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#### International cooperation over space serves to reinforce a hegemonic empire, even as it seeks to escape a planetary hegemon. Cooperation mirrors the tendrils of empire while ignoring asymmetrical power relations that produce the legal order for international agreements in the first place.

Havercroft and Duvall 09 [Jonathan, Raymond . "Critical astropolitics: The geopolitics of space control and the transformation of state sovereignty." Securing outer space. Routledge, 2009. 50-66.]

Deudney starts from a **premise about space weaponization** similar to the core of Dolman’s astropolitik, namely **that** if **any state** were able to **achieve military control of space, it would hold potential mastery over the entire Earth**. One preliminary conclusion, however, seems sound: effective control of space by one state would lead to planet-wide hegemony. Because space is at once so proximate and the planet’s high ground, one country able to control space and prevent the passage of other countries’ vehicles through it could effectively rule the planet. **Even more than a monopoly of air or sea power, a monopoly of effective space power would be irresistible. Rather than developing the implications of this as a strategic opportunity for any one state** (e.g. the U.S.), however, **Deudney sees it as a collective problem to be kept in check through collaboration; his project is to avoid space-based hegemony through cooperation among states**. In a series of articles on global security written in the 1980s – while Cold War tensions between the U.S. and the U.S.S.R. continued to frame much theoretical discussion in international relations – Deudney saw **the space age as a double-edged sword in superpower relations. On the one side, space weaponization posed a risk that the superpowers would extend their conflict extra-terrestrially and devise new, deadlier technologies that would enhance the risk of exterminating all of humanity; on the other**, according to Deudney, **the space age had found productive opportunities for the superpowers to deal with their rivalries in stabilizing collaboration.** He notes that **the Sputnik mission**, while in the popular understanding only an escalation of the Cold War, initially **was the result of an internationally organized research program** – the International Geophysical Year (Deudney 1985; though see Dolman 2002a: 106–107 for an alternate interpretation of these events as Cold War competition). Another example was President **Eisenhower’s** **proposed “Atoms for Peace” project**, which involved the great powers sharing nuclear technology with developing nations for energy purposes. Most famous was the collaboration between the Soviet Union and the U.S. during the 1970s on the rendezvous between an Apollo capsule and the Soyuz space station. Similar multinational collaborations continue to this day, with the **most notable** example **being** the **International Space Station**. In addition to promoting collaboration, according to Deudney, **the space age has also enhanced the ability of space powers to monitor each other – through spy satellites – thereby increasing the likelihood that they abide by arms control treaties.** **Deudney believes that these types of collaboration and increased surveillance could be strengthened and deepened so that great powers could be persuaded over time to “forge missiles into spaceships”** (Deudney 1985: 271). In the 1980s this led Deudney to develop a set of specific proposals for a peaceful space policy, **including collaboration between space powers on manned missions** to the Moon, asteroids, and Mars. **The development of an International Satellite Monitoring Agency would make “space-based surveillance technology accessible to an international community” for monitoring ceasefires, crises, compliance with international arms control treaties, and the Earth’s environment** (Deudney 1985: 291). These proposals are aimed at promoting collaboration on projects of great scientific and military significance for the individual states. Deudney’s expectation is that such cooperation would mitigate security dilemmas and promote greater ties between states that would co-bind their security without sacrificing their sovereignty. While Deudney has not been explicit about how his astropolitics of collaboration would alter world order, in his more theoretical writings he has elaborated the logic of a liberal-republican international system. In a 2002 article on geopolitics and international theory, he developed what he called a ‘historical security materialist’ theory of geopolitics: “[I]n which changing forces of destruction (constituted by geography and technology) condition the viability of different modes of protection (understood as clusters of security practices) and their attendant ‘superstructures’ of political authority structures (anarchical, hierarchical, and federal-republican)” (Deudney 2002: 80). In that work, he identified four different eras in which distinct modes of destruction were predominant: Pre-modern; Early Modern; Global Industrial; and Planetary-Nuclear, as well as two modes of protection: real-statism, which is based on an internal monopoly of violence and external anarchy; and federal-republicanism, which is based on an internal division of powers and an external symmetrical binding of actors through institutions that reduces their autonomy in relation to one another. According to Deudney, in the Planetary-Nuclear age the federal-republican mode of protection is more viable because states “are able to more fully and systematically restrain violence” than under the power balancing practices of real-statist modes of protection (Deudney 2002: 97; see also Deudney 2007: 244–277 for an elaboration of this argument). Although Deudney has not extended his “historical security materialist” approach into explicitly theorizing space weapons, per se (dealt with only tangentially and implicitly in the last two chapters of his recent book), his proposals during the Cold War to foster institutional collaboration between space powers as a way of promoting peace can safely be understood as a form of the mutually binding practices that he associates with the federalrepublican mode of protection. In addition, one of the general conclusions that Deudney reaches about “historical security materialism” is that the more a security context is rich in the potential for violence, the better suited a federal-republican mode of protection is to avoid systemic breakdown. Therefore, it seems reasonable to conclude that within Deudney’s work is a nascent theory of how a federal-republican international system could limit conflict between space powers by binding them together in collaborative uses of space for exploratory and security uses. In this sense, Deudney can be read as the liberal-republican astropolitical counterpart to Everett Dolman.5 **While Deudney’s astropolitical theorizations hold out the promise of** a terrestrial **pacification through space exploration** it is interesting to **note a significant aporia in his theory – empire as a possible mode of protection. While real-statist modes of protection have an internal hierarchical authority structure, they are based on assumptions of external-anarchy, which is to say a system of sovereign states. Conversely, the federal-republican model is based on a symmetrical binding of units, in a way that no single unit can come to dominate others and accordingly in which they preserve their sovereignty** (Deudney 2000, 2002, 2007). In a third mode, to which Deudney gives only scant attention, the case of empire, **the hegemony of a single unit is such that other units are bound to it in an asymmetrical pattern that locates sovereignty only in the hegemon, or imperial center. Successful empires**, including the Roman, British, and American, **permit local autonomy in areas that are not of the imperial power’s direct concern while demanding absolute obedience in areas that are of vital concern to it, particularly when it comes to issues of security.**6 Deudney’s implicit **astropolitical theory thus ignores structurally asymmetric relations – in effect he ignores power. It is as if in wanting to have the world avoid the possibility of a planetary hegemony at the heart of the premise with which he and Dolman began their respective analyses, he white-washes it by failing to acknowledge the profound asymmetries of aspirations and technological–financial–military capacities among states for control of orbital space.**

#### Models of space debris risk are totally incalculable and only contribute to an ideological smokescreen for neoconservative policies that produce imperial imaginations of a unified Earth that allows empire to secure itself in the face of threats to global dominance like debris.

Ormord, 12 (James, School of Applied Social Science, University of Brighton, “Beyond world risk society? A critique of Ulrich Beck’s world risk society thesis as a framework for understanding risk associated with human activity in outer space.” Environment and Planning D: Society and Space 2013, volume 31, pages 727 – 744)

Prior to the Iridium–Cosmos collision experts placed the odds of two objects larger than ten centimetres in diameter colliding in space at “millions, maybe even billions, to one” (Rincon, 2009). The chances of damage being sustained by operational objects as they collide with smaller objects are much higher, at 1–10%; this may be their single greatest threat (Rex, 1998; Williamson, 2006; Wright, 2009, page 6). A United Nations report in 1999 brought together a range of measurements and statistical models from different agencies in an attempt to draw up a risk assessment. These models “did not agree quantitatively because of differences in assumptions and starting conditions” (UN, 1999, page 25). But despite this, it concluded that collision risk in Low Earth Orbit (less than 2000 kilometres) was “not great”, and the collision risk in Geostationary Orbit was “correspondingly lower”. However, all were also agreed that the number of major collisions would rise exponentially if current trends continued. This is based on the understanding that because it takes a long time to disperse, debris created from one impact will go on to create more impacts in a ‘collision cascade’, referred to as the ‘Kessler Syndrome’ (Brearley, 2005; Williamson, 2006; Wright, 2009). In a 2006 report NASA referred to this situation as “supercritical” (Wright, 2009). Modelling this effect adds to the complexity of a risk assessment already understood to be limited by knowledge of current amounts of debris and of how spacecraft respond to impacts that “do not fall into categories normally known from solid-state physics” (Rex, 1998, page 100; UN, 1999). To these difficulties in modelling the physical risks to spacecraft should be added the impossibility of establishing the social and economic consequences of a collision cascade in Geostationary Orbit, which one author describes as a (limited) resource “necessary to human life” as “the space ... which allows contemporary communication practices to exist” (2) Geostationary Orbit exists at an altitude of 35 786 kilometres at which satellites appear stationary from Earth. See Collis (2009) for a useful discussion of its legal geography. (Collis, 2009, pages 55 and 49). Expert opinion has suggested a collision cascade “could take out world communications” (Ellis, 2009). Outer space was once considered inexhaustible. It is now being realised that the development of outer space has been unevenly concentrated in key regions (see MacDonald, 2007), with implications for thinking of outer space as a ‘common pool resource’. Debris might impede the use of space within a generation as the unintended consequences of human activity undermine its promise (Benko and Schrogl, 1997a). Earth’s orbit now has to be seen as a ‘fragile environment’ for human activity (Benko and Schrogl, 1997a; Williamson, 2006). A 1972 UN Convention established that the ‘launching state’ is liable for any damage caused by its activities or by nongovernmental entities operating under its jurisdiction. In terms of damage caused by debris in outer space, if fault can be established then financial reparation must be made to restore damage to people or property. There is therefore, in principle, a mechanism for establishing accountability. Lotta Viikari (2008) still holds out hope for the development of Environmental Impact Assessments and the extension of ‘polluter pays’ principles to space debris (page 20). This convention breaks down, however, in a ‘supercritical’ space environment in which it becomes increasingly difficult for a claims commission to establish cause, fault, and damages (Zhao, 2004). Due to the impossibility of establishing fault, no claims for compensation have ever been settled in regard to space debris (Kai-Uwe Schrogl, personal communication, October 2010). As international law only considers direct damage between states and their corporations, there is no incentive to protect the space environment itself (Brearley, 2005, page 26). As the shortcomings of the system of accountability have become increasingly apparent, measures to address the space debris issue have been agreed by international bodies. NASA guidelines having already been established following a commitment by President Reagan (in consultation with industry), the 1999 UN report detailed a number of possible strategies for dealing with the space debris issue. Firstly, space objects should avoid releasing debris as part of their normal operations, avoid on-orbit explosion (eg, by venting energy sources), and be disposed of at the end of their lifetimes, either by reducing their orbit so that they reenter the atmosphere more quickly or by moving them to a ‘disposal’ or ‘graveyard’ orbit further from the Earth, though neither is risk-free (Rex, 1998). Secondly, space object designers should protect them with adequate shielding and collision avoidance mechanisms. Many of these guidelines have since been reiterated in 2002 Inter-Agency Space Debris Coordination Committee guidelines and were eventually accepted by the UN in 2008. The possibility but incalculability of a future collision cascade is a prime example of late-modern risk. It is particularly interesting to note that the reports were also marked by the paradox of risk modelling in a reflexive society (Beck, 2009, page 136): scientists attempted to incorporate responses to their predictions into the predictions themselves, thus reducing the predicted risk on which these responses were supposedly based. But the degree of voluntary international cooperation in response to the issue of space debris appears to vindicate Beck’s optimism about a cosmopolitanism ‘from above’, shared with others such as David Held [and echoed in regard to space debris by David Wright (2009, page 10)]. There are, however, reasons to be sceptical. In an excellent paper on sovereignty in outer space, Jill Stuart (2009) contrasts Held’s (2002) cosmopolitan sovereignty with regime theories based on the Realpolitik of state confrontation [or Everett Dolman’s (2002) ‘Astropolitik’, on which see Fraser MacDonald (2007) for a critique]. Cosmopolitan sovereignty is based on a cosmopolitan consciousness both influencing and influenced by international cooperation in outer space (eg, the International Space Station). Stuart argues that the declining importance of the nation-state resonates with the ‘overview effect’ of viewing a borderless Earth from space (White, 1987). Despite her optimism, Stuart is aware that there are serious issues with Held’s cosmopolitanism, especially when applied to outer space. There is good reason to believe that the apparent cosmopolitanism of human activity in outer space is an ideological smokescreen behind which neoconservative policies are being pursued (see, for example, Caldicott, 2002). In his analysis of images of Earth taken from space, Denis Cosgrove (1994) identifies both a ‘One World’ discourse that views a globally connected world as the project of a modern Christian American **imperialism**, and a ‘Whole Earth’ vitalist environmentalism that sees Earth as fragile, isolated organic unity. “Each”, however, “effectively exemplifies the Apollonian urge to re-establish a **transcendental**, univocal, and universally valid vantage point from which to sketch a totalising discourse” (page 288). Both thus erase locality. Hans Magnus Enzensberger (1996) also tears apart the ‘spaceship Earth’ ideology reflected in White’s overview effect, arguing that **the illusion of a unified Earth serves only to disguise inequalities of power. The lack of accountability** for space debris actually **polarises** international interest in **space debris mitigation**. States such as **the US** that rely on the ‘space operating environment’ **to exercise control over social order** (see Dickens and Ormrod, 2009), and that have an economic interest in maintaining capital growth in outer space, have a long-term interest in mitigating against debris [although the US withholds high-quality data because of security concerns (Rincon, 2009)]. States with only a short-term interest in space, such as Indonesia, have not been willing to mitigate space debris (Benko and Schrogl, 1997a). **Rational actor theory** has been employed to argue both that the major spacefaring nations will be willing to mitigate space debris voluntarily (Brearley, 2005) and that international agreements are necessary (Viikari, 2008). Such theory reaches its limits here as it cannot cope with the differing political and economic interests within states and their temporal nature. Even when alliances and agreements hold, it must be questioned whether the current trajectory of space debris mitigation serves the interests of a global public. As Enzensberger (1996) observes, industrial measures to protect the environment either serve to concentrate capital in the hands of larger companies as smaller companies cannot finance their own mitigation systems, or they manifest themselves as costs to the public (page 26). Viikari (2008, page 24) suggests **the former is also true of competing spacefaring states**. Viikari nonetheless advocates a system wherein ‘environmental losers’ could receive other benefits. Neil Smith (2009) anticipates the development of **outer space** becoming the next stage in the extensive **expansion of capitalism**. He also makes clear, in relation to carbon trading on Earth, that a system such as Viikari proposes would neither protect the nearby space environment nor spread the benefits of space activity more equally (it merely represents ‘**the vertical integration of nature into capital’**). The costs borne by the public, meanwhile, include those associated with debris-monitoring and with state mission compliance with international guidelines. There has also been discussion of developing lasers, tethers, and slings to drag debris out of orbit (ESA, 2005), all of which introduce their own forms of risk. A contract to develop such technology would benefit one space technology company or another but the cost would be borne by the public, as recently demonstrated by NASA’s $1.9 million award to Star Technology and Research to develop the ElectroDynamic Debris Eliminator (Chang, 2012). **Commercial sector compliance** with voluntary codes of practice **is** understandably **low** as **it can be extremely costly and organisations** within the sector **cannot be held responsible** in the event of catastrophe. Nor does capital, as an abstract and fluid entity, have any interest in the long-term future of the space environment. **Satellites fix capital for a decade, but their investors have no concern for the future beyond this**. Whether or not guidelines are forced on commercial operators will depend on the relationship between states or suprastates and capital. While the costs of mitigation are seen to undermine commercial viability it is unlikely that procedures will become compulsory. This includes the possibility of a launch tax, which would fly in the face of legislative trends in US space policy. Compulsory measures are more likely, however, if major stakeholders in the space industry become the ones to profit from them. European company EADS Astrium has funded £1 million in research into the CubeSail project at the Surrey Space Centre in the UK. The CubeSail is intended to drag satellites out of orbit at the end of their lifetimes. EADS is a major state contractor as well as a commercial operator. France has recently made it law that satellites under its jurisdiction must be deorbited after twenty-five years. There are profits to be made by Astrium if other countries follow suit. The politics of space debris call into question Beck’s assertion that the old alliances between the state, capital, and science are over. In recent work, Beck (2005, page 138) makes clear that he believes the transnational logic of capital trumps the power of states. But this work lacks the attention to the complexity of relationships between neoliberal and neoconservative politics that characterises the work of David Harvey (2003). Harvey argues that states vacillate historically between protecting regional interests and opening borders. The creation of larger and larger alliances of states is one potential outcome of this process. It may be that international state alliances in one form or another take responsibility for space debris. But Harvey reminds us that, firstly, these ‘cosmopolitan’ agreements do not represent the public interest but exist to safeguard capital accumulation, and, secondly, that they are always prone to dissolution. **None of the parties involved support the measure most certain to improve orbital pollution, which is to stop (or limit) the launch of objects into orbit** (UN, 1999). Instead, the solutions being pursued only serve to deepen the contradiction between those who benefit from risk mitigation and those who bear the costs. As attention to the problem grows, **the perceived impending catastrophe appears to demand an immediate technological solution that actually obscures the politics at work** [see de Goede and Randalls (2009); see also Swyngedouw (2007) on catastrophism and climate change].

#### Any risk of a link ensures an irreversible state of global bare life – The expansion of Empire into outer space would be instantly solidified by its own strength and be impossible to challenge by either rival states or insurgent forces.

Havercroft and Duvall 09 [Jonathan, Raymond . "Critical astropolitics: The geopolitics of space control and the transformation of state sovereignty." Securing outer space. Routledge, 2009. 50-66.]

One of the fundamental principles of classical geopolitics was that sea-based empires (such as Athens, Britain, and America) tended to be more democratic than land-based empires (such as Sparta, China, and Rome). The reason for this is that sea-based empires needed to disperse their forces away from the imperial center to exert control, whereas land-based empires exercised power through occupation. Military occupations made it increasingly likely that the army would seize power whenever it came into conflict with the government. Classical geopolitical theorist Otto Hintze argued that land powers tended toward dictatorships (Hintze 1975; see also Deudney 2007). Dolman builds upon these classical geopolitical insights by arguing that because space-based empires would not be able to occupy states, military coups would be less likely and democracy would be more likely (Dolman 2002a: 29). There is, however, a significant difference between space power and sea power. While neither is capable of occupying territory on its own, **space power is capable of controlling territory from above through surveillance and precise projection of force – control without occupation. While space power may not result in the dictatorships normally associated with land power, it would be a useful tool in establishing a disciplinary society over all the Earth.** **A second obstacle to the benevolent space-based empire** that Dolman imagines **is the lack of counterbalancing powers.** Under the two other modes of protection/security we have considered here – the real-statist and the federal-republican – there are checks that prevent even the most powerful states in the system from dominating all the other units. **In real-statism**, the **sovereignty** of states **means** that **any potential hegemon would have to pay a significant cost in blood and treasure to conquer other states. While this cost may not be enough to dissuade a superpower from conquering one or two states, the cumulative cost of conquest and occupation makes total domination over the Earth unlikely. In the federal-republican model, the collective security regime of the entire system should act as a sufficient deterrent to prevent one state from dominating the others.** Conversely, in a space-based empire the entire world is placed under direct surveillance from above. There is no point on Earth where the imperial center cannot project force on very short notice. **So long as the space-based empire can deny access to space to rival powers through missile defense and anti-satellite technologies, there is no possibility that other states can directly counteract this force. As such, the space-based empire erases all boundaries and places the Earth under its control. While the possibility to resist such an empire will exist, the dynamics of resistance will be considerably altered. Traditional insurgencies rely on physical occupation of territory by the conquering forces to provide targets of opportunity to the resistance.** Because **space weapons** would orbit several hundred to several thousands of miles above the Earth, they **would not be vulnerable to attack by anything except weapons systems possessed by the most advanced space powers**, such as ballistic missiles and advanced laser systems. **Even such counter-measures, however, would only raise the financial cost of space-based empire, not the cost in human lives that insurgencies rely upon to diminish domestic support for imperial occupations. Consequently a space-based empire would be freer to dominate the Earth from above than a traditional land-power occupation would be. Without** obvious **counterpowers or effective means of resistance, the space-based empire would be able to exercise complete bio-political control over the entire planet, turning all of Earth’s inhabitants into “bare life.”** Under such a political arrangement the likelihood that the imperial center would be a benevolent one, uncorrupted by its total domination of the Earth, is very slim indeed.

#### The alternative is to reject their demand for a yes/no policy response in favor of a decolonizing critique of their discourse. That’s the only way to raise critical ethical questions.

Shampa Biswas ‘7, Politics at Whitman [“Empire and Global Public Intellectuals: Reading Edward Said as an International Relations Theorist” *Millennium* 36 (1) p. 117-125]

The recent resuscitation of the project of Empire should give International Relations scholars particular pause.1 For a discipline long premised on a triumphant Westphalian sovereignty, there should be something remarkable about the ease with which the case for brute force, regime change and empire-building is being formulated in widespread commentary spanning the political spectrum. Writing after the 1991 Gulf War, Edward Said notes the US hesitance to use the word ‘empire’ despite its long imperial history.2 This hesitance too is increasingly under attack as even self-designated liberal commentators such as Michael Ignatieff urge the US to overcome its unease with the ‘e-word’ and selfconsciously don the mantle of imperial power, contravening the limits of sovereign authority and remaking the world in its universalist image of ‘democracy’ and ‘freedom’.3 Rashid Khalidi has argued that the US invasion and occupation of Iraq does indeed mark a new stage in American world hegemony, replacing the indirect and proxy forms of Cold War domination with a regime much more reminiscent of European colonial empires in the Middle East.4 The ease with which a defence of empire has been mounted and a colonial project so unabashedly resurrected makes this a particularly opportune, if not necessary, moment, as scholars of ‘the global’, to take stock of our disciplinary complicities with power, to account for colonialist imaginaries that are lodged at the heart of a discipline ostensibly interested in power but perhaps far too deluded by the formal equality of state sovereignty and overly concerned with security and order. Perhaps more than any other scholar, Edward Said’s groundbreaking work in *Orientalism* has argued and demonstrated the long and deep complicity of academic scholarship with colonial domination.5 In addition to spawning whole new areas of scholarship such as postcolonial studies, Said’s writings have had considerable influence in his own discipline of comparative literature but also in such varied disciplines as anthropology, geography and history, all of which have taken serious and sustained stock of their own participation in imperial projects and in fact regrouped around that consciousness in a way that has simply not happened with International Relations.6 It has been 30 years since Stanley Hoffman accused IR of being an ‘American social science’ and noted its too close connections to US foreign policy elites and US preoccupations of the Cold War to be able to make any universal claims,7 yet there seems to be a curious amnesia and lack of curiosity about the political history of the discipline, and in particular its own complicities in the production of empire.8 Through what discourses the imperial gets reproduced, resurrected and re-energised is a question that should be very much at the heart of a discipline whose task it is to examine the contours of global power. Thinking this failure of IR through some of Edward Said’s critical scholarly work from his long distinguished career as an intellectual and activist, this article is an attempt to politicise and hence render questionable the disciplinary traps that have, ironically, circumscribed the ability of scholars whose very business it is to think about global politics to actually think globally and politically. What Edward Said has to offer IR scholars, I believe, is a certain kind of global sensibility, a critical but sympathetic and felt awareness of an inhabited and cohabited world. Furthermore, it is a profoundly political sensibility whose globalism is predicated on a cognisance of the imperial and a firm non-imperial ethic in its formulation. I make this argument by travelling through a couple of Said’s thematic foci in his enormous corpus of writing. Using a lot of Said’s reflections on the role of public intellectuals, I argue in this article that IR scholars need to develop what I call a ‘global intellectual posture’. In the 1993 Reith Lectures delivered on BBC channels, Said outlines three positions for public intellectuals to assume – as an outsider/exile/marginal, as an ‘amateur’, and as a disturber of the status quo speaking ‘truth to power’ and self-consciously siding with those who are underrepresented and disadvantaged.9 Beginning with a discussion of Said’s critique of ‘professionalism’ and the ‘cult of expertise’ as it applies to International Relations, I first argue the importance, for scholars of global politics, of taking *politics* seriously. Second, I turn to Said’s comments on the posture of exile and his critique of identity politics, particularly in its nationalist formulations, to ask what it means for students of global politics to take the *global* seriously. Finally, I attend to some of Said’s comments on humanism and contrapuntality to examine what IR scholars can learn from Said about *feeling and thinking globally* concretely, thoroughly and carefully. IR Professionals in an Age of Empire: From ‘International Experts’ to ‘Global Public Intellectuals’ One of the profound effects of the war on terror initiated by the Bush administration has been a significant constriction of a democratic public sphere, which has included the active and aggressive curtailment of intellectual and political dissent and a sharp delineation of national boundaries along with concentration of state power. The academy in this context has become a particularly embattled site with some highly disturbing onslaughts on academic freedom. At the most obvious level, this has involved fairly well-calibrated neoconservative attacks on US higher education that have invoked the mantra of ‘liberal bias’ and demanded legislative regulation and reform10, an onslaught supported by a well-funded network of conservative think tanks, centres, institutes and ‘concerned citizen groups’ within and outside the higher education establishment11 and with considerable reach among sitting legislators, jurists and policy-makers as well as the media. But what has in part made possible the encroachment of such nationalist and statist agendas has been a larger history of the corporatisation of the university and the accompanying ‘professionalisation’ that goes with it. Expressing concern with ‘academic acquiescence in the decline of public discourse in the United States’, Herbert Reid has examined the ways in which the university is beginning to operate as another transnational corporation12, and critiqued the consolidation of a ‘culture of professionalism’ where academic bureaucrats engage in bureaucratic role-playing, minor academic turf battles mask the larger managerial power play on campuses and the increasing influence of a relatively autonomous administrative elite and the rise of insular ‘expert cultures’ have led to academics relinquishing their claims to public space and authority.13 While it is no surprise that the US academy should find itself too at that uneasy confluence of neoliberal globalising dynamics and exclusivist nationalist agendas that is the predicament of many contemporary institutions around the world, there is much reason for concern and an urgent need to rethink the role and place of intellectual labour in the democratic process. This is especially true for scholars of the global writing in this age of globalisation and empire. Edward Said has written extensively on the place of the academy as one of the few and increasingly precarious spaces for democratic deliberation and argued the necessity for public intellectuals immured from the seductions of power.14 Defending the US academy as one of the last remaining utopian spaces, ‘the one public space available to real alternative intellectual practices: no other institution like it on such a scale exists anywhere else in the world today’15, and lauding the remarkable critical theoretical and historical work of many academic intellectuals in a lot of his work, Said also complains that ‘the American University, with its munificence, utopian sanctuary, and remarkable diversity, has defanged (intellectuals)’16. The most serious threat to the ‘intellectual vocation’, he argues, is ‘professionalism’ and mounts a pointed attack on the proliferation of ‘specializations’ and the ‘cult of expertise’ with their focus on ‘relatively narrow areas of knowledge’, ‘technical formalism’, ‘impersonal theories and methodologies’, and most worrisome of all, their ability and willingness to be seduced by power.17 Said mentions in this context the funding of academic programmes and research which came out of the exigencies of the Cold War18, an area in which there was considerable traffic of political scientists (largely trained as IR and comparative politics scholars) with institutions of policy-making. Looking at various influential US academics as ‘organic intellectuals’ involved in a dialectical relationship with foreign policy-makers and examining the institutional relationships at and among numerous think tanks and universities that create convergent perspectives and interests, Christopher Clement has studied US intervention in the Third World both during and after the Cold War made possible and justified through various forms of ‘intellectual articulation’.19 This is not simply a matter of scholars working for the state, but indeed a larger question of intellectual orientation. It is not uncommon for IR scholars to feel the need to formulate their scholarly conclusions in terms of its relevance for global politics, where ‘relevance’ is measured entirely in terms of policy wisdom. Edward Said’s searing indictment of US intellectuals – policy-experts and Middle East experts - in the context of the first Gulf War20 is certainly even more resonant in the contemporary context preceding and following the 2003 invasion of Iraq. The space for a critical appraisal of the motivations and conduct of this war has been considerably diminished by the expertise-framed national debate wherein certain kinds **of** ethical questions irreducible to formulaic ‘for or against’ and ‘costs and benefits’ analysis can simply not be raised. In effect, what Said argues for, and IR scholars need to pay particular heed to, is an understanding of ‘intellectual relevance’ that is larger and more worthwhile, that is about the posing of critical, historical, ethical and perhaps unanswerable questions rather than the offering of recipes and solutions, that is about politics (rather than techno-expertise) in the most fundamental and important senses of the vocation.21 It is not surprising that **the ‘cult of expertise’** that is increasingly **driving the study of global politics** has occurred in conjunction with a larger depoliticisation of many facets of global politics, which since the 1980s has **accompanied a** more general prosperity-bred **complacency about politics in the Anglo-European world, particularly in the US**. There are many examples of this. It is evident, for instance, in the understanding of globalisation as TINA market-driven rationality – inevitable, inexorable and ultimately, as Thomas Friedman’s many writings boldly proclaim, apolitical.22 If development was always the ‘anti-politics machine’ that James Ferguson so brilliantly adumbrated more than a decade ago, it is now seen almost entirely as technocratic aid and/or charitable humanitarianism delivered via professionalised bureaucracies, whether they are IGOs or INGOs.23 From the more expansive environmental and feminist-inspired understandings of ‘human security’, understandings of global security are once again increasingly being reduced to (military) strategy and global democratisation to technical recipes for ‘regime change’ and ‘good governance’. There should be little surprise in such a context that the ‘war on terror’ has translated into a depoliticised response to a dehistoricised understanding of the ‘roots of terror’. **For IR scholars, reclaiming politics is a task that will involve working against** the grain of **expertise-oriented professionalism** in a world **that** increasingly **understands its own workings in apolitical terms**. What Said offers in the place of professionalism is a spirit of ‘amateurism’ – ‘the desire to be moved not by profit or reward but by love for and unquenchable interest in the larger picture, in making connections across lines and barriers, in refusing to be tied down to a specialty, in caring for ideas and values despite the restrictions of a profession’, an amateur intellectual being one ‘who considers that to be a thinking and concerned member of a society one is entitled to raise moral issues at the heart of even the most technical and professionalized activity as it involves one’s country, its power, its mode of interacting with its citizens as well as with other societies’. ‘(**T)he intellectual**’s spirit as an amateur’, Said argues, ‘**can enter and transform the merely professional routine most of us go through into something much more lively and radical; instead of doing what one is supposed to do one can ask why one does it, who benefits from it, how can it reconnect with a personal project and original thoughts.**’24 **This requires not just a stubborn intellectual independence, but also shedding habits, jargons, tones that have inhibited IR scholars** from conversing with thinkers and intellectuals outside the discipline, colleagues in history, anthropology, cultural studies, comparative literature, sociology as well as in non-academic venues, who raise the question of the global in different and sometimes contradictory ways. Arguing that the intellectual’s role is a ‘non-specialist’ one,25 Said bemoans the disappearance of the ‘general secular intellectual’ – ‘figures of learning and authority, whose general scope over many fields gave them more than professional competence, that is, a critical intellectual style’.26 **Discarding the professional straitjacket of expertise-oriented IR to venture into intellectual terrains that raise questions of global power and cultural negotiations in a myriad of intersecting and cross-cutting ways will yield richer and fuller conceptions of the ‘politics’ of global politics.** Needless to say, inter- and crossdisciplinarity will also yield richer and fuller conceptions of the ‘global’ of global politics. It is to that that I turn next.

#### This is a war of MANUEVER and you should evaluate this debate as a negotiation of knowledge and a question of our ability to produce reorientation towards the political economy.

**Bleiker 2000** (Roland, coordinator of the Peace and Conflict Studies Program @ U of Queensland, Popular Dissent, Human Agency, and Global Politics, )

Describing, explaining and prescribing may be less unproblematic processes of evaluation, but only at first sight. If one abandons the notion of Truth, the idea that an event can be apprehended as part of a natural order, authentically and scientifically, as something that exists independently of the meaning we have given it – if one abandons this separation of object and subject, then the process of judging a particular approach to describing and explaining an event becomes a very muddled affair. There is no longer an objective measuring device that can set the standard to evaluate whether or not a particular insight into an event, such as the collapse of the Berlin Wall, is true or false. The very nature of a past event becomes indeterminate insofar as its identification is dependent upon ever-changing forms of linguistic expressions that imbue the event with meaning.56 The inability to determine objective meanings is also the reason why various critical international relations scholars stress that there can be no ultimate way of assessing human agency. Roxanne Doty, for instance, believes that the agent–structure debate ‘encounters an aporia, i.e., a self-engendered paradox beyond which it cannot press’. This is to say that the debate is fundamentally undecidable, and that theorists who engage in it ‘can claim no scientific, objective grounds for determining whether the force of agency or that of structure is operative at any single instant’.57 Hollis and Smith pursue a similar line of argument. They emphasise that there are always two stories to tell – neither of which is likely ever to have the last word – an inside story and an outside story, one about agents and another about structures, one epistemological and the other ontological, one about understanding and one about explaining international relations.58 The value of an insight cannot be evaluated in relation to a set of objectively existing criteria. But this does not mean that all insights have the same value. Not every perception is equally perceptive. Not every thought is equally thoughtful. Not every action is equally justifiable. How, then, can one judge? Determining the value of a particular insight or action is always a process of negotiating knowledge, of deciding where its rotating axes should be placed and how its outer boundaries should be drawn. The actual act of judging can thus be made in reference to the very process of negotiating knowledge. The contribution of the present approach to understanding transversal dissent could, for instance, be evaluated by its ability to demonstrate that a rethinking of the agency problematique has revealed different insights into global politics. The key question then revolves around whether or not a particular international event, like the fall of the Berlin Wall, appears in a new light once it is being scrutinised by an approach that pays attention to factors that had hitherto been ignored. Expressed in other words, knowledge about agency can be evaluated by its ability to orient and reorient our perceptions of events and the political actions that issue from them. The lyrical world, once more, offers valuable insight. Rene´ Char: A poet must leave traces of his passage, not proofs. Only traces bring about dreams.

## Case

### Adv. 1

#### Don’t vote on an advantage with no real extinction impact justified by just nebulous internal links

#### 1) MunOz-Patchen is incorrect – this is in the context of small debris but their evidence misses an internal link between debris writ large and extremely tiny ones

#### 2) Creator of the Kessler syndrome admits that it’s way too far off to matter - Harker reads green

Chelsea **1AC MuñOz-Patchen, 19** - ("Regulating the Space Commons: Treating Space Debris as Abandoned Property in Violation of the Outer Space Treaty," University of Chicago, 2019, 12-6-2021, https://cjil.uchicago.edu/publication/regulating-space-commons-treating-space-debris-abandoned-property-violation-outer-space)//AW

Debris poses a threat to functioning space objects and astronauts in space, and may cause damage to the earth’s surface upon re-entry.29 Much of the small debris cannot be tracked due to its size and the velocity at which it travels, making it impossible to anticipate and maneuver to avoid collisions.30 To remain in orbit, debris must travel at speeds of up to 17,500 miles per hour.31 At this speed even very small pieces of debris can cause serious damage, threatening a spacecraft and causing expensive damage.32 There are millions of these very small pieces, and thousands of larger ones.33 The small-to-medium pieces of debris “continuously shed fragments like lens caps, booster upper stages, nuts, bolts, paint chips, motor sprays of aluminum particles, glass splinters, waste water, and bits of foil,” and may stay in orbit for decades or even centuries, posing an ongoing risk.34 Debris ten centimeters or larger in diameter creates the likelihood of complete destruction for any functioning satellite with which it collides.35 Large nonfunctional objects remaining in orbit are a collision threat, capable of creating huge amounts of space debris and taking up otherwise useful orbit space.36 This issue is of growing importance as more nations and companies gain the ability to launch satellites and other objects into space.37 From February 2009 through the end of 2010, more than thirty-two collision-avoidance maneuvers were reportedly used to avoid debris by various space agencies and satellite companies, and as of March 2012, the crew of the International Space Station (ISS) had to take shelter three times due to close calls with passing debris.38 These maneuvers require costly fuel usage and place a strain on astronauts.39 Furthermore, the launches of some spacecraft have “been delayed because of the presence of space debris in the planned flight paths.”40 In 2011, Euroconsult, a satellite consultant, projected that there would be “a 51% increase in satellites launched in the next decade over the number launched in the past decade.”41 In addition to satellites, the rise of commercial space tourism will also increase the number of objects launched into space and thus the amount of debris.42 The more objects are sent into space, and the more collisions create cascades of debris, the greater the risk of damage to vital satellites and other devices relied on for “weather forecasting, telecommunications, commerce, and national security.”43 The Space Debris Mitigation Guidelines44 were created by UNCOPUOS with input from the IADC and adopted in 2007.45 The guidelines were developed to address the problem of space debris and were intended to “increase mutual understanding on acceptable activities in space.”46 These guidelines are nonbinding but suggest best practices to implement at the national level when planning for a launch. Many nations have adopted the guidelines to some degree, and some have gone beyond what the guidelines suggest.47 While the guidelines do not address existing debris, they do much to prevent the creation of new debris. The Kessler Syndrome is the biggest concern with space debris. The Kessler Syndrome is a cascade created when debris hits a space object, creating new debris and setting off a chain reaction of collisions that eventually closes off entire orbits.48 The concern is that this cascade will occur when a tipping point is reached at which the natural removal rate cannot keep up with the amount of new debris added.49 At this point a collision could set off a cascade destroying all space objects within the orbit.50 In 2011, The National Research Council predicted that the Kessler Syndrome could happen within ten to twenty years.51 Donald J. Kessler, the astrophysicist and NASA scientist who theorized the Kessler Syndrome in 1978, believes this cascade may be a century away, meaning that there is still time to develop a solution.52

#### 3) Johnson also doesn’t indicate that there is an external impact to any of these scenarios – means they don’t escalate and reading new terminals would be new in the 1AR just like reading an add-on—none of the warrants in the card are contextualized to nukes.

#### 4) Alt causes to Johnson they can’t solve – Harker reads green

Les 1AC Johnson 13, Deputy Manager for NASA's Advanced Concepts Office at the Marshall Space Flight Center, Co-Investigator for the JAXA T-Rex Space Tether Experiment and PI of NASA's ProSEDS Experiment, Master's Degree in Physics from Vanderbilt University, Popular Science Writer, and NASA Technologist, Frequent Contributor to the Journal of the British Interplanetary Sodety and Member of the American Institute of Aeronautics and Astronautics, National Space Society, the World Future Society, and MENSA, Sky Alert!: When Satellites Fail, p. 9-12 [language modified]

Whatever the initial cause, the result may be the same. A satellite destroyed in orbit will break apart into thousands of pieces, each traveling at over 8 km/sec. This virtual shotgun blast, with pellets traveling 20 times faster than a bullet, will quickly spread out, with each pellet now following its own orbit around the Earth. With over 300,000 other pieces of junk already there, the tipping point is crossed and a runaway series of collisions begins. A few orbits later, two of the new debris pieces strike other satellites, causing them to explode into thousands more pieces of debris. The rate of collisions increases, now with more spacecraft being destroyed. Called the "Kessler Effect", after the NASA scientist who first warned of its dangers, these debris objects, now numbering in the millions, cascade around the Earth, destroying every satellite in low Earth orbit. Without an atmosphere to slow them down, thus allowing debris pieces to bum up, most debris (perhaps numbering in the millions) will remain in space for hundreds or thousands of years. Any new satellite will be threatened by destruction as soon as it enters space, effectively rendering many Earth orbits unusable. But what about us on the ground? How will this affect us? Imagine a world that suddenly loses all of its space technology. If you are like most people, then you would probably have a few fleeting thoughts about the Apollo-era missions to the Moon, perhaps a vision of the Space Shuttle launching astronauts into space for a visit to the International Space Station (ISS), or you might fondly recall the "wow" images taken by the orbiting Hubble Space Telescope. In short, you would know that things important to science would be lost, but you would likely not assume that their loss would have any impact on your daily life. Now imagine a world that suddenly loses network and cable television, accurate weather forecasts, Global Positioning System (GPS) navigation, some cellular phone networks, on-time delivery of food and medical supplies via truck and train to stores and hospitals in virtually every community in America, as well as science useful in monitoring such things as climate change and agricultural sustainability. Add to this the [disabling] ~~crippling~~ of the US military who now depend upon spy satellites, space-based communications systems, and GPS to know where their troops and supplies are located at all times and anywhere in the world. The result is a nightmarish world, one step away from nuclear war, economic disaster, and potential mass starvation. This is the world in which we are now perilously close to living. Space satellites now touch our lives in many ways. And, unfortunately, these satellites are extremely vulnerable to risks arising from a half-century of carelessness regarding protecting the space environment around the Earth as well as from potential adversaries such as China, North Korea, and Iran. No government policy has put us at risk. It has not been the result of a conspiracy. No, we are dependent upon them simply because they offer capabilities that are simply unavailable any other way. Individuals, corporations, and governments found ways to use the unique environment of space to provide services, make money, and better defend the country. In fact, only a few space visionaries and futurists could have foreseen where the advent of rocketry and space technology would take us a mere 50 years since those first satellites orbited the Earth. It was the slow progression of capability followed by dependence that puts us at risk. The exploration and use of space began in 1957 with the launch of Sputnik 1 by the Soviet Union. The United States soon followed with Explorer 1. Since then, the nations of the world have launched over 8,000 spacecraft. Of these, several hundred are still providing information and services to the global economy and the world's governments. Over time, nations, corporations, and individuals have grown accustomed to the services these spacecraft provide and many are dependent upon them. Commercial aviation, shipping, emergency services, vehicle fleet tracking, financial transactions, and agriculture are areas of the economy that are increasingly reliant on space. Telestar 1, launched into space in the year of my birth, 1962, relayed the world's first live transatlantic news feed and showed that space satellites can be used to relay television signals, telephone calls, and data. The modern telecommunications age was born. We've come a long way since Telstar; most television networks now distribute most, if not ali, of their programming via satellite. Cable television signals are received by local providers from satellite relays before being sent to our homes and businesses using cables. With 65% of US households relying on cable television and a growing percentage using satellite dishes to receive signals from direct-to-home satellite television providers, a large number of people would be cut off from vital information in an emergency should these satellites be destroyed. And communications satellites relay more than television signals. They serve as hosts to corporate video conferences and convey business, banking, and other commercial information to and from all areas of the planet. The first successful weather satellite was TIROS. Launched in 1960, TIROS operated for only 78 days but it served as the precursor for today's much more long-lived weather satellites, which provide continuous monitoring of weather conditions around the world. Without them, providing accurate weather forecasts for virtually any place on the globe more than a day in advance would be nearly impossible. Figure !.1 shows a satellite image of Hurricane Ivan approaching the Alabama Gulf coast in 2004. Without this type of information, evacuation warnings would have to be given more generally, resulting in needless evacuations and lost economic activity (from areas that avoid landfall) and potentially increasing loss of life in areas that may be unexpectedly hit. The formerly top-secret Corona spy satellites began operation in 1959 and provided critical information about the Soviet Union's military and industrial capabilities to a nervous West in a time of unprecedented paranoia and nuclear risk. With these satellites, US military planners were able to understand and assess the real military threat posed by the Soviet Union. They used information provided by spy satellites to help avert potential military confrontations on numerous occasions. Conversely, the Soviet Union's spy satellites were able to observe the United States and its allies, with similar results. It is nearly impossible to move an army and hide it from multiple eyes in the sky. Satellite information is critical to all aspects of US intelligence and military planning. Spy satellites are used to monitor compliance with international arms treaties and to assess the military activities of countries such as China, Russia, Iran, and North Korea. Figure 1.2 shows the capability of modem unclassified space-based imaging. The capability of the classified systems is presumed to be significantly better, providing much more detail. Losing these satellites would place global militaries on high alert and have them operating, literally, in the blind. Our military would suddenly become vulnerable in other areas as well. GPS, a network of 24-32 satellites in medium-Earth orbit, was developed to provide precise position information to the military, and it is now in common use by individuals and industry. The network, which became fully operational in 1993, allows our armed forces to know their exact locations anywhere in the world. It is used to guide bombs to their targets with unprecedented accuracy, requiring that only one bomb be used to destroy a target that would have previously required perhaps hundreds of bombs to destroy in the pre-GPS world (which, incidentally, has resulted in us reducing our stockpile of non-GPS-guided munitions dramatically). It allows soldiers to navigate in the dark or in adverse weather or sandstorms. Without GPS, our military advantage over potential adversaries would be dramatically reduced or eliminated.

#### 5) The aff’s scenario is about the Kessler syndrome in the context of states so they don’t solve those either

#### 6) No debris cascades, but even a worst case is confined to low LEO with no impact

Daniel Von Fange 17, Web Application Engineer, Founder and Owner of LeanCoder, Full Stack, Polyglot Web Developer, “Kessler Syndrome is Over Hyped”, 5/21/2017, http://braino.org/essays/kessler\_syndrome\_is\_over\_hyped/

Kessler Syndrome is overhyped. A chorus of online commenters great any news of upcoming low earth orbit satellites with worry that humanity will to lose access to space. I now think they are wrong.

What is Kessler Syndrome?

Here’s the popular view on Kessler Syndrome. Every once in a while, a piece of junk in space hits a satellite. This single impact destroys the satellite, and breaks off several thousand additional pieces. These new pieces now fly around space looking for other satellites to hit, and so exponentially multiply themselves over time, like a nuclear reaction, until a sphere of man-made debris surrounds the earth, and humanity no longer has access to space nor the benefits of satellites.

It is a dark picture.

Is Kessler Syndrome likely to happen?

I had to stop everything and spend an afternoon doing back-of-the-napkin math to know how big the threat is. To estimate, we need to know where the stuff in space is, how much mass is there, and how long it would take to deorbit.

The orbital area around earth can be broken down into four regions.

Low LEO - Up to about 400km. Things that orbit here burn up in the earth’s atmosphere quickly - between a few months to two years. The space station operates at the high end of this range. It loses about a kilometer of altitude a month and if not pushed higher every few months, would soon burn up. For all practical purposes, Low LEO doesn’t matter for Kessler Syndrome. If Low LEO was ever full of space junk, we’d just wait a year and a half, and the problem would be over.

High LEO - 400km to 2000km. This where most heavy satellites and most space junk orbits. The air is thin enough here that satellites only go down slowly, and they have a much farther distance to fall. It can take 50 years for stuff here to get down. This is where Kessler Syndrome could be an issue.

Mid Orbit - GPS satellites and other navigation satellites travel here in lonely, long lives. The volume of space is so huge, and the number of satellites so few, that we don’t need to worry about Kessler here.

GEO - If you put a satellite far enough out from earth, the speed that the satellite travels around the earth will match the speed of the surface of the earth rotating under it. From the ground, the satellite will appear to hang motionless. Usually the geostationary orbit is used by big weather satellites and big TV broadcasting satellites. (This apparent motionlessness is why satellite TV dishes can be mounted pointing in a fixed direction. You can find approximate south just by looking around at the dishes in your northern hemisphere neighborhood.) For Kessler purposes, GEO orbit is roughly a ring 384,400 km around. However, all the satellites here are moving the same direction at the same speed - debris doesn’t get free velocity from the speed of the satellites. Also, it’s quite expensive to get a satellite here, and so there aren’t many, only about one satellite per 1000km of the ring. Kessler is not a problem here.

### Adv. 2

#### 1. Cap is sustainable – innovation is key to solve the climate and the alt can’t solve

Karlsson 21 – Associate Professor in political science at Umea University (Rasmus, "Learning in the Anthropocene" Soc. Sci. 10, no. 6: 233. <https://doi.org/10.3390/socsci10060233> 18 June 2021)

Unpacking this argument, it is perhaps useful to first recognize that, stable as the Holocene may have seemed from a human perspective, life was always vulnerable to a number of cosmic risks, such as bolide collisions, risks that only advanced technologies can mitigate. Similarly, the Black Death of the 14th century should serve as a powerful reminder of the extreme vulnerability of pre-industrial societies at a microbiological level. Nevertheless, it is reasonable to think of the Holocene as providing a relatively stable baseline against which the ecological effects of technological interventions could hypothetically be evaluated. With most human activities being distinctively local, nature would for the most part “bounce back” (even if the deforestation of the Mediterranean basin during the Roman period is an example of that not always being the case) while larger geophysical processes, such as the carbon cycle, remained entirely beyond human intentional control. Even if there has been some debate about what influence human activities had on the preindustrial climate (Ruddiman 2007), anthropogenic forcing was in any case both marginal and gradual. All this changed with the onset of the Great Acceleration by which humans came to overwhelm the great forces of nature, causing untold damage to fragile ecosystems and habitats everywhere, forever altering the trajectory of life on the planet (Steffen et al. 2011b). In a grander perspective, humanity may one day become an interplanetary species and thus instrumental in safeguarding the long-term existence of biological life, but for the moment, its impact is ethically dubious at best as the glaciers melt, the oceans fill up with plastics, and vast number of species are driven to extinction. Faced with these grim realities, it is of course not surprising that the first impulse is to seek to restore some kind primordial harmony and restrain human activities. Yet, it is important to acknowledge that, even if their aggregate impact may have been within the pattern of Holocene variability, pre-modern Western agricultural societies were hardly “sustainable” in any meaningful sense. Experiencing permanent scarcity, violent conflict was endemic (Gat 2013), and as much as some contemporary academics like to attribute all evils to “capitalism” (Malm 2016), pre-capitalist societies exhibited no shortage of religious intolerance and other forms of social domination. It is thus not surprising that some have argued the need to reverse the civilizational arc further yet and return to a preliterate hunter-gather existence (Zerzan 2008) even if this, obviously, has very little to do with existing political realities and social formations. Under Holocene conditions, the short-term human tragedy may have been the same, but it did not undermine the long-term ability of the planet to support life. In a world of eight billion people, already accumulated emissions in the atmosphere have committed the planet to significant warming under the coming centuries, with an increasing probability that committed warming already exceeds the 1.5-degree target of the Paris Agreement even if all fossil-fuel emissions were to stop today (Mauritsen and Pincus 2017). This means that sustained negative emissions, presumably in combination with SRM, will most likely be needed just to stabilize global temperatures, not to mentioning countering the flow of future emissions. According to the Intergovernmental Panel on Climate Change (IPCC), assuming that all the pledges submitted under the Paris Agreement are fulfilled, limiting warming to 1.5 degrees will still require negative emissions in the range of 100—1000 gigatons of CO2 (Hilaire et al. 2019, p. 190). The removal of carbon dioxide at gigaton scales from the atmosphere will presumably require the existence of an advanced industrial society since low-tech options, such as afforestation, will be of limited use (Gundersen et al. 2021; Seddon et al. 2020), especially in a future of competing land-uses. It is against this backdrop of worsening climate harms that the limits of “precaution”, at least as conventionally understood, become apparent. While degrowth advocates tend to insist that behavioral change, even explicitly betting on a “social miracle” (Kallis 2019, p. 195), is always preferable to any technological risk-taking (Heikkurinen 2018), that overlooks both the scope of the sustainability challenge and the lack of public consent to any sufficiently radical political project (Buch-Hansen 2018). While there may be growing willingness to pay for, say, an electric vehicle (Hulshof and Mulder 2020), giving up private automobile use altogether is obviously a different animal, to say nothing about a more fundamental rematerialization of the economy (Hausknost 2020). Again, the problem is one in which change either (a) remains marginal yet ecologically insufficient or (b) becomes sufficiently radical yet provokes a strong political counterreaction. A similar dynamic can be expected to play out at the international level where countries that remain committed to growth would quickly gain a military advantage. To make matters worse, there is also a temporal element to this dynamic since any regime of frugality and localism would have to be policed indefinitely in order to prevent new unsustainable patterns of development from re-emerging later on. All this begs the obvious question, if the political and economic enforcement of the planetary boundaries are fraught with such political and social difficulties, would it not be better to instead try to transcend them through technological innovation? Surprisingly, any high-energy future would most likely be subject to many of the same motivational and psychological constraints that hinder a low-energy future. While history shows that existing nuclear technologies could in theory displace all fossil fuels and meet the most stringent climate targets (Qvist and Brook 2015), it seems extremely unlikely, to put it mildly, that thousands of new reactors will be built over the course of the coming decades in response to climate change. Outside the world of abstract computer modelling, real world psychological and cultural inertia tends to ensure that political decision-making, at least for the most part, gravitates to what is considered “reasonable” and “common sense”—such as medium emissions electricity grids in which wind and solar are backed by biomass and gas—rather than what any utilitarian optimization scenario may suggest. Even if the global benefits of climate stabilization would be immense, the standards by which local nuclear risks are assessed, as clearly illustrated by the Fukushima accident which led to a worldwide retreat from nuclear energy despite only causing one confirmed death (which, though obviously regrettable, has to be put in relation to the hundred and thousands of people dying every year from the use of fossil fuels), underscores the uneven distribution of perceived local risks versus global benefits and the associated problem of socio-political learning across spatial scales. Almost two decades ago, Ingolfur Blühdorn identified “simulative eco-politics” as a key strategy by which liberal democracies reconcile an ever-heightened rhetoric of environmental crisis with their simultaneous defense of the core principles of consumer capitalism (Blühdorn 2007). Since then, declarations that we only have “ten years to save the planet” have proliferated, and so have seemingly bold investments in renewable energy, most recently in the form of US President Joseph Biden’s USD 2.25 trillion climate and infrastructure plan. Still, without a meaningful commitment to either radical innovation or effective degrowth, it is difficult to see how the deployment of yet more wind turbines or the building of new highways will in any way be qualitatively different from what Blühdorn pertinently described as sustaining “what is known to be unsustainable” (Blühdorn 2007, p. 253). However, all is not lost in lieu of more authentic forms of eco-politics. Independent of political interventions, accelerating technological change, in particular with regard to computing and intelligent machine labor, may one day make large-scale precision manipulation of the physical world possible in ways that may solve many problems that today seem intractable (Dorr 2016). Similarly, breakthroughs in synthetic biology may hold the key to environmentally benign biofuels and carbon utilization technologies. Yet, all such progress remains hypothetical and uncertain for now. Given what is at stake, there is an obvious danger in submitting to naïve technological optimism. What is less commonly recognized is that naïve optimism with regard to the prospects of behavioral change may be equally dangerous. While late-capitalist affluence has enabled many postmaterial identities and behaviors, such as bicycling, hobby farming, and other forms of emancipatory self-expression, a collapsing economy could quickly lead to a reversal back to survivalist values, traditional hierarchical forms of domination, and violence (Quilley 2011, p. 77). As such, it is far from obvious what actions would actually take the world as a whole closer to long-term sustainability. If sustainability could be achieved by a relatively modest reduction in consumption rates or behavioral changes, such as a ban on all leisure flights, then there would be a strong moral case for embracing degrowth. Yet, recognizing how farreaching measures in terms of population control and consumption restrictions that would be needed, the case quickly becomes more ambiguous. While traditional environmentalism may suggest that retreating from the global economy and adopting a low-tech lifestyle would increase resilience (Alexander and Yacoumis 2018), it may do very much the opposite by further fragmenting global efforts and slowing the pace of technological innovation. Without an orderly and functioning world trade system, local resources scarcities would be exacerbated, as seen most recently with the different disruptions to vaccine supply chains. In essence, given the lack of a stable Holocene baseline to revert to, it becomes more difficult to distinguish proactionary “risk-taking” from “precaution”, especially as many ecosystems have already been damaged beyond natural recovery. In this context, it is noteworthy that many of the technologies that can be expected to be most crucial for managing a period of prolonged overshoot (such as next-generation nuclear, engineering biology, large-scale carbon capture and SRM) are also ones that traditional environmentalism is most strongly opposed to. 3. Finding Indicators From the vantage point of the far-future, at least the kind depicted in the fictional universe of Star Trek, human evolution is a fairly straightforward affair along an Enlightenment trajectory by which ever greater instrumental capacity is matched by similar leaps in psychological maturity and expanding circles of moral concern. With the risk of sounding Panglossian, one may argue that the waning of interstate war in general and the fact that there has not been any major nuclear exchange in particular, does vindicate such an optimistic reading of history. While there will always be ups and downs, as long as the most disastrous outcomes are avoided, there will still be room for learning and gradual political accommodation. Taking such a longer view, it would nevertheless be strange if development was simply linear, that former oppressors would just accept moral responsibility or that calls for gender or racial justice would not lead to self-reinforcing cycles of conservative backlash and increasingly polarizing claims. Still, over the last couple of centuries, there is little doubt that human civilization has advanced significantly, both technologically and ethically (Pinker 2011), at least from a liberal and secular perspective. However, unless one subscribes to teleology, there is nothing inexorable with this development and, it may be that the ecological, social, and political obstacles are simply too great to ever allow for the creation of a Wellsian borderless world (Pedersen 2015) that would allow everyone to live a life free from material want and political domination. On the other hand, much environmental discourse tends to rush ahead in the opposite direction and treat the c limate crisis as ultimate evidence of humanity’s fallen nature when the counter-factual case, that it would be possible for a technological civilization to emerge without at some point endangering its biophysical foundations, would presumably be much less plausible. From an astrobiological perspective, it is easy to imagine how the atmospheric chemistry of a different planet would be more volatile and thus more vulnerable to the effects of industrial processes (Haqq-Misra and Baum 2009), leaving a shorter time window for mitigation. Nick Bostrom has explored this possibility of greater climate sensitivity further in his “vulnerable world hypothesis” (Bostrom 2019) and it begs to reason that mitigation efforts would be more focused in such a world. However, since climate response times are longer and sensitivity less pronounced, climate mitigation policies have become mired in culture and media politics (Newman et al. 2018) but also a statist logic (Karlsson 2018) by which it has become more important for states to focus on their own marginal emission reductions in the present rather than asking what technologies would be needed to stabilize the climate in a future where all people can live a modern life.

#### 2. No extinction—the aff says private space colonization would happen before neolib wrecks the environment that much—and their card provides no justification for why neolib causes extinction.

#### 3. Replicating imperialism is just a metaphor – there aren’t people in space and the aff doesn’t solves colonialism.

#### 4. They don’t solve their own impacts – cap exists outside of space and they don’t solve all of cap and so can’t solve its impacts on earth.