they have carefully loaded the comparison scenarios in a way that guarantees a pro-colonization conclusion. Musk is surely right that colonizing Mars is more prudent, from a species-preservation perspective, than sitting on our hands. But once we supply a third option it is clear that if there is a moral obligation to take instrumentally effective steps to safeguard the species, then investment in planetary defense and civilization protection, 6 not Mars colonization, is what is morally required (Baum 2016). This conclusion is not a consequence of pinchpenny aerospace budgets forcing a hard choice between promising options. If the goal is species survival, and given that the Martian environment is much less survivable than even a post-strike Earth would be, then there is no remotely realistic budget point at which the marginal dollar would be more effectively spent on Mars colonization than on protecting Earth and the creatures and civilizations that evolved to live within its shelters.Private colonization risks extinction of other species and eliminates their chance to develop intelligent life

**Belluomini 14** [ Lance Belluomini, Philosopher and contributor to books including Inception and Philosophy, December 11th 2014, “Interstellar and Philosophy: The Ethics of Space Colonization”, Blackwell Philosophy and Pop Culture Series, <https://andphilosophy.com/2014/12/11/interstellar-and-philosophy/> ] // Triumph Debate

The topic of claiming property raises another issue. Consider the English Colonialism that existed a few centuries ago. Was it morally permissible for foreigners to settle on lands that were being occupied by the indigenous nomadic people of this country? The influential political philosopher John Locke (1632 – 1704) actually defended English colonialism in America in his Second Treatise of Government. Locke believed that if you cultivate a piece of land and use it productively through the labor of your body, you thereby make the land your individual property. Since the indigenous nomads didn’t claim their lands by adding their labor to it (for instance, they didn’t build homes), Locke didn’t think they could properly be regarded as property owners over the lands they roamed. (This seems a good example of how bias can motivate philosophical conclusions, even in the best philosophers.) In Interstellar, the Endurance and Lazarus teams are not unlike the colonialists. Thanks to the bulk beings, they have an opportunity to start a new world. While there are likely no indigenous nomadic people on Edmunds’ planet, there’s a high probability that native life forms exist, possibly millions of microbial and plant species. Does the land belong to those life forms even if they can’t lay claim to the land? Locke would say no. Those life forms can’t make the land their property because they can’t add their labor to the land. So perhaps it’s morally permissible for Amelia to seize their land and create settlements. However, those that defend the Star Trekkian Prime Directive rule would disagree. **Seizing their land would certainly affect those other life forms that are evolving on the planet.** But isn’t the survival of the human race paramount? Most of us would answer “yes.” Interstellar emphasizes the importance of thinking “not as individuals but as a species” and that there’s an inevitability to human evolution. But **what makes the human race more intrinsically valuable than other intelligent species that could eventually evolve** on Edmunds’ planet? **It doesn’t seem that humans have a right to supplant that planet’s life prospects in favor of their own. Doesn’t the potential intelligent species there deserve a shot at being better than us?** Further, maybe the survival of the human race isn’t paramount. **Perhaps, the human species has lost the right to survive.** **Consider what we’ve done as a species. Industry, agriculture, and vehicle emissions have caused air pollution. We’ve allowed bacteria and toxic substances into our drinking water. We’ve polluted our ocean waters and destroyed rainforests. Scientists agree that the greenhouse gases we’ve produced have caused global warming. We continue to put toxic carcinogenic material and different species of chemicals into landfills which harm people and the environment.** **And it’s overpopulation that is responsible for many of our environmental problems given the non-renewable resources needed to support population growth. If we really do one day render our planet uninhabitable, wouldn’t we have lost our right to survive—and thus the right to colonize new planets?** For those still unconvinced, **what’s to prevent these environmental problems on Earth we’ve caused from following us into outer space? After all, human history has a tendency of repeating itself.** In Interstellar, even if Amelia’s NASA team has a well thought out prevention plan to protect their new biosphere, it’s hard to believe her colony could avoid the same mistakes made on Earth. Edmund’s planet wouldn’t change mankind’s tendency to overpopulate, destroy and pollute. Think what life would be like there in 10,000 or so years—when the conditions that drove us away from Earth are a distant memory.

## 2 – Mining

#### There are too many unknowns to claim asteroid mining is neutral: contamination threats have been unexamined

Loder 18 [Reed Elizabeth Loder, Law @ Vermont Law School, “Asteroid Mining: Ecological Jurisprudence Beyond Earth” Virginia Environmental Law Journal <https://www.jstor.org/stable/26510760>] /Triumph Debate

The Space Act takes advantage of a regulation-free environment to allow early exploiters to identify needed limits, which is unjustified for numerous reasons. **For all of the uncertainties on Earth about the long term** and remote effects of tampering with the environment, **the unknowns in space are orders of magnitude greater**. **Scientists know very little about the composition of unvisited space bodies and even less about** the **possible interactions of activities in space**. Private **corporations**, however, **have primary legal obligations to shareholder profits and thus too narrow a** legal **perspective to make judgments that consider the overall public good and the long-term consequences of their actions**.107 For the same reason, corporations are inappropriately situated to craft property-sharing schemes that respect international interests and to place greater value on general scientific significance than corporate potential. Specifically,

**some of the target bodies may contain unknown material that could help to explain the origins of microbial life in mineral environments**.108 **Asteroids may not turn out to be “lifeless rocks**,”109 **but instead may contain irreplaceable information** that can add to humanity’s knowledge of life. Yet, **it is not possible to anticipate when a landing and retrieval project would disrupt material of scientific importance. Private control of asteroids also presents the risk of “backward contamination,”** in retrieving space matter and bringing it to Earth.110 So far we have charged mostly public agents with managing this risk.111 The OST and Liability Treaty also create public financial incentives to instill care by holding responsible the state that launches a craft or from whose territory the launch occurs.112 **The OST also covers “forward contamination,” which is contamination affecting the target celestial bodies**.113 **The Space Act invites private visitors to scarify unexplored places but provides no mechanisms to monitor and control the potential for microbial contamination** of those places. These are just a few of the uncertainties, risks, and corporate disabilities that infect the idea of private property in asteroid resources. The central ethical questions of how to handle vast uncertainties and risks are hard enough to decide on Earth but are both novel and daunting beyond. Self-interested parties should not be deciding (or ignoring) these formidable questions. Equally concerning, mining asteroids magnifies the risks of disrupting space processes. **Deep Space Industries scientist** John **Lewis implies that mining gets a bad name because of its highly invasive nature on Earth**, where valuable minerals are deep in the Earth’s core and difficult to extract without heavy equipment and chemical processes.114 **Because asteroids never differentiated into layers**, metals and other material are available mostly at the surface and **require less invasive extractive methods in a low gravity atmosphere**. According to Lewis, this makes launching and removals less cumbersome.115 Yet, **the same low-gravity atmosphere will require experimental methods to secure any mining equipment to the asteroid body,** which Lewis admits will be a process of trial and error that may involve the entire asteroid.116 Moreover, **asteroid prospectors** like Lewis **know too little at this point about which asteroids might have value** in terms of accessibility and composition to develop specific methods of extraction or in situ production of resources have not yet been developed. **It is premature to pronounce**, therefore, **that the environmental damage of asteroid mining should not be a concern**. Some recommend a moratorium on this exploration so that further study may be done on the asteroids humans intend to exploit.117 Such a freeze would be limited and would not preclude the slow return of samples from the NASA OSIRIS project,118 a carefully planned and controlled public endeavor. Company representatives seeking a competitive private race to any reachable asteroids have responded to a moratorium proposal by claiming that the public can neither afford to delay space exploration and lose vital access to water for extraterrestrial residence and rocket fuel,119 nor wait for precious metals on Earth to dwindle or run out, increasing environmental damage and human conflict.120 **Those who argue that immediate property rights are the only way to reduce environmental harm from mining overlook unpredictable harms** from their own endeavors. Those who declare they are owed financial incentives to spur innovative explorations fail to acknowledge their incalculable debt to years of public and international investment and effort. They disregard their nation’s treaty commitments to a more equitable and inclusive use of outer space. **Whatever system for allocating priorities develops, caution must be a pervasive principle**. The gaps in knowledge about the universe are huge and may never be surmounted.121 **Despite humanity’s scientific and technological prowess and achievements, a property framework that accelerates action over understanding, via first in time, regulation-free competition, is a reckless idea**.

#### Space mining destroys the African economy

Oni 19 [(David, a space industry and technology analyst at Space in Africa. He’s a graduate of Mining Engineering from the Federal University of Technology Akure.) “The Effect of Asteroid Mining on Mining Activities in Africa,” Africa News, 9/24/19, <https://africanews.space/the-effect-of-asteroid-mining-on-mining-activities-in-africa/>]

At the moment, Asteroid mining poses no threat to terrestrial mining; however, this will not hold for long. The space industry is progressing at such a rapid pace, and the prospects are unequivocally mouth-watering. The big question is, will asteroid mining lure away investors in Africa? The planetary resources company estimates that a single 30-m asteroid may contain 30 billion dollars in platinum alone and a 500m rock could contain half the entire world resources of PGM. Considering the abundance of minerals in asteroids, once asteroid mining materialises, it will severely affect the precious metals market, usurp the prices of rare earth minerals, and a whole lot more because minerals that are usually somewhat scarce on earth will be easily accessible on asteroids. While foreign investors run the majority of the large-scale mining activities in the region, reports say that many African countries are dangerously dependent on mining activities. For some African countries, despite massive mineral wealth, their mining sectors are underdeveloped, and this is as a result of much focus on oil resources and a couple of other challenges. The million-dollar question is, what will become of the mining activities in Africa?

#### Economic decline causes Africa war

Tollefsen 17 [(Andreas Forø, Peace Research Institute Oslo (PRIO) and Ph.D. in Human Geography from the University of Oslo) “Experienced poverty and local conflict violence," Conflict Management and Peace Science, 12/21/17, <https://www.researchgate.net/publication/320740608_Experienced_poverty_and_local_conflict_violence>]

Civil wars are more frequent than any other type of conflict in the modern era, with the majority occurring in low-income countries (Hegre and Sambanis, 2006; Jakobsen et al., 2013). While most country-level studies find that poverty and inadequate economic development increase the risk of conflict—a relationship that appears to be causal (Braithwaite et al., 2016)—we lack consensus on the precise mechanisms driving this phenomenon (Justino, 2009). Researchers have explained a correlation between low GDP per capita and conflict using diverse hypotheses, including lowered opportunity costs for individuals to rebel (Collier et al., 2009) and responses to a state’s weak capacity (Fearon and Laitin, 2003).

However, as argued by Hegre (2016), development’s highly correlated indicators make it difficult to distinguish between the theoretical mechanisms underlying the development– conflict nexus. Moreover, previously proposed models often represent processes operating on various geographical scales at individual, group, and state levels. Few researchers have backed up theoretical expectations with data at scientifically fitting levels of analysis, consequently ignoring intra-country variations of explanatory variables and outcomes. Furthermore, aggregated measures are incapable of capturing significant variations in economic conditions (Elbers et al., 2003) and conflict intensity (Rustad et al., 2011) within countries. In addition, conflict areas are, in general, atypical of a nation as a whole (Buhaug and Lujala, 2005), which calls for a subnational level analysis.

Addressing these disconnects—and the fact that most conflict operates at a local level (Rustad et al., 2011)—a recent body of studies has focused on how subnational variations in poverty determine the locations within a country where conflicts break out (Buhaug et al., 2011; Hegre et al., 2009; Østby et al., 2009). To date, their findings are largely mixed, with no consensus yet on strength, direction, or mechanisms behind the relationship. The problem here may be the use of varying proxies for poverty that are only loosely linked to the rationale for conflict and/or insufficient attention on the local sociopolitical context.

The present study’s empirical contributions seek to help rectify the inadequate measures of poverty that have come to characterize the literature. To begin with, the article improves our understanding of whether and where a local poverty–conflict nexus exists by deploying experiential data on individuals’ actual wellbeing—which I argue is more closely connected to people’s motives and rationale for taking up arms. Second, the article examines the sociopolitical context’s conditioning effect on the poverty–conflict nexus. This is achieved by including data on individuals’ perceptions surrounding the quality of their local institutions, the presence of group grievances, and local unemployment rates. These factors, I argue, are more closely linked to reasons for fighting than are common proxies such as night-time luminosity and estimates of economic activity, both of which are often derived from dividing GDP per capita by local population counts.

Poverty—a state in which individuals’ basic needs go unmet—has been shown to motivate people to join rebellions. Humphreys and Weinstein (2008), for instance, found that poverty predicted inscription in the Revolutionary United Front during Sierra Leone’s civil war. Barrett (2011) similarly saw how promises of loot lured the poor to enlist in the 1997– 1998 dispute in Nigeria’s local government area known as Toto. Combatants of the Toto conflict were also more likely to join the rebellion if they stood to gain personal protection, food, and shelter.

For the present study, I developed a dataset by aggregating survey responses from the pan-African Afrobarometer survey to subnational districts and combining the results with information on post-survey violent conflicts. The dataset consists of 4008 subnational districts, spanning 35 African countries. As most districts were only assessed once, thus restricting study of within-unit variation, survey responses were also aggregated to higher-order subnational regions, resulting in a dataset of 111 regions that were surveyed at least twice; this permitted a region-level fixed-effects model design.

Using a pooled cross-sectional dataset of districts, I found that high levels of poverty were linked to increases in local conflict-based violence. Districts with a large share of poor individuals, both in absolute terms and relative to country average, had a higher risk ofconflict than more affluent areas. This relationship held in a coarsened exact matching setup, as well as in a region-level fixed effects design with repeated measurements across time. While the results reveal a local poverty–conflict link, they do not aid in uncovering underlying mechanisms.

Using interactions models, I found that poverty increased the risk of conflict, although only where local institutions are weak. The results also show that poverty-stricken areas in which individuals strongly perceive group injustice have a greater risk of conflict than similarly impoverished regions with no aggrieved population. A departure from the local individual opportunity cost explanation, local economic opportunities do not seem to condition the poverty–conflict nexus. In sum, the results suggest that while poverty is significantly connected to conflict, high-quality institutions and inclusiveness of ethnic groups can prevent violence. Although a wide range of robustness checks and alternative model specifications were implemented, including matching and fixed-effects models, the issue of endogeneity could not be ruled out; doing so would require some kind of exogenous instrument, which I have been unable to identify.

The remainder of this article elaborates on the theoretical framework linking subnational poverty to local conflict-based violence. This is followed by a discussion of existing methods for measuring local poverty and their potential shortcomings. Next presented is the study’s research design and modeling strategy, followed by a discussion of empirical results. The conclusion considers the study’s limitations and proposes avenues for future research on poverty in locations that support rebel groups.

Poverty and conflict

A direct link

A connection between low income and risk of conflict is among the most robust findings in the literature on civil wars (Hegre and Sambanis, 2006). However, there is little consensus on the mechanisms through which poverty may produce conflict. Collier and Hoeffler (1998) claimed that low per-capita income lowers the opportunity cost of rebellion because when they have less to lose from taking up arms, poorer individuals become more inclined to rebel. Fearon and Laitin (2003) observed that poorer countries experience more conflict because they are unable to monitor and control all of their territory, thereby creating pockets of hospitable conditions for insurgents; Tollefsen and Buhaug (2015) identified a similar scenario at the local level.

## 3 – Debris Cascades

#### Mega-constellations are coming now – space companies are planning to launch thousands of satellites – even low failure rates cause massive debris fields in orbit

Mcfall-Johnsen 20 [Morgan Mcfall-Johnsen, science reporter at Insider with a Bachelor of Science in Journalism from Northwestern University, 11-3-2020, "About 1 in 40 of SpaceX's Starlink satellites may have failed. That's not too bad, but across a 42,000-spacecraft constellation it could spark a crisis.," Business Insider, https://www.businessinsider.com/spacex-starlink-internet-satellites-percent-failure-rate-space-debris-risk-2020-10[/Kankee

SpaceX is launching satellites into space by the dozens to realize Starlink, a globe-encircling constellation of spacecraft that beam affordable, high-speed internet across Earth. So far, the scheme — envisioned by SpaceX founder Elon Musk in 2015 — seems to be working. The aerospace company has even opened a public beta test across the northern US and southern Canada for $99 a month, plus $499 for a startup kit. "Other countries to follow as soon as we receive regulatory approval," Musk tweeted on October 8. However, the unprecedented project has left a trail of seemingly unresponsive spacecraft in its wake. All of the satellites are designed to be maneuverable in space using an ion engine, and even deorbit themselves to burn up in Earth's atmosphere. But satellites with malfunctioning communication or propulsion systems can fly uncontrolled and pose a hazard to other satellites, and even astronauts, circling Earth. SpaceX launched its first batch of 60 prototypes in May 2019 and, to date, has flown 895 total Starlink internet satellites. But so far around 2.5% of those spacecraft may have failed, according to data collected by Jonathan McDowell, an astronomer at the Harvard-Smithsonian Center for Astrophysics. "I would say their failure rate is not egregious," McDowell told Business Insider in early October. "It's not worse than anybody else's failure rates. The concern is that even a normal failure rate in such a huge constellation is going to end up with a lot of bad space junk." Some of those failures may be intentional tests, but how many (if any) is not publicly known because SpaceX hasn't released such information. As a result, astronomers like McDowell have resorted to analyzing satellite-movement data gleaned from SpaceX and the US government, showing which Starlink satellites have fallen back toward Earth and which ones are not maneuvering. (McDowell's failure calculations do not include 45 "version 0.9" satellites that SpaceX is known to have intentionally deorbited.) Before the end of October, McDowell was measuring a 3% apparent failure rate, but a recent reanalysis indicates improvement in the newest Starlink batches. Of the last 413 "version 1.0" satellites, only one appears to have died, giving these batches a failure rate of just 0.2%. Still, McDowell notes that many of these satellites have only been in space for a few months, so more of them are likely to fail going forward. "Nevertheless it does seem that the reliability of the satellites has noticeably increased," he tweeted on October 29. SpaceX has permission from the US government to launch nearly 12,000 Starlink satellites through 2027, though it's asked to launch 30,000 more for a total of nearly 42,000. In either case, SpaceX is on track to form a "megaconstellation" that outnumbers all prior spacecraft ever launched by humanity. If 3% of the maximum planned Starlink constellation fails, that could mean 1,260 dead, 550-pound satellites the size of a desk aimlessly circling the planet. A 2.5% failure rate could mean more than 1,000 inoperative spacecraft. There were about 3,200 nonfunctional satellites in Earth's orbit as of February, according to the European Space Agency. Many of these dead spacecraft regularly threaten to collide with others and create a space-debris crisis. In mid October, for example, satellite trackers flagged a "very high risk" close pass between a dead satellite and a discarded rocket body, with one company calculating a 10% chance of collision. (Fortunately, they didn't.) SpaceX says its satellites will naturally deorbit, or burn up in Earth's atmosphere, if their propulsion systems don't work. But that process can take up to five years, according to Starlink's website. In the meantime, defunct satellites rocket around Earth faster than a bullet, with nobody to steer them away from other spacecraft that may fly in their path. SpaceX did not acknowledge Business Insider's requests for comment. However, in filings to the Federal Communications Commission, SpaceX has downplayed the risk, stating that it "views satellite failure to deorbit rates of 10 or 5 percent as unacceptable, and even a rate of 1 percent is unlikely." If 1% of its satellites did fail with no capacity to maneuver, the company said, "there is approximately a 1 percent chance per decade that any failed SpaceX satellite would collide with a piece of tracked debris." The company also claimed that its practices "effectively eliminate the chance that such rates will ever occur." Dead satellites can collide and build up a space-debris crisisSpaceX is not alone in pushing to launch large numbers of internet satellites. OneWeb, which the UK government recently purchased out of bankruptcy, has already launched 74 satellites for its proposed constellation of 48,000, while Amazon aims to launch more than 3,200 for its Kuiper fleet. It's unclear how many dead satellites those constellations might also leave in orbit. Since nobody can maneuver them, failed satellites sometimes hurtle toward other spacecraft — including the International Space Station and its crew of astronauts. Even if a satellite crashes into another satellite with no humans on board, it can create perilous conditions. "We replace two satellites with essentially two shotgun blasts of debris," Dan Ceperley, the CEO of satellite-tracking company LeoLabs, told Business Insider in January. That month, two dead satellites almost crossed paths and exploded into hundreds of thousands of bits of debris. It wouldn't have been the first such explosion, and it doesn't take many to exacerbate the debris problem. In 2007, China tested an anti-satellite missile by obliterating one of its own weather satellites. Two years later, one American and one Russian spacecraft accidentally collided. Those two events alone increased the amount of large debris in low-Earth orbit by about 70%. India conducted its own anti-satellite missile test in 2019, and the explosion created an estimated 6,500 pieces of debris larger than an eraser. All in all, more than 500 such "fragmentation events" have created nearly 130 million bits of debris in Earth's orbit. Those chunks of debris zip around the planet at more than 17,500 mph, or roughly 10 times the speed of a bullet. That's not only a problem for robotic spacecraft, but ones carrying people. Just last month, a piece of debris careened within a mile of the football field-sized space laboratory. To avoid a collision, mission controllers fired the thrusters of an attached Russian cargo spaceship to maneuver the station out of possible harm's way. The three crew members sealed themselves inside an ISS segment with a Soyuz spaceship, so they could escape if the debris struck. If the space-junk problem gets extreme, a chain of collisions could spiral out of control and surround Earth in a practically impassable field of debris. This possibility is known as the Kessler syndrome, after Donald J. Kessler, who worked for NASA's Johnson Space Center and calculated in a 1978 paper that it could take hundreds or even thousands of years for such debris to clear up enough to make spaceflight safe again. "It is a long-term effect that takes place over decades and centuries," Ted Muelhaupt, who leads The Aerospace Corporation's satellite system analysis, previously told Business Insider. "Anything that makes a lot of debris is going to increase that risk." The sheer number of objects in Earth's orbit may already be having a Kessler-like effect, as Rocket Lab CEO Peter Beck described last week."This has a massive impact on the launch side," he told CNN Business, adding that rockets "have to try and weave their way up in between these [satellite] constellations." Starlink is already a space-debris hazard SpaceX has barely launched 2% of its planned constellation, but it has already had a close call. In September 2019, the European Space Agency had to maneuver one of its spacecraft at the last minute to avoid possibly colliding with a Starlink satellite. The chance of that crash was 1 in 1,000. While that may sound low, NASA routinely moves the ISS for chances of 1 in 100,000. The ESA said it had to move its satellite because SpaceX had "no plan to take action." SpaceX said it missed the ESA emails about the issue due to a "bug" in its communications systems. Overall, close approaches like that seem to be happening more frequently. "We are seeing recently a decided uptick in the number of conjunctions," Dan Oltrogge, an astrodynamicist at Analytical Graphics, Inc, where he uses a software that has been assessing conjunction data since 2005, told Business Insider. "And it looks to be very well aligned with the new large-constellation spacecraft that have been launched." As new satellite constellations launch, regulatory agencies like the FCC may need to evaluate how many dead spacecraft they're willing to accept. "What is an acceptable failure rate?" McDowell said. "That, I'm maybe not competent to have an opinion on."

#### Aff requires the cleanup of space debris created by companies

Muñoz-Patchen 18 [Chelsea Muñoz-Patchen, J.D. Candidate at The University of Chicago Law School, 2018, “Regulating the Space Commons: Treating Space Debris as Abandoned Property in Violation of the Outer Space Treaty,” Chicago Journal of International Law, https://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=1741&context=cjil]/Kankee

. Failing to Clean Up Space Debris Violates These Legal Principles If one considers the orbital space taken up by debris and the collision threat posed by debris, it becomes hard to claim that states are not violating the basic norms of spacefaring. Debris and other nonfunctional objects serving no useful purpose take up orbital space, which could be used by other nations. If, or when, the Kessler Syndrome cascade is reached, the contributing nations will have made segments of Earth’s orbit unusable for any nation. Thus, according to some scholars, the very existence of space debris is illegal internationally according to the initial Outer Space Treaty of 1967.147 They suggest that this treaty, which “states that all activities must be carried on for the ‘benefit and interests of all countries,’ and that outer space shall never be subject to national appropriation” is now part of customary international space law.148 They argue that leaving space debris violates Principle 21 of the 1972 Stockholm Declaration which allows states to exploit their resources pursuant to their own environmental policies, provided that their activities do not cause damage to areas beyond their national jurisdiction. Thus, a defunct satellite or space debris left behind in any orbit violates the Outer Space Treaty because: (a) it does not produce a benefit for mankind; (b) its use is not in the interest of all countries; and (c) it occupies a portion of space, causing national appropriation.149 Even short of a cascade removing or limiting the availability of space debris can, and indeed has, begun to affect the use of space. As described earlier, debris has caused the ISS and other space objects to use fuel to avoid collisions or risk the destruction of their craft and loss of life.150 There is already crowding in the geostationary orbit, used especially for communications satellites, causing fear of collisions and signal overlap.151 Initial access to space has been delayed because the launches of new spacecraft have had to be held back due to the risk of debris in their path.152 Other protective measures that spacefaring nations are contemplating include launching with more fuel to allow for avoidance maneuvers and protective shields—both of which cost money and add extra weight, requiring more fuel.153 These protective measures, which must be added due to the conduct of existing spacefaring nations, serve as an extra barrier to space access by increasing the cost of space operations. Thus, states creating debris violate other nations’ right to use space as enshrined in the space treaty regime, and they violate their own obligations to not appropriate space. C. Using Market -Share Liability to Implement the Obligation to Clean Up Space Debris

#### Large constellations cause debris cascades

Murtaza et al. 20 [Abid Murtaza, educator at the School of Electronic and Information Engineering at Beihang University pursuing a Ph.D. in space technology applications with Beihang University, Syed Jahanzeb Hussain Pirzada, educator at the School of Cyber Science and Technology at Beihang University pursuing a Ph.D. in space technology applications with Beihang University, Tongge Xu, Associate Professor with the School of Cyber Science and Technology at Beihang University, and Liu Jianwei, educator at the School of Electronic and Information Engineering at Beihang University, 03-09-2020, “Orbital Debris Threat for Space Sustainability and Way Forward (Review Article),” IEEE, https://ieeexplore.ieee.org/abstract/document/9028136]/Kankee

Despite the potential as mentioned above, the big question on their impact on the space debris environment has also become the most critical concern for every space concern entity. Concerning the space debris collision threat, SpaceX and OneWeb have both selected an altitude (above 1100 km) that is less densely populated. Additionally, both have told the FCC that their constellation will comply with international mitigation standards, such as reentry to earth Earth’s atmosphere being accomplished within approximately one year after completion of their mission. Additionally, OneWeb’s Orbital Debris Mitigation Plan reports that the probability of a OneWeb satellite becoming disabled as a result of collisions with small debris is 0.003, while SpaceX stated that “there is approximately 1% chance per decade that, any failed SpaceX satellite would collide with a piece of tracked debris” [97]. Apart from the claims of SpaceX and OneWeb, some studies have been performed to understand the effect of these constellations on the space environment and the reliability and collision possibilities of the mega constellation with this populated debris environment [10], [98], [99]. A study shows that there is substantial uncertainty in the prediction of the reliability of mega constellation satellites, with considerable risk to the space environment. This is because much of the information about mega constellation satellites, including the detailed designs, is not available [10]. Another recent study shows that a high probability exists for the occurrence of at least one catastrophic collision, i.e., 5% for OneWeb and 45.8% for SpaceX constellations, during an operational phase of 5 years [97]. The study [98] showed that it was estimated that an impact of approximately 3 cm in diameter would lead to a catastrophic collision of a OneWeb sized satellite, while the proposed size of a SpaceX constellation satellite is larger than a OneWeb satellite. The study also shows that the satellites in the constellation would have a 35% probability of fragmenting during the described mission lifecycle catastrophically. Thus, what we can confidently say is that despite the claims of mega constellation proposers, there are serious concerns, doubts, and uncertainty about the interaction of debris and satellites in mega constellations that exist. NASA has recently completed a parametric study to understand how significantly proposed large satellite constellation can contribute to the existing orbital debris problem. The objective was to quantify the potential negative debris-generation effects from mega constellation to the LEO environment and provide recommendations for mitigation measures [99]. The results show that for the 25-year decay rule at the end of their missions, with a 90% reliability of post-mission disposal, the additional debris population increase with respect to that without these big constellations is approximately 290% in 200 years. Even with 95% post-mission disposal reliability for the mega constellation spacecraft, the additional population increase is still close to 100% as shown in Fig. 12. While with 99% post-mission disposal, the additional population increase is reduced to 22%. The cumulative numbers of catastrophic collisions are shown in Fig. 13, which shows that in 90% scenario a non-linear increase from 27 to a total of 260 catastrophic collisions in 200 years. In 95% scenario, the total number of catastrophic collisions is 90 in 200 years. Based on results from this study NASA recommended that 99% spacecraft PMD reliability is needed to mitigate the serious long-term debris generation potential from mega constellation similar in scope to the study scenarios. Besides this, there are many aspects which are nevertheless not under the control of anyone, such as a collision of two large retired satellites or rocket bodies. Additionally, there could be many hypothetical scenarios that could lead to a catastrophic collision. For example, the accuracy error in tracking the debris data thorough SSN, the human or technical errors in estimated the timing of the collision threats, failure in a collision avoidance maneuver by satellites due to onboard control problems or anomalies in the propulsion system, and any deliberate political reasons and so on. Additionally, so far there is no legal restriction of using ASAT. So, what if the use of ASAT continues in future just like India did recently? Also what if the war between two advanced nations extends from ground to space that could result in the use of ASAT weapons to destroy the satellites of enemies? Thus, the argument is that there could be any reason for a catastrophic collision, and one or more such accident could make the situation worse, which would have severe consequences for everyone especially such as Kessler syndrome. Hence, we can say that mega constellation projects, despite their potential benefits are not going to help in improving debris and space environment in any way; instead, fair chances of worsening of debris and space environment can be envisioned from the above discussion. It might be negligence if we deliberately continue to underestimate debris challenge and its potential threat to the space environment in the future. SECTION VII.Legal and Regulatory Issues

#### Debris cascades cause US-Russia war

Barrett 16 [Anthony Barrett, Cofounder and director of research of the Global Catastrophic Risk Institute and senior risk analyst at ABS Consulting, 2016, “False Alarms, True Dangers? Current and Future Risks of Inadvertent U.S.-Russian Nuclear War” https://www.semanticscholar.org/paper/False-Alarms%2C-True-Dangers-Current-and-Future-Risks-Barrett/dbc441aca0ddacb96598f78cfec7306ea85d1f71//]/Kankee

This scenario could take place over the next three years: Falling oil and gas prices make it difficult for Russia to maintain its early warning system components. One of the northern-facing Russian radars begins failing some of its reliability tests, and a month later the Russian early warning satellite constellation loses its only geostationary satellite. A combination of technical problems and budget pressures prevent either a radar overhaul or a launch of a replacement satellite for at least a year. Two months after the geostationary satellite loss, one of several remaining Russian early warning satellites in a highly elliptical Molniya orbit detects flares of some kind in the area of the ICBM fields in the northern United States. At that moment, the satellite is the only component of the Russian early warning satellite constellation that is in an orbital position allowing it to see the northern United States. The satellite cannot immediately determine whether the flares are due to launches at ICBM bases or to something else, such as fires at oil or gas facilities in the same region, or perhaps the reflection of sunlight off high-altitude clouds. The satellite is able to transmit its flare-detection signal to other parts of the Russian early warning system, alerting system operators in Russia. However, the Russian satellite is then struck, by orbital debris and it instantly ceases communication with Russian early warning system operators. Russian early warning system operators must quickly decide what to tell their leaders. Did the satellite detect a launch of U.S. ICBMs? Was the loss of communications capabilities caused by sabotage? Could Russian radar systems rule out the possibility of incoming ICBMs? These questions could be quite serious during a period of seeming calm between the United States and Russia, but they would be especially urgent during a period of heightened tension or crisis. This Perspective represents the various pathways for a false alarm scenario for both nations in one fault tree (Figure 1), given the assumption that both Russia and the United States have similar procedures to respond to early warning alarms and use roughly analogous categories of low-, mid-, and high-level alarm events. The outcome of concern here, of course, is the launch of nuclear missiles when one country mistakenly concludes that it is under attack by the other. As shown in the second level of the tree, a launch in response to a false alarm could occur either during a U.S.-Russian crisis or during a period of low tension. The next layer in the tree shows that a launch in response to a false alarm could occur if a midlevel false alarm is promoted to a high level and involves senior national leadership who choose a launch response. Each of those steps in the decision process for false alarms has an associated node in the fault tree that is a key risk factor in the model. That all applies to both crisis and noncrisis periods. However, as is shown farther down the tree, during crisis conditions, the effective total rate of false alarms includes both midlevel false alarm events and any low-level events whose resolution (identification as a false alarm) cannot be completed before the “use them or lose them” point where a launch response decision needs to be made by leaders.1

#### Reentry of satellites causes ozone depletion and climate change

Organski et al. 21 [Lee Organski, graduate Aerospace Engineering student at Purdue University, Cayman Barber, Shawn Barkfelt, Madison Hobbs, Roy Nakagawa, Dr. Martin Ross, Dr. William Ailor, 2021, “Environmental Impacts of Satellites from Launch to Deorbit and the Green New Deal for the Space Enterprise,” Aerospace Corporation, https://aas.org/sites/default/files/2021-03/Viasat%20Ex%20Parte.pdf.pdf]/Kankee

\*\*\*GG: gigagram, 1000 grams or 1 metric ton

Conclusion There is substantial research and analysis focused on what may remain upon reentry and survive to reach the surface, but there is ostensibly no research into what happens to the remainder. Due to proposed mega constellations, we estimate the future annual mass flux of satellites to reenter the atmosphere to be 0.8 to 3.2 Gg, plus up to 1.0 Gg per year of launch vehicle mass needed to maintain these constellations, bringing a worst-case estimate to 4.2 Gg per year. It is concluded that the marked increase in these pollutants calls for the close tracking of mass flux, further research on the particulate distribution and radiative forcing, general research into reentry physics, and a study of possible solutions to mitigate the issue. With the potential for broad environmental policy in coming years, it is important to consider how such policy would extend to regulate and quantify the environmental impacts of the space enterprise. Mass Flux from Deorbit The max flux of future reentries is an order-of-magnitude issue, even when compared to peak reentry flux over the entire course of human spaceflight. An estimated 60% of rocket bodies and 60-90% of satellite mass is expected to burn up upon reentry, with aluminum likely making up much of the burnt-off mass (Ailor et al., 2019). As upper stratospheric pressures range below 100 Pa, the boiling point of aluminum could be around 1330 deg C, well within range of reentry temperatures (Li et al. 2019) such that aluminum could be vaporized or ignited to form aluminum oxides during reentry. Radiative Forcing and Ozone For a four-year residency time of reentry particulate, global residencies of alumina could reach up to 10 Gg at the steady state of mass satellite constellations. In this case, radiative forcing caused by reentering satellite particulate has the capability to warm Earth’s atmosphere

, but without precise modeling, the exact extent is unknown. Reentering space debris' ability to deplete ozone also poses a global threat because as it increases, so does ozone depletion from launch. The aircraft industry, despite having about the same relative impact on radiative forcing as rockets have on ozone depletion, is under policy pressure in the form of carbon taxes in an effort to reduce its impact (Ross et al. 2009). Satellite Reentry Distribution With the substantial burden of sub-micron particles entering the atmosphere, it is also possibly of importance to understand the distribution of the reentries of satellites with respect to the latitude. While stratospheric circulation will likely redistribute particles in a difficult-to-predict manner, the initial loading latitudes may play a significant role in how heat is displaced. It is recommended to further investigate the impact of latitudinal distributions of reentries on a larger climate model. Top 10 Upcoming LEO Constellations

## 1AC – Spillover

#### 1] More community and environmental focus in space spills over to Earth law

Loder 18 [Reed Elizabeth Loder, Law @ Vermont Law School, “Asteroid Mining: Ecological Jurisprudence Beyond Earth” Virginia Environmental Law Journal <https://www.jstor.org/stable/26510760>] /Triumph Debate

**Although Earth Jurisprudence advocates an ecocentric approach** that aspires to restore and preserve Earth systems and processes, its **language frequently strays beyond planetary boundaries**. Principles of quantum physics apply to the universe as a whole, and **the common origins of our solar system**,138 **planet, and life itself invite**, and even demand, **a broader frame of reference. Given the challenges of rewriting embedded laws** and dispelling longstanding ideas about human separation and superiority on Earth, **it is no wonder that proponents could be wary about expanding these ideas to outer space**. In some respects, **however, outer space might be an easier platform for reforming our thinking because there are fewer conceptual obstacles** to overcome