# 1

#### Counterplan: We endorse the 1AC’s militarism methodology without the focus on the plan. To clarify, this is a PIC out of the 1AC’s plan focus.

#### Colonialism cannot be theorized through the affirmative’s lens of state action – geopolitics, not biopolitics, is the critical factor that grounds the metapolitical authority of the state to determine what counts as a political issue and what is self-evidently natural –colonialism transcends racial violence of individual bare lives and fosters a generalized state of bare habitance. The aff’s focus on international politics glosses over the problems within it’s own land. **Rifkin 9**

Mark Rifkin, Associate Professor of English & WGS @ UNC-Greensboro “Indigenizing Agamben: Rethinking Sovereignty in Light of the ‘Peculiar’ Status of Native Peoples,” Cultural Critique, Number 73, pp. 88-124

In using Agamben’s work to address U.S. Indian policy, though, it needs to be reworked. In particular, his emphasis on biopolitics tends to come at the expense of a discussion of geopolitics, the production of race supplanting the production of space as a way of envisioning the work of the sovereignty he critiques, and while his concept of the exception has been immensely influential in contemporary scholar- ship and cultural criticism, such accounts largely have left aside discussion of Indigenous peoples. Attending to Native peoples’ position within settler-state sovereignties requires investigating and adjusting three aspects of Agamben’s thinking: the persistent inside/outside tropology he uses to address the exception, specifically the ways it serves as a metaphor divorced from territoriality; the notion of “bare life” as the basis of the exception, especially the individualizing ways that he uses that concept; and the implicit depiction of sovereignty as a self-confident exercise of authority free from anxiety over the legitimacy of state actions.5 Such revision allows for a reconsideration of the “zone of indistinction” produced by and within sovereignty, opening up analysis of the ways settler-states regulate not only proper kinds of embodiment (“bare life”) but also legitimate modes of collectivity and occupancy—what I will call bare habitance.¶ If the “overriding sovereignty” of the United States is predicated on the creation of a state of exception, then the struggle for sovereignty by Native peoples can be envisioned as less about control of particular policy domains than of metapolitical authority—the ability to define the content and scope of “law” and “politics.” Such a shift draws attention away from critiques of the particular rhetorics used to justify the state’s plenary power and toward a macrological effort to contest the “overriding” assertion of a right to exert control over Native polities. My argument, then, explores the limits of forms of analysis organized around the critique of the settler-state’s employment of racialized discourses of savagery and the emphasis on cultural distinctions between Euramerican and Indigenous modes of governance. Both of these strategies within Indigenous political theory treat sovereignty as a particular kind of political content that can be juxtaposed with a substantively different—more Native-friendly or Indigenous-centered—content, but by contrast, I suggest that discourses of racial difference and equality as well as of cultural recognition are deployed by the state in ways that reaffirm its geopolitical self-evidence and its authority to determine what issues, processes, and statuses will count as meaningful within the political system. While arguments about Euramerican racism and the disjunctions be- tween Native traditions and imposed structures of governance can be quite powerful in challenging aspects of settler-state policy, they cannot account for the structuring violence performed by the figure of sovereignty. Drawing on Agamben, I will argue that “sovereignty” functions as a placeholder that has no determinate content.6 The state has been described as an entity that exercises a monopoly on the legitimate exercise of violence, and what I am suggesting is that the state of exception produced through Indian policy creates a monopoly on the legitimate exercise of legitimacy, an exclusive uncontestable right to define what will count as a viable legal or political form(ul)ation. That fundamentally circular and self-validating, as well as anxious and fraught, performance grounds the legitimacy of state rule on nothing more than the axiomatic negation of Native peoples’ authority to determine or adjudicate for themselves the normative principles by which they will be governed. Through Agamben’s theory of the exception, then, I will explore how the supposedly underlying sovereignty of the U.S. settler-state is a retrospective projection generated by, and dependent on, the “peculiar”-ization of Native peoples

#### Focusing our energies on space distracts from solving concrete problems on earth

Williams ’10 Lynda Williams has a M.S. in Physics and is a physics faculty member at Santa Rose Junior College in Northern California, Irrational Dreams of Space Colonization. Peace Review, 10402659, Jan-Mar2010, Vol. 22, Issue 1

Since Sputnik was launched over fifty years ago and the first human walked on the moon twelve years later, we have associated the exploration and colonization of space, specifically the moon and Mars, as a necessary pursuit to guarantee our survival as a species, and to satisfy an evolutionary drive to explore and inhabit worlds beyond our own. Space enthusiasts claim that it is our manifest destiny, an expression of the human spirit, to explore and colonize the solar system. World‐renowned scientists such as Stephen Hawking have made calls to colonize the moon and Mars, in order to preserve the species, in the face of Earth's inevitable doom from either warfare, plague, or environmental destruction. Commercial space developers promise private trips to space and beyond, infusing dreams of space wanderlust and enthusiasm for space travel in citizens who could never even afford such expensive and lofty excursions. Corporate space interests promise the certainty of achieving these goals, along with new technological advances and resource riches from space exploration that will rival those gained from the Apollo moon missions. This essay will examine the validity of these threats and promises, as well as their environmental and ethical consequences to life on Earth. According to scientific theory, the destruction of Earth is a certainty. About five billion years from now, when our sun exhausts its nuclear fuel, it will expand in size and envelope the inner planets, including Earth, and burn them into oblivion. So yes, we are doomed, but we have five billion years, plus or minus a few hundred million, to plan our extraterrestrial escape. The need to colonize the moon or Mars to guarantee our survival is not pressing. There are also real risks due to collisions with asteroids and comets, although none are of immediate threat and do not necessitate extraterrestrial colonization. There are many Earth‐based technological strategies that can be developed in time to mediate such astronomical threats, such as gravitational tugboats that drag the objects out of range. The solar system could also potentially be exposed to galactic sources of high‐energy gamma ray bursts that could fry all life on Earth; any moon or Mars base would face a similar fate. Thus, human‐based colonies on the moon or Mars would not protect us from any of these astronomical threats in the near future. Life on Earth is more urgently threatened by the destruction of the biosphere and its life‐sustaining habitat due to environmental catastrophes such as climate change, ocean acidification, disruption of the food chain, bio‐warfare, nuclear war, nuclear winter, and myriads of other manmade doomsday possibilities. If we accept these threats as inevitabilities on par with real astronomical dangers and divert our natural, intellectual, political, and technological resources from solving these problems into escaping them, will we be playing into a self-fulfilling prophesy of our own planetary doom? Seeking space-based solutions to our earthly problems may actually exacerbate the planetary threats we face. This is the core of the ethical dilemma posed by space colonization: should we put our resources into developing human colonies on other worlds to survive natural and manmade catastrophes, or should we focus all of our energies on solving and mitigating the problems that create these threats on Earth? What do the prospects of colonies or bases on the moon and Mars offer? Both the moon and Mars host extreme environments that are uninhabitable to humans without very sophisticated technological life‐support systems beyond any that are feasible now or will be available in the near future. Both bodies are subjected to deadly levels of solar radiation and are void of atmospheres that could sustain oxygen‐based life forms such as humans. Terra‐forming either body is not feasible with current technologies and within any reasonable time frames (and may, in any case, be questioned from an ethical and fiscal point of view). Thus, any colony or base would be restricted to living in space capsules or trailer park–like structures that could not support a sufficient number of humans to perpetuate and sustain the species in any long‐term manner. Although evidence of water has been discovered on both bodies, it exists in a form that is trapped in minerals, which would require huge amounts of energy to access. Water can be converted into fuel either as hydrogen or oxygen, which would eliminate the need to transport vast amounts of fuel from Earth. According to Britain's leading spaceflight expert, Professor Colin Pillinger, however, "You would need to heat up a lot of lunar soil to 200C to get yourself a glass of water." The promises of helium as an energy source on the moon is also mostly hype. Helium‐3 could be used in the production of nuclear fusion energy, a process we have yet to prove viable or efficient on Earth. Mining helium would require digging dozens of meters into the lunar surface and processing hundreds of thousands of tons of soil to produce one ton of helium‐3. (25 tons of helium‐3 would be required to power the United States for one year.) Fusion also requires the very rare element tritium, which does not exist naturally on the moon, Mars, or Earth in the abundances needed to facilitate nuclear fusion energy production. Currently, there are no means for generating the energy on the moon needed to extract the helium‐3 to produce the promised endless source of energy. Similar energy problems exist for the proposed use of solar power on the moon, which has the additional problem of being sunlit two weeks a month and dark for the other two weeks. A moon base is envisioned as serving as a launch pad for Martian expeditions, so the infeasibility of a lunar base may prohibit trips to Mars, unless they are launched directly from Earth or via an orbiting space station. Mars is, in its closest approach, 36 million miles from Earth and would require a nine‐month journey with astronauts exposed to deadly solar cosmic rays. Providing sufficient shielding would require a spacecraft that weighs so much that it becomes prohibitive to carry enough fuel for a roundtrip. Either the astronauts get exposed to lethal doses on a roundtrip, or they make a safe one‐way journey and never return. Regardless, it is unlikely that anyone would survive a trip to Mars. Whether or not people are willing to make that sacrifice for the sake of scientific exploration, human missions to Mars do not guarantee the survival of the species, but rather, only the death of any member who attempts the journey. The technological hurdles prohibiting practical space colonization of the moon and Mars in the near future are stratospherically high; the environmental and political consequences of pursuing these lofty dreams are even higher. There are no international laws governing the moon or the protection of the space environment. The Moon Treaty, created in 1979 by the United Nations, declares that the moon shall be developed to benefit all nations, that no military bases could be placed on the moon or on any celestial body, and bans altering the environment of celestial bodies. To date, no space‐faring nation has ratified this treaty, meaning the moon, and all celestial bodies including Mars and asteroids, may be up for the taking. If a nation did place a military base on the moon, they could potentially control all launches from Earth. The moon is the ultimate military high ground. How can we, as a species, control the exploration, exploitation, and control of the moon and other celestial bodies if we cannot even commit to a legal regime to protect and share its resources? Since the space age began, the orbital environment around Earth has become crowded with satellites and space debris, so much so that circumterrestrial space has become a dangerous place with an increasing risk of collision and destruction. Thousands of pieces of space junk, created from past launches and space missions, orbit the Earth at the same distance as satellites, putting them at risk of collision. Every time a space mission is launched from Earth, debris from the rocket stages is added to orbital space. In 2009, there was a disastrous collision between an Iridium satellite and a piece of space junk that destroyed the satellite. In 2007, China blew up one of its defunct satellites to demonstrate its antiballistic missile capabilities, increasing the debris field by 15 percent. The United States followed suit a few months later when, in February 2008, it used its ship‐based antiballistic missile system to destroy one of its own satellites that had reportedly gone out of control. There are no international laws prohibiting anti‐satellite actions. Every year, since the mid‐1980s, a treaty has been introduced into the UN for a Prevention of an Arms Race in Outer Space (PAROS), with all parties, including Russia and China, voting for it, except for the United States and Israel. How can we hope to pursue peaceful and environmentally sound space exploration without international laws in place that protect space and Earth environments, and guarantee that the space race to the moon and beyond does not foster a war over space resources? Indeed, if the space debris problem continues to grow unfettered, or if such a thing as a space war were ever to occur, then space would become too trashed for further launches to take place without a great risk of destruction. The private development of space is growing at a flurried pace. Competitions such as the X‐Prize for companies to reach orbit and the Google Prize to land a robot on the moon have helped create a new desire for space travel in many citizens throughout the world. The reality is that there are few protections for the environment and the passengers of these flights of fancy. The Federal Aviation Administration (FAA), which regulates space launches, is under a Congressional mandate to foster the industry. It is difficult, if not impossible, to have objective regulation of an industry when it enjoys government incentives to profit. We have much to determine on planet Earth before we launch willy‐nilly into another space race that would inevitably result in environmental disaster and include a new arms race in the heavens. If we direct our intellectual and technological resources toward space exploration without consideration of the environmental and political consequences, what is left behind in the wake? The hype surrounding space exploration leaves a dangerous vacuum in the collective consciousness of solving the problems on Earth. If we accept the inevitability of the destruction of Earth and its biosphere, then it is perhaps not too surprising that many people grasp at the last straw and look toward the heavens for solutions and a possible resolution. Many young scientists are perhaps fueling the prophesy of our planetary destruction by dreaming of lunar and/or Martian bases to save humanity, rather than working on the serious environmental challenges that we face on Earth. Every space‐faring entity, be they governmental or corporate, faces the same challenges. Star Trek emboldened us all to dream of space as the final frontier. The reality is that our planet Earth is a perfect spaceship and may be our final front‐line. We travel around our star, the sun, once every year, and the sun pulls us around the galaxy once every 250,000,000 years through star systems, star clusters, and gas clouds that may contain exosolar planets that host life or that may be habitable for us to colonize. The sun will be around for billions of years and we have ample time to explore the stars. It would be wise and prudent for us as a species to focus our intellectual and technological knowledge into preserving our spaceship for the long voyage ahead so that, once we have figured out how to make life on Earth work in an environmentally and politically sustainable way, we can then venture off the planet into the new frontier of our dreams.

#### Only refusal of state solves.

King 2017 (Tiffany, Assistant Professor of Women’s and Gender Studies at the Georgia State University “Humans Involved: Lurking in the Lines of Posthumanist Flight” *Critical Ethnic Studies* 3, No. 1, pp. 163-170)

Native feminist politics of decolonial refusal and Black feminist abolitionist politics of skepticism informed by a misandry and misanthropic distrust of and animus toward the (over)representation of man/men as the human diverge from the polite, communicative acts of the public sphere, much like the politics of the “feminist killjoy.”4 [INSERT FOOTNOTE: I use “misandry” (hatred of men) and “misanthropic” (distrust or deep skepticism about humankind or humanity) to illustrate how Sylvia Wynter and other Black scholars attend to the ways that the human— and **investments in the human—and its revised forms or genres of the human as woman/feminist still reproduce violent exclusions that make the death of Black and Native people viable and in-evitable**. In other words, **neither men nor women (as humans) can absorb Black females/males/children/LGBT and trans people into their collective folds. Both the hatred of “misandry” and the distrust and pessimism of “misanthropy” are appropriate methods to describe the inflection of the critique levied by Wynter and the other Black scholars examined in this article**. END FOOTNOTE] Throughout this article, I deploy the term “feminist” both ambivalently and strategically to mark and distinguish the scholarly tradition created by Black and Native women, queer, trans, and other people marginalized within these respective communities and their anticolonial and abolitionist movements.5 [INSERT FOOTNOTE: See Sylvia Wynter’s afterword, “Beyond Miranda’s Meanings: Un/silencing the ‘Demonic Ground’ of Caliban’s ‘Woman,’” in Out of the Kumbla: Caribbean Women and Literature, ed. Carole Boyce Davies (Chicago, Ill.: Africa World Press, 1990) 355– 72. Wynter warns Black women in the United States and the Caribbean that they need not uncritically embrace womanism as a political position, which can effectively oppose the elisions, racism, and false universalism of white feminism. “Feminism” as well as “womanism” are bounded and exclusive terms that do not effectively throw the category of the human into continual flux. END FOOTENOTE], Until a more useful and legible term emerges, I will use “feminist” to mark the practices of refusal and skepticism (misandry/misanthropy) as ones that largely exist outside more masculinist traditions within Indigenous/Native studies and Black studies**. “Decolonial refusal” and “abolitionist skepticism” depart from the kinds of masculinist anticolonial traditions that attempt to reason Native/ Black man to White Man within humanist logic in at least two significant ways**. First, **neither participate in the communicative acts of the humanist public sphere from within the terms of the debate**. Further, they do not play by the rules.6 [INSERT FOOTNOTE: See the critiques of the anticolonial tradition within Caribbean philosophy articulated by Shona Jackson in her book Creole Indigeneity (Minneapolis: University of Minnesota Press, 2012). Jackson argues that **anticolonial Caribbean masculinist philosophy tends to argue from inside the logic of Western philosophy in order to counter it.** For instance, in a valorization of the laborer as human and inheritor of the nation-state, Caribbean philosophy tends to reproduce the Hegelian telos of labor as a humanizing agent for the slave, which inadvertently makes the slave a subordinate human and effectively erases the ostensibly “nonlaboring” humanity of Indigenous peoples in the Anglophone Caribbean. END FOOTENOTE] Specifically, the Native and Black “feminist” politics discussed throughout launch a critique of both the logic of the discussion about the human and identity as well as the mode of communication. In fact, **practices of refusal and skepticism interrupt and flout codes of civil and collegial discursive protocol to focus on and illumine the violence that structures the posthumanist discourse.** Attending to the comportment, tone, and intensity of an engagement is just as important as focusing on its content. **The** particular **manner in which Black and Native feminists push back against violence is important**. **The force**, break with decorum, and style **in which Black and Native feminists confront discursive violence can change the nature of future encounters**. Given that Black women who confront the logics of “nonrepresentational theory” are really confronting genocide and the white, whimsical disavowal of Black and Native negation on the way to subjectlessness, it is understandable that there is an equally discordant response. **Refusal and skepticism are modes of engagement that are uncooperative and force an impasse in a discursive exchange.** This article tracks how traditions of “**decolonial refusal**” and “abolitionist skepticism” that emerge from Native/Indigenous and Black studies **expose the limits and violence of contemporary nonidentitarian and nonrepresentational impulses within white “critical” theory.** Further, this article asks whether Western forms of nonrepresentational (subjectless and nonidentitarian) theory can truly transcend the human through self- critique, self-abnegation, and masochism alone. External pressure, specifically the kind of pressure that “decolonial **refusal**” and “abolitionist skepticism” as forms of resistance that **enact outright rejection of or view “posthumanist” attempts with a “hermeneutics of suspicion,**”7 [INSERT FOOTNOTE: See the work of Black feminists such as Susana M. Morris, author of Close Kin and Distant Relatives: The Paradox of Respectability in Black Women’s Literature (Charlottesville: University of Virginia Press, 2014), as well as womanist theologians who appropriate the phrase “hermeneutics of suspicion” as coined by Paul Ricoeur to describe the reading and interpretive practices of Black woman who are distrustful of traditional tropes about heteronormativity or conventional ways of thinking about what is natural and normal. Further, in Morris’s case, as well as within the tradition of Black women of faith and theologians, canonical and biblical texts are interpreted through a lens that acknowledges white supremacy and misogyny, and critically challenges racism and sexism (or kyriarchy in Morris’s case). Within Black feminist and womanist traditions, it is a position that can recognize the limitations of text and that refuses to accept the doctrine, theories, or message of an ideology wholesale. END FOOTENOTE**] is needed in order to truly address the recurrent problem of the violence of the human in continental theory.** While this article does not directly stake a claim in embracing or rejecting identity per se, it does take up the category of the human. **Because the category of the human is modified by identity in ways that position certain people** (white, male, able- bodied) within greater or lesser proximity to humanness, **identity is already taken up in this discussion**. Conversations about the human are very much tethered to conversations about identity. In the final section, the article will explore how Black and Native/Indigenous absorption into the category of the human would disfigure the category of the human beyond recognition. **Engaging how forms of Native decolonization and Black abolition scrutinize the violently exclusive means in which the human has been written and conceived is generative because it sets some workable terms of engagement for interrogating Western and mainstream claims to and disavowals of identity**. Rather than answer how Native decolonization and Black abolition construe the human or identity, the article examines how Native and Black feminists use refusal and misandry to question the very systems, institutions, and order of knowledge that secure humanity as an exclusive experience and bound identity in violent ways. I consider the practices and postures of refusal assumed by Native/Indigenous scholars such as Audra Simpson, Eve Tuck, Jodi Byrd, and Linda Tuhiwai Smith to be particularly instructive for exposing the violence of ostensibly nonrepresentational Deleuzoguattarian rhizomes and lines of flight. While reparative readings and “working with what is productive” about Gilles Deleuze and Félix Guattari’s work is certainly a part of the Native feminist scholarly tradition, this article focuses on the underexamined ways that Native feminists refuse to entertain certain logics and foundations that actually structure Deleuzoguattarian thought.8 [I thank one of the reviewers, who reminded me that Native feminist thought’s engagement with continental theory, specifically the work of Deleuze and Guattari, can be likened more to “constellations” as it takes up Deleuzoguattarian thought rather than a single point that always departs from a place of refusal. END FOOTENOTE] Further, I discuss **“decolonial refusal**” in relation to how Black scholars like Sylvia Wynter, Zakiyyah Iman Jackson, and Amber Jamilla Musser work within a Black feminist tradition animated **by a kind of skepticism or suspicion capable of ferreting out the trace of the white liberal human within (self-)professed subjectless, futureless, and nonrepresentational white theoretical traditions.** In other words, in the work of Sylvia Wynter**, one senses a general suspicion and deep distrust of the ability of Western theory— specifically its attempt at self- critique and self- correction in the name of justice for humanity— to revise its cognitive orders to work itself out of its current “closed system,” which reproduces exclusion and structural oppositions based on the negation of the other**.9 [INSERT FOOTENOTE: See Katherine McKittrick, “Diachronic Loops/Deadweight Tonnage/Bad Made Measure,” Cultural Geographies 23, no. 1 (2016): 3– 18, doi:10.1177/14744740156 12716, for an exemplary explication of how Sylvia Wynter uses the decolonial scholarship of an “autopoiesis.” END FOOTENOTE] Wynter’s study of decolonial theory and its elaboration of autopoiesis informs her understanding of how the human and its overrepresentation as man emerges. Recognizing that humans (of various genres) write themselves through a “self- perpetuating and self- referencing closed belief system” that often prevents them from seeing or noticing “the process of recursion,” Wynter works to expose these blind spots.10 [INSERT FOOTNOTE: See McKittrick, “Diachronic Loops,” in which the author cites the importance of the work of H. Maturana and F. Varela, Autopoiesis and Cognition: The Realization of the Living (London: D. Reidel, 1972), for the study of the human’s process of self- writing. END FOOTNOTE] Wynter understands that **one of the limitations of Western liberal thought is that it cannot see itself in the process of writing itself.** I observe a similar kind of cynicism about the way the academic left invokes “post humanism” in the work of Jackson and Musser. Musser in particular questions the capacity of queer theories to turn to sensations like masochism within the field of affect studies to overcome the subject. Further, Jackson’s and Musser’s work is skeptical that white transcendence can happen on its own terms or rely solely on its own processes of self-critique and self- correction. I read Jackson’s and Musser’s work as distrustful of the ability for “posthumanism” to be accountable to Black and Indigenous peoples or for affect theory on its own to not replicate and reinforce the subjugation of the other as it moves toward self- annihilation. Both the human and the post human are causes for suspicion within Black studies. Like Wynter, the field of Black studies has consistently made the liberal human an object of study and scrutiny, particularly the nefarious manner in which it violently produces Black existence as other than and at times nonhuman. Wynter’s empirical method of tracking the internal epistemic crises and revolutions of Europe from the outside has functioned as a model for one way that Black studies can unfurl a critique of the human as well as Western modes of thought. I use the terms “misanthropy” and “misandry” in this article to evoke how Black studies has remained attentive to, wary about, and deeply distrustful of the human condition, humankind, and the humanas-man/men in the case of Black “feminists.” Both Black studies’ distrust of the “human” and Black feminism’s distrust of humanism in its version as man/men (which at times seeks to incorporate Black men) relentlessly scrutinize how the category of the human and in this case the “posthuman” reproduce Black death. I link misandry (skepticism of humankind-as-man) to the kind of skepticism and “hermeneutics of suspicion” that Black feminist scholars like Wynter, Jackson, and Musser at times apply to their reading and engagement with revisions to or expansions of the category of the human, posthuman discourses, and nonrepresentational theory In this article, I connect discursive performance of skepticism to embodied and affective responses I have witnessed in the academy that challenge the sanctioned modes of protocol, politesse, and decorum in the university. For example, Wynter assumes a critically disinterested posture as she gazes empirically on and examines intra-European epistemic shifts over time. Paget Henry has described Wynter as an anthropologist of the Occident, as Europe becomes an object of study rather than the center of thought and humanity.11 [INSERT FOOTNOTE: Paget Henry, Caliban’s Reason: Introducing Afro-Caribbean Philosophy (New York: Routledge, 2002), 19. END FOOTENOTE] Throughout the body of Wynter’s work, she seems to be more interested in drawing our attention to the capacity of European orders of knowledge to shift over time— or their fragility— than in celebrating the progress that European systems of knowledge have claimed to make. Wynter’s tracking is just a tracking and not a celebration of the progress narrative that Western civilization tells about itself and its capacity to define, refine, and recognize new kinds of humanity over time. This comportment of critical disinterest is often read as an affront to the codes and customs of scholarly discourse and dialogue in the academic community, particularly when it is in response to the white thinkers of the Western cannon. **Decolonial refusal and abolitionist skepticism respond to how perverse and reprehensible it is to ask Indigenous and Black people who cannot seem to escape death to move beyond the human or the desire to be human**. In fact, Black and **Indigenous people have never been fully folded into the category of the human**. As Zakiyyah Iman Jackson has argued**, It has largely gone unnoticed by posthumanists that their queries into ontology often find their homologous (even anticipatory) appearance in decolonial philosophies that confront slavery and colonialism’s inextricability from the Enlightenment humanism they are trying to displace. Perhaps this foresight on the part of decolonial theory is rather unsurprising considering that exigencies of race have crucially anticipated and shaped discourses governing the non- human** (animal, technology, object, and plant).12 [Zakkiyah Iman Jackson, “Review: Animal: New Directions in the Theorization of Race and Posthumanism,” Feminist Studies 39, no. 3 (2013): 681. END FOOTENOTE] A crucial point that Jackson emphasizes is that Black and Indigenous studies, particularly decolonial studies, has already grappled with and anticipated the late twentieth century impulses inspired by Leo Bersani and Lee Edelman to annihilate the self and jettison the future. **Indigenous and Black “sex**” (as activity, reproduction, pleasure, world-building, and not-human sexuality) **are already subsumed by death**. For some reason, white critical theory cannot seem to fathom that self- annihilation is something white people need to figure out by themselves. In other words, “they can have that.”13 [INSERT FOOTNOTE: This is a colloquialism or form of vernacular often used by Blacks and People of Color to express that they disagree with something and more specifically reject an idea and will leave that to the people whom it concerns to deal with. END FOOTNOTE] Within Native feminist theorizing, ethnographic refusal can be traced to Audra Simpson’s 2007 article, “On Ethnographic Refusal.” In this seminal work, Simpson reflects on and gains inspiration from the tradition of refusal practiced by the people of Kahnawake.14 [INSERT FOOTNOTE: Simpson’s ethnographic work specifically focuses on the Kahnawake Mohawk who reside in a reservation in the territory is now referred to as southwest Quebec. END FOOTNOTE] **Simpson shares that** **Kahnawake refusals are at the core and spirit of her own ethnographic and ethical practices of refusal.** I was interested in the larger picture, in the discursive, material and moral territory that was simultaneously historical and contemporary (this “national” space) and the ways in which Kahnawakero:non, **the “people of Kahnawake,” had refused the authority of the state at almost every turn.** The ways in which their formation of the initial membership code (now replaced by a lineage code and board of elders to implement the code and determine cases) was refused; the ways in which their interactions with border guards at the international boundary line were predicated upon a refusal; how refusal worked in everyday encounters to enunciate repeatedly to ourselves and to outsiders that “this is who we are, this is who you are, these are my rights.”15 [INSERT FOOTNOTE: Audra Simpson, “On Ethnographic Refusal: Indigeneity, ‘Voice’ and Colonial Citizenship,” Junctures: The Journal for Thematic Dialogue, no. 9 (December 2007): 73. END FOOTNOTE] Because Simpson was concerned with applying the political and everyday modes of Kahnawake refusal, she attended to the “collective limit” established by her and her Kahnawake participants. 16 [INSERT FOOTNOTE: Ibid., 77. END FOOTNOTE] The collective limit was relationally and ethically determined by what was shared but more importantly by what was not shared. Simpson’s ability to discern the collective limit could only be achieved through a form of relational knowledge production that regards and cares for the other. Simpson recounts how one of her participants forced her to recognize a collective limit. Approaching and then arriving at the limit, Simpson experiences the following: And although I pushed him, hoping that there might be something explicit said from the space of his exclusion— or more explicit than he gave me— it was enough that he said what he said. “Enough” is certainly enough. “Enough,” I realised, was when I reached the limit of my own return and our collective arrival. Can I do this and still come home; what am I revealing here and why? Where will this get us? Who benefits from this and why? And “enough” was when they shut down (or told me to turn off the recorder), or told me outright funny things like “nobody seems to know”— when everybody does know and talks about it all the time. Dominion then has to be exercised over these representations, and that was determined when enough was said. The ethnographic limit then, was reached not just when it would cause harm (or extreme discomfort)— the limit was arrived at when the representation would bite all of us and compromise the representational territory that we have gained for ourselves in the past 100 years.17 [INSERT FOOTNOTE: Ibid., 78. END FOOTNOTE] Extending her discussion of ethnographic refusal beyond the bounds of ethnographic concerns, Simpson also ponders whether this enactment of refusal can be applied to theoretical work. Simpson outright poses a question: “What is theoretically generative about these refusals?”18 [INSERT FOOTNOTE: Ibid. END FOOTNOTE] The question that Simpson asks in 2007 is clarified by Eve Tuck and K. Wayne Yang in the 2014 essay “R- Words: Refusing Research.” **Arguing that modes of refusal extended into the theoretical and methodological terrains of knowledge production are productive and necessary,** Tuck and Yang state: For the purposes of our discussion, the most important insight to draw from Simpson’s article is her emphasis that **refusals are not subtractive, but are theoretically generative, expansive. Refusal is not just a “no,” but a redirection to ideas otherwise unacknowledged or unquestioned.** Unlike a settler colonial configuration of knowledge that is petulantly exasperated and resentful of limits, **a methodology of refusal regards limits on knowledge as productive, as indeed a good thing**.19 [INSERT FOOTNOTE: Eve Tuck and K. Wayne Yang, “R- Words: Refusing Research,” in Humanizing Research: Decolonizing Qualitative Inquiry with Youth and Communities (Thousand Oaks, Calif.: SAGE, 2014), 239. END FOOTNOTE] In line with Simpson’s intervention, Tuck and Yang posit that “refusal itself could be developed into both method and theory.”20 [INSERT FOOTNOTE: Ibid., 242. END FOOTNOTE] For Tuck and Yang, a generative practice of refusal and a decolonial and abolitionist tradition is making Western thought “turn back upon itself as settler colonial knowledge, as opposed to universal, liberal, or neutral knowledge without horizon.”21 [INSERT FOOTNOTE: Ibid., 243. END FOOTNOTE] In fact, the coauthors suggest “making the settler colonial metanarrative the object of . . . research.”22 [INSERT FOOTNOTE: Ibid., 244. END FOOTNOTE] What this move effectively does is question the uninterrogated assumptions and exposes the violent particularities of the metanarrative. **Scrutiny as a practice of refusal also slows down or perhaps halts the momentum of the machinery that allows, as Tuck and Yang argue, “knowledge to facilitate interdictions on Indigenous and Black life**.”23 [INSERT FOOTNOTE: Ibid., 244. END FOOTNOTE] Taking a cue from Simpson and Tuck and Yang, I turn to Tuck’s 2010 critique of Deleuze’s notion of “desire” as an example of the theoretical practice of refusal, which Simpson wonders about and which Tuck and Yang elaborated on in 2014. Eve Tuck’s 2010 article “Breaking Up with Deleuze” refuses Deleuze’s understanding and imposition of his definition of desire for Native studies and Native resurgence in particular. Tuck refuses the Deleuzoguattarian nomadic due to its totalizing moves and specifically its evasion and refusal of Native and alternative notions of refusal that emerge from Native struggles for survival.24 [INSERT FOOTNOTE: Eve Tuck, “Breaking Up with Deleuze: Desire and Valuing the Irreconcilable,” International Journal of Qualitative Studies in Education 23, no. 5 (2010): 635– 50. END FOOTNOTE] For Tuck, paying attention to “the continuity of ancestors,” or genealogies, in Native and in all modes of knowledge production is imperative. For Indigenous and Native studies, it reverses the erasure enacted by continental European and settler-colonial theory, which uses a tradition of ongoing genocide to annihilate Native thinkers and subsequently their epistemologies and theories. Prior to Byrd’s indictment of Deleuzoguattarian laudatory accounts of America’s terrain of “Indians without Ancestry,” Tuck reroutes us back to ancestral and genealogical thinking as a way of asserting Indigenous presence and its epistemological systems and traditions, devoid of Cartesian boundary- making impulses and desires. Tuck’s work also prepares us in 2010 for the critique that Byrd levies in 2011, which exposes the traditions, roots, and genealogies of Western poststructuralist theory. Such theory created the conditions of possibility and emergence for Deleuzoguattarian genocidal forms of rhizomatic and nonrepresentational thought. Black Caribbean feminist Michelle V. Rowley argues we need to especially attend to a theory’s “politics and conditions of emergence.”25 [INSERT FOOTNOTE: See Michelle V. Rowley, “The Idea of Ancestry: Of Feminist Genealogies and Many Other Things,” in Feminist Theory Reader: Local and Global Perspectives, 3rd ed., ed. Carole R. McCann and Syeung Kyung Kim (New York: Routledge, 2013), 810– 81, where Rowley argues that transnational feminisms need to attend to how the white feminist wave as a metaphor and theory emerges, disciplines are thought, and more importantly how “its wins” are gained through the exploitation and suffering of women from the Global South. Rowley describes this work as attending to the “politics and conditions of emergence” of feminist metaphors and theories. END FOOTNOTE] In other words, we need to consider on whose backs or through whose blood a theory developed and then circulated while hiding its own violence.

Don’t give them 1AR theory – A) It’s a bad norm because we have less speeches to have the theory debate – only three speeches B) Leads to intervention since any counter interps or responses to the counter interps are new in the 2 – C) Unfair since we only get one speech to respond so the 2ar can spin the shell and we can’t do anything about it

# 2

#### Counterplan: Space-faring governments except for the Federative Republic of Brazil will ban appropriation of outer space by private entities. Brazil will increase funding for space activities.

#### Brazil’s commercial space industry is flourishing.

**Nakahodo 21** [Sidney Nakao Nakahodo, Sidney Nakao Nakahodo is a Lecturer at Columbia University where he specializes in Political, Social, and Economic Development in Brazil. In parallel to his academic responsibilities he is currently involved in a number of technology startups, both as co-founder and advisor. Previously he was based in Washington DC and worked in private sector development and low carbon projects at the World Bank. Prior to joining the Bank he served as senior researcher for a major think tank in Brazil and consulted for the United Nations Development Programme. Sidney holds a Master of International Affairs from Columbia University's School of International and Public Affairs and a Bachelor of Materials Science and Engineering from the University of Sao Paulo (Brazil). He is also a graduate of the Advanced Studies Program in International Economic Policy at the Kiel Institute for the World Economy (Germany). 03-19-2021, "Should Space Be Part of a Development Strategy? Reflections Based Upon the Brazilian Experience," New Space,  [[http://doi.org/10.1089/space.2021.0002](https://doi.org/10.1089/space.2021.0002) accessed 12/14/21](https://www.liebertpub.com/doi/full/10.1089/space.2021.0002%20accessed%2012/14/21)] Adam

* AEB – Brazilian Space Agency
* AIAB – Aerospace Industries Association of Brazil

Lately, there has been a surge of interest in commercial space in Brazil due to institutional development, private sector engagement, and entrepreneurial activities. A Committee of Development of the Brazilian Space Program (CDPEB) was established in 2018 and comprises representatives of several Ministries. The CDPEB has the mandate to advise the President on the implementation of the Brazilian Space Program. Among its primary responsibilities is the elaboration of the General Law of Space, which is expected to provide the guidelines for commercial space activities.[13](https://www.liebertpub.com/doi/full/10.1089/space.2021.0002#B13) In May 2020, Brazilian Space Agency (AEB) issued a public call inviting local and foreign companies to use its civilian launch facilities.[14](https://www.liebertpub.com/doi/full/10.1089/space.2021.0002#B14)

The private sector has been actively promoting commercial space. An industrial cluster now constitutes a “Space Valley” around the Sao Jose dos Campos Technology Park (PqTec), with spin-off companies impacting both space and nonspace sectors. The Aerospace Industries Association of Brazil (AIAB) is a trade organization of traditional space companies and defense contractors such as Avibras, Akaer (Opto), Atech, Fibraforte, Orbital, and SIATT. According to its website, AIAB has 30 members working in small satellites, satellite structures, payloads, satellite equipment, ground systems, propulsion, sounding rockets, and launchers.[15](https://www.liebertpub.com/doi/full/10.1089/space.2021.0002#B15) Braskem, the world's leading biopolymer producer, has partnered with Silicon Valley-born startup Made in Space to produce recyclable plastic objects in the ISS.[16](https://www.liebertpub.com/doi/full/10.1089/space.2021.0002#B16)

Since 2017, AEB has organized the Brazilian Space Industry Forum, an annual event that congregates stakeholders, fosters the exchange of ideas, and promotes collaboration between domestic and international participants. The U.S.-Brazil CEO Forum, which brings together 12 U.S. and 12 Brazilian CEOs to develop joint recommendations for both governments on how to increase bilateral trade, proposed the development of a framework for joint space research programs in 2019.

A small but vibrant New Space startup community is rapidly forming. The Alliance of Brazilian Space Startups was launched in 2020. Although some companies target low earth orbit and beyond, others are creating solutions to our planet using space technologies. PION has commercial products focusing on space and education. CRON and EMSIS have developed software and hardware for CubeSat missions, whereas Alya Nanosatellites aims to launch a constellation and tap into the earth's observation market. DeltaV, a spin-off from INPE, specializes in propulsion systems. ACRUX and VSAT are working on small satellite launchers. Airvantis sent multiple educational experiments to the ISS and has partnerships with companies and space agencies worldwide. The startup is carrying out Brazil's first lunar mission.[17](https://www.liebertpub.com/doi/full/10.1089/space.2021.0002#B17) In parallel, Agrosmart, Solinftec, and Strider are harnessing the power of space assets to provide remote sensing, weather forecast, and image processing services to the agricultural sector.[18](https://www.liebertpub.com/doi/full/10.1089/space.2021.0002#B18) Data companies such as Storm have incorporated open source algorithms developed by NASA for security applications.[19](https://www.liebertpub.com/doi/full/10.1089/space.2021.0002#B19)

#### Strong space sector cements Brazilian prestige and international influence AND solves alt causes

Dr. Robert C. Harding 17, Professor of Political Science at Valdosta State University, PhD in Political Science from the University of Miami, MA from the University of Louisville, Space Policy in Developing Countries: The Search for Security and Development on the Final Frontier, Paperback Edition, p. 1-4

Change in the post-Cold War period has become the standard of our time. Whether it be the changing power structure of the international system, climate change, the speed of technological innovation, or changes within our societies, the current international situation is one of constant, accelerating transformation. One area that has certainly evolved is the importance and priority given to space-related programs by a growing number of countries around the world. As the various captains of Star Trek fame have somberly declared, space really is the final frontier. But while it has been the basis for engaging science fiction, outer space nonetheless has a very down-to-Earth feature—it has become the ultimate venue for the growth of national power and socioeconomic development among a number of the world’s emergent states.

This new paradigm of international relations has been evolving for over 50 years. From the Soviet Union’s launch of Sputnik in 1957, many states began to include space-based security concerns in their foreign policies, which forced them to consider what the then-new operations in space meant for national security; they also began to integrate space-based assets into their approaches to a wide range of national development challenges, from agriculture to health improvement to the development of natural resources. Though the importance of space to national power, prestige, and potential has been less obvious in the intervening years since the heady days of the Cold War’s space race, its significance has never waned and continues to increase as many states increase national space budgets. Space has, in fact, earned a permanent place at the table in matters of international conflict, peace, national and international development, and international law.

Space was at one time the sole domain of the wealthiest developed countries. The United States and the Soviet Union/Russia, and to some extent the European Union, dominated the use of space and the associated technology in the first decades after World War II. But the last couple of decades of the twentieth century and the first decade of the twenty-first witnessed an increase in the number of countries with state-supported space programs. At this writing, no fewer than 25 developing states, including the rapidly emerging economic powers of Brazil (the sixth largest), China (second largest), and India (fourth largest), possess active national space programs with proven independent launch capability or concrete plans to achieve it soon. Space programs and their related technologies are now an integral part of the strategic and developmental policies of many relatively wealthy developing states that aspire to elevate their international status, security, and economic future. A multitude of other developing states as diverse as Mexico, Nigeria, and Malaysia have established and elevated their own space policy through the creation of national space agencies and the purchase and/or production of satellites and related space technology either through state, private, or joint efforts. For these smaller and rising middle powers, the acquisition of space capabilities is now an integral component of their national policies.

Though commercial enterprise is not a focus of this study, it must be noted that as the cost of space-related technology has decreased dramatically, the expanding number of national state actors in space has been paced by the equally impressive expansion in the number of strictly commercial space companies. Communications, geospatial information, and a wide variety of other services provided by commercial satellites affect much of modern life, and also provide vital information to governments, their agencies, and business interests worldwide. This information covers many of the same areas that national governments find important to national well-being, such as weather and climate monitoring, water management, environmental observation, topographic mapping, natural disaster planning, and crop management. These services are provided commercially by a growing cadre of companies that build satellites, create the associated technologies, and are beginning to provide basic launch services, all areas that were previously the exclusive domain of state-owned space agencies.

The growth of commercial space services has been a double-edged sword for states. By 2010, the global space industry was estimated to be worth US$276.52 billion, an 18 percent increase over 2009.2 Of this total, worldwide commercial satellite industry revenues rose 11 percent to US$160.9 billion in 2010.3 Despite sporadic attempts to control its proliferation, commercial satellite imagery has become so good and so broadly disseminated that many national governments, for example Israel, have complained that its existence endangers national security because potential terrorists now have access to the detailed satellite imagery necessary to plan precise attacks. Until the 1990s, such high-resolution satellite imagery was almost exclusively the domain of the militaries of developed space powers, which, for national security reasons, did not generally make their data public. And since there were a limited number of states with the capability to launch surveillance satellites, the potential sources were likewise limited.

Those civilian satellites that did operate before the 1990s provided imagery of a much lower spatial resolution than their military counterparts, typically not showing clear images of objects smaller than 10 meters across. However, that situation changed with the launch of the US company Lockheed Martin’s Ikonos satellite in 1999. Its spatial resolution of one meter meant that for the first time, no country could depend on geographic distance and national borders to ensure state secrets. The situation became even more fluid through the 1990s and into the 2000s as the transfer of space technology—satellites and associated technology— became a commercially viable avenue for major satellite producers. Today, imagery services such as Google Earth have revolutionized access to satellite imagery in the same way that cell phones have changed communications access for hundreds of millions of people around the world—they have democratized it.

Nonetheless, the growing actual importance of space policy stands in stark contrast to the popular perception of the significance of space in the modern world. Indeed, more than 50 years after the launch of Sputnik, the exploration of near space via the moon-landings, and various robotic missions to the solar system’s planets, surveys have shown that few people in the West still consider space as anything novel. The popular mindset has moved on to the wonders of the “information age” and the benefits (or detriments) of globalization. The generations of technology spawned by those earlier days of space exploration have been indispensable in the creation of our high-tech, instantaneous world, but space and its benefits are now so integrated into our daily infrastructure that most people do not give it a second thought. The reactions to the Challenger and Columbia space shuttle tragedies aside, public complacency toward the importance of space has become the rule, rather than the exception.

Despite these popular sentiments, the recent expansion of space programs in the developing world demonstrates that national governments have never altered their view of the importance of space for achieving and expanding national power—militarily or socioeconomically. This expansion of space programs is especially noteworthy because it reflects an emergent democratization of space, which is one of the most important factors in the changing distribution of power in the current international arena. Many countries now use satellites for communications and obtaining weather data, through ownership or simply purchase of the data. In fact, this broadening and expansion of the usage of space and the attendant transformation of power distribution is seen by some observers as leading to a new space race, albeit one that has yet to gain the high profile that the previous contest had during the Cold War. This competition is emerging as the catalyst for a new generation of space-related policies and innovations in both established and emerging space-faring countries. Consider how one recent space-related event affected the dynamic of interstate relations.

In January 2007, the news that China had successfully tested an anti-satellite ballistic missile sent shockwaves around the world’s foreign policy community. By shooting down one of its own aging satellites from low Earth orbit, China—a country that only a generation before was seen as poor by most measures—demonstrated its intent to join the existing space powers, thus attracting attention, if not commanding respect as a potential world power. China plans to land a nuclear-powered unmanned rover on the moon by 2013, and to have in place an orbital military space station later in the second decade of this century.4

But while China’s space policy is more ambitious and better funded than those of other developing states, it is by no means unique. The next year of this twenty-first century space race saw India following up on the Chinese success by launching its own successful probe to the moon. Around the world, increasing numbers of developing countries are investing in space-related technologies, seeking partners for space projects, and even constructing launch facilities that may one day rival the established space powers of the United States, Russia, the European Union, and more recently Japan.

But what motivates a developing country, which by definition is relatively poor, to spend the comparatively large amounts of money required for these space adventures? The short answer is that, like the United States and the Soviet Union before them, developing countries pursue active space policies because of the recognition that space is, in many ways, the ultimate measure of national power, international prestige, and demonstrated national potential. Moreover, space-based assets allow states to more fully utilize their national resources and to expand the reach of domestic socioeconomic programs into areas as diverse as agriculture, education, medicine, and economic development. Thus a space program figures as an integral facet of any capable state’s national security and developmental policies. The benefits of a successful space program include advanced communications, a platform for technology improvement, greatly enhanced geographic information, and, for some, expanded defensive and intelligence capabilities. Equally important, space programs can provide the host state with increased international prestige, which accrues both domestic and international advantages. Hence, developing countries are merely being rational state actors and following the path pioneered by those space-faring states that preceded them.

#### It's key to project success AND overcome historical domination

Dr. Robert C. Harding 17, Professor of Political Science at Valdosta State University, PhD in Political Science from the University of Miami, MA from the University of Louisville, Space Policy in Developing Countries: The Search for Security and Development on the Final Frontier, Paperback Edition, p. 23

Space programs bestow equally important soft power, especially those that involve human space flight. Every major space power has spent considerable funds to achieve the ability to put humans in space for both tangible and intangible benefits. Logsdon (2007) has argued that human space flight ranks among the most intensely patriotic symbols of modern times.27 Some of the emerging space actors have pursued or are pursuing human space flight as a demonstration of their programs’ sophistication, and their astronauts are held up by their governments as national patriotic icons. As will be discussed in Chapter 3, for the largest EMSAs—Brazil, China, and India—their space programs have been touted not only as national accomplishments but as a national catharsis to overcome histories of direct and indirect domination by outside powers and to project to others a sense of greatness.

#### Brazilian leadership solves multiple existential threats

**Huck 20** [Luciano Huck, from the Law School of the University of São Paulo, Host of Rede Globo, Founder of Joá Investments 1/15/2020, "This country is vital to 'global survival'," World Economic Forum, <https://www.weforum.org/agenda/2020/01/what-happens-next-in-brazil-has-global-consequences-here-are-three-priorities-for-the-next-decade/> accessed 12/14/21] recut Adam

From spiralling geopolitical tensions in the Middle East to raging forest fires in Australia, 2020 certainly started with a bang. A shortlist of some of our biggest existential threats includes accelerating climate change, staggering inequalities and the failure of nation-states to cooperate to mitigate shared global risks. With all the bad news, it is hard to see the incredible possibilities on the horizon, not least advances in health, education and the boundless potential of new technologies. A growing number of businesses including huge asset managers like BlackRock are also becoming greener. All of these challenges and opportunities are apparent in Brazil, the world’s fourth-largest democracy and its ninth biggest economy.

Brazil will play a leading role in how the next decade unfolds. A big reason for this is its immense natural resources - including over 40% of the world’s tropical forests and 20% of the planet's fresh-water supply. The Amazon is often described as the "lungs of the world" - for good reason. But the lungs are collapsing as a result of man-made fires and runaway deforestation. With more than 210 million citizens, Brazil also has an impressive stock of human resources. But it is also convulsed by breathtaking inequality and grinding poverty. Complicating matters, we are facing a crisis of political leadership and shirking our international responsibilities.

What happens next in Brazil has far-reaching consequences for global survival. The decisions adopted by Latin America's largest country - whether in relation to protecting the Amazon, reducing inequality or strengthening multilateral cooperation - will help determine whether this is the world's best century or its last one. The sheer scope of the challenges facing Brazilians can feel overwhelming. Without a transformative vision and narrative, a renewal of political leadership, and tangible improvement, people feel rudderless and afraid.

For the past 20 years, I've been taking the pulse of Brazil. I produce and present a popular television program reaching roughly 30 million Brazilians every week. Most of the time, I travel across the country listening to the inspiring and heartbreaking stories of my countrymen and women. They remind me every day why I need to contribute to building a better Brazil. So here are three challenges that I firmly believe Brazilians can turn into opportunities.

Amazon 4.0

Dramatic fires and deforestation in the Amazon made global headlines in 2019. Despite the best efforts of the Brazilian authorities to conceal the problem, the Science Ministry's own satellite data showed that deforestation rates were at the highest levels in two decades. While falling out of the international news cycle, the destruction continues. If deforestation persists at current rates, irreversible die-off could convert the world’s largest tropical forests into its largest savannah. This would release up to 140 billion tons of stored carbon into the atmosphere, effectively scuppering efforts to meet the Paris Agreement targets.

A radical new paradigm is needed to ensure the sustainable stewardship of Brazil's stunning cultural and biodiversity. It must harness the Amazon's most powerful resource - the 25 million people who live there. For one, there has to be zero tolerance for deforestation and a concerted focus on improving the productivity of areas where forests have already been cut down. Roughly 90% of deforestation in the Amazon is illegal and at least two-thirds of the 80 million hectares of cleared land are under-used, degraded and abandoned. Just as important as sustainable agri-business, the expansion of eco-tourism, investment in biotechnology research and the development of fairly-traded rainforest products.

In a survey conducted in August of 2019, the majority of Brazilians thought that the Amazon rainforest was a reason for national pride. At that time, up to 68 percent of respondents in Brazil strongly agreed with the sentence

Reducing inequality

Deepening social and economic inequality within countries is fundamentally reconfiguring domestic and international politics. In some cases, governments are retreating from multilateral cooperation and reverting to reactionary nationalism and protectionism. These dynamics are apparent in Brazil, among the world’s most unequal countries. Although Brazil made important advances in reducing poverty since the 2000s, inequality remained stubbornly high. And in recent years, per capita income plunged and the gap between the rich and poor started rising, wiping out many social gains of the previous three decades. Today, the average monthly income of the wealthiest one per cent is more than 33 times the income of the poorest 50%. Inequality not only hinders economic growth, but it also fuels polarization and populism.

Brazil needs to put inequality reduction at the top of the national agenda in 2020. A combination of common-sense interventions are required: ensuring the fairer collection of taxes, reducing subsidies for the wealthy, rolling-out more equal opportunity policies, and stimulating opportunities for the most vulnerable. Most important of all is dramatically improving the quality of basic public education, especially early childhood schooling. Brazil's education system is failing poorer families. Wealth inequality is reinforcing inequality of opportunity for the next generation. To win the war on inequality, Brazil needs an inclusive growth strategy, one that is not limited to growing income and smart deregulation but also ensures that quality public services delivering security, education, health, sanitation and transportation reach all citizens, not just those who pay a premium for them.

Restoring leadership

After years of corruption and stagnation, Brazil is suffering from sharp societal divisions and simmering tensions. In 2013, well before the street protests that flared up in Bolivia, Chile, Colombia and Ecuador, Brazil experienced the largest demonstrations since the restoration of democracy in 1985. The impeachment of President Dilma in 2016, the unprecedented unpopularity of the Temer administration and the election of far-right Jair Bolsonaro in 2018 revealed the extent of dissatisfaction with the status quo. Bolsonaro was partly elected because the credibility of Brazil's political establishment was demolished by ongoing “Car Wash” investigations into government corruption. Exhausted by scandal and stagnation, Brazilians voted for change.

To tackle the big challenges of the next decade, Brazil needs to restore and renew its political leaders from the top to bottom. Accountable, responsible and representative leadership and public service are fundamental to revitalizing the social contract. This won't happen spontaneously. It requires a conscious effort to attract and invest in talent. it also demands that each and every Brazilian gets involved. In 2017, I joined Agora, one of several dynamic civic movements investing in a new generation of leaders committed to a more inclusive and sustainable Brazil. And in 2018, I co-founded RenovaBR, attracting over 4,600 submissions from people who'd never been involved in politics for training in governance and ethics. Of the 120 successful applicants, 17 were elected to federal office that year.

Brazil is a country of infinite possibility. It has achieved breathtaking gains over the last generation - bringing tens of millions of people out of poverty. But these improvements were fragile. As we’ve seen in other parts of the world, when societies and living standards start moving backwards, social protest and unrest are not far behind. This is dangerous. Irresponsible leaders can take advantage of the fear and uncertainty that result. But we can also fight back. We will start rewriting the Brazilian story in 2020, first by acknowledging our most intractable problems and then by leveraging our tremendous creativity, scientific prowess and expertise. This means stepping out of our comfort zones. Powered by civic and social entrepreneurs from across the political spectrum, we can rebuild a positive vision for the future in Brazil.

# 3

#### Debris decks the environment.

Boley and Byers 21. Aaron Boley is at the Department of Physics and Astronomy, The University of British Columbia, Vancouver, Canada and Michael Byers is at the Department of Physics and Astronomy, The University of British Columbia, Vancouver, Canada. 5/20/21. [Nature, “Satellite mega-constellations create risks in Low Earth Orbit, the atmosphere and on Earth,” <https://www.nature.com/articles/s41598-021-89909-7>] Justin

Companies are placing satellites into orbit at an unprecedented frequency to build ‘mega-constellations’ of communications satellites in Low Earth Orbit (LEO). In two years, the number of active and defunct satellites in LEO has increased by over 50%, to about 5000 (as of 30 March 2021). SpaceX alone is on track to add 11,000 more as it builds its Starlink mega-constellation and has already fled for permission for another 30,000 satellites with the Federal Communications Commission (FCC)1 . Others have similar plans, including OneWeb, Amazon, Telesat, and GW, which is a Chinese state-owned company2 . Te current governance system for LEO, while slowly changing, is ill-equipped to handle large satellite systems. Here, we outline how applying the consumer electronic model to satellites could lead to multiple tragedies of the commons. Some of these are well known, such as impediments to astronomy and an increased risk of space debris, while others have received insufcient attention, including changes to the chemistry of Earth’s upper atmosphere and increased dangers on Earth’s surface from re-entered debris. Te heavy use of certain orbital regions might also result in a de facto exclusion of other actors from them, violating the 1967 Outer Space Treaty. All of these challenges could be addressed in a coordinated manner through multilateral law-making, whether in the United Nations, the Inter-Agency Debris Committee (IADC), or an ad hoc process, rather than in an uncoordinated manner through diferent national laws. Regardless of the law-making forum, mega-constellations require a shif in perspectives and policies: from looking at single satellites, to evaluating systems of thousands of satellites, and doing so within an understanding of the limitations of Earth’s environment, including its orbits.

Tousands of satellites and 1500 rocket bodies provide considerable mass in LEO, which can break into debris upon collisions, explosions, or degradation in the harsh space environment. Fragmentations increase the cross-section of orbiting material, and with it, the collision probability per time. Eventually, collisions could dominate on-orbit evolution, a situation called the Kessler Syndrome3 . Tere are already over 12,000 trackable debris pieces in LEO, with these being typically 10 cm in diameter or larger. Including sizes down to 1 cm, there are about a million inferred debris pieces, all of which threaten satellites, spacecraf and astronauts due to their orbits crisscrossing at high relative speeds. Simulations of the long-term evolution of debris suggest that LEO is already in the protracted initial stages of the Kessler Syndrome, but that this could be managed through active debris removal4 . Te addition of satellite mega-constellations and the general proliferation of low-cost satellites in LEO stresses the environment further5–8 .

[Omitted Figures 1 and 2]

Results

The overall setting. Te rapid development of the space environment through mega-constellations, predominately by the ongoing construction of Starlink, is shown by the cumulative payload distribution function (Fig. 1). From an environmental perspective, the slope change in the distribution function defnes NewSpace, an era of dominance by commercial actors. Before 2015, changes in the total on-orbit objects came principally from fragmentations, with efects of the 2007 Chinese anti-satellite test and the 2009 Kosmos-2251/Iridium-33 collisions being evident on the graph.

Although the volume of space is large, individual satellites and satellite systems have specifc functions, with associated altitudes and inclinations (Fig. 2). Tis increases congestion and requires active management for station keeping and collision avoidance9 , with automatic collision-avoidance technology still under development. Improved space situational awareness is required, with data from operators as well as ground- and space-based sensors being widely and freely shared10. Improved communications between satellite operators are also necessary: in 2019, the European Space Agency moved an Earth observation satellite to avoid colliding with a Starlink satellite, afer failing to reach SpaceX by e-mail. Internationally adopted ‘right of way’ rules are needed10 to prevent games of ‘chicken’, as companies seek to preserve thruster fuel and avoid service interruptions. SpaceX and NASA recently announced11 a cooperative agreement to help reduce the risk of collisions, but this is only one operator and one agency

When completed, Starlink will include about as many satellites as there are trackable debris pieces today, while its total mass will equal all the mass currently in LEO—over 3000 tonnes. Te satellites will be placed in narrow orbital shells, creating unprecedented congestion, with 1258 already in orbit (as of 30 March 2021). OneWeb has already placed an initial 146 satellites, and Amazon, Telesat, GW and other companies, operating under diferent national regulatory regimes, are soon likely to follow.

Enhanced collision risk. Mega-constellations are composed of mass-produced satellites with few backup systems. Tis consumer electronic model allows for short upgrade cycles and rapid expansions of capabilities, but also considerable discarded equipment. SpaceX will actively de-orbit its satellites at the end of their 5–6-year operational lives. However, this process takes 6 months, so roughly 10% will be de-orbiting at any time. If other companies do likewise, thousands of de-orbiting satellites will be slowly passing through the same congested space, posing collision risks. Failures will increase these numbers, although the long-term failure rate is difcult to project. Figure 3 is similar to the righthand portion of Fig. 2 but includes the Starlink and OneWeb megaconstellations as fled (and amended) with the FCC (see “Methods”). Te large density spikes show that some shells will have satellite number densities in excess of n = 10−6 km−3 .

Deorbiting satellites will be tracked and operational satellites can manoeuvre to avoid close conjunctions. However, this depends on ongoing communication and cooperation between operators, which at present is ad hoc and voluntary. A recent letter12 to the FCC from SpaceX suggests that some companies might be less-thanfully transparent about events13 in LEO.

Despite the congestion and trafc management challenges, FCC flings by SpaceX suggest that collision avoidance manoeuvres can in fact maintain collision-free operations in orbital shells and that the probability of a collision between a non-responsive satellite and tracked debris is negligible. However, the flings do not account for untracked debris6 , including untracked debris decaying through the shells used by Starlink. Using simple estimates (see “Methods”), the probability that a single piece of untracked debris will hit any satellite in the Starlink 550 km shell is about 0.003 afer one year. Tus, if at any time there are 230 pieces of untracked debris decaying through the 550 km orbital shell, there is a 50% chance that there will be one or more collisions between satellites in the shell and the debris. As discussed further in “Methods”, such a situation is plausible. Depending on the balance between the de-orbit and the collision rates, if subsequent fragmentation events lead to similar amounts of debris within that orbital shell, a runaway cascade of collisions could occur.

Fragmentation events are not confned to their local orbits, either. Te India 2019 ASAT test was conducted at an altitude below 300 km in an efort to minimize long-lived debris. Nevertheless, debris was placed on orbits with apogees in excess of 1000 km. As of 30 March 2021, three tracked debris pieces remain in orbit14. Such long-lived debris has high eccentricities, and thus can cross multiple orbital shells twice per orbit. A major fragmentation event from a single satellite could afect all operators in LEO.

Surface impacts and atmospheric efects. Although failures do occur, frst stages of SpaceX rockets are usually landed and re-used, while second stages are usually controlled through re-entry and deposited in remote areas of ocean. Tis best practice might not be followed by others. For example, the frst stages of the Soyuz rockets employed by OneWeb are not reusable, nor are the second stage re-entries controllable. Te Long March rockets that will likely be employed by GW are similar. Uncontrolled re-entries do not always meet safety standards17, a situation that may be exacerbated by mega-constellations. Moreover, the cumulative impact of thousands of rocket stages on the ocean environment could be signifcant should those stages contain hazardous materials, such as unspent hydrazine fuels17–19. In the 1990s, Pacifc island countries opposed the Sea Launch project because of environmental concerns, including from discarded rocket stages20. In 2016, Inuit in the Canadian Arctic protested the Russian practice of disposing rocket stages in the North Water Polynya, a biologically rich area of year-round open water21.

Te frst Starlink satellites contained some components that survive re-entry, with the highest human casualty risk for a single satellite calculated to be 1:17,40022, below NASA’s recommended 1:10,000 threshold. However, the initial approval process did not account for the cumulative casualty risk, and if all the then-planned 12,000 satellites had contained the same components, a continuous 5-year replacement cycle would have seen a 45% probability of one or more casualties per cycle. When the subsequent FCC petition process identifed the problem, SpaceX reportedly replaced some materials with a view to having all of the satellite components now demise in the atmosphere23. Other companies, based in other countries, might not follow this best practice or be required to do so.

Te demise of satellite components during re-entry introduces a diferent problem, since none of that material actually disappears. Starlink satellites have a dry mass of about 260 kg; 12,000 satellites will total 3100 tonnes. A 5-year cycle would see on average almost 2 tonnes re-entering Earth’s atmosphere daily. While small compared to the 54 daily tonnes of meteoroid mass24, the satellites are mostly aluminum; most meteoroids, in contrast, contain less than 1% Al by mass25. Tus, depending on the atmospheric residence time of material from reentered satellites, each mega-constellation will produce fne particulates that could greatly exceed natural forms of high-altitude atmospheric aluminum deposition, particularly if the full numbers of envisaged satellites are launched. Anthropogenic deposition of aluminum in the atmosphere has long been proposed in the context of geoengineering as a way to alter Earth’s albedo26. Tese proposals have been scientifcally controversial and controlled experiments encountered substantial opposition27. Mega-constellations will begin this process as an uncontrolled experiment28.

Rocket launches themselves afect the atmosphere. While cumulative CO2 emissions are small compared to other sources, CO2 is not the relevant metric. Black carbon produced by kerosene-fueled rockets such as SpaceX’s Falcon 9 and alumina particles produced by solid-fueled rockets lead to instantaneous radiative forcing. Modelling of the cumulative efect of emissions from 1000 annual launches of hydrocarbon-fuelled rockets found that, afer one decade, the black carbon would result in radiative forcing comparable to that resulting from sub-sonic aviation29. Although 1000 launches annually is 10 times the current rate, the construction and renewal of multiple mega-constellations will require dramatic increases in launches. Current launches likely cause non-negligible radiative forcing already30.

#### Climate change causes extinction.

Dr. Peter Kareiva 18 – Ph.D. in Ecology and Applied Mathematics from Cornell University, Director of the Institute of the Environment and Sustainability at UCLA, Pritzker Distinguished Professor in Environment & Sustainability at UCLA, et al., September 2018, “Existential Risk Due To Ecosystem Collapse: Nature Strikes Back”, Futures, Volume 102, p. 39-50

In summary, six of the nine proposed planetary boundaries (phosphorous, nitrogen, biodiversity, land use, atmospheric aerosol loading, and chemical pollution) are unlikely to be associated with existential risks. They all correspond to a degraded environment, but in our assessment do not represent existential risks. However, the three remaining boundaries (climate change, global freshwater cycle, and ocean acidification) do pose existential risks. This is because of intrinsic positive feedback loops, substantial lag times between system change and experiencing the consequences of that change, and the fact these different boundaries interact with one another in ways that yield surprises. In addition, climate, freshwater, and ocean acidification are all directly connected to the provision of food and water, and shortages of food and water can create conflict and social unrest.

Climate change has a long history of disrupting civilizations and sometimes precipitating the collapse of cultures or mass emigrations (McMichael, 2017). For example, the 12th century drought in the North American Southwest is held responsible for the collapse of the Anasazi pueblo culture. More recently, the infamous potato famine of 1846–1849 and the large migration of Irish to the U.S. can be traced to a combination of factors, one of which was climate. Specifically, 1846 was an unusually warm and moist year in Ireland, providing the climatic conditions favorable to the fungus that caused the potato blight. As is so often the case, poor government had a role as well—as the British government forbade the import of grains from outside Britain (imports that could have helped to redress the ravaged potato yields).

Climate change intersects with freshwater resources because it is expected to exacerbate drought and water scarcity, as well as flooding. Climate change can even impair water quality because it is associated with heavy rains that overwhelm sewage treatment facilities, or because it results in higher concentrations of pollutants in groundwater as a result of enhanced evaporation and reduced groundwater recharge. Ample clean water is not a luxury—it is essential for human survival. Consequently, cities, regions and nations that lack clean freshwater are vulnerable to social disruption and disease.

Finally, ocean acidification is linked to climate change because it is driven by CO2 emissions just as global warming is. With close to 20% of the world’s protein coming from oceans (FAO, 2016), the potential for severe impacts due to acidification is obvious. Less obvious, but perhaps more insidious, is the interaction between climate change and the loss of oyster and coral reefs due to acidification. Acidification is known to interfere with oyster reef building and coral reefs. Climate change also increases storm frequency and severity. Coral reefs and oyster reefs provide protection from storm surge because they reduce wave energy (Spalding et al., 2014). If these reefs are lost due to acidification at the same time as storms become more severe and sea level rises, coastal communities will be exposed to unprecedented storm surge—and may be ravaged by recurrent storms.

A key feature of the risk associated with climate change is that mean annual temperature and mean annual rainfall are not the variables of interest. Rather it is extreme episodic events that place nations and entire regions of the world at risk. These extreme events are by definition “rare” (once every hundred years), and changes in their likelihood are challenging to detect because of their rarity, but are exactly the manifestations of climate change that we must get better at anticipating (Diffenbaugh et al., 2017). Society will have a hard time responding to shorter intervals between rare extreme events because in the lifespan of an individual human, a person might experience as few as two or three extreme events. How likely is it that you would notice a change in the interval between events that are separated by decades, especially given that the interval is not regular but varies stochastically? A concrete example of this dilemma can be found in the past and expected future changes in storm-related flooding of New York City. The highly disruptive flooding of New York City associated with Hurricane Sandy represented a flood height that occurred once every 500 years in the 18th century, and that occurs now once every 25 years, but is expected to occur once every 5 years by 2050 (Garner et al., 2017). This change in frequency of extreme floods has profound implications for the measures New York City should take to protect its infrastructure and its population, yet because of the stochastic nature of such events, this shift in flood frequency is an elevated risk that will go unnoticed by most people.

4. The combination of positive feedback loops and societal inertia is fertile ground for global environmental catastrophes.

Humans are remarkably ingenious, and have adapted to crises throughout their history. Our doom has been repeatedly predicted, only to be averted by innovation (Ridley, 2011). However, the many stories of human ingenuity successfully addressing existential risks such as global famine or extreme air pollution represent environmental challenges that are largely linear, have immediate consequences, and operate without positive feedbacks. For example, the fact that food is in short supply does not increase the rate at which humans consume food—thereby increasing the shortage. Similarly, massive air pollution episodes such as the London fog of 1952 that killed 12,000 people did not make future air pollution events more likely. In fact it was just the opposite—the London fog sent such a clear message that Britain quickly enacted pollution control measures (Stradling, 2016). Food shortages, air pollution, water pollution, etc. send immediate signals to society of harm, which then trigger a negative feedback of society seeking to reduce the harm.

In contrast, today’s great environmental crisis of climate change may cause some harm but there are generally long time delays between rising CO2 concentrations and damage to humans. The consequence of these delays are an absence of urgency; thus although 70% of Americans believe global warming is happening, only 40% think it will harm them (http://climatecommunication.yale.edu/visualizations-data/ycom-us-2016/). Secondly, unlike past environmental challenges, the Earth’s climate system is rife with positive feedback loops. In particular, as CO2 increases and the climate warms, that very warming can cause more CO2 release which further increases global warming, and then more CO2, and so on. Table 2 summarizes the best documented positive feedback loops for the Earth’s climate system. These feedbacks can be neatly categorized into carbon cycle, biogeochemical, biogeophysical, cloud, ice-albedo, and water vapor feedbacks. As important as it is to understand these feedbacks individually, it is even more essential to study the interactive nature of these feedbacks. Modeling studies show that when interactions among feedback loops are included, uncertainty increases dramatically and there is a heightened potential for perturbations to be magnified (e.g., Cox, Betts, Jones, Spall, & Totterdell, 2000; Hajima, Tachiiri, Ito, & Kawamiya, 2014; Knutti & Rugenstein, 2015; Rosenfeld, Sherwood, Wood, & Donner, 2014). This produces a wide range of future scenarios.

Positive feedbacks in the carbon cycle involves the enhancement of future carbon contributions to the atmosphere due to some initial increase in atmospheric CO2. This happens because as CO2 accumulates, it reduces the efficiency in which oceans and terrestrial ecosystems sequester carbon, which in return feeds back to exacerbate climate change (Friedlingstein et al., 2001). Warming can also increase the rate at which organic matter decays and carbon is released into the atmosphere, thereby causing more warming (Melillo et al., 2017). Increases in food shortages and lack of water is also of major concern when biogeophysical feedback mechanisms perpetuate drought conditions. The underlying mechanism here is that losses in vegetation increases the surface albedo, which suppresses rainfall, and thus enhances future vegetation loss and more suppression of rainfall—thereby initiating or prolonging a drought (Chamey, Stone, & Quirk, 1975). To top it off, overgrazing depletes the soil, leading to augmented vegetation loss (Anderies, Janssen, & Walker, 2002).

Climate change often also increases the risk of forest fires, as a result of higher temperatures and persistent drought conditions. The expectation is that forest fires will become more frequent and severe with climate warming and drought (Scholze, Knorr, Arnell, & Prentice, 2006), a trend for which we have already seen evidence (Allen et al., 2010). Tragically, the increased severity and risk of Southern California wildfires recently predicted by climate scientists (Jin et al., 2015), was realized in December 2017, with the largest fire in the history of California (the “Thomas fire” that burned 282,000 acres, https://www.vox.com/2017/12/27/16822180/thomas-fire-california-largest-wildfire). This catastrophic fire embodies the sorts of positive feedbacks and interacting factors that could catch humanity off-guard and produce a true apocalyptic event. Record-breaking rains produced an extraordinary flush of new vegetation, that then dried out as record heat waves and dry conditions took hold, coupled with stronger than normal winds, and ignition. Of course the record-fire released CO2 into the atmosphere, thereby contributing to future warming.

Out of all types of feedbacks, water vapor and the ice-albedo feedbacks are the most clearly understood mechanisms. Losses in reflective snow and ice cover drive up surface temperatures, leading to even more melting of snow and ice cover—this is known as the ice-albedo feedback (Curry, Schramm, & Ebert, 1995). As snow and ice continue to melt at a more rapid pace, millions of people may be displaced by flooding risks as a consequence of sea level rise near coastal communities (Biermann & Boas, 2010; Myers, 2002; Nicholls et al., 2011). The water vapor feedback operates when warmer atmospheric conditions strengthen the saturation vapor pressure, which creates a warming effect given water vapor’s strong greenhouse gas properties (Manabe & Wetherald, 1967).

Global warming tends to increase cloud formation because warmer temperatures lead to more evaporation of water into the atmosphere, and warmer temperature also allows the atmosphere to hold more water. The key question is whether this increase in clouds associated with global warming will result in a positive feedback loop (more warming) or a negative feedback loop (less warming). For decades, scientists have sought to answer this question and understand the net role clouds play in future climate projections (Schneider et al., 2017). Clouds are complex because they both have a cooling (reflecting incoming solar radiation) and warming (absorbing incoming solar radiation) effect (Lashof, DeAngelo, Saleska, & Harte, 1997). The type of cloud, altitude, and optical properties combine to determine how these countervailing effects balance out. Although still under debate, it appears that in most circumstances the cloud feedback is likely positive (Boucher et al., 2013). For example, models and observations show that increasing greenhouse gas concentrations reduces the low-level cloud fraction in the Northeast Pacific at decadal time scales. This then has a positive feedback effect and enhances climate warming since less solar radiation is reflected by the atmosphere (Clement, Burgman, & Norris, 2009).

The key lesson from the long list of potentially positive feedbacks and their interactions is that runaway climate change, and runaway perturbations have to be taken as a serious possibility. Table 2 is just a snapshot of the type of feedbacks that have been identified (see Supplementary material for a more thorough explanation of positive feedback loops). However, this list is not exhaustive and the possibility of undiscovered positive feedbacks portends even greater existential risks. The many environmental crises humankind has previously averted (famine, ozone depletion, London fog, water pollution, etc.) were averted because of political will based on solid scientific understanding. We cannot count on complete scientific understanding when it comes to positive feedback loops and climate change.

#### Debris triggers miscalculated war – destroys global satellites, not just the US and independently turns the space war link.

Acton and McDonald 21. James M. Acton is co-director of the Nuclear Policy Program and holds the Jessica T. Mathews Chair at the Carnegie Endowment for International Peace. Thomas D. MacDonald is a fellow in the Nuclear Policy Program. 12/10/21. [Defense One, “Nuclear Command-and-Control Satellites Should Be Off Limits,” <https://www.defenseone.com/ideas/2021/12/nuclear-command-and-control-satellites-should-be-limits/187472/>] Justin

When Russia blew up an old satellite with a new missile on November 15, it created an expanding cloud of debris that will menace the outer space environment for years to come.

Hypersonic fragments from the collision with Moscow’s ground-launched, anti-satellite weapon risk destroying other satellites used for communications, meteorology, and agriculture. They even pose a danger to China’s Tiangong Space Station and the International Space Station, where personnel—including Russia’s own cosmonauts—were forced to don spacesuits and flee into their escape capsules ahead of approaching debris.

But the greatest danger that this careless stunt highlighted is to a different potential target: high-altitude satellites used for nuclear command and control. Those critical satellites face the threat of being attacked by co-orbital anti-satellite weapons, that is, other spacecraft with offensive capabilities. Destroying a nuclear command-and-control satellite, even unintentionally, could lead a conventional conflict to escalate into a nuclear war. As such, the United States, China, and Russia have a shared interest in ensuring the security of each other’s high-altitude satellites.

Satellites are integral to the United States’ nuclear command-and-control system. They would be the preferred means to transmit a presidential order to use nuclear weapons and would provide the first warning of an incoming nuclear attack. Russia uses satellites for similar purposes, even if it appears not to rely on them quite as much as the United States. While little is publicly known about China’s nuclear command-and-control system, the U.S. Department of Defense has assessed that China is in the process of developing a space-based early-warning system.

The most important nuclear command-and-control satellites—those for communications and early warning—are located in high-altitude orbits. Fortunately, most are strung out about 22,500 miles above the equator—far above the debris from Russia’s ground-launched anti-satellite weapon test. These satellites, however, are growing more vulnerable, particularly to co-orbital anti-satellite weapons.

Nuclear command-and-control satellites might be attacked deliberately, as the prelude to a nuclear war. In a conventional conflict, if China, Russia, or the United States decided to use nuclear weapons first—or believed that its opponent was about to do so—it might try to degrade the adversary’s nuclear command-and-control system preemptively. China, for example, might attack U.S. early-warning satellites to weaken the United States’ homeland missile defenses. Conversely, the United States might target Chinese communication satellites to interfere with Beijing’s ability to wield its nuclear forces.

In a conventional war, however, nuclear command-and-control satellites might be attacked and threatened for altogether different reasons—creating the risk that nuclear war might be triggered inadvertently.

The United States, in particular, is deeply reliant on satellites to enable conventional operations. Moreover, most, if not all, nuclear command-and-control satellites also support nonnuclear missions—making them tempting targets even in a purely conventional conflict. For example, some U.S. satellites transmit orders to both U.S. conventional and nuclear forces. Russia might attack these satellites to try to undermine the United States’ ability to prosecute a conventional war, but with the added and unintended effect of degrading the U.S. nuclear command-and-control system.

Washington would be hard pressed to determine the intent behind such attacks. It could easily misinterpret them as preparations for a nuclear war and respond accordingly. It might threaten to use nuclear weapons unless its adversary backed off. In fact, the Trump administration’s nuclear policy explicitly threatened the use of nuclear weapons in precisely this circumstance. The Biden administration can and should remove this threat as part of its ongoing Nuclear Posture Review.

To make matters worse, it might not take actual attacks against nuclear command-and-control satellites to spark this kind of escalation. Satellites in high-altitude orbits are periodically moved to different positions to optimize their performance. Especially in a conventional conflict, a repositioning operation that led one spacecraft to approach a nuclear command-and-control satellite might appear to the latter’s owner as the beginning of an attack against its nuclear command-and-control system. Once again, the potential consequences could be catastrophic.

#### Any nuclear war causes extinction – ice age and famine.

Steven Starr 15 [Director of the University of Missouri’s Clinical Laboratory Science Program, as well as a senior scientist at the [Physicians for Social Responsibility](http://www.psr.org/). He has worked with the Swiss, Chilean, and Swedish governments in support of their efforts at the United Nations to eliminate thousands of high-alert, launch-ready U.S. and Russian nuclear weapons. “Nuclear War: An Unrecognized Mass Extinction Event Waiting To Happen.” Ratical. March 2015. <https://ratical.org/radiation/NuclearExtinction/StevenStarr022815.html>] TG

A war fought with 21st century strategic nuclear weapons would be more than just a great catastrophe in human history. If we allow it to happen, such a war would be a mass extinction event that [ends human history](https://ratical.org/radiation/NuclearExtinction/StarrNuclearWinterOct09.pdf). There is a profound difference between extinction and “an unprecedented disaster,” or even “the end of civilization,” because even after such an immense catastrophe, human life would go on.

But extinction, by definition, is an event of utter finality, and a nuclear war that could cause human extinction should really be considered as the ultimate criminal act. It certainly would be the crime to end all crimes.

The world’s leading climatologists now tell us that nuclear war threatens our continued existence as a species. Their studies predict that a large nuclear war, especially one fought with strategic nuclear weapons, would create [a post-war environment in which for many years it would be too cold and dark to even grow food](http://climate.envsci.rutgers.edu/pdf/RobockToonSAD.pdf). Their findings make it clear that not only humans, but most large animals and many other forms of complex life would likely vanish forever in a nuclear darkness of our own making.

The environmental consequences of nuclear war would attack the ecological support systems of life at every level. Radioactive fallout, produced not only by nuclear bombs, but also by the destruction of nuclear power plants and their spent fuel pools, would poison the biosphere. Millions of tons of smoke would act to [destroy Earth’s protective ozone layer](https://www2.ucar.edu/atmosnews/just-published/3995/nuclear-war-and-ultraviolet-radiation) and block most sunlight from reaching Earth’s surface, creating Ice Age weather conditions that would last for decades.

Yet the political and military leaders who control nuclear weapons strictly avoid any direct public discussion of the consequences of nuclear war. They do so by arguing that nuclear weapons are not intended to be used, but only to deter.

Remarkably, the leaders of the Nuclear Weapon States have chosen to ignore the authoritative, long-standing scientific research done by the climatologists, research that predicts virtually any nuclear war, fought with even a fraction of the operational and deployed nuclear arsenals, will leave the Earth essentially uninhabitable.

# 4

#### **Thus, the standard is maximizing expected well being.**

Prefer additionally:

#### **1] extinction first**

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

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

#### It’s excluded by traditional policymaking apparatuses: our brains are psychologically biased against high magnitude scenarios since we’re emotionally unable to understand the suffering of millions of pople

Dunn 07

[Elizabeth Dunn and Claire Ashton, “On emoitional innumeracy: Predicted and actual affective responses to grand-scale tragedies”, May 29 2007 Journal of Experimental Social Psychology]

The present research demonstrates that people overestimate the intensity of their emotional responses to grand-scale tragedies. Participants predicted that they would feel significantly worse if thousands of people were killed in a disaster than if only a few people were killed, and yet they exhibited an ‘‘emotional flatline,’’ feeling equally sad regardless of the number of people killed. This unforeseeable emotional flatline was demonstrated in response to deaths stemming from human violence and natural disasters, both close to home and far away (including hurricanes in the United States, a forest fire in Spain, and the Iraq War). Participants’ actual emotional responses were calibrated with fatalities only when abstract death tolls were translated into concrete images. We argue that affective forecasts and emotional experiences may arise from separate systems, leading to reliable forecasting errors, as well as influencing subsequent judgments. 2007 Elsevier Inc. All rights reserved. Keywords: Affective forecasting; Scope sensitivity; Temporal discounting; Cognitive experiential self theory Would you be more upset about a hurricane in which 5000 people were killed than one in which 5 people were killed? Although most people might predict feeling worse in response to the larger scale tragedy, most people might be wrong; recent research demonstrates that people often go astray in imagining their own future emotional responses to events (e.g., Dunn & Laham, 2006; Dunn, Biesanz, Human, & Finn, 2007; Wilson & Gilbert, 2003; Wilson, Wheatley, Meyers, Gilbert, & Axsom, 2000). Such predictions (or affective forecasts) may be inaccurate in part because affective forecasts and actual emotional experiences are likely to be driven by different modes of information processing. According to Epstein’s (1994, 1998) cognitive-experiential self theory (CEST), humans apprehend reality through the operation of two distinct information processing systems: the rational system, which is relatively slow and logical and represents a recent evolutionary development, and the experiential system, which is relatively fast and holistic and evolutionarily ancient (for similar dual-process theories, see Chaiken & Trope, 1999; Sloman, 1996). As a uniquely human capacity that relies on logical reasoning, affective forecasting should stem primarily from the operation of the rational system. Because the rational system is responsive to abstract symbols, words, and numbers (Epstein, 1998), affective forecasts should be sensitive to the scope of a tragedy; that is, people should predict feeling worse as a function of the number of individuals killed. Emotions, however, are a signature product of the experiential system, which responds not to abstract numbers, but to concrete images, metaphors, and narratives (Epstein, 1998). Therefore, actual emotional experiences may be relatively insensitive to the scope of a tragedy. Existing research suggests that people are largely insensitive to scope when they make economic or policy-oriented decisions; people place little weight on the number of individuals a program will help or the amount of a good to be 0022-1031/$ - see front matter 2007 Elsevier Inc. All rights reserved. doi:10.1016/j.jesp.2007.04.011 \* Corresponding author. Fax: +1 604 822 6923. E-mail address: edunn@psych.ubc.ca (E.W. Dunn). www.elsevier.com/locate/jesp Available online at www.sciencedirect.com Journal of Experimental Social Psychology 44 (2008) 692–698 provided in deciding how much they are willing to pay or what tradeoffs they are willing to accept (e.g., Baron & Greene, 1996; Fetherstonhaugh, Slovic, Johnson, & Friedrich, 1997; Hsee, Rottenstreich, & Xiao, 2005). Decisions become particularly scope insensitive when people are led to rely on their feelings during decision-making (Hsee & Rottenstreich, 2004), suggesting that scope-insensitive decisions may be rooted in scope-insensitive emotional responses (for related arguments, see Loewenstein, Weber, Hsee, & Welch, 2001; Slovic, Finucane, Peters, & MacGregor, 2002). Thus, recent research on decision-making provides indirect support for the idea that emotions—as a product of the experiential system—are relatively unresponsive to abstract numbers, such that people may exhibit an ‘‘emotional flatline’’ in the face of increasing death tolls. To the extent that affective forecasting is supported by the rational system, however, affective forecasts should be relatively sensitive to scope (operationally defined here as death toll), such that people may predict feeling increasingly negative as a function of the number of people killed in a disaster. As a result, affective forecasts and emotional experiences should diverge as the scope of a disaster increases, leading to greater forecasting errors with regard to grand-scale versus small-scale disasters. We tested this idea in a series of studies by asking participants to predict how they would feel or to report their actual feelings regarding specific tragedies, given various death tolls. In Study 1, we conducted an initial real-world demonstration of this idea by manipulating the perceived scope of US hurricanes.

#### Security is life-affirming

Booth ‘5

(Ken Booth, Prof. of IR @ Wales, ‘5 [Critical Security Studies and World Politics, p. 22]

The best starting point for conceptualizing security lies in the real conditions of insecurity suffered by people and collectivities. Look around. What is immediately striking is that some degree of insecurity, as a life determining condition, is universal. To the extent an individual or group is insecure, to that extent their life choices and chances **are taken away**; this is because of the resources and energy they need to invest in seeking safety from domineering threats - whether these are the lack of food for one’s children or organizing to resist a foreign aggressor. The corollary of the relationship between insecurity and a determined life is that **a degree of security creates life possibilities**. Security might therefore be conceived as synonymous with **opening up space in people’s lives.** This allows for individual and collective **human becoming** - the capacity to have some choice about living differently - consistent with the same but different search by others. Two interrelated conclusions follow from this. First, security can be understood as an instrumental value; it frees its possessors to a greater or lesser extent from life-determining constraints and so allows different life possibilities to be explored. Second, security is synonymous simply with survival. One can survive without being secure (the experience of refugees in long-term camps in war-torn parts of the world, for example). Security is therefore **more than mere** animal survival (basic animal existence). It is survival-plus, the plus being the **possibility to explore human becoming**, As an instrumental value, security is sought because it frees people(s) to some degree to do other than deal with threats to their human being. The achievement of a level of security - and security is always relative - gives to individuals and groups some time, energy, and scope to chose to be or become, other than merely survival as human biological organisms. Security is an important dimension of the process by which the human species can reinvent itself beyond the merely biological.

#### 2] use epistemic modesty – multiply probability of the fwk times the magnitude of the impacts A) clash – encourages both substantive and phil debates so that we talk about all the offense B) leads to the net most morality and proves that only beating fwk is not enough to win the debate

# case

ON 1ar theory – spikes solve, no infinite abuse

#### Securitization is self contradicting.

#### Charrett ‘9 [Catherine Charrett, International Catalan Institute for Peace, “A Critical Application of Securitization Theory: Overcoming the Normative Dilemma of Writing Security”, CATO International Institute in Barcelona, Spain, December 2009, http://www.gencat.cat/icip/pdf/WP7\_ANG.pdf, Accessed 7/17/10] soap

Theorizers and critics of the CS discuss how its particular understanding of **securitization is involved in the reproduction of dominant subjectivities of security and the validation of oppressive or exclusionary securitization processes**. The argument posited in this article, therefore, is that ST, uncritically applied, contributes to the negative securitization of a referent. Williams explains how **the logic of securitization** employed by the **CS in order to broaden the security agenda without loosing conceptual specificity, that which characterizes a security problem as demanding urgent action by the state, mirrors “the intense condition of existential division, of friendship and enmity** that constitutes Schmitt’s concept of the political” (Williams 2003: 516). Williams analyzes the CS’ conceptualization of securitization through a Schmittian lens to identify how their theoretical approach to security works to reproduce the same ‘friend-enemy’ logic as Schmitt’s understanding of the political. He explains how Schmitt’s “decisionist theory of sovereignty” can be located in the CS understanding of securitization as the suspension of normal politics (Williams 2003: 516). Bigo shares a similar concern with the CS’ particular conceptualization of security, which he argues validates the view of security professionals who purport that “exceptionalization,” or a “beyond the law” politics is required of securitization (Bigo 2002: 72-73). The critique formulated against the CS is, therefore, that its conceptualization of **securitization reinforces traditionalist or realist views of how securitization processes take place. Hence, the uncritical application of ST reproduces the subjectivities of fear and othering generated from such an understanding of security, and replicates the notion that state power and ordering are required to manage threats. Despite their social constructivist approach to defining security threats,** the CS utilizes a particular understanding of **security** which **does not challenge the dominant or militarized view of security; rather it**17 **accepts it as the “truth” about what security is** (Bigo 2002: 73). **ST thus feeds into the logic that immediate and undemocratic state action is the only method to manage security concerns, which often result in the negative securitization of a sector.**

# 2N