### 1

#### Interp: The affirmative must define “outer space” in a delimited text in the 1AC.

#### “Outer Space” is flexible and has too many interps – normal means shows no consensus

Leepuengtham 17 [Tosaporn Leepuengtham (Research Judge, Intellectual Property and International Trade Division, Supreme Court of Thailand). "International space law and its implications for outer space activities." 01-27-2017, Accessed 12-9-2021. https://www.elgaronline.com/view/9781785369612/06\_chapter1.xhtml // duongie

Those states which favor the precise demarcation of outer space support the spatial approach, whereas those who oppose to such demarcation prefer the functional approach, as the latter allows more flexibility in terms of the development of space technology.34 This lack of a definition and delimitation of outer space is problematic, since certain particular areas are neither explicitly defined as ‘air space’ or ‘outer space’. For example, it is vague whether an area located between 80 km and 120 km above sea level would be classified as either air space or outer space in the absence of demarcation, since 80 km is the maximum attitude for convention aircraft, and 120 km is the lowest attitude in which space activities could be carried out.35 Satellites which are stationed in a geostationary orbit are a good example of this ambiguity. Owing to this lack of any internationally recognized delimitation, equatorial states claim sovereignty over that part of the geostationary orbit which is located over their respective territories;36 whereas technologically developed countries believe that the geostationary orbit is an integral part of outer space.37 This uncertain status of areas leads to legal jurisdictional problems. According to international law, a state has sovereignty over the airspace above its territory.38 However, national sovereignty does not extend into outer space.39 Thus, it is necessary to determine where a state’s airspace ends to ensure that the appropriate legal regime is applied. One possible scenario which might occur and which is relevant to the subject of this book is the creation or infringement of an intellectual work is in just such an ambiguous location. This would cast doubt on the ‘legal’ location of creation or infringement, and the question of which applicable legal regime arises. Should we apply the law of the underlying state or is there no law to apply? For example, would satellite signals transmitted from a satellite stationed in a geostationary orbit located over equatorial countries be considered as works created or, if intercepted, be infringed, in outer space or in the sovereign air space of those respective countries? These hypothetical examples highlight why a boundary is necessary if unpredictability arising from different legal application is to be avoided. While it might be argued that this issue is being overemphasized at this stage, given increasing use of space technology, this problem is worth considering now rather than later.

#### Violation – you don’t.

#### Prefer –

#### 1] Stable Advocacy – they can redefine in the 1AR to wriggle out of DA’s which kills high-quality engagement and becomes two ships passing in the night –We lose access to Tech Race DA’s, Asteroid DA’s, basic case turns, and core process counter plans that have different definitions and 1NC pre-round prep.

#### 2] Real World – Policy makers will always define the space that they are regulating. It also means zero solvency, absent spec, private entities can circumvent since there is no delineated way to enforce the aff and means their solvency can’t actualize.

#### Fairness is a voter debate is a competitive activity that requires objective evaluation

#### Topicality is a voting issue that should be evaluated through competing interpretations a] it tells the negative what they do and do not have to prepare for b] reasonability is arbitrary and incentivizes judge intervention

#### No RVIs—a] it’s your burden to be topical. Anything else chills real abuse b] forces theory debaters to bait theory and win on it every time

### 2

#### Ethics must begin apriori –

#### [A] Apriori Aposteriori Paradox – big bang proves our theory true – independent of material conditions there was some existence which necessitates objective truth absent material reality.

#### [B] Action theory – infinite division logically concludes from empiricism. i.e If I was brewing tea, I could break up that one big action into multiple small actions. Only our intention unifies these actions. If we were never able to unify action, we could never classify certain actions as moral or immoral.

#### [C] Constitutive Authority – reason is the only unescapable authority because to ask for why we should be reasoners concedes its authority since it uses reason – anything else is nonbinding and arbitrary.

#### [D] Naturalistic fallacy – experience only tells us what is since we can only perceive what is, not what ought to be.

#### That means we must universally will maxims— any non-universalizable norm justifies someone’s ability to impede on your ends.

#### Thus, the standard is consistency with the categorical imperative.

#### Prefer the standard:

#### [1] Performativity – freedom is the key to the process of justification of arguments. Willing that we should abide by their ethical theory presupposes that we own ourselves in the first place.

### Offense

#### [1] Libertarianism mandates a market-oriented approach to space—that 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.

#### [2] To own yourself and use your own freedom is to be able to interact with external objects. Anything else makes you unable to exercise your own freedom on other things and creates a contradiction.

Feser 2, (Edward Feser, 1-1-2005, accessed on 12-15-2021, Cambridge University Press, "THERE IS NO SUCH THING AS AN UNJUST INITIAL ACQUISITION | Social Philosophy and Policy | Cambridge Core", Edward C. Feser is an American philosopher. He is an Associate Professor of Philosophy at Pasadena City College in Pasadena, California. [https://www.cambridge.org/core/journals/social-philosophy-and-policy/article/abs/there-is-no-such-thing-as-an-unjust-initial-acquisition/5C744D6D5C525E711EC75F75BF7109D1)[brackets](https://www.cambridge.org/core/journals/social-philosophy-and-policy/article/abs/there-is-no-such-thing-as-an-unjust-initial-acquisition/5C744D6D5C525E711EC75F75BF7109D1)%5bbrackets) for gen lang]//phs st

There is. An alternative, soft-line approach could acknowledge that the initial acquirer who abuses a monopoly over a water hole (or any similar crucial resource) does commit an injustice against those who are disad- vantaged, but such an approach could still hold that the acquirer never- theless has not committed an injustice in acquisition —his acquisition was, as I have said, neither just nor unjust. Nor does he fail to own what he has acquired; he still cannot be said to have stolen the water from anyone. Rather, his injustice is an unjust use of what he owns, on a par with the unjust use I make of my self-owned fist when I wield it, unprovoked, to bop you on your self-owned nose. In what sense does the water-hole owner use his water unjustly, though? He doesn’t try to drown anyone in it, after all— indeed, the whole problem is that he won’t let anybody near it! Eric Mack gives us the answer we need in what he has put forward as the “self-ownership proviso” (SOP).28 This is a proviso not (as the Lock- ean proviso is) on the initial acquisition of property, but rather on how one can use his property in a way that respects others’ self-ownership rights. It is motivated by consideration of the fact that the talents, abilities, capac- ities, energies, etc., that a person rightfully possesses as a self-owner are inherently “world-interactive”; that is, it is of their very essence that they are directed toward the extra-personal environment.29 Your capacity to use your hand, for instance, is just a capacity to grasp and manipulate external objects; thus, what you own in owning your hand is something essentially grasping and manipulating.30 Now if someone were to cut off your hand or invasively keep you from using it (by tying your arm against your body or holding it behind your back), he would obviously be violating your self-ownership rights. But there are, Mack suggests, other, noninvasive ways in which those rights might be violated. If, to use an example of Mack’s, I effectively nullify your ability to use your hand by creating a device that causes anything you reach for to be propelled beyond your grasp, making it impossible for you ever to grasp or manip- ulate anything, I have violated your right to your hand as much as if I had cut it off or tied it down. I have, in any case, prevented your right to your hand from being anything more than a formal right, one that is practically useless. In the interests of guaranteeing respect for substantive, robust rights of self-ownership, then, “[t]he SOP requires that persons not deploy their legitimate holdings, i.e., their extra-personal property, in ways that severely, albeit noninvasively, disable any person’s world-interactive powers.” 31 The SOP follows, in Mack’s view, from the thesis of self-ownership itself; or, at any rate, the considerations that would lead anyone to accept that thesis should also, in his view, lead one to accept the proviso.32 A brief summary of a few of Mack’s thought experiments should suffice to give a sense of why this is so.33 In what Mack calls the Adam’s Island example, Adam acquires a previously uninhabited island and later refuses a shipwrecked Zelda permission to come ashore, as a result of which she remains struggling at sea (and presumably drowns). In the Paternalist Caging example, instead of drowning, Zelda becomes caught offshore in a cage Adam has constructed for catching large sea mammals, and, rather than releasing her, Adam keeps her in the cage and feeds her regularly. In the Knuckle-Scraper Barrier example, Zelda falls asleep on some unowned ground, whereupon a gang of oafish louts encircles her and, using their bodies and arms as barriers, refuses to let her out of the circle (accusing her of assault if she touches them in order to climb over or break through). In the Disabling Property Barrier example, instead of a human barrier, Adam constructs a plastic shield over and around the unowned plot of ground upon which Zelda sleeps, accusing her of trespassing upon his property when she awakens and tries to escape by breaking through the plastic. And in the (similarly named) Disabling Property Barriers example, seem to suggest an Aristotelian-Thomistic conception of natural function, and though this by no means troubles me, it might not be what Mack himself has in mind (nor, of course, is it something every philosopher is going to sympathize with). Mack’s view nevertheless seems to require something like this conception. And something like it —enough like it to do the job Mack needs to be done, anyway—is arguably to be found in Larry Wright’s well- known reconstruction, in modern Darwinian terms, of the traditional notion of natural function. See Larry Wright, “Functions,” Philosophical Review 82, no. 2 (1973): 139–68. Adam, instead of enclosing Zelda in a plastic barrier, encloses in plastic barriers every external object that Zelda would otherwise be able to use — thus, in effect, enclosing her in a larger, all-encompassing plastic barrier of a more eccentric shape. In all of these cases, Mack says, although Zelda’s formal rights of self-ownership have not been violated—no one has invaded the area enclosed by the surface of her skin —her rights over her self-owned powers, and in particular her ability to exercise those powers, have nevertheless been nullified. But a plausible self-ownership- based theory surely cannot allow for this. It cannot, for instance, allow the innocent Zelda justly to be imprisoned in any of the ways described! If Mack is right, then it seems we have, in the SOP, grounds for holding that a water-hole monopolist would indeed be committing an injustice against anyone he refuses water to, or to whom he charges exorbitant prices for access. The injustice would be a straightforward violation of a person’s rights to self-ownership, a case of nullifying a person’s self- owned powers in a way analogous to Adam’s or the knuckle-scrapers’ nullification of Zelda’s self-owned powers. It would not be an injustice in initial acquisition, however. The water-hole monopolist still owns the water hole as much as he ever did; he just cannot use it in a way that violates other individuals’ self-ownership rights (either by drowning them in it or by nullifying their self-owned powers by denying them access to it when there is no alternative way for them to gain access to the water necessary for the use of their self-owned powers). Is Mack right? The hard-liner might dig in his heels and insist that none of Mack’s examples amount to self-ownership-violating injustices; instead, they are merely subtle but straightforward property rights violations or cases of moral failings of various other sorts (cruelty, selfishness, etc.). The Adam’s Island case, for starters, is roughly analogous to the example of the water-hole monopolist, so that it arguably cannot give any non-question- begging support to the SOP, if the SOP is then supposed to show that the water-hole example involves an injustice. The Disabling Property Barriers case might also be viewed as unable to provide any non-question-begging support, since Adam’s encasing everything in plastic might plausibly be interpreted as his acquiring everything, in which case we are back to a water-hole-type monopoly example. The Knuckle-Scraper Barrier and Dis- abling Property Barrier examples might be explained by saying that in falling asleep on the unowned plot of land, Zelda in effect has come (at least temporarily) to acquire it, and (by virtue of walking) to acquire also the path she took to get to it, so that the knuckle-scrapers and Adam violate her property rights (not her self-ownership rights) in not allowing her to escape. The Paternalist Caging example can perhaps be explained by arguing that in building the cage, Adam has acquired the water route leading to it, so that in swimming this route (and thus getting caught in the cage) Zelda has violated his property rights and, therefore, can justly be caged. Accordingly, the hard-liner might insist, we can explain all of these examples in a hard-line way and thus avoid commitment to the SOP. Such a hard-line response would be ingenious (well, maybe), but still, I think, ultimately doomed to failure. Can the Paternalist Caging example, to start with, plausibly be explained away in the manner that I have suggested? Does Adam commit no injustice against Zelda even if he never lets her out? It will not do to write this off merely as a case of excessive punishment (explaining the injustice of which would presumably not require commitment to the SOP). For suppose Adam says, after a mere five minutes of confinement, “I’m no longer punishing you; you’ve paid your debt and are free to go, as far as I’m concerned. But I’m not going to bother exerting the effort to let you out. I never forced you to get in the cage, after all —you did it on your own —and you have no right to the use of my self-owned cage-opening powers to fix your mistake! So teleport out, if you can. Or get someone else —if you can find someone —to let you out.” Adam would be neither violating Zelda’s rights to external property nor excessively punishing her in this case; nor would he be invasively vio- lating her self-ownership rights. But wouldn’t he still be committing an injustice, however noninvasively? Don’t we need something like the SOP to explain why this is so? The barrier examples, for their part, do not require Zelda’s walking and falling asleep on virgin territory, which thus (arguably) becomes her prop- erty. We can, to appeal to the sort of science-fiction scenario beloved of philosophers, imagine instead a bizarre chance disruption of the structure of space-time that teleports Zelda into Adam’s plastic shell or into the midst of the knuckle-scrapers. There is no question now of their violating her property rights; yet don’t they still commit an injustice by nullifying her self-owned powers in refusing to allow her to exit? Consider a parallel example concerning property ownership itself. If your prized $50,000 copy of Captain America Comics number 1, due to another rupture in space-time or just to a particularly strong wind that blows it out of your hands and through my window, suddenly appears on the floor of my living room, do I have the right to refuse to bring it back out to you or to allow you to come in and get it? Suppose I attempt to justify my refusal by saying, “I won’t touch it, and you’re free to have it back if you can arrange another space-time rupture or gust of wind. But I refuse to exert my self-owned powers to bring it out to you, or to allow you on my property to get it. I never asked for it to appear in my living room, after all!” Would anyone accept this justification? Doesn’t your property right in the comic book require me to give it back to you? The hard-liner might suggest that this example transports the SOP advocate out of the frying pan and into the fire. For if the SOP is true, wouldn’t we also have to commit ourselves to a “property-ownership proviso” (POP) that requires us not to nullify anyone’s ability to use his external private property in a way consistent with its “world-interactive powers”? If I build a miniature submarine in my garage, and you have the only swimming pool within one thousand miles, must you allow me the use of your pool lest you nullify my ability to use the sub? If (to take an example of Cohen’s cited by Mack) I own a corkscrew, must I be provided with wine bottles to open lest the corkscrew sadly fail to fulfill its full potential?34 Mack’s response to this line of thought seems basically to amount to a bit of backpedaling on the claim that his proviso really follows from the notion of self-ownership per se —so as to avoid the conclusion that a (rather unlibertarian and presumably redistributionist) POP would also, in par- allel fashion, follow from the concept of property ownership. His response seems, instead, to emphasize the idea that the considerations favoring self-ownership also favor, via an independent line of reasoning, the SOP.35 In my view, however, a better response would be one that took note of some relevant disanalogies between property in oneself and property in external things. Note first that the self-owned world-interactive powers, the possible use of which the SOP is intended to guarantee, are possessed by a living being who is undergoing development, which involves passing through various stages; therefore, these powers are ones that flourish with use and atrophy or even disappear with disuse.36 To nullify these powers even for a limited time, then, is (very often at least) not merely temporarily to inconvenience their owner, but, rather, to bring about a permanent reduc- tion or even disablement of these powers. By contrast, a submarine (or a corkscrew) retains its powers even when left indefinitely in a garage (or a drawer). This difference in the effect that nullification has on self-owned powers versus extra-personal property plausibly justifies a difference in our judgments concerning the acceptability, from the point of view of justice, of such nullification in the two cases; that is, it justifies adoption of the SOP but not of the POP.37 Second, there is an element of choice (and in particular, of voluntary acquisition) where extra-personal property is concerned that is morally relevant here.

### 3

#### The aff embodies a political ontology driven by the security of the nation state. This makes their impacts inevitable and cyclical, perpetuating conflict.

Burke ‘13 – Anthony, Associate Professor of Politics and International Relations in the University of New South Wales, 2013 (“Security cosmopolitanism,” *Critical Studies on Security* (Vol. 1, No. 1, 13–28) Available Online to Subscribing Institutions via Tandfonline)//Jia

The ontology underpinning security cosmopolitanism necessitates a profound transformation of the national security ontology that precedes and frustrates it. While acknowledging the significance of states – as core actors and potential means of security, as structures of democratic governance, and as (one) of the legal foundations of international order and law – such an ontology understands human existence as irreversibly global in nature. When multiple and often anonymous human actions collectively produce such profound changes to the biosphere and climate that many now term ours a new geological era – the ‘Anthropocene’ – national borders lose their claim to define and enclose human existence, and humanity must be thought in non-anthropocentric terms (Ganguly and Jenkins 2011; Alberts 2011). Through interlocking historical, social, and systemic processes – imperialism, world war, decolonization, capitalism, cold war, globalization, migration, terrorism, nuclear strategy, intervention, and environmental degradation – human beings have effectively unified their life and death process on a planetary scale and extended it to other species and life forms. This event needs to be reflected in a transformation of the historically dominant ontological narrative of insecurity – the narrative of its origins, sources, nature, and necessity. In the traditional (and still dominant) narrative, security emerges from insecurity through the creation of a distinctive political form and subjectivity – that of the nationstate and its corporeal manifestation, sovereignty, the ‘body-politic’. As argued by Thomas Hobbes and John Locke, the origins of national security lie in a temporal narrative that traces the emergence of the sovereign state (the ‘Commonwealth’) from an originary ‘state of nature’: a realm of perpetual insecurity and conflict in which a natural equality ‘and Right of every man to everything’ remains governed by no rule or jurisdiction that could stabilize or order it; it resembles then a ‘time of Warre, where every man is Enemy to every man’ and there ‘can be no security to any man of living out the time which Nature ordinarily alloweth men to live’ (Hobbes 1985; Esposito 2008; Burke 2007, 36–41). As Roberto Esposito explains, an ‘immunitary mechanism begins to operate’ in this narrative, because ‘if life is abandoned to its internal powers, [and] its natural dynamics, human life is destined to self-destruct’. An all-powerful sovereign – the paradoxical embodiment and governor of the body-politic – then functions to ‘immunize’ the body-politic against the potential of its own disorder and preserve the life that threatens it. This biopolitical life is not the degraded ‘bare life’ of Giorgio Agamben’s theory – which certainly remains an ever-present possibility for the subjects and objects of sovereign power – but a rich vision of life that Hobbes describes in De Cive as ‘happiness’ and in Leviathan as all ‘the benefit and good’ of ‘lawful industry’ and knowledge; a life, in short, enabled, protected, and transformed by modernity (Esposito 2008; Burke 2007, 37–38). Furthermore, as international relations grow in complexity and danger, and an international law based on the sovereign equality of peoples organized into states becomes normatively dominant with the establishment of the United Nations and the emergence of the post-World War II national security state, the Hobbesian imaginary mutates: the nation-state comes to be thought of as a contained and vital body that must be immunized, or secured, against threats that come from without as well from within. This national body has integrity, sovereignty, borders – and international society, as Hedley Bull explained, comprises such ontologically separate body-politics linked together by a spiderweb of international law, strategic balances, and mutual interests. There is no common humanity, merely an anarchical society of states regulated by a minimal set of agreed rules (Bull 2002, 82). National enclosure becomes paired with anarchic balancing, strategic cooperation, and Realpolitik: this is the ontology that structures and animates dominant state approaches to both national and collective security, across the entirety of the security agenda. In security cosmopolitanism, there can be no successful immunization of the national body against insecurities that come from outside. Such immunization failure can be understood in two ways. First, the very constitution of the state and the national body can be a source of threat – to ethnic, religious, or sexual minorities, dissidents, indigenous peoples, the poor, and women – who become targets of exclusion, marginalization, discipline, violence, and repression. Masculinist and totalizing metaphors of state and community as body then mobilize their own violence, seeking to homogenize and exclude those designated as the other – the virus or cancer – of the state. Such policies generate both severe human insecurity and transnational insecurities in the form of refugees, the transmission of conflict, or the internationalization of struggle – the Palestinians being a powerful case in point. Second, dominant patterns of insecurity and threat – whether one thinks in terms of their causes, scope, or effects – develop within and across borders in ways that render containment models of national security inadequate, and are in fact exacerbated by the perseverance of such models. The atmosphere has no borders, and climate change – which will have dramatic effects on human security from environmental disruptions, degradation, disease vectors, climate-affected conflict, and ‘natural’ disasters such as hurricanes and storm surges – arises as a totality out of millions of often anonymous daily actions in industry, agriculture, government, and individual life. While action at the state and government level is obviously crucial, attempts to partition legal responsibility along national lines have done little more than create paralyzing international disputes and no agreement on a global treaty framework to reduce emissions and arrest climate change. The antagonistic structure and ontology of international society here presents a profound obstacle to cosmopolitan ends: the result is what writers such as Esposito and Jacques Derrida have called ‘autoimmunization’, an immune response that threatens to destroy the social body rather than protect it (Esposito 2008, xiii–xix, 2011; Derrida 2005; Borradori 2003, 100–102). Nuclear weapons present a similar dilemma dating to the beginning of the post-war national security state: national efforts to seek security through nuclear threats soon became a threat to humanity as such, creating a global community of fate through escalating insecurity dynamics that could never be tamed or stabilized. In this way the nuclear balance of terror becomes the ultimate autoimmunization, as deterrence is forced by time compression and uncertainty to exist at the edge of pre-emption and thus of irreversible disaster, threatening to eliminate those it aims to defend. Similarly transnational Islamist terrorism operates, propagandizes, and recruits across borders, and violent and exceptionalist responses produce new autoimmunization processes that undermine multiculturalism and the democratic rule of law and drive new forms of radicalization and terror (Burke 2009, 2008, 2007, 4–13). Hence in security cosmopolitanism the founding narrative of security changes: insecurity does not arise before or external to a state that (in the classical narrative) acts as a double guarantee of both security and modernity, but arises out of that very modernity as a function of its histories, choices, powers, relations, and systems. It is not the enemy in possession of nuclear or conventional weapons that is the fundamental source of insecurity, but the weapons system itself; not the forced migrant or the massive storm creating insecurity for the nation-state, but the human interaction with the climate system; not the terrorist en route to an attack, but a historical system of injustice, geopolitics, and ideology around violence that enables terrorism as a normative choice and a social phenomenon. Similar arguments can be made about hunger and food insecurity, global health inequality, asylum seekers, transnational crime, weapons proliferation, and more. As Simon Dalby writes of climate change, its ‘irony’ is that ‘the threat is self-imposed; we are the makers of our own misfortunes’. This generates profound responsibilities toward peoples most vulnerable to climate disruptions and undermines ‘distinctions between nature and culture, human and environment’ such that ‘the global scale we now live in’ must be conceptualized as a ‘social nature’ (2009, 2, 6). While security cosmopolitanism does not deny that there are event-based sites and sources of insecurity, it argues that they can neither be fully understood nor ameliorated in their irruptive, symptomatic forms. Event-based threats – the insecurities of the moment – are epiphenomena of larger scale structures and systems. Insecurities arise as events out of multidimensional, interdependent, and often anonymous processes; out of complex articulations of agency, determination, and accident stretching far into a multilayered past and a future with multiple potentials. Against such a background, national governments can potentially be a valuable means of security, but will not be able to contain their communities within a prophylactic cocoon of safety in an insecure world; to secure nations, states must ensure that the world is secured. In sum, the potential for insecurity is immanent to political power, social organization, and cultural, industrial, and military activity under the conditions of modernity on this earth, not external to them.

#### The ROB is to reject security discourse – if we win their starting point is based in the violent logic of security – they can’t weigh their endpoint, the acceptance allows and manifests violence – vote neg to reject this constructivist rhetoric.

**Burke 2** [Anthony, Lecturer in the School of Humanities and Social Sciences at Univ of New South Wales, “Aporias of Security,” Alternatives 27.1, jstor, GDI-ALG]//Jia

It is perhaps easy to become despondent, but as countless struggles for freedom, justice and social transformation have proved, a sense of seriousness can be tempered with the knowledge that many of the tools are already available – and where they are not, the effort to create a productive new critical sensibility is well advanced. There is also a crucial political opening within the liberal problematic itself, in the sense that it assumes that power is most effective when it is absorbed as truth, consented to and desired – which creates an important space for dissent, critique and refusal. As Colin Gordon argues, Foucault thought that the very possibility of governing was conditional on it being credible to the governed as well as the governing.79 This throws weight onto the question of how security works as a technology of subjectivity. It is to take up Foucault’s challenge, framed as a reversal of the liberal progressive movement of being we have seen in Hegel, not to discover who what are so much as to refuse what we are.80 Just as security rules subjectivity as both a totalising and individualising blackmail and promise, it is at these levels we too can intervene. We can critique the machinic frameworks of possibility represented by law, policy, economic regulation and diplomacy, while challenging the way these institutions deploy language to draw individual subjects into their consensual web. This suggests, at least provisionally, a dual strategy. The ﬁrst asserts the space for agency, both in challenging available possibilities for being and their larger socio-economic implications. Pushing beyond security requires tactics that can work at many levels: that empower individuals to recognize the larger social, cultural and economic implications of the everyday forms of desire, subjection and discipline they encounter, to challenge and rewrite them, and which in turn contribute to collective efforts to transform the larger structures of being, exchange and power that sustain (and have been sustained by) these forms. As Derrida suggests, this is to open up aporetic possibilities that transgress and call into question the boundaries of the self, society and the international that security seeks to imagine and police. The second seeks new ethical principles based on a critique of the rigid and repressive forms of identity security has heretofore offered. Thus writers such as Rosalyn Diprose, William Connolly and Moira Gatens have sought to imagine a new ethical relationship, which thinks difference not on the basis of the Same, but on the basis of a dialogue with the Other that might allow space for the unknown and unfamiliar, for what Gatens calls a ‘debate and engagement with the other’s law and the other’s ethics’ – an encounter which involves a transformation of the self rather than the other.81 (The potentials and limits of these models of ethics are explored in more detail in Chapter 3, where I critically analyse the political possibilities offered by the thought of Emmanuel Levinas, Martin Heidegger and Martin Buber.) In short, while the sweep and power of security must be acknowledged, it must also be refused: at the simultaneous levels of individual identity, social order and macroeconomic possibility, it would entail another kind of work on ‘ourselves’ – a political refusal of the One, the imagination of an Other that never returns to the Same. It is to imagine a world in which alternative possibilities of society, justice and existence are free to develop, independent of sovereign ontologies and their animating forms of geopolitical control, desire and violence. It is to ask if there can be a world or a security after security, and what its shimmering possibilities might be.

### Case

### Enviro LW

#### Environmental apocalypticism leads to social paralysis and eco-authoritarianism turning case, that’s Buell

#### De-politicization – framing environmental destruction as an apocalyptic event and an imminent crisis causes individuals to feel they cant do anything or solve the problem – turns case

#### De-linking – the affirmative’s framing of environmental collapse as inevitable in the squo causes people to delinking from nature instead of solving it – advocating for a postnature lifestyle

#### Eco-Authoritarianism – their framing that the affirmative is the “final solution” to solving the environment coupled with their apocalyptic rhetoric justifies inhumanist authoritarian actions by the government to ensure environmental protection

#### No extinction- burnout

Adalja 16—infectious-disease physician at the University of Pittsburgh [Amesh, “Why Hasn't Disease Wiped out the Human Race?” 6/17/2016, https://www.theatlantic.com/health/archive/2016/06/infectious-diseases-extinction/487514/ Accessed 5 July 2017]

In Michael Crichton’s The Andromeda Strain, the canonical book in the disease-outbreak genre, an alien microbe threatens the human race with extinction, and humanity’s best minds are marshaled to combat the enemy organism. Fortunately, outside of fiction, there’s no reason to expect alien pathogens to wage war on the human race any time soon, and my analysis suggests that any real-life domestic microbe reaching an extinction level of threat probably is just as unlikely. When humans began to focus their minds on the problems posed by infectious disease, human life ceased being nasty, brutish, and short. Any apocalyptic pathogen would need to possess a very special combination of two attributes. First, it would have to be so unfamiliar that no existing therapy or vaccine could be applied to it. Second, it would need to have a high and surreptitious transmissibility before symptoms occur. The first is essential because any microbe from a known class of pathogens would, by definition, have family members that could serve as models for containment and countermeasures. The second would allow the hypothetical disease to spread without being detected by even the most astute clinicians. The three infectious diseases most likely to be considered extinction-level threats in the world today—influenza, HIV, and Ebola—don’t meet these two requirements. Influenza, for instance, despite its well-established ability to kill on a large scale, its contagiousness, and its unrivaled ability to shift and drift away from our vaccines, is still what I would call a “known unknown.” While there are many mysteries about how new flu strains emerge, from at least the time of Hippocrates, humans have been attuned to its risk. And in the modern era, a full-fledged industry of influenza preparedness exists, with effective vaccine strategies and antiviral therapies. HIV, which has killed 39 million people over several decades, is similarly limited due to several factors. Most importantly, HIV’s dependency on blood and body fluid for transmission (similar to Ebola) requires intimate human-to-human contact, which limits contagion. Highly potent antiviral therapy allows most people to live normally with the disease, and a substantial group of the population has genetic mutations that render them impervious to infection in the first place. Lastly, simple prevention strategies such as needle exchange for injection drug users and barrier contraceptives—when available—can curtail transmission risk. Ebola, for many of the same reasons as HIV as well as several others, also falls short of the mark. This is especially due to the fact that it spreads almost exclusively through people with easily recognizable symptoms, plus the taming of its once unfathomable 90 percent mortality rate by simple supportive care. Beyond those three, every other known disease falls short of what seems required to wipe out humans—which is, of course, why we’re still here. And it’s not that diseases are ineffective. On the contrary, diseases’ failure to knock us out is a testament to just how resilient humans are. Part of our evolutionary heritage is our immune system, one of the most complex on the planet, even without the benefit of vaccines or the helping hand of antimicrobial drugs. This system, when viewed at a species level, can adapt to almost any enemy imaginable. Coupled to genetic variations amongst humans—which open up the possibility for a range of advantages, from imperviousness to infection to a tendency for mild symptoms—this adaptability ensures that almost any infectious disease onslaught will leave a large proportion of the population alive to rebuild, in contrast to the fictional Hollywood versions. While the immune system’s role can never be understated, an even more powerful protector is the faculty of consciousness. Humans are not the most prolific, quickly evolving, or strongest organisms on the planet, but as Aristotle identified, humans are the rational animals—and it is this fundamental distinguishing characteristic that allows humans to form abstractions, think in principles, and plan long-range. These capacities, in turn, allow humans to modify, alter, and improve themselves and their environments. Consciousness equips us, at an individual and a species level, to make nature safe for the species through such technological marvels as antibiotics, antivirals, vaccines, and sanitation. When humans began to focus their minds on the problems posed by infectious disease, human life ceased being nasty, brutish, and short. In many ways, human consciousness became infectious diseases’ worthiest adversary.

Launches are so silly

#### Warming doesn’t trigger extinction

* peer-reviewed journal shows IPCC exaggeration
* history proves resilience
* no extinction- warming under Paris goals
* rock breaking strategy could offset warming

IBD 18 [Investors Business Daily, Citing Study from Peer reviewed journal by Lewis and Curry, “Here's One Global Warming Study Nobody Wants You To See”, 4/25/18, https://www.investors.com/politics/editorials/global-warming-computer-models-co2-emissions/]

Settled Science: A new study published in a peer-reviewed journal finds that climate models exaggerate the global warming from CO2 emissions by as much as 45%. If these findings hold true, it's huge news. No wonder the mainstream press is ignoring it.

In the study, authors Nic Lewis and Judith Curry looked at actual temperature records and compared them with climate change computer models. What they found is that the planet has shown itself to be far less sensitive to increases in CO2 than the climate models say. As a result, they say, the planet will warm less than the models predict, even if we continue pumping CO2 into the atmosphere.

As Lewis explains: "Our results imply that, for any future emissions scenario, future warming is likely to be substantially lower than the central computer model-simulated level projected by the (United Nations Intergovernmental Panel on Climate Change), and highly unlikely to exceed that level.

How much lower? Lewis and Curry say that their findings show temperature increases will be 30%-45% lower than the climate models say. If they are right, then there's little to worry about, even if we don't drastically reduce CO2 emissions.

The planet will warm from human activity, but not nearly enough to cause the sort of end-of-the-world calamities we keep hearing about. In fact, the resulting warming would be below the target set at the Paris agreement.

This would be tremendously good news.

The fact that the Lewis and Curry study appears in the peer-reviewed American Meteorological Society's Journal of Climate lends credibility to their findings. This is the same journal, after all, that recently published widely covered studies saying the Sahara has been growing and the climate boundary in central U.S. has shifted 140 miles to the east because of global warming.

The Lewis and Curry findings come after another study, published in the prestigious journal Nature, that found the long-held view that a doubling of CO2 would boost global temperatures as much as 4.5 degrees Celsius was wrong**.** The most temperatures would likely climb is 3.4 degrees.

It also follows a study published in Science, which found that rocks contain vast amounts of nitrogen that plants could use to grow and absorb more CO2, potentially offsetting at least some of the effects of CO2 emissions and reducing future temperature increases.

#### No space war – it’s hype and systems are redundant

Johnson-Freese and Hitchens 16 [Dr. Joan Johnson-Freese is a member of the Breaking Defense Board of Contributors, a Professor of National Security Affairs at the Naval War College and author of Space Warfare in the 21st Century: Arming the Heavens. Views expressed are those of the author alone. Theresa Hitchens is a Senior Research Scholar at the Center for International and Security Studies at Maryland (CISSM), and the former Director of the United Nations Institute for Disarmament Research (UNIDIR) in Geneva, Switzerland. Stop The Fearmongering Over War In Space: The Sky’s Not Falling, Part 1. December 27, 2016. https://breakingdefense.com/2016/12/stop-the-fearmongering-over-war-in-space-the-skys-not-falling-part-1/]

In the last two years, we’ve seen rising hysteria over a future war in space. Fanning the flames are not only dire assessments from the US military, but also breathless coverage from a cooperative and credulous press. This reporting doesn’t only muddy public debate over whether we really need expensive systems. It could also become a self-fulfilling prophecy. The irony is that nothing makes the currently slim possibility of war in space more likely than fearmongering over the threat of war in space.

Two television programs in the past two years show how egregious this fearmongering can get. In April 2015, the CBS show 60 Minutes ran a segment called “The Battle Above.” In an interview with General John Hyten, the then-chief of U.S. Air Force Space Command, it came across loud and clear that the United States was being forced to prepare for a battle in space — specifically against China — that it really didn’t want.

It was explained by Hyten and other guests that China is building a considerable amount of hardware and accumulating significant know-how regarding space, all threatening to space assets Americans depend on every day. If viewers weren’t frightened after watching the segment, it wasn’t for lack of trying on the part of CBS.

Using terms like “offensive counterspace” as a 1984 NewSpeak euphemism for “weapons,” it was made clear that the United States had no choice but to spend billions of dollars on offensive counterspace technology to not just thwart the Chinese threat, but control and dominate space. While it didn’t actually distort facts — just omit facts about current U.S. space capabilities — the segment was basically a cost-free commercial for the military-industrial complex.

In retrospect though, “The Battle Above” was pretty good compared to CNN’s recent special, War in Space: The Next Battlefield. The latter might as well have been called Sharknado in Space – because the only far-out weapons technology our potential adversaries don’t have, according to the broadcast, seems to be “sharks with frickin’ laser beams attached to their heads!”

First, CNN needs to hire some fact checkers. Saying “unlike its adversaries, the U.S. has not yet weaponized space” is deeply misleading, like saying “unlike his political opponents, President-Elect Donald Trump has not sprouted wings and flown away”: A few (admittedly alarming) weapons tests aside, no country in the world has yet weaponized space. Contrary to CNN, stock market transactions are not timed nor synchronized through GPS, but a closed system. Cruise missiles can find their targets even without GPS, because they have both GPS and precision inertial measurement units onboard, and IMUs don’t rely on satellite data. Oh, and the British rock group Pink Floyd holds the only claim to the Dark Side of the Moon: There is a “far side” of the Moon — the side always turned away from the Earth — but not a “dark side” — which would be a side always turned away from the Sun.

More nefariously, the segment sensationalized nuggets of truth within a barrage of half-truths, backed by a heavy bass, dramatic soundtrack (and gravelly-voiced reporter Jim Sciutto) and accompanied by sexy and scary visuals.

Make no mistake there are dangers in space, and the United States has the most to lose if space assets are lost. The question is how best to protect them. Here are a few facts CNN omitted.

The Reality

The U.S. has all of the technologies described on the CNN segment and deemed potentially offensive: maneuverable satellites, nano-satellites, lasers, jamming capabilities, robotic arms, ballistic missiles that can be used as anti-satellite weapons, etc. In fact, the United States is more technologically advanced than other countries in both military and commercial space.

That technological superiority scares other countries; just as the U.S. military space community is scared of other countries obtaining those technologies in the future. The U.S. military space budget is more than 10 times greater than that of all the countries in the world combined. That also causes other countries concern.

More unsettling still, the United States has long been leery of treaty-based efforts to constrain a potential arms race in outer space, as supported by nearly every other country in the world for decades. Indeed, under the administration of George W. Bush, the U.S. talking points centered on the mantra “there is no arms race in outer space,” so there is no need for diplomat instruments to constrain one. Now, a decade later, the U.S. military – backed by the Intelligence Community which operates the nation’s spy satellites – seems to be shouting to the rooftops that the United States is in danger of losing the space arms race already begun by its potential adversaries. The underlying assumption — a convenient one for advocates of more military spending — is that now there is nothing that diplomacy can do.

However, it must be remembered that most space-related technologies – with the exception of ballistic missiles and dedicated jammers – have both military and civil/commercial uses; both benign — indeed, helpful — and nefarious uses. For example, giving satellites the ability to maneuver on orbit can allow useful inspections of ailing satellites and possibly even repairs.

Further, the United States is not unable to protect its satellites, as repeated during the CNN broadcast by various interviewees and the host. Many U.S. government-owned satellites, including precious spy satellites, have capabilities to maneuver. Many are hardened against electro-magnetic pulse, sport “shutters” to protect optical “eyes” from solar flares and lasers, and use radio frequency hopping to resist jamming.

Offensive weapons, deployed on the ground to attack satellites, or in space, are not a silver bullet. To the contrary, U.S. deployment of such weapons may actually be detrimental to U.S. and international security in space (as we argued in a recent Atlantic Council publication, Towards a New National Security Space Strategy). Further, there are benefits to efforts started by the Obama Administration to find diplomatic tools to restrain and constrain dangerous military activities in space.

These diplomatic efforts, however, would be undercut by a full-out U.S. pursuit of “space dominance.” This includes dialogue with China, the lack of which Gen. William Shelton, retired commander of Air Force Space Command, lamented in the CNN report.

Given CNN’s “cast,” the spin was not surprising. Starting with Ghost Fleet author Peter Singer set the sensationalist tone, which never altered. The apocalyptic opening, inspired by Ghost Fleet, posited a scenario where all U.S. satellites are taken off-line in nearly one fell swoop. Unless we are talking about an alien invasion, that scenario is nigh on impossible. No potential adversary has such capabilities, nor will they ever likely do so. There is just too much redundancy in the system.

#### No impact to biodiversity loss

**Hays 18** Brooks Hays, 10-18-2018, "Too much biodiversity can be bad for some ecosystems," UPI, <https://www.upi.com/Science_News/2018/10/18/Too-much-biodiversity-can-be-bad-for-some-ecosystems/3801539866906/> SJCP//JG

Oct. 18 (UPI) -- New research suggests it's possible to have too much biodiversity. In lab tests, scientists in Switzerland showed elevated levels of biodiversity can destabilize ecosystems under certain conditions. Understandably, most research into the effects of climate change on ecological health have focused on decreased levels of biodiversity measured around the globe. The evidence on the topic is consistent. Most ecosystems host too little biodiversity, not too much. But researchers at the University of Zurich and the Swiss Federal Institute of Aquatic Science and Technology weren't interested in most ecosystems -- or any real ecosystem, for that matter. They wanted to better understand the relationship between biodiversity and ecological stability. In the lab, the team of ecologists created miniature ecosystem models using different combinations of six ciliates species. Ciliates are tiny protozoans that live anywhere there is water. In sample vials, scientists mixed different numbers and combinations of ciliate species. Researchers then exposed the miniature model ecosystems to temperatures between 15 and 25 degrees Celsius. Different models were exposed to different levels of warming to approximate climate change. A special computer algorithm and video analysis technology allowed scientists to track the different species and changing levels of biomass in each vial. The experiments produced contradictory results. The data showed biodiversity have both a positive and negative impact on ecosystem stability. "Ecological stability is complex and consists of various components," Frank Pennekamp, an evolutionary biologist at the University of Zurich, [said in a news release](https://www.media.uzh.ch/en/Press-Releases/2018/Biodiversity.html). "The experiment shows how biodiversity affects the individual stability components in different ways." Scientists identified a strong correlation between biodiversity and stable biomass production. The greater the number of species in a vial, the less biomass production fluctuated. But as temperatures increased, scientists found biodiversity put a downward pressure on biomass production. Protozoans in diverse and warming ecosystems produced less biomass. The new study -- published this week [in the journal Nature](https://www.nature.com/articles/s41586-018-0627-8) -- suggests biodiversity, under certain circumstances, can in fact limit an ecosystem's stability. "The results make it clear that more species alone is not enough to ensure the overall stability of an ecosystem," said Florian Altermatt, professor of aquatic ecology at the Swiss Federal Institute of Aquatic Science. "In addition to a diversity of species, the species themselves must be able to react to environmental changes in a variety of ways."

#### land mass – In a realistic deployment, that number is closer to 1/192nd NO EXTICTION

Hall 19 (Allen Hall – Expert in Aerospace Management, Manufacturing, Engineering and IT, worked closely with the military, research labs, FFRDC’s, AFRL, NAVSEA / NAVAIR, all the major ALC’s and all the aerospace OEM’s. <MKIM> “Who would win in a war between Russia and the US?”. 4/25/19. DOA: 7/17/19. https://www.quora.com/Who-would-win-in-a-war-between-Russia-and-the-US/answer/Allen-E-Hall-2)

If you take every weapon in existence today, approximately 6500 megatons between 15,000 warheads with an average yield of 433 KT, [13] and put a single bomb in its own 100 square mile grid… one bomb per grid (10 miles x 10 miles), y**ou will contain >95% of the destructive force** of each bomb on average **within the grid it is in.** [14] This means the total landmass to receive a destructive force from all the world's nuclear bombs is an area of 1.5 million square miles. Not quite half of the United States and 1/38 of the world's total land mass…. that's it! In truth it would be far less. **A** higher concentration **of detonations would** take place over military targets **and would be likely 10–30 times greater in concentration** over those areas. [15] If they were used in war **it is unlikely more than 40% would get used even in a total war situation**. So the actual area of intense destruction in a nuclear war is somewhere between 150,000 and 300,000 square miles or **1/384 to** 1/192 of the world’s land mass. These numbers are easily verifiable, and they are right. So many have bought into the endless rhetoric of the world shattering destructiveness and the inevitable end of civilization scenarios that they can no longer be objective or analytical as they have put their beliefs in front of rational thinking. I find this true even with most scientists. I challenge anyone to just do the math …it is easy. **You win wars by taking out the opposing teams ability to make war, not their population centers.** The arsenals of today are just enough to cover military objectives. There would be no wholesale war against civilians. **That is just more fear mongering and Hollywood storytelling.**

#### No nuclear winter – conservative models prove rainout.

Reisner et al. 18 [Jon, Atmospheric researcher at LANL Climate and Atmospheric Sciences; Gennaro D'Angelo, UKAFF Fellow and member of the Astrophysics Group at the School of Physics of the University of Exeter, Research Scientist with the Carl Sagan Center at the SETI Institute, currently works for the Los Alamos National Laboratory Theoretical Division; Eunmo Koo, scientist in the Computational Earth Science Group at LANL, recipient of the NNSA Defense Program Stockpile Stewardship Program award of excellence; Wesley Even, R&D Scientist at CCS-2, LANL, specialist in computational physics and astrophysics; Matthew Hecht is a member of the Computational Physics and Methods Group in the Climate, Ocean and Sea Ice Modelling program (COSIM) at LANL, who works on modeling high-latitude atmospheric effects in climate models as part of the HiLAT project; Elizabeth Hunke, Lead developer for the Los Alamos Sea Ice Model, Deputy Group Leader of the T-3 Fluid Dynamics and Solid Mechanics Group at LANL; Darin Comeau, Scientist at the CCS-2 COSIM program, specializes in high dimensional data analysis, statistical and predictive modeling, and uncertainty quantification, with particular applications to climate science; Randall Bos is a research scientist at LANL specializing in urban EMP simulations; James Cooley is a Group Leader within CCS-2. 3/16/18 “Climate Impact of a Regional Nuclear Weapons Exchange: An Improved Assessment Based On Detailed Source Calculations.” Journal of Geophysical Research: Atmospheres, vol. 123, no. 5] Recut Justin

The no-rubble simulation produces a significantly more intense fire, with more fire spread, and consequently a significantly stronger plume with larger amounts of BC reaching into the upper atmosphere than the simulation with rubble, illustrated in Figure 5. While the no-rubble simulation **represents the worst-case scenario** involving vigorous fire activity, **only a relatively small amount of carbon makes its way into the stratosphere** during the course of the simulation. But while small compared to the surface BC mass, stratospheric BC amounts from the current simulations are significantly higher than what would be expected from burning vegetation such as trees (Heilman et al., 2014), e.g., the higher energy density of the building fuels and the initial fluence from the weapon produce an intense response within HIGRAD with initial updrafts of order 100 m/s in the lower troposphere. Or, in comparison to a mass fire, wildfires will burn only a small amount of fuel in the corresponding time period (roughly 10 minutes) that a nuclear weapon fluence can effectively ignite a large area of fuel producing an impressive atmospheric response. Figure 6 shows vertical profiles of BC multiplied by 100 (number of cities involved in the exchange) from the two simulations. The total amount of BC produced is in line with previous estimates (about 3.69 Tg from no-rubble simulation); however, the majority of BC resides **below the stratosphere** (3.46 Tg below 12 km) and can be **readily impacted by scavenging from precipitation** either via pyro-cumulonimbus produced by the fire itself (not modeled) or other synoptic weather systems. While the impact on climate of these more realistic profiles will be explored in the next section, it should be mentioned that **these estimates are** still **at the high end**, considering the inherent simplifications in the combustion model that lead to **overestimating BC production**. 3.3 Climate Results Long-term climatic effects critically depend on the initial injection height of the soot, with larger quantities reaching the upper troposphere/lower stratosphere inducing a greater cooling impact because of longer residence times (Robock et al., 2007a). Absorption of solar radiation by the BC aerosol and its subsequent radiative cooling tends to heat the surrounding air, driving an initial upward diffusion of the soot plumes, an effect that depends on the initial aerosol concentrations. **Mixing and sedimentation** tend to **reduce this process**, and low altitude emissions are also significantly impacted by precipitation if aging of the BC aerosol occurs on sufficiently rapid timescales. But once at stratospheric altitudes, aerosol dilution via coagulation is hindered by low particulate concentrations (e.g., Robock et al., 2007a) and lofting to much higher altitudes is inhibited by gravitational settling in the low-density air (Stenke et al., 2013), resulting in more stable BC concentrations over long times. Of the initial BC mass released in the atmosphere, most of which is emitted below 9 km, **70% rains out within the first month** and 78%, or about 2.9 Tg, is removed within the first two months (Figure 7, solid line), with the remainder (about 0.8 Tg, dashed line) being transported above about 12 km (200 hPa) within the first week. This outcome differs from the findings of, e.g., Stenke et al. (2013, their high BC-load cases) and Mills et al. (2014), who found that most of the BC mass (between 60 and 70%) is lifted in the stratosphere within the first couple of weeks. This can also be seen in Figure 8 (red lines) and in Figure 9, which include results from our calculation with the initial BC distribution from Mills et al. (2014). In that case, only 30% of the initial BC mass rains out in the troposphere during the first two weeks after the exchange, with the remainder rising to the stratosphere. In the study of Mills et al. (2008) this percentage is somewhat smaller, about 20%, and smaller still in the experiments of Robock et al. (2007a) in which the soot is initially emitted in the upper troposphere or higher. In Figure 7, the e-folding timescale for the removal of tropospheric soot, here interpreted as the time required for an initial drop of a factor e, is about one week. This result compares favorably with the “LT” experiment of Robock et al. (2007a), considering 5 Tg of BC released in the lower troposphere, in which 50% of the aerosols are removed within two weeks. By contrast, the initial e-folding timescale for the removal of stratospheric soot in Figure 8 is about 4.2 years (blue solid line), compared to about 8.4 years for the calculation using Mills et al. (2014) initial BC emission (red solid line). The removal timescale from our forced ensemble simulations is close to those obtained by Mills et al. (2008) in their 1 Tg experiment, by Robock et al. (2007a) in their experiment “UT 1 Tg”, and © 2018 American Geophysical Union. All rights reserved. by Stenke et al. (2013) in their experiment “Exp1”, in all of which 1 Tg of soot was emitted in the atmosphere in the aftermath of the exchange. Notably, the e-folding timescale for the decline of the BC mass in Figure 8 (blue solid line) is also close to the value of about 4 years quoted by Pausata et al. (2016) for their long-term “intermediate” scenario. In that scenario, which is also based on 5 Tg of soot initially distributed as in Mills et al. (2014), the factor-of2 shorter residence time of the aerosols is caused by particle growth via coagulation of BC with organic carbon. Figure 9 shows the BC mass-mixing ratio, horizontally averaged over the globe, as a function of atmospheric pressure (height) and time. The BC distributions used in our simulations imply that the upward transport of particles is substantially less efficient compared to the case in which 5 Tg of BC is directly injected into the upper troposphere. The semiannual cycle of lofting and sinking of the aerosols is associated with atmospheric heating and cooling during the solstice in each hemisphere (Robock et al., 2007a). During the first year, the oscillation amplitude in our forced ensemble simulations is particularly large during the summer solstice, compared to that during the winter solstice (see bottom panel of Figure 9), because of the higher soot concentrations in the Northern Hemisphere, as can be seen in Figure 11 (see also left panel of Figure 12). Comparing the top and bottom panels of Figure 9, the BC reaches the highest altitudes during the first year in both cases, but the concentrations at 0.1 hPa in the top panel can be 200 times as large. Qualitatively, the difference can be understood in terms of the air temperature increase caused by BC radiation emission, which is several tens of kelvin degrees in the simulations of Robock et al. (2007a, see their Figure 4), Mills et al. (2008, see their Figure 5), Stenke et al. (2013, see high-load cases in their Figure 4), Mills et al. (2014, see their Figure 7), and Pausata et al. (2016, see one-day emission cases in their Figure 1), due to high BC concentrations, but it amounts to only about 10 K in our forced ensemble simulations, as illustrated in Figure 10. Results similar to those presented in Figure 10 were obtained from the experiment “Exp1” performed by Stenke et al. (2013, see their Figure 4). **In that scenario as well, somewhat less than 1 Tg of BC remained in the atmosphere after the initial rainout**. As mentioned before, the BC aerosol that remains in the atmosphere, lifted to stratospheric heights by the rising soot plumes, undergoes sedimentation over a timescale of several years (Figures 8 and 9). This mass represents the effective amount of BC that can force climatic changes over multi-year timescales. In the forced ensemble simulations, it is about 0.8 Tg after the initial rainout, whereas it is about 3.4 Tg in the simulation with an initial soot distribution as in Mills et al. (2014). Our more realistic source simulation involves the worstcase assumption of no-rubble (along with other assumptions) and hence serves as an upper bound for the impact on climate. As mentioned above and further discussed below, our scenario induces perturbations on the climate system similar to those found in previous studies in which the climatic response was driven by roughly 1 Tg of soot rising to stratospheric heights following the exchange. Figure 11 illustrates the vertically integrated mass-mixing ratio of BC over the globe, at various times after the exchange for the simulation using the initial BC distribution of Mills et al. (2014, upper panels) and as an average from the forced ensemble members (lower panels). All simulations predict enhanced concentrations at high latitudes during the first year after the exchange. In the cases shown in the top panels, however, these high concentrations persist for several years (see also Figure 1 of Mills et al., 2014), whereas the forced ensemble simulations indicate that the BC concentration starts to decline after the first year. In fact, in the simulation represented in the top panels, mass-mixing ratios larger than about 1 kg of BC © 2018 American Geophysical Union. All rights reserved. per Tg of air persist for well over 10 years after the exchange, whereas they only last for 3 years in our forced simulations (compare top and middle panels of Figure 9). After the first year, values drop below 3 kg BC/Tg air, whereas it takes about 8 years to reach these values in the simulation in the top panels (see also Robock et al., 2007a). Over crop-producing, midlatitude regions in the Northern Hemisphere, the BC loading is reduced from more than 0.8 kg BC/Tg air in the simulation in the top panels to 0.2-0.4 kg BC/Tg air in our forced simulations (see middle and right panels). The more rapid clearing of the atmosphere in the forced ensemble is also signaled by the soot optical depth in the visible radiation spectrum, which drops below values of 0.03 toward the second half of the first year at mid latitudes in the Northern Hemisphere, and everywhere on the globe after about 2.5 years (without never attaining this value in the Southern Hemisphere). In contrast, the soot optical depth in the calculation shown in the top panels of Figure 11 becomes smaller than 0.03 everywhere only after about 10 years. The two cases show a similar tendency, in that the BC optical depth is typically lower between latitudes 30º S-30º N than it is at other latitudes. This behavior is associated to the persistence of stratospheric soot toward high-latitudes and the Arctic/Antarctic regions, as illustrated by the zonally-averaged, column-integrated mass-mixing ratio of the BC in Figure 12 for both the forced ensemble simulations (left panel) and the simulation with an initial 5 Tg BC emission in the upper troposphere (right panel). The spread in the globally averaged (near) surface temperature of the atmosphere, from the control (left panel) and forced (right panel) ensembles, is displayed in Figure 13. For each month, the plots show the largest variations (i.e., maximum and minimum values), within each ensemble of values obtained for that month, relative to the mean value of that month. The plot also shows yearly-averaged data (thinner lines). The spread is comparable in the control and forced ensembles, with average values calculated over the 33-years run length of 0.4-0.5 K. This spread is also similar to the internal variability of the globally averaged surface temperature quoted for the NCAR Large Ensemble Community Project (Kay et al., 2015). These results imply that surface air temperature differences, between forced and control simulations, which lie within the spread may not be distinguished from effects due to internal variability of the two simulation ensembles. Figure 14 shows the difference in the globally averaged surface temperature of the atmosphere (top panel), net solar radiation flux at surface (middle panel), and precipitation rate (bottom panel), computed as the (forced minus control) difference in ensemble mean values. The sum of standard deviations from each ensemble is shaded. Differences are qualitatively significant over the first few years, when the anomalies lie near or outside the total standard deviation. Inside the shaded region, differences may not be distinguished from those arising from the internal variability of one or both ensembles. The surface solar flux (middle panel) is the quantity that appears most affected by the BC emission, with qualitatively significant differences persisting for about 5 years. The precipitation rate (bottom panel) is instead affected only at the very beginning of the simulations. The red lines in all panels show the results from the simulation applying the initial BC distribution of Mills et al. (2014), where the period of significant impact is much longer owing to the higher altitude of the initial soot distribution that results in longer residence times of the BC aerosol in the atmosphere. When yearly averages of the same quantities are performed over the IndiaPakistan region, the differences in ensemble mean values lie within the total standard deviations of the two ensembles. The results in Figure 14 can also be compared to the outcomes of other previous studies. In their experiment “UT 1 Tg”, Robock et al. (2007a) found that, when only 1 Tg of soot © 2018 American Geophysical Union. All rights reserved. remains in the atmosphere after the initial rainout, temperature and precipitation anomalies are about 20% of those obtained from their standard 5 Tg BC emission case. Therefore, the largest differences they observed, during the first few years after the exchange, were about - 0.3 K and -0.06 mm/day, respectively, comparable to the anomalies in the top and bottom panels of Figure 14. Their standard 5 Tg emission case resulted in a solar radiation flux anomaly at surface of -12 W/m2 after the second year (see their Figure 3), between 5 and 6 time as large as the corresponding anomalies from our ensembles shown in the middle panel. In their experiment “Exp1”, Stenke et al. (2013) reported global mean surface temperature anomalies not exceeding about 0.3 K in magnitude and precipitation anomalies hovering around -0.07 mm/day during the first few years, again consistent with the results of Figure 14. In a recent study, Pausata et al. (2016) considered the effects of an admixture of BC and organic carbon aerosols, both of which would be emitted in the atmosphere in the aftermath of a nuclear exchange. In particular, they concentrated on the effects of coagulation of these aerosol species and examined their climatic impacts. The initial BC distribution was as in Mills et al. (2014), although the soot burden was released in the atmosphere over time periods of various lengths. Most relevant to our and other previous work are their one-day emission scenarios. They found that, during the first year, the largest values of the atmospheric surface temperature anomalies ranged between about -0.5 and -1.3 K, those of the sea surface temperature anomalies ranged between -0.2 and -0.55 K, and those of the precipitation anomalies varied between -0.15 and -0.2 mm/day. All these ranges are compatible with our results shown in Figure 14 as red lines and with those of Mills et al. (2014, see their Figures 3 and 6). As already mentioned in Section 2.3, the net solar flux anomalies at surface are also consistent. This overall agreement suggests that the **inclusion of organic carbon aerosols, and** ensuing **coagulation** with BC, **should not dramatically alter the climatic effects** resulting from our forced ensemble simulations. Moreover, aerosol growth would likely **shorten the residence time of the BC particulate in the atmosphere** (Pausata et al., 2016), possibly **reducing the duration of these effects.**

#### indplTheir obsession with nuclear weapons is groundless and justifies preemptive wars

**Mueller 18**

[John Mueller, Adjunct Professor of Political Science and Woody Hayes Senior Research Scientist at Ohio State University, “Nuclear Weapons Don’t Matter,” Foreign Affairs, November/December 2018, Vol 97 No 6, accessed 12.21.18 jcp ct]

The unleashed power of the atom,” Albert Einstein wrote in 1946, “has changed everything save our modes of thinking, and we thus drift toward unparalleled catastrophe.” Winston Churchill noted in 1955, however, that nuclear deterrence might produce stability instead and predicted that “safety will be the sturdy child of terror, and survival the twin brother of annihilation.” Einstein’s view became the touchstone of the modern peace movement. Churchill’s view evolved into mainstream Western nuclear strategy and doctrine. Both argued that the nuclear revolution had fundamentally transformed international politics. Both were wrong. Since the 1940s, nuclear weapons have greatly affected defense budgets, political and military posturing, and academic theory. Beyond that, however, their practical significance has been vastly exaggerated by both critics and supporters. Nuclear weapons were not necessary to deter a third world war. They have proved useless militarily; in fact, their primary use has been to stoke the national ego or to posture against real or imagined threats. Few states have or want them, and they seem to be out of reach for terrorists. Their impact on international affairs has been minor compared with the sums and words expended on them. The costs resulting from the nuclear weapons obsession have been huge. To hold its own in a snarling contest with the Soviet Union during the Cold War, the United States spent $5–$10 trillion maintaining a vast nuclear arsenal— resources that could have been used more productively on almost anything else. To head off the imagined dangers that would result from nuclear proliferation, Washington and its allies have imposed devastating economic sanctions on countries such as Iraq and North Korea, and even launched a war of aggression— sorry, “preemption”—that killed more people than did the nuclear bombs dropped on Hiroshima and Nagasaki. The time has long since come to acknowledge that the thinkers of the early nuclear age were mistaken in believing that the world had been made anew. In retrospect, they overestimated the importance of the nuclear revolution and the delicacy of the balance of terror. This spurred generations of officials to worry more about nuclear matters than they should have and to distort foreign and security policies in unfortunate ways. Today’s policymakers don’t have to repeat the same mistakes, and everybody would be better off if they didn’t.