## 1NC – K

#### International Relations is the royal science of empire – the aff engineers “sustainable warfare” through a mutating geopolitics of violence.

Grove ‘19

[Jarius, PoliSci at the University of Hawai’i. 2019. “Savage Ecology: War and Geopolitics in the Anthropocene.”] pat – ask me for the PDF!

Because I wanted this book to inspire curiosity beyond the boundaries of international relations (ir), I considered ignoring the field altogether, removing all mentions of ir or ir theory. However, upon closer reflection, I have decided to keep these references as I think they are relevant for those outside the discipline and for those who, like myself, often feel alienated within its disciplinary boundaries. In the former case, it is important to know that, unlike some more humble fields, ir has always held itself to be a kind of royal science. Scholarship in ir, particularly in the United States, is half research, and half biding time until you have the prince’s ear. The hallowed names in the mainstream of the field are still known because they somehow changed the behavior of their intended clients—those being states, militaries, and international organizations. Therefore, some attention to ir is necessary because it has an all-too-casual relationship with institutional power that directly impacts the lives of real people, and ir is all too often lethal theory. As an American discipline, the political economy of the field is impossible without Department of Defense money, and its semiotic economy would be equally dwarfed without contributory figures like Woodrow Wilson, Henry Kissinger, and Samuel Huntington. The ubiquity of Huntington’s “clash of civilizations” thesis and Kissinger’s particular brand of realpolitik are undeniable throughout the field, as well as the world. Each, in their own way, has saturated the watchwords and nomenclature of geopolitics from an American perspective so thoroughly that both political parties in the United States fight over who gets to claim the heritage of each. Although many other fields such as anthropology and even comparative literature have found themselves in the gravitational pull of geopolitics, international relations is meant to be scholarship as statecraft by other means. That is, ir was meant to improve the global order and ensure the place of its guarantor, the United States of America. Having spent the better part of a decade listening to national security analysts and diplomats from the United States, South Korea, Japan, Europe, China, Brazil, and Russia, as well as military strategists around the planet, I found their vocabulary and worldview strikingly homogeneous.

If this seems too general a claim, one should take a peek at John Mearsheimer’s essay “Benign Hegemony,” which defends the Americanness of the ir field. What is most telling in this essay is not a defense of the U.S. as a benign hegemonic power, which Mearsheimer has done at length elsewhere. Rather, it is his vigorous defense that as a field, ir theory has done well by the world in setting the intellectual agenda for global challenges, and for creating useful theoretical approaches to addressing those problems. For Mearsheimer, the proof that American scholarly hegemony has been benign is that there is nothing important that has been left out. A quick scan of the last ten or twenty International Studies Association conferences would suggest otherwise.

That issues like rape as a weapon of war, postcolonial violence, global racism, and climate change are not squarely in the main of ir demonstrates just how benign American scholarly hegemony is not. As one prominent anthropologist said to me at dinner after touring the isa conference in 2014, “it was surreal, like a tour through the Cold War. People were giving papers and arguing as if nothing had ever changed.” These same provincial scholars aspire and succeed at filling the advisory roles of each successive American presidency. One cannot help but see a connection between the history of the ir field, and the catastrophes of U.S. foreign policy during the twentieth and twenty-first centuries. One could repeat the words of the anthropologist I mentioned to describe the 2016 presidential campaign debates over the future of U.S. foreign policy: it is as if “nothing had ever changed.” And yet these old white men still strut around the halls of America’s “best” institutions as if they saved us from the Cold War, even as the planet crumbles under the weight of their failed imperial dreams.

If international relations was meant to be the science of making the world something other than what it would be if we were all left to our own worst devices, then it has failed monumentally. The United States is once again in fierce nuclear competition with Russia. We are no closer to any significant action on climate change. We have not met any of the Millennium Development Goals determined by the United Nations on eradicating poverty. War and security are the most significant financial, creative, social, cultural, technological, and political investments of almost every nation-state on Earth. The general intellect is a martial intellect.

Despite all this failure, pessimism does not exist in international relations, at least not on paper. The seething doom of our current predicament thrives at the conference bar and in hushed office conversations but not in our research. In public, the darkness disavowed possesses and inflames the petty cynicisms and hatreds that are often turned outward at tired and predictable scapegoats.

After the fury of three decades of critique, most ir scholars still camp out either on the hill of liberal internationalism or in the dark woods of political realism. Neither offers much that is new by way of answers or even explanations, and each dominant school has failed to account for our current apocalyptic condition. One is left wondering what it is exactly that they think they do. Despite the seeming opposition between the two, one idealistic about the future of international order (liberals) and the other self-satisfied with the tragedy of cycles of war and dominance (realists), both positions are optimists of the positivist variety.

For both warring parties, ir optimism is expressed through a romantic empiricism. For all those who toil away looking for the next theory of international politics, order is out there somewhere, and dutifully recording reality will find it—or at least bring us closer to its discovery. For liberal internationalism, this will bring the long-heralded maturity of Immanuel Kant’s perpetual peace. For second-order sociopaths known as offensive realists, crumbs of “useful strategic insight” and the endless details that amplify their epistemophilia for force projection and violence capability represent a potential “advantage,” that is, the possibility to move one step forward on the global political board game of snakes and ladders. Still, the cynicism of ir always creeps back in because the world never quite lives up to the empirical findings it is commanded to obey. Disappointment here is not without reason, but we cynically continue to make the same policy recommendations, catastrophe after catastrophe.

I have an idea about where ir’s recent malaise comes from. I think it is a moment, just before the awareness of the Anthropocene, after the Cold War and before September 11, when the end of everything was only a hypothetical problem for those of a certain coddled and privileged modern form of life. The catastrophe of the human predicament was that there was no catastrophe, no reason, no generation-defining challenge or war. Now the fate of this form of life is actually imperiled, and it is too much to bear. The weird denial of sexism, racism, climate change, the sixth extinction, and loose nukes, all by a field of scholars tasked with studying geopolitics, is more than irrationalism or ignorance. This animosity toward reality is a deep and corrosive nihilism, a denial of the world. Thus ir as a strategic field is demonstrative of a civilization with nothing left to do, nothing left to destroy. All that is left is to make meaning out of being incapable of undoing the world that Euro-American geopolitics created. Emo geopolitics is not pretty, but it is real. The letdown, the failure, the apocalypse-that-was-not finally arrived, and we are too late.

Still, the United States of America continues to follow the advice of “the best and the brightest,” testing the imperial waters, not quite ready to commit out loud to empire but completely unwilling to abandon it. Stuck in between, contemporary geopolitics—as curated by the United States—is in a permanent beta phase. Neuro-torture, algorithmic warfare, drone strikes, and cybernetic nation-building are not means or ends but rather are tests. Can a polis be engineered? Can the human operating system be reformatted? Can violence be modulated until legally invisible while all the more lethal? Each incursion, each new actor or actant, and new terrains from brains to transatlantic cables—all find themselves part of a grand experiment to see if a benign or at least sustainable empire is possible. There is no seeming regard for the fact that each experiment directly competes with Thomas Jefferson’s democratic experiment. One wonders if freedom can even exist anywhere other than temporarily on the fringe of some neglected order. Is this some metaphysical condition of freedom, or is the world so supersaturated with martial orders that the ragged edges between imperial orders are all that we have left? It feels like freedom’s remains persist only in the ruins of everything else. No space is left that can be truly indifferent to the law, security, or economy. Such is the new life of a human in debt. The social contract has been refinanced as what is owed and nothing more: politics without equity. Inequity without equality.

What about the impending collapse of the post–World War II order, the self-destruction of the United States, the rise of China and a new world order? If humanity lasts long enough for China to put its stamp on the human apocalypse, I will write a new introduction. Until then, we live in the death rattle of Pax Americana. While I think the totality of this claim is true, I do not want to rule out that many of us throughout the world still make lives otherwise. Many of us even thrive in spite of it all. And yet, no form of life can be made that escapes the fact that everything can come to a sudden and arbitrary end thanks to the whim of an American drone operator, nuclear catastrophe, or macroeconomic manipulation like sanctions. There are other ways to die and other organized forms of killing outside the control of the United States; however, no other single apparatus can make everyone or anyone die irrespective of citizenship or geographic location. For me, this is the most inescapable philosophical provocation of our moment in time.

The haphazard and seemingly limitless nature of U.S. violence means that even the core principles of the great political realist concepts like order and national interest are being displaced by subterranean violence entrepreneurs that populate transversal battlefields, security corridors, and border zones. Mercenaries, drug lords, chief executive officers, presidents, and sports commissioners are more alike than ever. Doomsayers like Paul Virilio, Lewis Mumford, and Martin Heidegger foretold a kind of terminal and self-annihilating velocity for geopolitics’ technological saturation, but even their lack of imagination appears optimistic. American geopolitics does not know totality or finality; it bleeds, mutates, and reforms. Furthermore, the peril of biopolitics seems now almost romantic. To make life live? Perchance to dream. The care and concern for life’s productivity is increasingly subsumed by plasticity—forming and reforming without regard to the telos of productivity, division, or normative order.

There are, of course, still orders in our geoplastic age, but they are almost unrecognizable as such. When so many citizens and states are directly invested in sabotaging publicly stated strategic ends, then concepts like national interest seem equally quaint. We are witnessing creative and horrifying experiments in the affirmative production of dying, which also deprive those targeted and in some cases whole populations from the relief of death. To follow Rucker, I want to try to see the world for what it is. We can only say that tragedy is no longer a genre of geopolitics. Tragedy redeems. The occluded character of contemporary geopolitics shoehorned into experience produces the feeling that there is no relief, no reason, no victory, no defeats, and no exit within the confines of national security’s constricted world. This is not tragedy: it is horror. We live in an age of horror that, like the victims of gore movies who never quite die so that they can be tortured more, furthers our practice of collective violence and goes on for decades as a kind of sustainable warfare.

#### The 1AC’s universal basis for ethics cedes the human to the racialized figure of Man – that naturalizes the sociogenic processes of colonial violence as beyond the reach of the human while policing Man’s limit at the color line.

Weheliye ‘14

[Alexander, Northwestern University. 2014. “Habeus Viscus: Racializing Assemblages, Biopolitics, and Black Feminist Theories of the Human”.] pat – dm/email me for PDF

Wynter’s large-scale intellectual project, which she has been pursuing in one form or another for the last thirty years, disentangles Man from the human in order to use the space of subjects placed beyond the grasp of this domain as a vital point from which to invent hitherto unavailable genres of the human. According to this scheme in western modernity the religious conception of the self gave way to two modes of secularized being: first, the Cartesian “Rational Man,” or homo politicus, and then beginning at the end of the eighteenth century, “Man as a selected being and natural organism . . . as the universal human, ‘man as man.’” The move from a supernatural conception of world and the self ’s place within this cosmos, however, does not signal the supersession of a primitive axiomatic with an enlightened and rarefied type of the human. Rather, one genre of the human (Judeo-Christian, religious) yields to another, just as provincial, version of the human, and, although both claim universality, neither genre fully represents the multiplicity of human life forms. In the context of the secular human, black subjects, along with indigenous populations, the colonized, the insane, the poor, the disabled, and so on serve as limit cases by which Man can demarcate himself as the universal human. Thus, race, rather than representing accessory, comes to define the very essence of the modern human as “the code through which one not simply knows what human being is, but experiences being.” Accordingly, race makes its mark in the dominion of the ideological and physiological, or rather race scripts the elision of the former with the latter in the flesh.

In her latest writings, Wynter identifies homo politicus’s successor in the long road from “theodicy” to “biodicy” as the liberal “bio-economic man.” The idea of “bio-economic man” marks the assumed naturalness that positions economic inequities, white supremacy, genocide, economic exploitation, gendered subjugation, colonialism, “natural selection,” and concepts such as the free market not in the realm of divine design, as in previous religious orders of things, but beyond the reach of human intervention all the same. In both cases, this ensures that a particular humanly devised model of humanity remains isomorphic with the Homo sapiens species. Wynter’s approach differs markedly from arguments that seek to include the oppressed within the already existing strictures of liberal humanism or, conversely, abolish humanism because of its racio-colonial baggage; instead Wynter views black studies and minority discourse as liminal spaces, simultaneously ensconced in and outside the world of Man, from which to construct new objects of knowledge and launch the reinvention of the human at the juncture of the culture and biology feedback loop.

Even though the genre of the human we currently inhabit in the west is intimately tied to the somatic order of things, for Wynter, the human cannot be understood in purely biological terms, whether this applies to the history of an individual organism (ontogenesis) or the development at the level of a species (phylogeny). This is where Fanon’s important concept of sociogeny comes into play, offering Wynter an approach of thinking of the human — the “science in the social text,” to echo Spillers’s phrase — where culture and biology are not only not opposed to each other but in which their chemistry discharges mutually beneficial insights. In this scenario, a symbolic register, consisting of discourse, language, culture, and so on (sociogeny) always already accompanies the genetic dimension of human action (ontogeny), and it is only in the imbrication of these two registers that we can understand the full scope of our being-in-the-world. Fanon’s concept of sociogeny, arising from the inadequacy of traditional psychoanalytic models in the analysis of racialized colonialism, builds on Freud’s appropriation of recapitulation theory. Thus, according to Fanon, Freud breaks with the strict codes of Darwinism and social Darwinism (phylogenetic theory) in order to analyze the psyche of the modern individualized subject from an ontogenetic vantage point. While the ontogenetic technique yields, depending on your general sympathy for the now very antiquated protocols of Freudian psychoanalysis, abundant results when evaluating white subjects ensconced in the liberal nuclear family, it encounters a roadblock when transplanted to the colonial settlement, which is why “the alienation of the black man is not an individual question. Alongside phylogeny and ontogeny, there is also sociogeny. . . . Society, unlike biochemical processes, does not escape human influence. Man is what brings society into being.” Why does the colonial situation specifically necessitate a reformulation of Freud’s and Darwinism’s procedural frame of reference?

Since colonial policies and discourse are frequently grounded in racial distinctions, the colonized subject cannot experience her or his nonbeing outside the particular ideology of western Man as synonymous with human, or, as Fanon writes, “not only must the black man be black; he must be black in relation to the white man.” The colonial encounter determines not just the black colonial subject’s familial structure or social and physical mobility and such, but colors his or her [their] very being as he-or-she-which-is-not-quite-human, as always already tardy in the rigged match of the survival of the fittest. Conversely, in this ontological face-off, the white colonial subject encounters herself or himself as the “fullness and genericity of being human.” However, he or she only does so in relation to the deficiency of the black subject and indigenous (Wynter, 40). To be precise, Fanon and Wynter locate racializing assemblages in the domain of being rather than the realm of epiphenomena, showing how humans create race for the benefit of some and the detriment of other humans. Yet because race is thought to rest in biology, it necessitates different analytic protocols than bare life and biopolitics, namely ones that draw on both ontogeny and sociogeny.

Whereas Fanon’s mobilization of ontogeny remains rooted in the Freudian paradigm as pertaining to the individual subject, Wynter summons the explanatory apparatus of neurobiology to elucidate how racialization, despite its origins in sociogeny, is converted to the stuff of ontogenesis; this is what Wynter refers to as “sociogenetic.” Although human life has a biochemical core defined by a species-specific adaptive reward and punishment mechanism (poison = bad and food = good) that “determines the way in which each organism will perceive, classify, and categorize the world,” it is “only through the mediation of the organism’s experience of what feels good to the organism and what feels bad to it, and thereby of what it feels like to be that organism” that a repertoire of behaviors, which ensure the continued existence of the species, develops (Wynter, 50). For the human species, because it is defined by both organic and symbolic registers, this is complicated by the way culturally specific sociogenic principles such as what is good or bad work to trigger neurochemical reward and punishment processes, in the process “institut[ing] the human subject as a culture-specific and thereby verbally defined, if physiologically implemented, mode of being and sense of self. One, therefore, whose phenomenology . . . is as objectively, constructed as its physiology” (Wynter, 54). Phenomenological perception must consequently don the extravagant drag of physiology in order to “turn theory into flesh, . . . [into] codings in the nervous system,” so as to signal the extrahuman instantiation of humanity.

Wynter’s description of the autopoiesis of the human stretches Fanon’s concept of sociogeny by grounding it in an, albeit false or artificial, physiological reality. In other words, Wynter summons neurobiology not in order to take refuge in a prelapsarian field anterior to the registers of culture and ideology, but to provide a transdisciplinary global approach to the study of human life that explains how sociogenic phenomena, particularly race, become anchored in the ontogenic flesh. Also, in contrast to treatments of racialization more squarely articulated from the disciplinary perspective of sociobiology, Wynter does not focus on the origins and adaptive evolution of race itself but rather on how sociogenic principles are anchored in the human neurochemical system, thus counteracting sociobiological explanations of race, which retrospectively project racial categories onto an evolutionary screen. That is to say, Wynter interrogates the ontogenic functioning of race — the ways it serves as a physiologically resonant nominal and conceptual pseudonym for the specific genre of the human: Man — and not its role in human phylogeny.

Consequently, racialization figures as a master code within the genre of the human represented by western Man, because its law-like operations are yoked to species-sustaining physiological mechanisms in the form of a global color line — instituted by cultural laws so as to register in human neural networks — that clearly distinguishes the good/life/fully-human from the bad/death/not-quite-human. This, in turn, authorizes the conflation of racialization with mere biological life, which, on the one hand, enables white subjects to “see” themselves as transcending racialization due to their full embodiment of this particular genre of the human while responding antipathetically to nonwhite subjects as bearers of ontological cum biological lack, and, on the other hand, in those subjects on the other side of the color line, it creates sociogenically instituted physiological reactions against their own existence and reality. Since the being of nonwhite subjects has been coded by the cultural laws in the world of Man as pure negativity, their subjectivity impresses punishment on the neurochemical reward system of all humans, or in the words of Frantz Fanon: “My body was returned to me spread-eagled, disjointed, redone, draped in mourning on this white winter’s day. The Negro is an animal, the Negro is bad, the Negro is wicked, the Negro is ugly.” Political violence plays a crucial part in the baroque techniques of modern humanity, since it simultaneously serves to create not-quite-humans in specific acts of violence and supplies the symbolic source material for racialization.

**Their scenario planning codifies a psychosocial reality of threat that locks in global crises while crowding out alternative futures through a regime of truth that makes their impacts inevitable**

**Masco, 12** (Joseph, Prof. of Anthropology @ U. of Chicago, “The End of Ends” *Anthropological Quarterly*, Vol. 85, No. 4 (Fall 2012), pp. 1107-1124)

In an extreme age, we might well ask: what are the possibilities for a productive shock, an experience or insight that would allow us to rethink the terms of everyday life? In the discipline of biology, the recent discov- ery of microbial extremophiles in deep-sea volcanic vents has fundamen- tally challenged longstanding scientific definitions of life (Helmreich 2008). Living under conditions of extreme heat and pressure, these methane- eating beings have redefined the very limits of life on planet Earth and beyond. What could produce a similar effect in the domain of security? Opportunities for such a critique are ever present, an endless stream of moments in fact, yet constantly **subsumed by the normalizing effects** of a national security culture committed to a **constant state of emergency**. A return to basic questions of how to define profit, loss, and sustainability is a key concern today in the US and this paper asks what kind of analy- sis could begin to redefine the limits of a collective security? What kind of **de-familiarization** and/or **productive shock** might allow insight into the cultural terms of expert judgment today in the US, allowing us to **rethink** the logics and practices that have simultaneously produced a **global war on terror**, a global **financial meltdown**, **and a planetary climate crisis**? How can Americans- extremophiles of the national sort- assess their own his- tory within a national-cultural formation devoted to the **normalization of violence (as war, as boom and bust capitalism, as environmental ruin**) as the basis for everyday life? This short paper does not provide an answer to these questions (would that it could!), but rather seeks to offer a provocation and a meditation on paths constantly not taken in US national security culture. It asks: how can we read against the normalizing processes of the security state to assess **alternative futures,** alternative visions **rendered** **invisible** by the complex **logistics of military science, economic rationality**, and **global governance**? To do so is to break from the normalizing force of everyday national secu- rity/capitalism, and interrogate the assumed structures of security and risk that support a global American military deployment and permanent war posture. To accomplish this kind of critical maneuver, however, one needs to be able to recognize the **alternative futures rendered void** by the **specific configurations of politics and threat** empowering **military industrial action** at a given moment. An extreme critique requires the ability to assess the alternative costs and benefits that remain suspended within the spaces of an **everyday American life constantly rehearsing (via media, political culture, and military action) terror as normality**. What follows then is both an examination and a performance of extremity- pushing a critical history and theory well beyond the usual scholarly comfort level. It seeks less to settle and explain than to agitate and provoke. To engage an extreme point of view on crisis, both exterior and ob- jective, let's turn to a spectacular new technology that seemed to offer just such a perspective on US security culture in 1960- that of an exterior gaze on planet Earth. **The first satellite imagery** was not only a techno- logical revolution of profound importance to the military (and ultimately the earth and information sciences), it also **constituted a rare moment of ob- jective critique to American Cold War fantasies** at their most virulent and violent. Covert and extremely fragile, the first Corona satellite was secretly launched into outer space in August of 1 960, offering a new optics on Cold War military technologies and fantasies. Imagine, if you will, a rocket car- rying not a warhead but a giant panoramic camera (see Figures 1 and 2), slung into a low orbit over Europe, running a long reel of 70mm film, spe- cially designed by Kodak to function in outer space. The satellite makes a series of orbits exposing its film over designated areas, and then ejects a fire-proof capsule carrying the film, sending it back into Earth's atmosphere (see Figure 3). As the capsule descends via a series of parachutes, it emits a homing signal, allowing a specially equipped plane to detect the signal and swoop in, capturing the now charred film canister in mid-air via a gi- ant hook (see Figure 4). On August 18, 1960 the **Corona Project** became the first space based reconnaissance system, providing the CIA with the first satellite photographs of Soviet military installations (see Figures 5 and 6; as well as Day, Logsdon, and Latell 1998; and Peebles 1997). Corona provided the most accurate images of Soviet military capabilities to date, offering concrete photographic evidence of Soviet missile capabilities at a time of near hysterical speculation about imminent Soviet attack. Soon US **officials knew via photo- graphic documentation** of commu- nist military bases that **the Soviets did not have a vast and growing ICBM superiority** capable of over- whelming US defenses. In fact, the US had something on the order of a ten to one advantage in missiles, and even more in nuclear devices. At this moment in the Cold War, **outer space provided the only clear view of nuclear threat- providing a series of photographs that dramatically changed how US officials viewed the immediacy of nuclear war** (Richelson 2006). Over the next decade, **the race to the moon became the public face of a covert enterprise to extend and expand space surveillance**. Plans for manned photographic studios in space with Hubble telescope- sized lenses pointed toward Earth, soon were enhanced by digital communications that allowed in- stant data transmission (see Willis and Bamford 2007). The Corona cameras evolved quickly, moving from the 40-foot resolution offered in 1960 to five-foot resolution by 1967, a revolution in optics that was soon followed by digital satellite systems capable of three-inch resolution, in- frared imaging, and the near instantaneous transfer of information. These remote sensing technologies have since revolutionized everything from geography, to climate sciences, to the now ubiquitous GPS systems and Google Earth. The Central Intelligence Agency (CIA) has long considered the Corona satellite one of its most im- portant achievements, a pure suc- cess story. As Director of the CIA, Richard Helms held a ceremony in honor of the Corona Program's re- tirement in 1 972 (in favor of the next generation digital satellite system). He presented a documentary film, entitled "A Point in Time" to CIA personnel detailing the crucial his- tory of the top-secret program, its technological achievements, and its central role in Cold War geopolitics. litics. A Corona capsule and an exten- sive photographic display of Corona satellite imagery was then centrally installed at CIA Headquarters in Langley to document its success for all future employees. On display there through the end of the Cold War, com- ponents of this exhibit can now be seen at the Smithsonian Air and Space Museum. The extensive Corona photographic archive became available Corona as a fantastically successful covert spy system and others today value its photographic record for non-military scientific research, a basic lesson of the Corona achievement remains unrecognized: the first satellite system not only offered a new optic on Soviet technology, **it also revealed how fantastical American assessments of Soviet capabilities wer**e in the 1 950s. It offered a new remote viewing photography but also new insight into the American national security imaginary. The first Corona images have as much to say about the **ferocious US commitment to** nuclear weapons and **a global nuclear war machine** already set on a minute-to-minute trig- ger by 1960, as about Soviet weapons. The first Corona images contra- dicted expert US judgments of Soviet capabilities and desires, providing a powerful counterweight against arguments for a preemptive US attack on the Soviet Union. The slightly blurry satellite photographs thus held **the potential for a radical critique of American perceptions** of the Soviet Union, **showing that US officials were as much at war with their own apocalyptic projections** in 1 960 as with Soviet plans for territorial expansion. **An anthropology of extremes requires a non-normative reading of cul- ture and history, an effort to push past consensus logics to interrogate what alternative visions, projects, and futures are left unexplored at a given historical moment.** The rapidly evolving historical archive provides one op- portunity for this kind of critique: our understanding of the 20th century American security state is changing with each newly declassified program and document, dramatically reshaping what we know about US policy, mil- itary science, and threat assessments since World War II. The Corona pho- tographs are a compelling illustration of the power of the evolving national security archive. As the enormous military state apparatus that constitutes the core of the American political and economic machine is grudgingly opened to new kinds of conceptual interrogation, Americans should seize the opportunity to learn about their own commitments, political processes, and security imaginaries. Indeed, **the national security archive** is one place where we can formally consider how the 20th century "balance of terror" has been remade in the 21st century as a "war on terror"- following the **affective politics**, **technological fetishisms**, **and geopolitical** **ambitions** that have come to **structure US security culture**. The declassified Cold War ar- chive allows us to pursue an extreme reading of US security culture, one committed to pushing past official policy logics at moments of heightened emergency to consider how **threat**, historical contingency, **technological revolution**, **propaganda**, and geopolitical ambition **combine in a specific moment of extreme risk**. The first Corona images, for example, constitute a moment when administrators of the national security state had **their own logics** and fears **negated** in the form of direct photographic evidence, opening a **potential conceptual space for radical reassessment of their own** ambitions, perceptions, and **drives**, powerfully revealed in black and white photos **as fantasy**. We might well ask why **the Corona imagery** (**and** any number of **similar moments when existential threat** **has** objectively **dissolved into mere projection- most** recently, the missing weapons of mass destruction used to justify the US invasion of Iraq in 2003)- **did not pro- duce a radical self-critique in the US**. The Cold War nuclear standoff installed **existential threat as a core structure of everyday American life**, making nuclear fear the coordinat- ing principle of US geo-policy and a **new psychosocial reality** for citizens increasingly connected via images of their own imminent death. Indeed, few societies have prepared so meticulously for collective death as did Cold War America while simultaneously denying the possibility of an ac- tual ending. From large scale civil defense drills in which the destruction of the nation-state became a kind of public theater, to the articulation of a Cold War militarism that understood all global political events as condi- tioning everyday American life, the height of the Cold War worked in novel ways both to enable and deny the possibility of a collective death (Masco 2008). **The early history of the Corona Satellite System offers a compel- ling story about the technological achievement of a total ending, and the Cold War hysteria of the years 1957-1962 in the US**. This is a moment of maximal danger but also of new perspectives- crucially those derived from outer space- that momentarily opened up multiple contingent and radically different security futures. For an anthropology of extremes, this period of Cold War can be approached as an ur-moment; foundational in terms of the technology, theory, politics, and ambitions supporting the American security state. Interrogating this first period of global nuclear danger via recently declassified materials allows us to ask: how does one end the possibility of a total ending? How does a society pursuing war as a normalized condition of everyday life pause and reflect on its own intel- lectual and psychosocial processes? Within modern political theory the means to an end has been embed- ded within the very concept of rationality, making ends and means syn- onymous with progress, a perpetual engine of improving the infrastruc- tures of everyday life as well as the morality of those living within it. Within this modernity- glossed here as the application of reason to nature as progress- we have few efforts to theorize the reality or implication of con- ceptual blockages or blindnesses within the very notion of security. The assumption that instrumental reason is not only a means to an end but an essential good structures a Euro-American modernity in which supersti- tion is set against the possibility of an unending technological progress (Horkheimer and Adorno 2002:1). Benjamin (1969) offers perhaps the most powerful critique of "progress" by showing how **the promise of the "new" can be the vehicle of social mystification and entrenchment**. His call to "brush history against the grain" and establish a critical method that can "seize hold of a memory as it flashes up at a moment of danger" is ultimately a call to resist the normalization (and naturalization) of violence in everyday life. But how, and under what terms, can this be accomplished in a national security state that is premised on the total ending of nuclear war? Having built the war machine as a global system, how can a society turn towards an alternative notion of security, one not grounded in the technological possibility of total nuclear war? How, indeed, does **thinking about an absolute ending** work to **install a new set of fantasies and short circuits that prevent reflexive critique**? How do rational modes of planning work not to eliminate the possibility of collective death but rather, through self-mystification, to install its pos- sibility ever deeper into an expert state system? Kant (1986) articulated one central area where reason is installed as a compensation for a lack of understanding in his notion of the sublime. Sublime experience, in his view, overwhelms the human sensorium providing that strange mix of pleasure and terror involved in surpassing one's cognitive limit. For Kant, the experi- ence of incomprehensibility is then managed by an act of categorizing- by a naming of the event- rather than through understanding. Compensation rather than comprehension is thus achieved, installing at the very center of his notion of reason an irreducible problem about means, ends, and the ability of human beings in extreme moments to comprehend both. "**Terror**" has an inherent sublimity, one that has been multiplied across contempo- rary crisis- war, economy, environment- to create a new complex con- figuration of planetary risk that exceeds the power of the national security state (Masco 201 0). **Nuclear terror**, as a permanent state system, however, is not a momentary experience (as Kant's sublime requires) but **is** instead **a global infrastructure**- one **that coordinates American military power as well as its domestic politics**. **This infrastructure requires constant affective as well as technological support, merging complex social and technologi- cal processes that become fused in perceptions of global risk**. Put differently, instrumental reason has orchestrated our globalized, economized, technologized modernity but it has also installed a set of compensations for those events, desires, and biological facts that dis- rupt specific calculations of progress/profit. By the mid-20th century, the products of instrumental reason- the very means to an end- produced new forms of war that ultimately challenged the survival of the species. The atomic bomb stands as both a rational technology- produced via the combined work of physicists, engineers, chemists, industrialists, military planners, defense intellectuals, and civilian policy makers- and as a limit case to that instrumental reason (see Edwards 1996, Oakes 1994). In the early days of the nuclear age, some Manhattan Project scientists hoped this new technology would be so terrible that it would simply end the pos- sibility of war (e.g., Federation of American Scientists 1946). Instead, US war planners built a global system for nuclear war that could end life itself within a few minutes of actual conflict. Each new nuclear system- bomb- er, submarine, and missile- was both a technological achievement of the first order and an accelerating progression towards the end of modernity in the form of nuclear war. What these technical experts were attempting to negotiate through engineering is a basic relationship to death, a perverse project of build- ing ever more destructive machines in the name of producing "security." Indeed, **displacing** the threat of **one machine** (the bomb) with another (the bomb) became the basis for **deterrence theory, a way of organizing and containing the thought of death by expanding technological systems**. Freud (1991) saw this contradiction in militarism early on, and in his remarkable 1915 essay "Thoughts for the Times on War and Death" he is definitive that it is impossible to comprehend- to actually believe in- one's own death. Thus, he notes, even as the human organism moves closer to death with each tick of the clock, the ego pursues a program of immortality and works **to relocate the** onrushing **reality of death to exterior locations**- to novels, to foreign populations, to distant wars, **to a radical outside**. Thus, **the thought of an "ending" here literally pro- duces a new set of means- fantasies, projections, displacements, and amnesias all mobilized to suture together an idea of an eternal** **self**. In American national-culture, the Cold War performed this task through a series of circuits: the communist threat was simultaneously everywhere and nowhere, and the immanent threat of nuclear war was mitigated by a fetishistic focus on technological detail. Cold War planners managed the threat of nuclear war through constant proliferation- of weapons, deliv- ery systems, images, theories, and calculations. Through this prolifera- tion, Cold War planners pursued a program of intellectual compensation for the confrontation with a new kind of death. They did so by mobilizing all national resources (changing the very temporal horizon of war from days, to hours, to minutes in the process), as well as by pursuing proxy wars and covert actions around the world. In the process, Americans learned how to be committed to total war as a precondition for everyday life while locating death as exterior to the nation, even as the war machine grew ferociously in its technological capacities. This represents a distinc- tive national-cultural achievement: a notion of **security** that **brings collective death ever closer in an attempt to fix its location with ever more precision**. By the time of the first Corona photograph, the US nuclear system was on constant and permanent alert, managing a global war machine on a minute-by-minute temporal scale- one that imagined a Soviet nuclear strike coming with less than seven minutes warning (Keeney 201 1 :1 86). US military systems became both the most direct application of tech- nical rationality and the location of deep fantasies about national immor- tality and systems of total control. In the first decade of the Cold War, for example, the lack of detailed intelligence about the Soviet Union enabled an American national security project that was both technologically Uto- pian and driven by increasingly apocalyptic visions of an omnipotent other. A top-secret, blue-ribbon panel studying the possibility of nuclear civil defense in 1957, known as the Gaither Committee, not only recom- mended a nationwide commitment to building underground bunkers and training citizens to think calmly about experiencing nuclear war, its mem- bers also concluded that a "missile gap" with the Soviet Union left the US increasingly vulnerable to a devastating "first strike" (Security Resources Panel of the Science Advisory Committee 1 957). Reinforced by the hys- teria over Sputnik later in 1957- the first artificial satellite in space- US national security debates, by the end of the 1950s, were structured by visions of a Soviet sneak attack that would destroy urban America in an instant. The Gaither Committee leaked to the press their conclusion that by 1959 the Soviets would have a decisive advantage in ICBMs (see Roman 1995, Snead 1999) provoking huge nuclear arms expenditures in the US. The domestic politics informing the "missile gap" narrative were part of the battle between military branches for nuclear resources and soon key to John F. Kennedy's presidential campaign strategy of positioning his Republican rivals (Eisenhower and then Nixon) as weak on national security. Thus**, a threat projection with multiple political uses became codified as a kind of truth in US national security policy**, leading to massive increases in defense spending at the end of the Eisenhower administration and then again at the start of the Kennedy administration. The nuclear triad- of bombers, ICBMs, and submarines- is built at this moment, providing multiple redundant systems for waging nuclear war and giving each branch of the military a nuclear capability. Today we can see that in addition to the new weapons systems built at the end of the 1950s, there was also an important political discovery crucial to the evolving Cold War: namely, the universal utility of threat pro- liferation in US security culture. **The raw political value of existential threat as a motivating narrative became a well-worn domestic strategy** in the US, one linking the "missile gap" of the 1950s to the "window of vulner- ability" of the 1 970s, to the "strategic defense initiative" of the 1 980s to the "**space based Pearl Harbor**" narratives of the 1 990s **to the terrorist "WMD" discourses** of the 2000s as illustrations of a nuclear culture. In each of these cases, we can see how the bomb (as **a consolidated form of existential threat**) **has** been good for Americans to think with, **becom**ing the basis for building a nuclear state and a **global military system** but also for trans- forming raw military ambition into a necessary form of "defense." But if the bomb has been crucial to constituting US "superpower" status, it has also **produced a complex new domestic affective political domain, allowing images of**, **and** **appeals to,** **existential threat to become a central means of** establishing and **expanding a militarized national security culture**.

#### Voting negative adopts failed IR for a healthy dose of pessimism – at the end of the world, all we can do is hope to be buried alive together. – not condo

Grove ‘19

[Jarius, PoliSci at the University of Hawai’i. 2019. “Savage Ecology: War and Geopolitics in the Anthropocene.”] pat – ask me for the PDF!

Failed ir affirms the power of this kind of negative thinking as an alternative to the endless rehearsing of moralizing insights and strategic foresight. The negative is not “against” or reacting to something. Rather, it is the affirmation of a freedom beyond the limits of life and death. That is, it is making a life by continuing to think about the world, even if that thinking is not recuperative, and even if nothing we think can save us. In the face of it all, one celebrates useless thinking, useless scholarship, and useless forms of life at the very moment we are told to throw them all under the bus in the name of survival at all costs. This is a logic referred to lately as hope and it is as cruel as it is anxiety inducing. Hope is a form of extortion. We are told that it is our obligation to bear the weight of making things better while being chided that the failure of our efforts is the result of not believing in the possibility of real change. In such an environment, pessimism is often treated as a form of treason, as if only neoliberals and moral degenerates give up—or so goes the op-ed’s insisting upon the renewed possibility of redemption.

In response to these exhortations, pessimism offers a historical atheism, both methodologically and morally. The universe does not bend toward justice. Sometimes the universe bends toward the indifference of gravity wells and black holes. Affirming negativity, inspired by Achille Mbembe, is grounds for freedom, even if that freedom or relief is only fleeting and always insecure. I am not arrogant enough to think a book can attain freedom of this sort, but this book is inspired by refusals of critique as redemption in favor of useless critique and critique for its own sake.

That the pursuit of knowledge without immediate application is so thoroughly useless, even profane, is a diagnosis of our current moment. The neoliberal assault on the university is evidence of this condition, as is the current pitch of American politics. Our indifference as intellectuals to maximizing value has not gone unnoticed. We are still dangerous, worthy of vilification, of attack, sabotage, and derision because we fail so decadently. We are parasites according to Scott Walker, Donald Trump, and the rest. So be it. We are and shall remain irascible irritants to a worldwide assault on thinking that is well underway and facing few obstacles in other jurisdictions.

What would failed scholarship do? Learn to die, learn to live, learn to listen, learn to be together, and learn to be generous. These virtues are useless in that they do not prevent or manage things. They do not translate into learning objectives or metrics. Virtues of this order are selfsame, nontransferable experiences. They are meaningful but not useful. These are luxurious virtues. Like grieving or joy, they are ends unto themselves. But how will these ideas seek extramural grants, contribute to an outcomes-based education system, or become a policy recommendation? They will not, and that is part of their virtue.

Even if there is no straight line to where we are and where we ought to be, I think we should get over the idea that somehow the U.S. project of liberal empire is conflicted, or “more right than it is wrong,” or pragmatically preferable to the alternatives. I hope this book can contribute to the urgent necessity to get out of the way by reveling in the catastrophic failure that should inspire humility but instead seems to embolden too many to seek global control yet again. Demolition may be an affirmative act if it means insurgents and others can be better heard. And yet this may fail too. If we can accomplish nothing at all, we can at least, as Ta-Nehisi Coates and other pessimists have said, refuse to suborn the lie of America any longer. Telling the truth, even if it cannot change the outcome of history, is a certain kind of solace. In Coates’s words, there is a kind of rapture “when you can no longer be lied to, when you have rejected the dream.” Saying the truth out loud brings with it the relief that we are not crazy. Things really are as bad as we think.

If there are those of us who want to break from this one-hundred-year-old race to be the next Henry Kissinger, then why do we continue to seek respect in the form of recognizable standards of excellence? I am not sure where the answer finally lies, but I do know that professionalization will not save us. To appear as normal and recognizably rigorous will not be enough to stave off the neoliberal drive to monetize scholarship, or to demand of us strategically useful insights. The least we can do in the face of such a battle is to find comfort in meaningful ideas and the friendships they build rather than try to perform for those we know are the problem. Some will ask, who is this “we” or is that “they”—where is your evidence? More will know exactly what I am talking about.

The virtues I seek are oriented toward an academy of refuge, a place we can still live, no matter how dire the conditions of the university and the classroom. It is not the think tank, boardroom, or command center. We are, those of us who wish to be included, the last of the philosophers, the last of the lovers of knowledge, the deviants who should revel in what Harney and Moten have called the undercommons.

In one of his final lectures, Bataille speaks of the remnants of a different human species, something not quite so doomed, something that wasted its newly discovered consciousness and tool-being on the art that still marks the walls of prehistoric caves. This lingering minor or vestigial heritage is philosophy’s beginning. Philosophy survives war, atrocity, famine, and crusades. Thinking matters in a very unusual way. Thinking is not power or emancipation. Thinking matters for a sense of belonging to the world, and for believing in the fecundity of the world despite evidence to the contrary.

How do you get all this from pessimism, from failure? Because willing failure is a temptation, a lure to think otherwise, to think dangerous thoughts. Pessimism is a threat to indifferentism and nihilism in the sense of the phenomenon of Donald Trump. Pessimism is a provocation and an enemy of skepticism, particularly of the metaphysical variety. It is not redemption from these afflictions, but in pessimism there is solace in the real. To put it another way, to study the world as it is means to care for it.

The exhortation that our care or interest should be contingent on how useful the world is and how much of it conforms to our designs is as much opposed to care as it is to empiricism. We can study airports, poetry, endurance races, borders, bombs, plastic, and warfare, and find them all in the world. To consider the depth of their existence can be an invitation to the world rather than a prelude to another policy report. One cannot make a successful political career out of such pursuits, but you might be able to make a life out of it, a life worth repeating even if nothing else happens.

At the end of Jack Halberstam’s The Queer Art of Failure, we are presented with the Fantastic Mr. Fox’s toast as an exemple of something meaningful in these dark times of ours.

They say all foxes are slightly allergic to linoleum, but it’s cool to the paw—try it. They say my tail needs to be dry cleaned twice a month, but now it’s fully detachable—see? They say our tree may never grow back, but one day, something will. Yes, these crackles are made of synthetic goose and these giblets come from artificial squab and even these apples look fake—but at least they’ve got stars on them. I guess my point is, we’ll eat tonight, and we’ll eat together. And even in this not particularly flattering light, you are without a doubt the five and a half most wonderful wild animals I’ve ever met in my life. So let’s raise our boxes—to our survival.

Halberstam says of this queer moment:

Not quite a credo, something short of a toast, a little less than a speech, but Mr. Fox gives here one of the best and most moving—both emotionally and in stop-motion terms—addresses in the history of cinema. Unlike Coraline, where survival is predicated upon a rejection of the theatrical, the queer, and the improvised, and like Where the Wild Things Are, where the disappointment of deliverance must be leavened with the pragmatism of possibility, Fantastic Mr. Fox is a queerly animated classic in that it teaches us, as Finding Nemo, Chicken Run, and so many other revolting animations before it, to believe in detachable tails, fake apples, eating together, adapting to the lighting, risk, sissy sons, and the sheer importance of survival for all those wild souls that the farmers, the teachers, the preachers, and the politicians would like to bury alive.

Although not as much fun as Halberstam’s monument to low theory, Savage Ecology is for all the other wild animals out there studying global politics. May we be buried alive together.

#### The Role of the Judge is to adopt martial empiricism.

Bousquet et al ‘20

[Antoine Bousquet, University of London, Jairus Grove, University of Hawai‘i at Manoa, and Nisha Shah University of Ottawa. 2020. “Becoming war: Towards a martial empiricism,” <https://journals.sagepub.com/doi/full/10.1177/0967010619895660>] pat

Rather than endeavour yet again to ‘say something fundamental about what war is’ (Barkawi and Brighton, 2011: 134, emphasis in original), we choose to explore how war becomes. This is not to say that we deny any durability or regularities in the phenomenon of war over time. Simply that, as Alfred Whitehead (1978: 35) puts it, ‘there is a becoming of continuity, but no continuity of becoming’. Accordingly, we seek to trace the lines of becoming that congeal into what comes to count as war, even as it continually frays at the edges and insolently defies habituated frames of reference. We do not, therefore, offer a theory of continuity, a formula for what all lines of becoming war might have in common, but instead sketch a style of investigation that encompasses both the enduring cohesion and the radical dispersion of war. We call this endeavour ‘martial empiricism’ to renounce attempts to devise a definitive theory of war. Instead, we favour an open-ended conceptual arsenal for following the trail of war wherever it leads us, as opposed to camping in the places where we already expect to find it.

Although we do not aim to circumscribe the remit of its investigations, martial empiricism is nonetheless inherently situational, spurred by the impulse to grasp the present martial condition we inhabit in all its calamity and promise. We would be far from the first to point out the growing inadequacy of the conceptual frameworks of war inherited from the Westphalian historical interval. Yet we still collectively flounder in the face of a combined and uneven landscape of armed conflict populated by metastasizing war machines encompassing overseas contingency operations, fullspectrum hybrid theatres, ethno-supremacist militias, crowd-sourced paramilitaries, Incel shooters and narco-state assassins. The game is definitely up when a task force led by the former head of United States Central Command can write that ‘basic categories such as “battlefield,” “combatant” and “hostilities” no longer have clear or stable meaning’ (Abizaid and Brooks, 2014: 35). Confronted with this reality and the persistent bewilderment it induces, we contend that a certain epistemic humility is in order. Rather than professing to know where war begins and ends, martial empiricism starts in the middle, with only the barest tentative intuitions necessary to explore the logistics, operations and embodiments that engender armed conflict as an unremitting condition of global life.

## 1NC -- IVI

#### Your framework actively invests in homophobic social constructions

#### [A] It holds that being gay is a contradiction in conception, since if everyone had homosexual intercourse, there would be no reproduction.

#### [B] Universality’s conclusion is that queer people literally are not human agents and can be killed with impunity.

Alan Soble, American philosopher and author of several books on the philosophy of sex. He taught at the University of New Orleans from 1986 to 2006. He is currently Adjunct Professor of philosophy at Drexel University in Philadelphia, Kant and Sexual Perversion, The Monist 86:1 (Jan. 2003), pp. 55-89, <https://philpapers.org/archive/SOBKAS> ///AHS PB

\*bracketed and crossed out words for gendered language\*

Given what Kant claims about the meager status of the masturbator and homosexual, that they are below the beasts and no longer deserve to be persons, we would have expected a better treatment by him of the principle(s) by which these practices are to be so severely condemned. (I suppose Kant was led here mostly by emotional disgust at the crimina carnis contra naturam.) This failure to provide a more solid principled foundation for his judgments about sexual perversion is especially surprising, since Kant's intellectual gay-bashing is supplemented**, in effect,** by the advocation of physical gay-bashing [Quote Starts]**:** ~~Man~~ [people] can only dispose over things; beasts are things in this sense; but man is not a thing, not a beast. If ~~he~~ [they ] disposes over ~~himself~~ [themselves], ~~he~~ [they] treats ~~his~~ [their] value as that of a beast. He who so behaves, who has no respect for human nature and makes a thing of himself, becomes for everyone an Object of freewill. We are free to treat him as a beast, as a thing, and to use him for our sport as we do a horse or a dog, for he is no longer a human being**.89** We can dispose of things which have no freedom but not of a being which has free will. A man who sells himself makes himself a thing and, as he has jettisoned his person, it is open to anyone to deal with him as he pleases. Another instance of this kind is where a human being makes ~~himself~~ [themselves] a thing by making ~~himself~~ [themselves] an object of enjoyment for some one's sexual desire [Quote Ends]**.90** Kant's sadistic leitmotifpermits if not encourages treating as lower than animals the animals or things that the masturbator and the homosexual, by their own deliberate choices, have become.

#### Vote neg – In-round reps matter –

#### [A] Inclusion – voting aff cements norms where endorsing violent and exclusionary advocacies is rewarded – that makes the debate space violent and excludes people who find these things traumatic and come to the debate space to escape. Your discourse causes psychological violence and has tangible impacts is perpetuating discriminatory culture which prevents engagements

#### [B] Reversibility – no 1AR apology can solve – reps aren’t reversible. Which means you evaluate after the 1NC

#### To preempt the 1AR – Indicts more than just kant as a person, we indict universality and neo-kantians so you still link. Your investments in a stable definition of agency is the link on the K

#### They cant say not our kant and move on because this debate is about justifying the categorical imperative in all instance not just the instance of the resolution if we win that it could create debaters that align themselves with fucked up ideology it’s a d rule against creating fucked up people

## 1NC -- Advocacy

#### Companies have profit incentive to protect themselves from Debris which means debris isn’t caused by private entities

Shah 20 – Sachin, 8/30/20, [“Aug 30 The International Legal Regulation of Space Debris,” CORNELL UNDERGRADUATE LAW & SOCIETY REVIEW, Administrative, Policy, Technology, <https://www.culsr.org/articles/the-international-legal-regulation-of-space-debris>] Justin

Although there do exist international laws and regulations governing the use of space for states and governmental entities (albeit weak ones), the private enterprises sending objects into space are subject to even less stringent regulations than states are. SpaceX, for example, to authorize their sending of 42,000 Starlink satellites into orbit, only had to submit paperwork to the U.S. Federal Communications Commission (FCC) and the International Telecommunication Union (ITU). [12] Paul Larsen posits that, in the face of less stringent regulations, nongovernmental satellite companies send many satellites into orbit in order to maximize their profit, which is their primary objective. Unlike the vagueness and lack of enforcement that came with written law (which is apparent in the Outer Space Treaty), the unwritten market-oriented incentives for profit by large-scale satellite providers and operators provide a reason for actors to mitigate space debris in orbit around Earth. Larsen states that “They have huge sums of money invested in each satellite, perhaps as much as a half-billion dollars, when all costs are included. Loss of one satellite is a major event. They want their assets to be safe.” [13] Thus, these satellite companies have a major stake in space traffic management and their market incentives do a better job of mitigating space debris than the existing legal regulation does. The company SpaceX, as mentioned above, plans to send 42,000 satellites into space. While doing so would likely result in significant profits for the company, many believe this will diminish astronomical visibility as well as increase the chance of collisions with space debris. [14] Due to these effects, scientists and space law experts alike have called for a legal delay to the ITU’s decision on whether or not to accept SpaceX’s proposal to launch more satellites. If these parties are successful, a precedent-setting legal case regarding space debris mitigation and satellite use in space may well provide a solution to the outdated Outer Space Treaty of 1967.

#### The dunk definition is insufficient as private actors can be contracted by the government which would circumvent

## 1NC – Offense

#### A model of freedom mandates a market-oriented approach to space— kant negates

Broker 20 [(Tyler, work has been published in the Gonzaga Law Review, the Albany Law Review and the University of Memphis Law Review.) “Space Law Can Only Be Libertarian Minded,” Above the Law, 1-14-20, <https://abovethelaw.com/2020/01/space-law-can-only-be-libertarian-minded/>] TDI

The impact on human daily life from a transition to the virtually unlimited resource reality of space cannot be overstated. However, when it comes to the law, a minimalist, dare I say libertarian, approach appears as the only applicable system. In the words of NASA, “2020 promises to be a big year for space exploration.” Yet, as Rand Simberg points out in Reason magazine, it is actually private American investment that is currently moving space exploration to “a pace unseen since the 1960s.” According to Simberg, due to this increase in private investment “We are now on the verge of getting affordable private access to orbit for large masses of payload and people.” The impact of that type of affordable travel into space might sound sensational to some, but in reality the benefits that space can offer are far greater than any benefit currently attributed to any major policy proposal being discussed at the national level. The sheer amount of resources available within our current reach/capabilities simply speaks for itself. However, although those new realities will, as Simberg says, “bring to the fore a lot of ideological issues that up to now were just theoretical,” I believe it will also eliminate many economic and legal distinctions we currently utilize today. For example, the sheer number of resources we can already obtain in space means that in the rapidly near future, the distinction between a nonpublic good or a public good will be rendered meaningless. In other words, because the resources available within our solar system exist in such quantities, all goods will become nonrivalrous in their consumption and nonexcludable in their distribution. This would mean government engagement in the public provision of a nonpublic good, even at the trivial level, or what Kevin Williamson defines as socialism, is rendered meaningless or impossible. In fact, in space, I fail to see how any government could even try to legally compel collectivism in the way Simberg fears. Similar to many economic distinctions, however, it appears that many laws, both the good and the bad, will also be rendered meaningless as soon as we begin to utilize the resources within our solar system. For example, if every human being is given access to the resources that allows them to replicate anything anyone else has, or replace anything “taken” from them instantly, what would be the point of theft laws? If you had virtually infinite space in which you can build what we would now call luxurious livable quarters, all without exploiting human labor or fragile Earth ecosystems when you do it, what sense would most property, employment, or commercial law make? Again, this is not a pipe dream, no matter how much our population grows for the next several millennia, the amount of resources within our solar system can sustain such an existence for every human being. Rather than panicking about the future, we should try embracing it, or at least meaningfully preparing for it. Currently, the Outer Space Treaty, or as some call it “the Magna Carta of Space,” is silent on the issue of whether private individuals or corporate entities can own territory in space. Regardless of whether governments allow it, however, private citizens are currently obtaining the ability to travel there, and if human history is any indicator, private homesteading will follow, flag or no flag. We Americans know this is how a Wild West starts, where most regulation becomes the impractical pipe dream. But again, this would be a Wild West where the exploitation of human labor and fragile Earth ecosystem makes no economic sense, where every single human can be granted access to resources that even the wealthiest among us now would envy, and where innovation and imagination become the only things we would recognize as currency. Only a libertarian-type system, that guarantees basic individual rights to life, liberty, and the pursuit of happiness could be valued and therefore human fidelity to a set of laws made possible, in such an existence.

## 1nc UV

#### Permissibility and presumption negate – [a] the resolution indicates the aff has to prove an obligation, and permissibility would deny the existence of an obligation [b] Statements are more often false than true because any part can be false. This means you negate if there is no offense because the resolution is probably false.

#### 1---Yes new 2nr responses to the underview---A] Shiftiness---New 1ar contextualization moots 1nc answers especially because they’re all blippy and the implications aren’t explained B] Clash---Voting us down for missing one blippy spike is antieducational because it moots all of substance for a silly theory argument

#### 2---No Timeskew---we both get 13 minutes.

#### 3---Reject arguments that always affirm or negate---Incentivizes reusing arguments and intellectual laziness instead of doing research and is irreciprocal.

### 1nc – no 1ar theory [0:40]

#### No 1ar theory –

#### [1] 7-6, 2-1 skew proves its always skewed to the aff

#### [2] resolvability double bind – either the judge has to intervene to decide whether the 2ar’s answers to the 2nr’s Counter interp are sufficient or they auto accept every answer and you auto win. Intervention o/ws since it takes the round out of the debaters hands. That also means DTA on 1ar theory – they can initiate offensive DTD theory in the aff and in the 1ar while no judge would vote on 2n theory on severance.

#### [3] Responses to my C/I will be new, and I don't have a 3NR to respond, o/ws on reciprocity [4] 2AR persuasion always win – ethos, meta weighing, and answers to 2NR weighing means a good theory debater will always win so it o/ws on norming. [5] Reject Infinite abuse claims a) there's a finite number of rounds and speaking time so it's incoherent b) if I win 1AR theory is abusive it meta precludes infinite abuse, because 1AR theory is also infinitely abusive – flips the script on you. C) NC is reactive [6] It scares novices from checking abuse via 1NC shells, because of fear of 1AR meta theory like combo shells or 'multiple shells bad' – o/ws on chilling and inclusion [7] Mooting – takes out 7 minutes of NC offense to collapse to the higher layer

## 1NC – Advantage

#### Plan Flaw – no brightline as to what exactly is appropriation that means circumvention through new means of extraction

#### Their models are old and don’t assume appropriate solar activity decay – debris is stable

**Wang and Liu 19** – Advances in Astronomy(Xiao-wei and Jing, PhDs, National Astronomical Observatories, Chinese Academy of Sciences, “An Introduction to a New Space Debris Evolution Model: SOLEM”, https://www.hindawi.com/journals/aa/2019/2738276/)

1. Introduction During the past decades, the number of space objects has been growing rapidly. Until now, the cataloged in-orbit space objects number has reached about 24,000, about 19000 of which are publicly listed at Space Track [1]. Uncataloged objects number with smaller size has approximately reached hundreds of millions. These space objects, mostly space debris, pose great threats to operational safety of in-orbit spacecraft. Adopting space debris mitigation measures is an important way to relieve the threats from space debris and prevent the number of resident space objects from growing. However, some studies indicated that the space debris environment would be stable for only 50 years under current mitigation measures, even without new launches in future [2]. This statement has aroused widespread concern over the world. In order to check and quantify the effectiveness of mitigation measures on controlling the growth of space debris in future, many space debris evolution models are established and compared to study the long-term stability of the future space environment. At present, the well-known space debris evolution models mainly include the LEGEND model from National Aeronautics and Space Administration (NASA) [3], DAMAGE model from United Kingdom Space Agency (UKSA) [4], MEDEE model from Centre National d’Etudes Spatiales (CNES) [5], DELTA model from European Space Agency (ESA) [6], LUCA model from Technische Universität Braunschweig [7], and NEODEEM model from Kyushu University and the Japan Aerospace Exploration Agency (JAXA)[8]. Some of these models have been used to study the stability of the future space environment in the joint research organized by Inter-Agency Space Debris Coordination Committee (IADC) [9, 10]. Besides, further work on the uncertainties affecting the long-term evolution of space debris is encouraged in international community to better assess the uncertainty induced by the modelling assumptions [11]. Therefore, more space debris evolution models are welcomed to participate in such research activities, which may provide the technical support for making new space debris mitigation guidelines as well as other related policies for space traffic management to guarantee the long-term sustainability of outer space activities. SOLEM (Space Objects Long-term Evolution Model) is a Low Earth Orbit (LEO) space debris long-term evolution model established by China. It has participated in the joint researches of IADC as a representative of China National Space Administration (CNSA). SOLEM is capable of predicting the number evolution trends of space debris, estimating the rate of collision events of space objects during the evolution in future, and analyzing the effects of different mitigation and remediation measures or other potential uncertainties on the long-term evolution of space debris. The reliability of SOLEM has been validated during the joint research of IADC. This paper introduces the components, algorithms, and workflow of SOLEM. After that, the effects of different mitigation measures based on SOLEM model are analyzed. 2. The SOLEM Model The space debris evolution model is expected to predict the evolution of space debris population and possible collision rates for a long period in future, usually for decades and even centuries. It can be used to study the evolution processes with various assumptions. The future evolution of space debris is affected by natural factors such as various perturbations, atmosphere evolutions, periodic solar activities, accidental explosions, and even the surface degradations. In fact, it could also be affected by human space activities such as launches, collision avoidance manoeuvres, mitigation and remediation measures. In space debris evolution model, usually the most important source and sink mechanisms are considered. Generally, a space debris evolution model is composed of orbital propagation model, collision probability estimation model, fragment generation model, future launch model, postmission disposal model, and active debris removal model (if the active debris removal measures are considered). These components will significantly affect the model evolution results if some key parameters are changed. The composition of space debris evolution model is illustrated in Figure 1. Figure 1: The general components of space debris evolution models. The left components are the main source mechanisms, and the right components are the main sink mechanisms. 3. Orbital Propagation Orbital propagation is to project the current orbits of space objects to the future. It is the core component of space debris evolution model. Through orbital propagation, the space debris evolution model is able to obtain the space objects orbital distribution at any moment in future. There are three basic orbital prediction algorithms: numerical method, analytical method, and semianalytical method. Numerical method has the highest precision but takes the most time in orbit propagation. Due to the long evolution time of space debris, usually from decades to hundreds of years, moreover, the high-precision position has no practical significance in long-term evolution; it is more appropriate to use analytical method or semianalytical method. SOLEM model adopts a simplified semianalytical orbital propagator, in which the integration is done on the perturbation functions with the short-periodic terms removed. Essentially, it is performed on the averaged orbital dynamic system. At present, SOLEM covers only LEO region, including objects residing in LEO with near-circular orbits and those crossing LEO with high eccentricity orbits. For near-circular orbits, the main perturbations considered include the Earth’s nonspherical gravity perturbation J2, J3, J4, J2,2, and atmospheric drag. For high eccentricity orbits, besides the Earth’s nonspherical gravity and atmospheric drag, the perturbations due to solar radiation pressure and gravity of the Sun and Moon are also considered. The atmosphere density model used for drag calculation is the NRLMSIS00 model. The values of solar radiation flux at 10.7 cm and the geomagnetic index can be read from a configuration file which can be replaced according to assumptions. In order to verify this orbital propagator of SOLEM, we conducted an experiment on the evolution of a small population. It is to compare the SOLEM propagation results with historical data for the number evolution of a small population in a statistical view. We used all the 1021 cataloged LEO-crossing objects on 1980.01.01 to do the experiment. It includes 38 objects with high eccentricity orbits () and 983 objects with near-circular orbits (). The area-to-mass ratio of these objects is calculated according to the UNW type of perturbed motion equation together with the method of least squares, using the orbital data for months previously. For SOLEM propagation, we used historical solar activities recorded in CelesTrak website [12] considering no collision avoidance and station keeping manoeuvres. The real decay information of the 1021 objects is drawn from SSR on the Space Track website [13]. The propagation result of SOLEM orbital propagator and the real data of historical evolution of the 1021 objects are compared in Figure 2, which shows a high consistency with a relative error of about 2%. Figure 2: The statistical results comparison of SOLEM propagation (denoted as test) and historical evolution (denoted as real). The semianalytical method has a limit precision in orbit propagation. However, comparing with the evolution of a single orbit, the space debris long-term evolution model cares more about the number evolution of the whole population in statistics. Considering the experiment above, we think the SOLEM orbital propagator is applicable to space debris long-term evolution model. 4. Fragment Generation Model In-orbit breakup is one important source of space debris growth. Therefore, the accuracy of fragment generation model simulating the breakup events has an important impact on the simulation results of space debris evolution model. The fragment generation model is to simulate the space debris collisions or explosions and give the instantaneous information of generated fragments which is necessary for the subsequent evolution prediction. The information includes the fragments number and each fragment’s mass, size, velocity, etc. In SOLEM, we adopt NASA’s standard breakup model to simulate the generation of fragments produced by in-orbit breakups. NASA’s standard breakup model is the most popular fragment generation model at present. The implementation is following the process presented in paper [14, 15]. 5. Collision Probability Estimation When considering the fragmentation due to in-orbit collisions, there is a key component in the space debris evolution model, that is, the collision probability estimation algorithm. In SOLEM, we adopt an Improved-CUBE (I-CUBE) model to do the calculation of collision probabilities. It is based on the CUBE method proposed by NASA [16, 17]. In CUBE model, the evolution system is uniformly sampled in time. At each sampling moment, the space around the Earth is discretized in small cubes in geocentric Cartesian coordinates. By obtaining updated orbital elements, the location of each space objects is calculated. CUBE model assumes that the collision probability only exists between objects residing in the same cube. And the collision probability is calculated by where and are the spatial densities of objects and in the cube, is the collision cross-section, is collision speed, is the volume of the cube, and is the time interval between two sampling moments. Actually, calculated by (1) is the mean number of collisions between objects and in the volume during the propagation time interval . The time interval is given as 5 days, i.e., seconds. As it does not approach 0, for some objects with collision cross-section large enough, will reach a value greater than 1. That is not reasonable. To avoid this, in I-CUBE model, we used (2) to express the collision probability with the consideration that the collision process follows a Poisson distribution. where represents the collision probability and is the mean number of collisions between objects and in the volume during the propagation time interval . According to Heiner Klinkrad [18], the approximation yields results with less than 10% error for . That means, for , the approximation will bring error bigger than 10%. For most space objects, the approximation is well suited. But for those with collision cross-sections large enough (dozens or even hundreds of square meters), the collision probability may be greatly overestimated if still using the approximation. Besides, CUBE model assumes that only the objects residing in the same cube are considered for collisions. For space debris evolution, the divided cube size is given as 10 km. However, it has been queried by CNES for the effects on evolution results from the divided cube size [19, 20]. In I-CUBE model, we assume that collision probability exists in all close approaches with a distance from the target satisfying the threshold. The distance threshold is the diagonal of the divided cube. Thus, the value of in (1) is no longer the volume of cube, but the volume of a sphere with radius equal to the distance threshold; i.e., where is the divided cube size. As relates to the spatial densities, and are now the spatial densities of objects and in the volume of the sphere. The two-dimensional representation is illustrated in Figure 3. Figure 3: Two-dimensional representation for considering possible collisions between debris residing in neighbouring cubes. In this approach, the divided cube size will never influence the evolution result of space debris evolution models. The comparison results using CUBE and I-CUBE model running by SOLEM are presented in Figure 4. The divided cube size varies from 5 km to 50 km. Except for the divided cube size, all the other configurations are the same. Every curve is the average result of 50 Monte Carlo runs. Figure 4: Comparison of simulation results with different cube size. (a) Using CUBE model. (b) Using I-CUBE model. 6. Future Launch Activities The launch of spacecraft in future is another important source of space debris increase. However, it is highly related to technical development and space policies which cannot be predicted. Therefore, the future launch model usually takes the current launch level as a reference. The data of a launch model includes all the characteristics of launched objects, such as the launched number, each object’s type, mass, area, or/and size, target orbit, and launch time. In SOLEM model, we adopt the launch traffic during the last 8 years, from September 1, 2009, to August 31, 2017, as future launch model. It will be repeated during the overall simulation time. The traffic data is collected mainly from websites of Space Launch Report [21], Space Track [22], and Union of Concerned Scientists [23]. It is prepared previously as a configuration file containing the information of launched numbers, types (including satellites, rocket bodies, and mission-related objects), each object’s mass, area (or/and size), target orbit, launch date, etc. 7. Postmission Disposal Postmission Disposal (PMD) is an important mitigation measure to stop space debris population from growing. In SOLEM model, PMD measures are implemented on nonfunctional satellites and rockets launched during the evolution time. For newly launched satellites, the mission life is uniformly set as 8 years by default. It can also be set as other values by user. For rockets, the mission life will end at once when the carried satellites are sent into the target orbits. When the mission life of a satellite or rocket ends, the natural orbital lifetime will be estimated. If the natural orbital lifetime exceeds 25 years, the satellite or upper stage of the rocket will be deorbited to a disposed orbit that will naturally decay within 25 years, complying with the 25-year rule. The PMD success rate in SOLEM can be set freely by users. Currently this value is estimated to be lower than 20% for region above 600 km. The procedure of PMD is shown in Figure 5. Figure 5: The procedure of PMD. For mission ended satellites or rockets (R/Bs), if the evaluated natural orbital lifetime exceeds 25 years, it will be disposed to a new orbit complying with the 25-year rule. 8. Active Debris Removal To better limit the growth of LEO space debris populations, measures of active debris removal (ADR) are suggested. Although the ADR has not become practical due to the technical difficulties and high costs, its effects on space debris evolution have been proved through computer simulations. Considering the developing technology, ADR will be another important measure in stopping the growth of the space debris population in future. As suggested, ADR measure is to remove existing large and massive objects from regions where high collision activities are expected [24]. The selection criterion that should be used in choosing which objects to remove has also been researched, and the criterion based on the mass and collision probability of each object has been proposed [25–27]. By annually removing several targets, the space environment can be stabilized according to computer simulations. In SOLEM model, the selection criterion is implemented as follows: where is the mass of object and is the cumulated collision probabilities between object and object , where during the last year. Their product is the selection index for ADR. The larger the value of , the more dangerous the object . At the beginning of each projection year, all objects in orbit are sorted in descending order by the value of . A predefined number of space debris objects with the largest s will be immediately removed from orbits. Only the operating satellites and objects with high eccentricity orbits are excluded. The beginning year of implementing ADR measures is set by users. In SOLEM, it is set as 2030 by default. 9. The Initial Population Space objects initial population is the baseline of space debris evolution model. It is the description of current space environment. For SOLEM, the population data on 2017.09.01 is used as initial population. Just like the future launch model, the information of space objects is obtained from Space Track, Space Launch Report, and Union of Concerned Scientists. The orbital distribution and the area-to-mass ratio (A/M) versus size distribution are shown in Figures 6 and 7. Figure 6: The semimajor axis versus eccentricity distribution of population data of 2017.09.01. Figure 7: The A/M versus size distribution of population data of 2017.09.01. 10. The Workflow of SOLEM Model The workflow of SOLEM model is simply represented by Figure 8. As presented, before projection, initialization will be done first by setting key parameters which are based on simulated assumptions, taking prepared initial population data as input. All space objects contained in the initial population are propagated after initialization. As time evolves, the newly launched objects from future launch model will also be propagated. If the newly launched active satellite or rocket ends its mission, the PMD measure will be done. All space objects with size over 10 cm are included for collision consideration. Once a collision happens, the breakup model will be used to generate new fragments. And the population for next propagation step will be updated. Figure 8: The workflow of SOLEM model. 11. Model Application As key parameters of each module are flexible to users, SOLEM model is able to simulate the evolution of space debris under various assumptions with high flexibility. Since 2015, SOLEM, as a representative of CNSA, has participated in a joint research of IADC. With uniform input data and assumptions, SOLEM has achieved results consistent with other space debris evolution models (IADC internal reports). In this paper, the effects of different mitigation measures on space debris evolution are analyzed with the SOLEM model. 11.1. Input Data The initial input data and relevant assumptions are shown in Table 1. Three scenarios are performed with PMD rate set as 30%, 60%, and 90%, and the other input data and assumptions are all the same. For each scenario, 50 Monte Carlo simulation runs are performed to obtain the averages. Table 1: Assumptions of scenarios simulated by SOLEM model. The solar activity used in SOLEM for future evolution is shown in Figure 9. It is generated according to the monthly fit formula offered by CelesTrak website [12]. The geomagnetic index is set as a constant median value of Ap=9. Figure 9: The solar activity recorded in history (green line, denoted as real) and the solar activity model adopted in SOLEM (purple line). 11.2. Simulation Results In the evolution results, space objects are classified into three types: intact objects include all satellites, R/Bs, and mission-related objects; old fragments are all the DEB already existing in the initial population; new fragments are all the DEB generated during the evolution time. Separating new fragments from old fragments can help us have a clear view of the increasing process of space debris population. The space debris evolution results of the scenario setting PMD rate as 30% is presented in Figure 10. It is the average result of 50 Mont-Carlo runs by SOLEM. As Figure 10 shows, the total number of objects in LEO shows a decrease in the first two decades, then turns into increase throughout the evolution time, and finally reaches more than 115% of the initial population. This scenario predicts 34 catastrophic collisions and 25 noncatastrophic collisions in average in future 200 years. Figure 10: The evolution results of scenario 1, with PMD rate of 30%. (a) The population evolution. The line of total is plotted with the error bar of 1 σ standard deviation. (b) The cumulative number of collisions. Figure 11 shows the evolution results of the scenario setting PMD rate as 60%. The reinforcement of such mitigation measure makes the final effective number of LEO objects in future 200 years decrease greatly comparing with the baseline scenario. The final total effective number of LEO objects is only 23% more than the initial population. And the cumulative number of collisions also decreases greatly in both collision types. Figure 11: The evolution results of scenario 2, with PMD rate of 60%. (a) The population evolution. The line of total is plotted with the error bar of 1 σ standard deviation. (b) The cumulative number of collisions. In Figure 12, the evolution result shows, with PMD rate of 90%, there is a clear decrease by approximately 30% in the total effective number of space objects crossing LEO orbits for the next 50 years, and then the population remains at a long-term stable level. The decrease in the first 50 years is mainly due to the natural decay of old fragments. The number of new fragments generated by breakup events increases in nearly the whole evolution time with a low rate and finally seems to stop increasing at the end of evolution. The cumulative number of catastrophic collisions is decreased down to 15, and for noncatastrophic collisions the number is only 7. Generally, this scenario predicts a space debris environment becoming better with PMD rate as high as 90%. Figure 12: The evolution results of scenario 3, with PMD rate of 90%. (a) The population evolution. The line of total is plotted with the error bar of 1 σ standard deviation. (b) The cumulative number of collisions. Simulation results of the three scenarios are quantified in Table 2. It can be seen that, with PMD rate increasing, the space debris population after 200 years will greatly decrease, as well as the average catastrophic collision rates. High PMD rates will make the current space environment better and safer. Table 2: Quantification of evolution results of the three scenarios simulated by SOLEM model. Taking the IADC comparison study about “Stability of the Future LEO Environment” [9, 10] as a reference, the evolution results shown above look rather optimistic. The IADC comparison study predicted about +30% changes in population after 200 years and one catastrophic collision every 5 to 9 years with PMD rate of 90%. And we predict -30% change in population and one catastrophic collision every 13 years with the same PMD compliance level. That might be mainly due to the differences in solar activity model and the input initial population used for simulation. The solar activity used in this paper (Figure 9) is in a higher level than those used in [9, 10], which is shown in Figure 13. This will make more objects decay during the evolution. Besides, the initial population we used in this paper is obtained from the public data on 2017.09.01, which is about 13000 space objects. While the initial population used in [9, 10] is the reference population of MASTER2009 on 2009.05.01, which is about 17000 space objects, the difference in initial population is as high as about 24%. Additionally, the area-to-mass ratio distribution of the initial population in this paper (Figure 7) is also different from [9, 10], which is shown in Figure 14. From the area-to-mass ratio distribution of the initial population, it can be seen that the initial population we used does not exclude those objects with high area-to-mass ratio. Figure 13: Solar flux projections used in IADC comparison study. Figure 14: Area-to-mass ratio distributions of the initial population used in IADC comparison study. The differences in solar activity projection and initial population including both the number and area-to-mass ratio finally lead to a very different evolution result. 12. Summary and Future Work This paper mainly introduced the composition, submodel algorithm, and workflow of SOLEM, the space debris long-term evolution model of China. The reliability of SOLEM has been validated during the joint research of IADC. After that, the application work of SOLEM model on analyzing the effects of different mitigation measures on the evolution of space environment is presented. The result shows, with higher PMD rate, the current space environment will become better and safer. SOLEM is a LEO space debris evolution model with high flexibility. It is capable of simulating the space environment evolution with various assumptions. Therefore, it can be used to simulate and analyze the uncertainties affecting the space debris evolution, such as the future launches, solar activities, manual collision avoidance measures, and mitigation and remediation measures. Through simulation and analysis, SOLEM can help us to deeply understand the evolution process of space environment and provides technical support for making space policies and laws to guarantee the sustainability of space activities in future. At present, the orbital range covered by SOLEM is limited to LEO region from 200 km to 2000 km. In the next step, the orbital range covered by SOLEM will be expanded from LEO region to GEO (Geostationary Earth Orbit) region. Besides, the postmission disposal model will be optimized, including the disposed orbit selection process and the computation time.

#### Their own bernat evidence gives us a great example – Westside reads blue

Bernat 20 – Pawel, 2020, Military University of Aviation, [“ORBITAL SATELLITE CONSTELLATIONS AND THE GROWING THREAT OF KESSLER SYNDROME IN THE LOWER EARTH ORBIT,” SAFETY ENGINEERING OF ANTHROPOGENIC OBJECTS, Volume 4, PDF] Justin

5. Orbital satellite constellations and the growing threat of the Kessler syndrome Space 2.0 – the new era of space exploration that we witness now in the 21st century means, in words of Buzz Aldrin, “moving human enterprise into space” (Pyle, 2019, p. xiv). The process of commercialization of outer space has already begun and is not limited to private companies providing technologies and services for national or international space agencies, as it was in the past. On the contrary, private companies from the space sector have now matured to carry out their own independent projects. As for 2020, SpaceX is a company that serves as the best example – it launches satellites to the orbit, both for state and private contractors, it successfully realized two crew missions to the International Space Station, and is in the process of constructing Starlink satellite constellation that will provide high-speed internet access across the planet. Each satellite weighs around 260 kg, is equipped with an ion propulsion system, autonomous collision avoidance system, and orbits Earth at approximately 540-560 km altitude (Starlink, 2020). At the beginning of November 2020, more than 860 Starlink satellites were orbiting the Earth (Jewett, 2020). Immediate plans include launching 12,000 satellites, but they assume a potential later extension to 42,000 (Henry, 2019a). Of course, SpaceX has employed, at least declaratively, all necessary measures to keep the space clean – the satellites are equipped with the deorbiting system, and in the event of inoperability of the propulsion system (Starlink, 2020). The orbital collisions are, however, inevitable. As it was shown before, the possibility of collisions grows with the number of orbital objects. Bastida Virgili with the team compared (2016, p. 154-155) orbital debris environment development without and with a large hypothetical constellation consisting of merely 1080 satellites, distributed across 20 orbital planes at 1,100 km altitude (Fig. 5).

#### The bernat evidence is about satellite constellations not appropriation and doesn’t consider innovation like SpaceX Starlink preventative measures

#### Constellations don’t fall under appropriation which is an enormous alt cause to the aff because ou don’t solve the only internal link you have to the impact

Johnson 20 [Chrsitopher D. Johnson is the Space Law Advisor for Secure World Foundation and has nine years of professional experience in international space law and policy, “The Legal Status of MegaLEO Constellations and Concerns About Appropriation of Large Swaths of Earth Orbit”, pg 18, “No, This Is Not Impermissible Appropriation”, https://swfound.org/media/206951/johnson2020\_referenceworkentry\_thelegalstatusofmegaleoconstel.pdf]//sripad

An opposite conclusion can also be reasonably arrived at when approached along the following lines. The counter argument would assert that the deployment and operation of these global constellations, such as SpaceX’s Starlink, OneWeb, Kepler, etc., are aligned with and in full conformity with the laws applicable to outer space. These constellations are merely the exercise and enjoyment of the freedom of exploration and use of outer space and do not constitute any impermissible appropriation of the orbits that they transit.

#### Risk is low – sat designs and cleanup checks.

O’Gorman 18 (John, MA thesis submitted to Rochester Institute of Technology, “The Cost of Clean Space- A Study of the Additional Fuel Costs of Launching Above Low Earth Orbit,” 5-18, <https://pdfs.semanticscholar.org/d703/101d657334d2e1575d08005e290578770cd1.pdf?_ga=2.70400848.1753078645.1567896134-909185996.1567896134>)

To conclude, orbital debris is a current issue and has the potential to be a serious problem in the coming decades and centuries if business as usual is conducted. Fortunately, steps are being taken now which can mitigate this disastrous scenario. The space community is still relatively small and better rocket and satellite design is helping to avoid the accidental creation of debris. Studies over the feasibility of pulling large objects from orbit have already been done and they show a large amount of promise for managing the future creation of debris very effectively. Although current international policies managing debris do not yet exist, the discussion over how space will be managed is already well underway. If sound debris policies can come out of these discussions, the utility of LEO can be preserved for future generations.

#### Sat attacks don’t cause nuke war

Zarybnisky 18 [Eric J. Zarybnisky, 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. March 28, 2018. <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.6F 6 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.7F 7 In today’s more nuanced world, attacking satellites, including military satellites, does not necessarily result in nuclear war. For instance, foreign countries have used highpowered lasers against American intelligence-gathering satellites8F 8 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.