### 1NC – OFF

#### It is the responsibility of settlers to tie their politics to place as the baseline for decolonization. Thus, the ROTB is to center indigenous demands and scholarship – anything else is a settler move to innocence attempting to move the discussion away from indigenous plight

Sium et al 12 [Aman Sium, Chandni Desai, Eric Ritskes, Ontario Institute for Studies in Education, University of Toronto, Sium identifies as being Tigrinya, indigenous, African, and Eritrean, Ritskes is Zhaganash, Towards the ‘tangible unknown’: Decolonization and the Indigenous future, Decolonization: Indigeneity, Education & Society ¶ Vol. 1, No. 1, 2012, pp. I-XIII, JKS, Recut VM]

**Decolonization does not exist without a framework that centers and privileges Indigenous life, community, and epistemology**. In that regards, **it becomes vitally important, despite our goals of understanding and promoting a global Indigenous undertaking, to center and recognize the local settler colonial contexts on which we,** as authors**, are situated. As we write this, we are on unceded Haudenosaunee and Mississauga land. We do not state this to signal a particular understanding of the complexity of issues, resistance and life that this statement entails, nor in belief of an (perceived and imposed) alliance with Anishinaabeg peoples**. Too often talk of ¶ solidarity and alliance gets co-opted in these ways, as ‘magic words’ to state and dispense with complexity, not understanding why they are said or what responsibility and action they might entail. **We state these words as a contestation of colonial logic that,** as Andrea Smith (2006) notes, “**holds that Indigenous people must disappear**. In fact, **they must always be disappearing, in order to allow non-Indigenous peoples rightful claim over the land**” (p. 68). The history of settler colonialism is one of displacement and replacement and we are each implicated in this. **We state these words in recognition of the Anishinaabeg peoples’ continued right to this land, to sovereignty, and** indeed**, their right to exist beyond the** often **fetishized historical memory of settler colonialism**. We do not need to state this to make it true, it simply is. ¶ **It is important to recognize this** particular **history** of colonialism, **and subsequent (temporary) interruption of sovereignty, because it affects each of us. There is no escaping complicity within a settler colonial state, especially for those** of us **who have settled here, though complicity looks different for each of us. Complicity cannot be collapsed into simple and neat categories without historicizing the political legacy of colonialism and the way in which it manifested and continues to manifest itself both here and across the globe. It** is important to consider the process and logics of colonial modernity and white supremacy, the way in which Europeans defined and classified people – as human and non-human – and then used this as a basis to conquer land and subjugate populations through enslaving, indenturing in labour, genociding and warring (Wynter, 2003, Smith, 2006). **It is crucial to consider the particularities of forced movement and involuntary migrations of various diasporas and their distinction from (European) settlers that colonized and settled various lands for the purpose of capitalist expansion rooted in notions and the epistemology of “possessive individualism**” (Mohanram, 1999). ¶ That being said, for those who have settled here, we have a history of interruption to recognize and rectify; as Waziyatawin (in this issue) notes, Indigenous peoples recognized, from the beginning, how Western thought and presence displaced and endangered Indigenous ways of knowing and relationships to the earth, as well as the earth itself. **We have a responsibility to honor the Indigenous ‘laws of the land’ and to restore right relationships**. Often the call for sustainability and ecological responsibility is framed from a settler vantage point, in belief that “this land is your land, this land is my land” so we must take care of it. **For those** of us **who are not Indigenous to Turtle Island**, we **must recognize** our particular **responsibility to this land and its stewards**. All of this is interwoven into this work and our beginning point. ¶ As such, the starting point of decolonization is not a rejection of colonialism. Rather than replace the dominant with the marginalized, or as Fanon (1968) puts it, make it so “the last shall be first and the first last” (p. 37), the decolonizing project seeks to reimagine and rearticulate power, change, and knowledge through a multiplicity of epistimologies, ontologies and axiologies. Decolonization cannot take place without contestation. It must necessarily push back against the colonial relations of power that threaten Indigenous ways of being. Alfred (2009b) and others have suggested that decolonization can only be “achieved through the resurgence of an Indigenous consciousness *channeled into contention with colonialism*” (p. 48; emphasis ¶ added). **Indigenous knowledges are the starting point for resurgence and decolonization, are the medium through which we engage in the present, and are the possibility of an Indigenous future. Without this power base, decolonization becomes a domesticated industry of ideas**. **Decolonization is not always about the co-existence of knowledges, nor knowledge synthesis, which inevitably centers colonial logic**. Whiteness does not ‘play well with others’ but, rather, fragments and marginalizes - so it must be asked: Co-existence at what cost and for whose benefit? Decolonization necessarily unsettles. In the face of the beast of colonialism, thirsty for the blood of Indigeneity and drunk on conquest, assimilation is submission and decolonization calls on those who will “beat the beast into submission and teach it to behave” (Alfred, 2009a, p. 37).

#### Settler colonialism is not a one-off event but an ongoing structure of dispossession that requires the elimination of Indigenous life. This is marked by ontological violence reasserted each day of occupation.

Tuck and Yang 12 [Eve Tuck, Unangax, State University of New York at New Paltz K. Wayne Yang University of California, San Diego, Decolonization is not a metaphor, Decolonization: Indigeneity, Education & Society Vol. 1, No. 1, 2012, pp. 1-40 JJ]

Our intention in this descriptive exercise is not be exhaustive, or even inarguable; instead, we wish to emphasize that (a) decolonization will take a different shape in each of these contexts - though they can overlap4 - and that (b) neither external nor internal colonialism adequately describe the form of colonialism which operates in the United States or other nation-states in which the colonizer comes to stay. Settler colonialism operates through internal/external colonial modes simultaneously because there is no spatial separation between metropole and colony. For example, in the United States, many Indigenous peoples have been forcibly removed from their homelands onto reservations, indentured, and abducted into state custody, signaling the form of colonization as simultaneously internal (via boarding schools and other biopolitical modes of control) and external (via uranium mining on Indigenous land in the US Southwest and oil extraction on Indigenous land in Alaska) with a frontier (the US military still nicknames all enemy territory “Indian Country”). The horizons of the settler colonial nation-state are total and require a mode of total appropriation of Indigenous life and land, rather than the selective expropriation of profit-producing fragments. Settler colonialism is different from other forms of colonialism in that settlers come with the intention of making a new home on the land, a homemaking that insists on settler sovereignty over all things in their new domain. Thus, relying solely on postcolonial literatures or theories of coloniality that ignore settler colonialism will not help to envision the shape that decolonization must take in settler colonial contexts. Within settler colonialism, the most important concern is land/water/air/subterranean earth (land, for shorthand, in this article.) Land is what is most valuable, contested, required. This is both because the settlers make Indigenous land their new home and source of capital, and also because the disruption of Indigenous relationships to land represents a profound epistemic, ontological, cosmological violence. This violence is not temporally contained in the arrival of the settler but is reasserted each day of occupation. This is why Patrick Wolfe (1999) emphasizes that settler colonialism is a structure and not an event. In the process of settler colonialism, land is remade into property and human relationships to land are restricted to the relationship of the owner to his property. Epistemological, ontological, and cosmological relationships to land are interred, indeed made pre-modern and backward. Made savage. 3 In using terms as “white” and “whiteness”, we are acknowledging that whiteness extends beyond phenotype. 4 We don’t treat internal/external as a taxonomy of colonialisms. They describe two operative modes of colonialism. The modes can overlap, reinforce, and contradict one another, and do so through particular legal, social, economic and political processes that are context specific. 6 E. Tuck & K.W. Yang In order for the settlers to make a place their home, they must destroy and disappear the Indigenous peoples that live there. Indigenous peoples are those who have creation stories, not colonization stories, about how we/they came to be in a particular place - indeed how we/they came to be a place. Our/their relationships to land comprise our/their epistemologies, ontologies, and cosmologies. For the settlers, Indigenous peoples are in the way and, in the destruction of Indigenous peoples, Indigenous communities, and over time and through law and policy, Indigenous peoples’ claims to land under settler regimes, land is recast as property and as a resource. Indigenous peoples must be erased, must be made into ghosts (Tuck and Ree, forthcoming). At the same time, settler colonialism involves the subjugation and forced labor of chattel slaves5 , whose bodies and lives become the property, and who are kept landless. Slavery in settler colonial contexts is distinct from other forms of indenture whereby excess labor is extracted from persons. First, chattels are commodities of labor and therefore it is the slave’s person that is the excess. Second, unlike workers who may aspire to own land, the slave’s very presence on the land is already an excess that must be dis-located. Thus, the slave is a desirable commodity but the person underneath is imprisonable, punishable, and murderable. The violence of keeping/killing the chattel slave makes them deathlike monsters in the settler imagination; they are reconfigured/disfigured as the threat, the razor’s edge of safety and terror. The settler, if known by his actions and how he justifies them, sees himself as holding dominion over the earth and its flora and fauna, as the anthropocentric normal, and as more developed, more human, more deserving than other groups or species. The settler is making a new "home" and that home is rooted in a homesteading worldview where the wild land and wild people were made for his benefit. He can only make his identity as a settler by making the land produce, and produce excessively, because "civilization" is defined as production in excess of the "natural" world (i.e. in excess of the sustainable production already present in the Indigenous world). In order for excess production, he needs excess labor, which he cannot provide himself. The chattel slave serves as that excess labor, labor that can never be paid because payment would have to be in the form of property (land). The settler's wealth is land, or a fungible version of it, and so payment for labor is impossible.6 The settler positions himself as both superior and normal; the settler is natural, whereas the Indigenous inhabitant and the chattel slave are unnatural, even supernatural. Settlers are not immigrants. Immigrants are beholden to the Indigenous laws and epistemologies of the lands they migrate to. Settlers become the law, supplanting Indigenous 5 As observed by Erica Neeganagwedgin (2012), these two groups are not always distinct. Neeganagwedgin presents a history of the enslavement of Indigenous peoples in Canada as chattel slaves. In California, Mexico, and the U.S. Southwest under the Spanish mission system, Indigenous people were removed from their land and also made into chattel slaves. Under U.S. colonization, California law stipulated that Indians could be murdered and/or indentured by any “person” (white, propertied, citizen). These laws remained in effect until 1937. 6 See Kate McCoy (forthcoming) on settler crises in early Jamestown, Virginia to pay indentured European labor with land. Decolonization is not a metaphor 7 laws and epistemologies. Therefore, settler nations are not immigrant nations (See also A.J. Barker, 2009). Not unique, the United States, as a settler colonial nation-state, also operates as an empire - utilizing external forms and internal forms of colonization simultaneous to the settler colonial project. This means, and this is perplexing to some, that dispossessed people are brought onto seized Indigenous land through other colonial projects. Other colonial projects include enslavement, as discussed, but also military recruitment, low-wage and high-wage labor recruitment (such as agricultural workers and overseas-trained engineers), and displacement/migration (such as the coerced immigration from nations torn by U.S. wars or devastated by U.S. economic policy). In this set of settler colonial relations, colonial subjects who are displaced by external colonialism, as well as racialized and minoritized by internal colonialism, still occupy and settle stolen Indigenous land. Settlers are diverse, not just of white European descent, and include people of color, even from other colonial contexts. This tightly wound set of conditions and racialized, globalized relations exponentially complicates what is meant by decolonization, and by solidarity, against settler colonial forces. Decolonization in exploitative colonial situations could involve the seizing of imperial wealth by the postcolonial subject. In settler colonial situations, seizing imperial wealth is inextricably tied to settlement and re-invasion. Likewise, the promise of integration and civil rights is predicated on securing a share of a settler-appropriated wealth (as well as expropriated ‘third-world’ wealth). Decolonization in a settler context is fraught because empire, settlement, and internal colony have no spatial separation. Each of these features of settler colonialism in the US context - empire, settlement, and internal colony - make it a site of contradictory decolonial desires7 . Decolonization as metaphor allows people to equivocate these contradictory decolonial desires because it turns decolonization into an empty signifier to be filled by any track towards liberation. In reality, the tracks walk all over land/people in settler contexts. Though the details are not fixed or agreed upon, in our view, decolonization in the settler colonial context must involve the repatriation of land simultaneous to the recognition of how land and relations to land have always already been differently understood and enacted; that is, all of the land, and not just symbolically. This is precisely why decolonization is necessarily unsettling, especially across lines of solidarity. “Decolonization never takes place unnoticed” (Fanon, 1963, p. 36). Settler colonialism and its decolonization implicates and unsettles everyone.”

#### This structure of technologies renders indigenous land and life infinitely fungible, causing genocidal violence on a mass scale.

**paperson 17** [la, also K. Wayne Yang, an associate professor of ethnic studies at the University of California, San Diego. “A Third University Is Possible” June 2017]

Land is the prime concern of settler colonialism, contexts in which the colonizer comes to a “new” place not only to seize and exploit but to stay, making that “new” place his permanent home. Settler colonialism thus complicates the center–periphery model that was classically used to describe colonialism, wherein an imperial center, the “metropole,” dominates distant colonies, the “periphery.” Typically, one thinks of European colonization of Africa, India, the Caribbean, the Pacific Islands, in terms of external colonialism, also called exploitation colonialism, where land and human beings are recast as natural resources for primitive accumulation: coltan, petroleum, diamonds, water, salt, seeds, genetic material, chattel. Theories named as “settler colonial studies” had a resurgence beginning around 2006.[2] However, the analysis of settler colonialism is actually not new, only often ignored within Western critiques of empire.[3] The critical literatures of the colonized have long positioned the violence of settlement as a prime feature in colonial life as well as in global arrangements of power. We can see this in Franz Fanon’s foundational critiques of colonialism. Whereas Fanon’s work is often generalized for its diagnoses of anti/colonial violence and the racialized psychoses of colonization upon colonized and colonizer, Fanon is also talking about settlement as the particular feature of French colonization in Algeria. For Fanon, the violence of French colonization in Algeria arises from settlement as a spatial immediacy of empire: the geospatial collapse of metropole and colony into the same time and place. On the “selfsame land” are spatialized white immunity and racialized violation, non-Native desires for freedom, Black life, and Indigenous relations.[4] Settler colonialism is too often thought of as “what happened” to Indigenous people. This kind of thinking confines the experiences of Indigenous people, their critiques of settler colonialism, their decolonial imaginations, to an unwarranted historicizing parochialism, as if settler colonialism were a past event that “happened to” Native peoples and not generalizable to non-Natives. Actually, settler colonialism is something that “happened for” settlers. Indeed, it is happening for them/us right now. Wa Thiong’o’s question of how instead of why directs us to think of land tenancy laws, debt, and the privatization of land as settler colonial technologies that enable the “eventful” history of plunder and disappearance. Property law is a settler colonial technology. The weapons that enforce it, the knowledge institutions that legitimize it, the financial institutions that operationalize it, are also technologies. Like all technologies, they evolve and spread. Recasting land as property means severing Indigenous peoples from land. This separation, what Hortense Spillers describes as “the loss of Indigenous name/land” for Africans-turned-chattel, recasts Black Indigenous people as black bodies for biopolitical disposal: who will be moved where, who will be murdered how, who will be machinery for what, and who will be made property for whom.[5] In the alienation of land from life, alienable rights are produced: the right to own (property), the right to law (protection through legitimated violence), the right to govern (supremacist sovereignty), the right to have rights (humanity). In a word, what is produced is whiteness. Moreover, it is not just human beings who are refigured in the schism. Land and nonhumans become alienable properties, a move that first alienates land from its own sovereign life. Thus we can speak of the various technologies required to create and maintain these separations, these alienations: Black from Indigenous, human from nonhuman, land from life.[6] “How?” is a question you ask if you are concerned with the mechanisms, not just the motives, of colonization. Instead of settler colonialism as an ideology, or as a history, you might consider settler colonialism as a set of technologies —a frame that could help you to forecast colonial next operations and to plot decolonial directions. This chapter proceeds with the following insights. (1) The settler–native– slave triad does not describe identities. The triad—an analytic mainstay of settler colonial studies—digs a pitfall of identity that not only chills collaborations but also implies that the racial will be the solution. (2) Technologies are trafficked. Technologies generate patterns of social relations to land. Technologies mutate, and so do these relationships. Colonial technologies travel. In tracing technologies’ past and future trajectories, we can connect how settler colonial and antiblack technologies circulate in transnational arenas. (3) Land—not just people—is the biopolitical target.[7] The examples are many: fracking, biopiracy, damming of rivers and flooding of valleys, the carcasses of pigs that die from the feed additive ractopamine and are allowable for harvest by the U.S. Food and Drug Administration. The subjugation of land and nonhuman life to deathlike states in order to support “human” life is a “biopolitics” well beyond the Foucauldian conception of biopolitical as governmentality or the neoliberal disciplining of modern, bourgeois, “human” subject. (4) (Y)our task is to theorize in the break, that is, to refuse the master narrative that technology is loyal to the master, that (y)our theory has a Eurocentric origin. Black studies, Indigenous studies, and Othered studies have already made their breaks with Foucault (over biopolitics), with Deleuze and Guatarri (over assemblages and machines), and with Marx (over life and primitive accumulation). (5) Even when they are dangerous, understanding technologies provides us some pathways for decolonizing work. We can identify projects of collaboration on decolonial technologies. Colonizing mechanisms are evolving into new forms, and they might be subverted toward decolonizing operations. The Settler–Native–Slave Triad Does Not Describe Identities One of the main interventions of settler colonial studies has been to insist that the patterning of social relations is shaped by colonialism’s thirst for land and thus is shaped to fit modes of empire. Because colonialism is a perverted affair, our relationships are also warped into complicitous arrangements of violation, trespass, and collusion with its mechanisms. For Fanon, the psychosis of colonialism arises from the patterning of violence into the binary relationship between the immune humanity of the white settler and the impugned humanity of the native. For Fanon, the supremacist “right” to create settler space that is immune from violence, and the “right” to abuse the body of the Native to maintain white immunity, this is the spatial and fleshy immediacy of settler colonialism. Furthermore, the “humanity” of the settler is constructed upon his agency over the land and nature. As Maldonado- Torres explains, “I think, therefore I am” is actually an articulation of “I conquer, therefore I am,” a sense of identity posited upon the harnessing of nature and its “natural” people. Indeed, for Fanon, it is the perverse ontology of settler becomings—becoming landowner or becoming property, becoming killable or becoming a killer—and the mutual implication of tortured and torturer that mark the psychosis of colonialism. This problem of modernity and colonial psychosis is echoed in Jack Forbes’s writings: Columbus was a wétiko. He was mentally ill or insane, the carrier of a terribly contagious psychological disease, the wétiko psychosis. . . . The wétiko psychosis, and the problems it creates, have inspired many resistance movements and efforts at reform or revolution. Unfortunately, most of these efforts have failed because they have never diagnosed the wétiko. Under Western modernity, becoming “free” means becoming a colonizer, and because of this, “the central contradiction of modernity is freedom.” Critiques of settler colonialism, therefore, do not offer just another “type” of colonialism to add to the literature but a mode of analysis that has repercussions for any diagnosis of coloniality and for understanding the modern conditions of freedom. By modern conditions of freedom, I mean that Western freedom is a product of colonial modernity, and I mean that such freedom comes with conditions, with strings attached, most manifest as terms of unfreedom for nonhumans. As Cindi Mayweather says, “your freedom’s in a bind.”

#### Extraterrestrial colonialism is naturalized through the discourse of public ownership – the resolution’s call to condemn the doctrine of private appropriation is an implicit call to recenter the settler public as the legitimate and rightful owners of space and place.

Lister 18, research assistant @ Dine College (Majerle, “‘The Only Way to Save the Land is to Give It Back’: A Critique of Settler Conservationism,” [http://therednation.org/the-only-way-to-save-the-land-is-to-give-it-back-a-critique-of-settler-conservationism/](http://therednation.org/the-only-way-to-save-the-land-is-to-give-it-back-a-critique-of-settler-conservationism/)//BB) Recut VM

The history of the US conservation movement is a history settler colonialism. Settler colonialism operates on certain myths so that it can reproduce itself. One of those myths is that Indigenous people of the U.S. were unproductive with the land therefore white settlers were entitled to the land. There are two main points in this myth, the capitalistic characteristic of productivity and the notion of white supremacy. When settlers came over, they deemed the land unproductive despite the complex use of the land by Indigenous people. Following this, they believed they were entitled to the land because they thought themselves superior to manage land and labor. This white supremacy ideology initiated the Indigenous genocide, Indigenous land dispossession, and the enslavement of the African people. Settler land management operates on this notion that indigenous people cannot management their lands themselves despite the romanticism of the “ecological” Indian. If Indigenous people cannot manage the land, who should be in charge? The discussion of control of stolen land shifts to a discussion of the public vs the private. Indigenous people are quick to recognize the land grabs by the Federal government, or any other government, as the continuation of colonial land accumulation. Yet on the other end, conservationists see it as consolidating lands for the public. The conservationists rally around the term “Public lands” harkening to the spirit of Wood Guthrie’s, “This Land is Your Land.” This shifts the narrative away from Indigenous land claims and dispossession towards a discussion of the public good. Indigenous lands become the public’s land and “the public” — which excludes the original owners of the land — should be the ones who manage and control the land.

#### Thus, the only alternative is one of decolonization.

Tuck and Yang 12 [Eve Tuck, Unangax, State University of New York at New Paltz K. Wayne Yang University of California, San Diego, Decolonization is not a metaphor, Decolonization: Indigeneity, Education & Society Vol. 1, No. 1, 2012, pp. 1-40, VM]

Conclusion An ethic of incommensurability, which guides moves that unsettle innocence, stands in contrast to aims of reconciliation, which motivate settler moves to innocence. Reconciliation is about rescuing settler normalcy, about rescuing a settler future. Reconciliation is concerned with questions of what will decolonization look like? What will happen after abolition? What will be the consequences of decolonization for the settler? Incommensurability acknowledges that these questions need not, and perhaps cannot, be answered in order for decolonization to exist as a framework. We want to say, first, that decolonization is not obliged to answer those questions - decolonization is not accountable to settlers, or settler futurity. Decolonization is accountable to Indigenous sovereignty and futurity. Still, we acknowledge the questions of those wary participants in Occupy Oakland and other settlers who want to know what decolonization will require of them. The answers are not fully in view and can’t be as long as decolonization remains punctuated by metaphor. The answers will not emerge from friendly understanding, and indeed require a dangerous understanding of uncommonality that un-coalesces coalition politics - moves that may feel very unfriendly. But we will find out the answers as we get there, “in the exact measure that we can discern the movements which give [decolonization] historical form and content” (Fanon, 1963, p. 36). To fully enact an ethic of incommensurability means relinquishing settler futurity, abandoning the hope that settlers may one day be commensurable to Native peoples. It means removing the asterisks, periods, commas, apostrophes, the whereas’s, buts, and conditional clauses that punctuate decolonization and underwrite settler innocence. The Native futures, the lives to be lived once the settler nation is gone - these are the unwritten possibilities made possible by an ethic of incommensurability.

*when you take away the punctuation*

*he says of*

*lines lifted from the documents about military-occupied land*

*its acreage and location*

*you take away its finality*

*opening the possibility of other futures*

-Craig Santos Perez, Chamoru scholar and poet (as quoted by Voeltz, 2012)

Decolonization offers a different perspective to human and civil rights based approaches to justice, an unsettling one, rather than a complementary one. Decolonization is not an “and”. It is an elsewhere.

#### Absent the alt, multiple ongoing extinctions become inevitable

Mitchell 17 [Audra Mitchell, CIGI Chair in Global Governance and Ethics, Balsillie School of International Affairs, and Associate Professor at Wilfrid Laurier University, former Senior Lecturer in International Relations, department of Politics, University of York, Ph.D. Queen’s University of Belfast, “Decolonizing against extinction part I: extinction is violence,” Worldly, 7-28-2017, <https://worldlyir.wordpress.com/2017/07/28/decolonizing-against-extinction-part-i-extinction-is-violence/)KMM>, Recut VM]

Western scientists\* [BEGIN ENDNOTE] \* see: (Barnosky et al 2011; Ceballos et al 2015; Régnier et al 2015; McCauley et al 2015; WWF 2016; Brook and Alroy 2017) [END ENDNOTE] are proclaiming the start of a ‘sixth mass extinction event’ that may involve the destruction of more than three quarters of earth’s currently-existing life forms. In their attempts to explain this phenomenon, most scientists have converged around four major, interlinked drivers: climate change, habitat destruction, species exchange, and the direct killing of plants and animals. In most cases, these drivers are understood as the unintended consequences of generic ‘human’ activity, and as a result of desirable trends such as development or urbanization (Wilson 2002; Barnosky 2014; Ceballos 2016). A crucial driver is missing from this list: transversal structural violence against Indigenous peoples and their relations, and colonial violence in particular. ‘Structural violence’ involves systemic forms of harm, exclusion and discrimination that disproportionately affect particular groups, and which can take many forms (physical, psychological, economic, gendered and others). They are embedded in and expressed through political, cultural, economic and social structures (Farmer 2009) that can persist across large spans of time and space. I use the term ‘transversal’ to refer to forms of structural violence that extend across multiple boundaries – not only those of nation-states, but also other kinds of nations (human and otherwise), communities or kinship groups, and temporalities. Prime examples of transversal structural violence include: settler colonialism, colonial genocides (Woolford et al 2014); environmental racism or ‘slow violence’, including toxification and pollution; and complexes of sexual, physical, communal, spiritual and land-based violence associated with the extractive industries. Each of these forms of violence is ecologically devastating, and their convergence in European projects of colonisation is even more so. Many formations of transversal structural violence are significant causes of the so-called ‘four horsemen’ of extinction mentioned above. For instance, ‘direct killing’ is carried out to clear land for settlement, and it occurs as a result of ecological damage caused by resource extraction. Settler colonialism, carbon-based economies and regimes of environmental racism also support forms of socio-economic organization (for instance, carbon and energy-intensive urbanized societies) that intensify climate change and increase habitat destruction. Meanwhile, colonization has played a significant role in the ongoing transfer of life forms across the planet – whether unintentionally (e.g. the transfer of fish in the bilge water of ships); as an instrument of agricultural settlement (e.g. cattle ranching), or as a deliberate strategy of violence (e.g. smallpox). However, transversal structural violence is a driver of extinction in itself, with its own distinct manifestations. First, it involves the disruption or severance of relations and kinship structures between humancommunities and other life forms, and the dissolution of Indigenous systems of governance, laws and protocols that have co-created and sustained plural worlds over millennia (Borrows 2010; Atleo 2012; Kimmerer 2013). Second, the destruction of Indigenous knowledges through policies of assimilation, expropriation, cultural appropriation and other strategies undermines these forms of order and the relationships they nurture. Third, the displacement of and/or restricted access to land by Indigenous peoples interferes with practices of caring for land or Country that are necessary for the survival of humans and other life forms (Bawaka Country 2015). Colonial genocides embody all of these forms of destruction by killing or displacing Indigenous communities, undermining Indigenous modes of governance and kinship systems, systematically destroying relationships between life forms and erasing knowledge. All of these modes of violence weaken co-constitutive relationships between Indigenous communities, other life forms and ecosystems that have enabled their collaborative survival. This results in disruptions to ecosystems – and climate – that Potawatomi scholar Kyle Powys Whyte (2016) has recently argued would have been considered a dystopia by his Ancestors. In other words, transversal structural violence, and colonial violence in particular, are fundamental drivers of global patterns of extinction. It stands to reason, then, that responses to extinction that focus on managing endangered species or populations, or ‘backing up’ genetic material, are insufficient: they leave the structures of violence intact and may add to their power. Instead, efforts to address extinction need to focus on identifying, confronting and dismantling these formations of violence, and on restoring or strengthening the relations they sever. Yet responses to global patterns of extinction are overwhelmingly rooted in Western scientific concepts of conservation – a paradigm that emerged within 20th century European colonial government structures (Adams 2004). Contemporary conservation approaches – from the creation of land and marine parks to the archiving of genetic materials – may exacerbate the destruction of relations between Indigenous peoples and their relations. For instance, conservation strategies often involve displacing Indigenous peoples from the land that they care for (Jago 2017, Brockington and Igoe 2006), or curtailing of processes such as subsistence hunting, fishing or burning that have enabled the co-survival of Indigenous groups, plants, animals and land for millennia. Meanwhile, ex situ and genetic forms of conservation (including zoos and gene banks) may violate these relationships by instrumentalizing or commodifying kinship relations. Increasingly popular conservation approaches based on Traditional Ecological Knowledge (TEK) approaches claim to center Indigenous communities and knowledges. However, they ultimately instrumentalize fragments of Indigenous knowledge systems (for instance, data on climatic change) to test or support Western approaches. As such, they leave the structures of colonization and other forms of transversal structural violence untouched, and may even exacerbate them. All of this suggests that confronting global patterns of extinction calls for decolonization and other ethos that work to eliminate transversal structural violence – and I don’t mean this metaphorically. Enabling the restoration of relations that can enable the ongoing flourishing of life on earth will require the transfer of land and power back into plural Indigenous peoples and their distinct modes of sovereignty, law and governance (Tuck and Yang 2012). These relationships and forms of order have enabled plural Indigenous peoples and their multitude of relations to co-flourish for millennia, including through periods of rapid climate change, and they are needed to ensure the continuation of this co-flourishing. This means that decolonization is not simply related to global patterns of extinction: it is necessary to ensuring the ongoingness of plural life forms on earth.”

#### Interpretation: Evaluate the 1AC as an object of research – the negative may center the debate around the consequences, epistemology, or scholarship of that object. To clarify, they need to weigh the totality of their aff, including their assumptions and ideologies, not just the causal consequences. Even if they win a purely consequential focus is good, you should evaluate how the aff’s representation determine the causal consequences of the plan. Plan focus is a settler move to innocence that attempts to displace their culpability by saying “that’s not in the plan text”. You are an educator, not a policymaker – this distinction is crucial.

#### 1] Debate is a site of scholarship production, not policymaking 101. Even if individual ballots do not change our subjectivities, iterative investments in research models influence our political orientations - that o/w – developing values in students is the only out of round impact to debate

#### 2] Reps shape policymaking – ethical orientations determine how issues get framed and implemented - think ab how the consequences of a bill to remove nuclear power would vary if it was justified to protect native water sources vs if it was justified to improve energy exports and US primacy – turns their policy education good offense and justifies evaluating reps links before the consequences of the plan because their reps determine what those consequences are.

#### 3] Overlimiting—they arbitrarily restrict debate’s locus of contestation to an 8 second plan text. Forcing them to defend the entirety of their aff incentivizes better scholarship and is more real-world. Arbitrarily severing parts of the aff decks negative preparation which link turns their fairness offense.

#### 4] No fairness offense for them—they can still weigh consequences AND representations, justifications, and research models against the K. We just get to contest those things as well and make sequencing questions why scholarship comes first – large underlying assumptions of the aff that we draw links to are entirely predictable and if they aren’t ready to defend those fundamental parts of their aff they don’t deserve your ballot.

### 1NC – Case

#### Colonial saviorism is at the heart of international law – it’s a ploy to remake native cultures into a Eurocentric image and to legitimize extreme violence against them

Mutua 1 – Distinguished Professor and the Floyd H. and Hilda L. Hurst Faculty Scholar at the State University of New York at Buffalo School of Law (Makau, “Savages, Victims, and Saviors: The Metaphor of Human Rights”, Harvard International Law Journal, Vol. 42, No. 1, pp. 201-245, <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1525547>, 2001)//CProst

The idea that the human rights corpus is concerned with ordering the lives of non-European peoples has a long history in international law itself. More recent scholarship explores this link between international law and the imposition of European norms, values, ideas, and culture on non-European societies and cultures. Since the inception of the current international legal order some five centuries ago, there have been outright challenges by non-European cultures to the logic, substance, and purpose of international law. The development of human rights has only blunted, but not eliminated, some of those challenges. V. THE METAPHOR OF THE SAVIOR The metaphor of the savior is constructed through two intertwining characteristics—Eurocentric universalism and Christianity's missionary zeal. This section examines these characteristics and the institutional, international actors who promote liberal democracy as the antidote to human rights abuses. First, the savior metaphor is deeply embedded in the Enlightenment's universalist pretensions, which constructed Europe as superior and as center of the universe. International law itself is founded on these assumptions and premises. International law has succeeded in governing "states of all civilizations, European and non-European," and it has become "universal" although some have argued that it bears an ethnocentric fingerprint. In addition to the Eurocentric focus of human rights, the metaphor of the savior is also located in the missionary's Christian religion. Inherent to any universalizing creed is an unyielding faith in the superiority of at least the beliefs of the proselytizer over those of the potential convert, if not over the person of the convert. The project of universality or proselytism seeks to remake the "other" in the image of the converter. Christianity has a long history of such zealotry. Both empire-building and the spread of Christendom justified the means. Crusades, inquisitions, witch burnings, Jew burnings and pogroms, burnings of heretics and gay people, of fellow Christians and of infidels —all in the name of the cross. It is almost as if Constantine, upon his and his empires conversion to Christianity in the fourth century, uttered a well-fulfilled prophecy when he declared: 'In the name of this cross we shall conquer.' The cross has played the role of weapon time and time again in Christian history and empire building. In fact, the political-cultural push to universalize one's beliefs can be so obsessive that it has been identified frequently with martyrdom in history. [T]he supreme sacrifice was to die fighting under the Christian emperor. The supreme self-immolation was to fall in battle under the standard of the Cross .... But by the time Christianity was ready to meet Asia and the New World, the Cross and the sword were so identified with one another that the sword itself was a cross. It was the only kind of cross some conquistadores understood. There is a historical continuum in this impulse to universalize Eurocentrism and its norms and to ratify them under the umbrella of "universalism." Whether it is in the push for free markets, liberal systems of government, "civilized" forms of dress, or in the ubiquity of the English language itself, at least the last five centuries can appropriately be called the Age of Europe. These Eurocentric models have not been content to remain at home. They intrinsically define themselves as eternal truths. Universalization is an essential attribute of their validity. This validation comes partly from the conquest of the "primitive" and his introduction and delivery to "civilization." For international law, Anghie has captured this impulse clearly: [T]he extension and universalization of the European experience, which is achieved by transmuting it into the major theoretical problem of the discipline [international law], has the effect of suppressing and subordinating other histories of international law and the people to whom it has applied. Within the axiomatic framework of positivism, which decrees that European states are sovereign while non-European states are not, there is only one means of relating the history of the non-European world, and this the positivists proceed to do: it is a history of the civilizing mission, the process by which peoples of Africa, Asia, the Americas, and the Pacific were finally assimilated into a European international law. The impulses to conquer, colonize, save, exploit, and civilize non- European peoples met at the intersection of commerce, politics, law, and Christianity and evolved into the Age of Empire. As put by John Norton Pomeroy, lands occupied by "persons who are not recognized as belonging to the great family of states to whom international law applies" or by "savage, barbarous tribes" belonged as of right upon discovery to the "civilized and Christian nation." The savior-colonizer psyche reflects an intriguing interplay of both European superiority and manifest destiny over the subject. The "othering" project degrades although it also seeks to save. One example is the manipulative manner in which the British took over large chunks of Africa. Lord Lugard, the British colonialist, described in denigrating language a "treaty-making" ceremony in which an African ruler "agreed" to "British protection." He described this ceremony with both parties "[s]eated cross-legged on a mat opposite to each other on the ground, you should picture a savage chief in his best turn-out, which consists probably of his weapons of war, different chalk colourings on his face, a piece of the skin of a leopard, wild cat, sheep or ox." As put by a European missionary, the "Mission to Africa" was "the least that we [Europeans] can do ... to strive to raise him [the African] in the scale of mankind." Anghie notes that the deployment of denigrating, demeaning language is essential to the psyche of the savior. He writes: The violence of positivist language in relation to non-European peoples is hard to overlook. Positivists developed an elaborate vocabulary for denigrating these peoples, presenting them as suitable objects for conquest, and legitimizing the most extreme violence against them, all in the furtherance of the civilizing mission — the discharge of the white man’s burden. Human rights law continues this tradition of universalizing Eurocentric norms by intervening in Third World cultures and societies to save them from the traditions and beliefs that it frames as permitting or promoting despotism and disrespect for human rights itself.

#### Proves circumvention of the aff

#### No space escalation---empirics, de facto norms, and unpredictable consequences

Pavur 19 [James, DPhil Researcher Cybersecurity Centre for Doctoral Training Oxford University, Ivan Martinovic, Professor of Computer Science Department of Computer Science “The Cyber-ASAT: On the Impact of Cyber Weapons in Outer Space” https://ccdcoe.org/uploads/2019/06/Art\_12\_The-Cyber-ASAT.pdf]

3. STABILITY IN SPACE

Given the uncomfortable combination of high dependency and low survivability, one might expect to observe frequent attacks against critical military assets in orbit. However, despite decades of recurring prophesies of impending space war, no such conflict has broken out [14]–[18]. It is true that a handful of space security crises have occurred; most notably, the 2007 Chinese anti-satellite weapon (ASAT) test and the 2008 US ASAT demonstration in response [19]. Moreover, a recent Centre for Strategic and International Studies report suggests increasing interest in attacking US space assets, particularly among the Chinese, Russian, North Korean and Iranian militaries [20]. Overall, however, the space domain has remained puzzlingly peaceful. In this section, we outline three major contributors to this enduring stability: limited accessibility, attributable norms, and environmental interdependence.

A. Limited Accessibility

Space is difficult. Over 60 years have passed since the first Sputnik launch and only nine countries (ten including the EU) have orbital launch capabilities. Moreover, a launch programme alone does not guarantee the resources and precision required to operate a meaningful ASAT capability. Given this, one possible reason why space wars have not broken out is simply because only the US has ever had the ability to fight one [21, p. 402], [22, pp. 419–420].

Although launch technology may become cheaper and easier, it is unclear to what extent these advances will be distributed among presently non-spacefaring nations. Limited access to orbit necessarily reduces the scenarios which could plausibly escalate to ASAT usage. Only major conflicts between the handful of states with ‘space club’ membership could be considered possible flashpoints. Even then, the fragility of an attacker’s own space assets creates de-escalatory pressures due to the deterrent effect of retaliation. Since the earliest days of the space race, dominant powers have recognized this dynamic and demonstrated an inclination towards de-escalatory space strategies [23].

B. Attributable Norms

There also exists a long-standing normative framework favouring the peaceful use of space. The effectiveness of this regime, centred around the Outer Space Treaty (OST), is highly contentious and many have pointed out its serious legal and political shortcomings [24]–[26]. Nevertheless, this status quo framework has somehow supported over six decades of relative peace in orbit.

Over these six decades, norms have become deeply ingrained into the way states describe and perceive space weaponization. This de facto codification was dramatically demonstrated in 2005 when the US found itself on the short end of a 160-1 UN vote after opposing a non-binding resolution on space weaponization. Although states have occasionally pushed the boundaries of these norms, this has typically occurred through incremental legal re-interpretation rather than outright opposition [27]. Even the most notable incidents, such as the 2007-2008 US and Chinese ASAT demonstrations, were couched in rhetoric from both the norm violators and defenders, depicting space as a peaceful global commons [27, p. 56]. Altogether, this suggests that states perceive real costs to breaking this normative tradition and may even moderate their behaviours accordingly.

One further factor supporting this norms regime is the high degree of attributability surrounding ASAT weapons. For kinetic ASAT technology, plausible deniability and stealth are essentially impossible. The literally explosive act of launching a rocket cannot evade detection and, if used offensively, retaliation. This imposes high diplomatic costs on ASAT usage and testing, particularly during peacetime.

C. Environmental Interdependence

A third stabilizing force relates to the orbital debris consequences of ASATs. China’s 2007 ASAT demonstration was the largest debris-generating event in history, as the targeted satellite dissipated into thousands of dangerous debris particles [28, p. 4]. Since debris particles are indiscriminate and unpredictable, they often threaten the attacker’s own space assets [22, p. 420]. This is compounded by Kessler syndrome, a phenomenon whereby orbital debris ‘breeds’ as large pieces of debris collide and disintegrate. As space debris remains in orbit for hundreds of years, the cascade effect of an ASAT attack can constrain the attacker’s long-term use of space [29, pp. 295– 296]. Any state with kinetic ASAT capabilities will likely also operate satellites of its own, and they are necessarily exposed to this collateral damage threat. Space debris thus acts as a strong strategic deterrent to ASAT usage.

#### No escalation

Zarybnisky 18 [Dr. Eric J., MA in National Security Studies from the Naval War College, PhD in Operations Research from the MIT Sloan School of Management, Lt Col, USAF, “Celestial Deterrence: Deterring Aggression in the Global Commons of Space”, 3-28, https://apps.dtic.mil/dtic/tr/fulltext/u2/1062004.pdf]

PREVENTING AGGRESSION IN SPACE

While deterrence and the Cold War are strongly linked in the public’s mind through the nuclear standoff between the United States and the Soviet Union, the fundamentals of deterrence date back millennia and deterrence remains relevant. Thucydides alludes to the concept of deterrence in his telling of the Peloponnesian War when he describes rivals seeking advantages, such as recruiting allies, to dissuade an adversary from starting or expanding a conflict.6F6 Aggression in space was successfully avoided during the Cold War because both sides viewed an attack on military satellites as highly escalatory, and such an action would likely result in general nuclear war.7F7 In today’s more nuanced world, attacking satellites, including military satellites, does not necessarily result in nuclear war. For instance, foreign countries have used high-powered lasers against American intelligence-gathering satellites8F8 and the United States has been reluctant to respond, let alone retaliate with nuclear weapons. This shift in policy is a result of the broader use of gray zone operations, to which countries struggle to respond while limiting escalation. Beginning with the fundamentals of deterrence illuminates how it applies to prevention of aggression in space.

#### Multiple complex factors make space war escalation obsolete

Handberg 17 - chair of the Political Science Department at University of Central Florida – specializes in space policy, defense policy, the U.S. Supreme Court and judicial politics (Roger Handberg; “Comparative Strategy”; “Is space war imminent? Exploring the possibility”; Routledge: Taylor and Francis Group; pgs. 419-421; Accessed 7/3/18)//TS

The assumption made is that space war will be successfully waged in both the heavens and on the Earth itself. This assumption, however, is grounded on several hypotheticals occurring. First, that total devastating strategic surprise can be achieved—the side attacked becomes so damaged and devastated that further resistance is impossible to sustain regardless of national will, since nuclear weapons overhang the entire enterprise. The analogy usually invoked for American audiences is a “Pearl Harbor” type attack. This scenario is premised on equivalent American incompetence and lack of readiness as exhibited in December 1941. One must note that Pearl Harbor ended as a strategic failure for Japan—it led to defeat because the attack mobilized U.S. power without hesitation, given the intense political divisions over whether to enter the worldwide conflicts already raging. The attack was a military failure because Navy carriers were not destroyed along with battleship row along with critical fuel facilities. Similar analogies invoke September 11, 2001 as the prototype for such attacks more recently, but the same caveats apply. Total surprise assumes that all relevant opponent systems and civilian assets are disabled and left vulnerable to follow on attacks. In fact, collapse of U.S. defenses leaves U.S. cities as hostages to the rulers of the heavens, or vice versa if the U.S. moves first. Space war is extremely destabilizing, as will be discussed, since survivability of one’s strategic assets becomes problematic.

Second, surprise requires that sufficient offensive space assets be placed in orbit without triggering a response by other states—the scale of such technology deployment is in itself possibly self-defeating given high costs and a likely lack of launch capacity. In addition, much launch capacity is now international rather than national, so maintaining secrecy becomes even more difficult. Space as an operational environment suffers from excessive transparency, meaning any launches can be monitored and tracked by others with strong evidence as to what is being deployed. One must remember that the original satellite launches in the 1950s were accurately tracked by a British grade-school class as a science project. In addition, at least since the early 1960s, remote sensing has increased exponentially the global capability to detect buildup of military assets of differing types, whether in space or on the ground. Commercial remote-sensing capabilities further enhance the capacity to detect militarily relevant actions. For example, commercial imagery is accessed by private parties to monitor the North Korean missile and nuclear weapons programs, in effect expanding the capacity of the world to look in on various states’ interior regions, scanning for relevant information, including weapons buildup and launch capabilities. Even construction of physical facilities for production of space assets or for other weaponry can be monitored, making surprise more difficult but not impossible, as demonstrated in earlier monitoring of North Korea and, in 1998, the nuclear tests by both Pakistan and India. That means if the ASAT weapons come from ground locations, there is a high probability that they can be detected but no guarantee exists that detection will in fact occur. The uncertainty will impact calculations of attack success.

Third, the most obvious initial attack of space-based assets will most likely come from cyber attacks, given that such actions do not necessarily require the scale of resources necessary for other modalities such as kinetic weapons, or even lasers or other energy-type weapons. One will have to position the weapons plus the infrastructure to permit rapid recycling of the weapons for the next attack. Firing off interceptors will likely be a one-off, meaning extremely precise targeting will be required if the attack is to be successful. Note that none of these systems require that individuals be placed in Earth orbit, despite the imagery describing such operations in fictional universes.

Deployment requires a large lift capacity for initial deployment plus replenishment of destroyed or inoperative space assets, since a space conflict assumes that assets will be lost either kinetically or be compromised by cyber or energy beams. In any case, the combatants must be able to recover their capabilities lost during the conflict; failure to do would mean defeat or at least stalemate, negating the reason for the attack. That raises a major question when one considers the problem or expectation that space war can be successfully conducted or defended. Operationally Responsive Space (ORS) remains a critical weak point for all potential space-war participants. Loss of space assets occurs routinely during operations, but actual combat losses can be exponential depending on the weaponry used, and replacing those losses becomes the race to the next level after the initial exchange or combat. Unfortunately, ORS remains a major weakness of the United States and likely other states; deploying replacement satellites remains a multiyear process, while launch capabilities are scheduled long in advance. The rise of multiple private launch competitors may partially alleviate some of the delay but that remains problematic given that the military payloads may be competing with commercial vendors also trying to replace losses. The tradeoff is that. in principle, private-launch vendors may be able to do so more cheaply, but their capacity may be saturated by demand from the civil and commercial sectors, leaving few “uncommitted” launch options for military purposes. Normally this is not an issue, but the available launch options may be third party rather than national-flag carriers, which raises severe security concerns.

Fourth, several other assumptions become essential to make the strategy work, including that such an attack does not render Earth orbit so debris-saturated that further military space operations become impossible to sustain. Also, damage to civilian space assets remains, such that their continuation is possible if undamaged replacements can be quickly reintroduced to restart economically critical operations. Globalization has been fostered through satellite technologies. Their disruption can be devastating for all parties, regardless of who is the winner or the loser. What may occur is the graveyard of the modern economic system. No potential space participants would be immune to the damage, regardless of whether or not they were participants in the actual conflict. The affirmative has no enforcement mechanism – private corporations can just circumvent since they have the funding to launch rockets on their own.

#### Private companies circumvent

**Sheetz 21** [Michael, “Elon Musk’s SpaceX raised about $850 million, jumping valuation to about $74 billion”, CNBC. 16 February 2021. https://www.cnbc.com/2021/02/16/elon-musks-spacex-raised-850-million-at-419point99-a-share.html] //DebateDrills LC

**SpaceX completed another monster equity funding round of $850 million last week**, people familiar with the financing told CNBC, sending **the company’s valuation skyrocketing to about $74 billion.**

**The company raised the new funds at $419.99 a share**, those people said — or just 1 cent below the $420 price that [Elon Musk](https://www.cnbc.com/elon-musk/) [made infamous in 2018](https://www.cnbc.com/2018/09/28/sec-says-elon-musk-at-tesla-chose-420-price-as-pot-reference.html) when he declared **he had “funding secured” to take**[**Tesla**](https://www.cnbc.com/quotes/TSLA)**private** at that price.

The latest round also represents **a jump of about 60% in the company’s valuation** from its previous round in August, when [S**paceX raised near $2 billion at a $46 billion valuation**](https://www.cnbc.com/2020/10/14/tesla-investor-ron-baron-spacex-has-a-chance-to-be-just-as-large.html).

SpaceX did not immediately respond to CNBC’s request for comment. In addition to SpaceX further building a war chest for its ambitious plans, **company insiders and existing investors were able to sell $750 million in a secondary transaction**, one of the people said.

The people spoke on condition of anonymity because SpaceX is not a publicly traded company and the fundraising talks were private. SpaceX raised only a portion of the funding available in the marketplace, with one person telling CNBC that **the company received “insane demand” of about $6 billion in offers over the course of just three days**.

#### No debris collision

Albrecht 16 [Mark Albrecht is chairman of the board of USSpace LLC. He was head of the White House National Space Council from 1989 to 1992. Paul Graziani is CEO and founder of Analytical Graphics, an Exton, Pennsylvania, company that develops software and provides mission assurance through the Commercial Space Operations Center (ComSpOC), “Op-ed | Congested space is a serious problem solved by hard work, not hysteria”, SpaceNews, May 9th 2016, <https://spacenews.com/op-ed-congested-space-is-a-serious-problem-solved-by-hard-work-not-hysteria/>] [modified for readability]

Popular culture has embraced the risks of collisions in space in films like Gravity. Some participants have dramatized the issue by producing graphics of Earth and its satellites, which make our planet look like a fuzzy marble, almost obscured by a dense cloud of white pellets meant to conceptualize space congestion. Unfortunately, for the sake of a good visual, satellites are depicted as if they were hundreds of miles wide, like the state of Pennsylvania (for the record, there are no space objects the size of Pennsylvania in orbit). Unfortunately, this is the rule, not the exception, and almost all of these articles, movies, graphics, and simulations are exaggerated and misleading. Space debris and collision risk is real, but it certainly is not a crisis. So what are the facts? On the positive side, space is empty and it is vast. At the altitude of the International Space Station, one half a degree of Earth longitude is almost 40 miles long. That same one half a degree at geostationary orbit, some 22,000 miles up is over 230 miles long. Generally, we don’t intentionally put satellites closer together than one-half degree. That means at geostationary orbit, they are no closer than 11 times as far as the eye can see on flat ground or on the sea: That’s the horizon over the horizon 10 times over. In addition, other than minute forces like solar winds and sparse bits of atmosphere that still exist 500 miles up, nothing gets in the way of orbiting objects and they behave quite predictably. The location of the smallest spacecraft can be predicated within a 1,000 feet, 24 hours in advance. Since we first started placing objects into space there have been [eleven] known low Earth orbit collisions, and three known collisions at geostationary orbit. Think of it: 135 space shuttle flights, all of the Apollo, Gemini and Mercury flights, hundreds of telecommunications satellites, [thirteen hundred] functioning satellites on orbit today, half a million total objects in space larger than a marble, and fewer than 15 known collisions. Why do people worry?

#### Debris growth down

Wall 19 [Mike Wall, Ph.D, Space.com Senior Space Writer, “Space Junk Menace: New Guidelines Urged to Help Fight Orbital Debris Threat”, Space.com, Oct 15th 2019, https://www.space.com/space-junk-threat-satellites-guidelines-reduce-orbital-debris.html]

But we can stave off the Kessler syndrome — or at least minimize the odds that it happens anytime soon — if spacecraft builders and operators follow a few simple rules, according to the Space Safety Coalition (SSC). The SSC, a newly established group of space-industry stakeholders, laid out those proposed voluntary guidelines last month in a document called "Best Practices for the Sustainability of Space Operations." There are space-junk mitigation guidelines on the books already, which were drawn up by the Inter-Agency Space Debris Coordination Committee and the United Nations Committee on the Peaceful Uses of Outer Space. But those guidelines were last revised in 2007, the SSC noted. "Plans to increase our space population with more cubesats and other small satellites, as well as new, large constellations of satellites, were not envisioned when the above-mentioned guidelines and standards were established," the new "best practices" document states. "These new planned spacecraft and constellations, coupled with improvements in space situational awareness, space operations and spacecraft design, all provide an opportunity to expand upon established space operations and orbital debris mitigation guidelines and best practices." One of the key new recommendations is that all spacecraft that operate at an altitude above 250 miles (400 kilometers) should feature a propulsion system that allows them to maneuver their way out of potential collisions. That's a natural dividing line, Scott said; the International Space Station circles at about that altitude, and nobody wants out-of-control satellites falling back to Earth through the orbiting lab's path. Also, below 250 miles, there's enough atmosphere to create significant drag on spacecraft, causing them to deorbit relatively quickly when their operational lives are over. (The space community could designate the below-250-mile region an "experimental zone," Scott wrote in a recent blog post. Such a move would keep space "affordable for operators of the growing number of inexpensive, experimental or educational cubesats," he wrote.) The SSC also recommends that satellite designers consider building encryption into their command and control systems, so that spacecraft cannot be hijacked by hackers intent on causing havoc in orbit. And the best practices include anti-littering guidelines. For example, the handlers of satellites that operate in low-Earth orbit should include in their launch contracts a requirement that rocket upper stages be disposed of promptly, via a controlled reentry into Earth's atmosphere. As of today (Oct. 15), 31 space-industry stakeholders have endorsed the new guidelines. And there are some big names in that group, including Maxar (the parent company of satellite operator DigitalGlobe and the spacecraft manufacturer SSL, among other subsidiaries), OneWeb, Rocket Lab, Iridium, SES and Intelsat. "You don't want to wait for a disaster before you take action," Scott said. "It really is time, and you're seeing operators like Maxar and OneWeb being proactive."