# 1NC

## 1

#### Realism assumes the perspective of a neutral, rational calculator divorced from the gendered nature of nationalism and international relations – their account of state behavior is ahistorical and props up hegemonic masculinities.

Sjoberg 12 Sjoberg, Laura (2012). Gender, structure, and war: what Waltz couldn't see. International Theory, 4(1), 1–38. doi:10.1017/S175297191100025X SM

This theme in feminist theorizing in IR suggests that there might be something to the idea that international structures are theorized as genderneutral because men take their perspectives to represent the human. Feminists have characterized conventional knowledge in IR as problematic because it is constructed only by those in a position of privilege, which affords them only distorted views of the world.14 As such, it has been a crucial part of the feminist project in IR to ‘not only add women but also ask how gender – a structural feature of social life – has been rendered invisible’ by working to ‘distinguish ‘‘reality’’ from the world as men know it’ (Peterson and True 1998, 23). Often, in disciplinary knowledges, ‘gender’ is seen as a proxy for ‘women’ because ‘women’ are perceived to have gender, where men are not. Another element of a gendered international system structure would be that, when it is acknowledged that gender plays a role in global politics, 14 Scheman 1993; Garry and Pearsall 1996; Harding 1998. There is a sociology to what is understood as central to the discipline, where what counts as ‘IR’ matches what men do more than it matches what women do at least in part because the perspectives of male scholars have defined the boundaries of the discipline (Sjoberg 2008). 16 LAURA SJOBERG it is often discussed as a corruption of a gender-neutral system rather than a product of a gendered system. For example, work like that of Inglehart and Norris (2002) and Hudson et al. (2009)15 argues that it is states that treat their women the worst that corrupt not only the gender order but the potential for interstate peace, cooperation, and development. This logic is replicated in many discussions of gender in the policy world as well. For example, ‘gender mainstreaming’ agendas (see True and Mintrom 2001; Shepherd 2008) engage in a process of integrating gender concerns into the structures that already exist in governments and organizations. The scenario derived from Acker’s theorizing suggests that when gender subordination is characterized as the exception, rather than the rule, in international political interactions, gender is difficult to see because the masculine is at once assumed and invisible. The recurrent focus in feminist work on the need to ask IR theory ‘where are the women?’ (Enloe 1983) and ‘where is gender?’ (Bell and O’Rourke 2007) suggests that it is plausible that gender is difficult to see in IR because the masculine dominates our visions of the international system. It is important to note that the masculine here involves and implicates, but is not reducible to, men. Waltz ‘tests’ his idea of structure primarily by its predictive power and its indirect manifestations (1986, 72). He argues that, since the anarchical nature of the international system is invisible and thus cannot be directly verified or proven, it must be verified by its manifestations and implications (Waltz 1986, 73). This verification, to Waltz, comes by examining unit function, distribution of capabilities across units, and political processes of unit interaction. The remainder of this section considers whether there is evidence in those three observable parts of global politics that the international system may be gender-hierarchical. Unit function: does state identity have gendered components? In Waltz’s account, ‘a system is composed of a structure and of interacting units’ where ‘the structure is the system-wide component that makes it possible to think about the system as a whole’ and ‘the arrangement of units is a property of the system’ (1986, 70, 71). Waltz sees the system as an anarchy, which by definition specifies that units have the same function. Still, Waltz gives a sense of what would be different if the system was a hierarchy, since ‘hierarchy entails relations of super- and subordination among a system’s parts, and that implies their differentiation’ (1986, 87). Calling states ‘like units’ in Waltz’s terms is ‘to say that each state is like all other states in being an autonomous political unit’ (Waltz 1986, 89). Waltz sees states as performing fundamentally similar tasks in similar ways, and argues that the differences between states are in capabilities not in function or task (1986, 91). This section explores two arguments about gender and the function of the units of the international system. First, it argues that gender can be seen as constituting unit ‘function’ in the international system, whether the units are ‘like’ or differentiated. Second, it proposes that gender hierarchy actually differentiates unit function in the international system. The argument that gender constitutes the function of all units in the international system is supported by the degree to which states define their identities (and therefore the tasks of domestic and foreign policy) in gendered ways. A growing literature on ontological security (e.g. Mitzen 2006; Steele 2008) characterizes state identity in terms of ‘sense of self,’ a language that has long been used in feminist accounts of nation and nationalism. Feminists who have worked on nationalism have argued that national identity and gender are inextricably linked, and that ‘all nationalism are gendered, all nationalisms are invented, and all are dangerous’ (McClintock 1993).16 Feminists have shown that gendered imagery is salient in the construction national identities, particularly when, often, women are the essence of, the symbols of, and the reproduction of state and/or national identity (Yuval-Davis 1997; Wilcox 2009). A number of examples illustrate the link between national identity and gender. Feminist studies have demonstrated that gender has been essential to defining state identity in Korea (Moon 1997), modernizing Malaysia (Chin 1998), Bengal (Sen 1993), Indonesia (Sunindyo 1998), Northern Ireland (Porter 1998), South Africa (Meintjes 1998), Lebanon (Schulze 1998), Armenia (Tachjian 2009), and a number of other states. For example, Niva has noted that, during the First Gulf War, the United States’ identity was understood as a ‘tough but tender’ masculinity where it was expected that the United States military would courageously defeat the Iraqi military, but would at the same time rescue the feminine state of Kuwait from the hypermasculine clutches of the Iraqi state (1998). On the other hand, responding to the United States’ and United Nations’ threats of military intervention in Kuwait, Saddam Hussein’s Iraq consistently used gendered references to hypermasculine understandings of state identity (Sjoberg 2006b). Gendered nationalisms, however, do not just arise in conflict situations. Bannerji has noted that Canadian national identities are constructed through ‘race,’ class, gender, and other relations of power, where subordinate classes and ‘races’ are feminized in relation to the dominant image of Canadian identity, not only within the Canadian state but also in Canada’s external projection of nationalist identity (2000, 173). Taylor’s analysis of the ‘Dirty War’ in Argentina characterizes identity in the conflict as ‘predicated on the internalization of a rigid hierarchy’ of gender and argues that ‘the struggle, as each group aimed to humiliate, humble, and feminize its other, was about gender’ (1997, 92, 34). A brief look at one example recently used in the literature might further illustrate the point. In his book, Ontological Security in International Relations, Steele (2008) notes that honor and shame shape states’ selfperception of their identities. Contrary to the realist logic that state prioritizes prudence and survival over honor and justice, Steele sees honor as a universal part of state self-identity, where states look for honor even sacrificing physical integrity. To illustrate the role of honor in state selfidentity, Steele uses the example of the Belgian choice to fight a losing war against the Germans in 1914 rather than allow Germany access to Belgian territory and avoid the casualties and terror involved in their inevitable defeat. Steele notes that honor was implicated in Belgium’s response to Germany’s ultimatum, given that most policy statements stressed their need to ‘fight for the honor of the flag’ and ‘avenge Belgian honor’ (Steele 2008, 112). Feminist analysis suggests that we cannot understand the role of honor in state self-identity without reference to both masculine and feminine conceptions of honor in the state (Jowkar 1986). Masculine conceptions of honor vary between chivalric and protection-oriented and aggressive and prideful, while feminine conceptions of honor often focus on the purity and innocence of the territory of the state and/or the women and children inside (see Elshtain 1985). Through gender lenses, the Belgian discussion of national honor in 1914 was one where the leaders’ (masculine) honor was tied to not giving in to, and even resisting, the would-be violators of the territory’s (feminine) honor, which was tied to purity. The ‘honor’ of the Belgian government then was tied to unwillingness to sacrifice the ‘honor’ of the innocent, neutral, vulnerable, and untouchable identity and position of Belgium vis a vis its neighboring Germany. It is no coincidence that the following attack was referred to as the ‘Rape of Belgium’ (Niarchos 1995). In the ‘Rape of Belgium’ narrative, the German invasion spoiled the feminine elements of Belgian state identity, and emasculated Belgian leaders as protectors of its feminized territory. Survival or prudence cannot account for Belgium’s actions in 1914; in fact, as Steele pointed out, Belgium acted contrary to both. Honor can explain the Gender, structure, and war 19 behavior, but neither the form nor function of that honor is clear without accounting for the gendered elements of Belgian state identity. The story about gendered state identity can also be read onto Germany (as a hypermasculine aggressor) and Britain (as a chivalrous protector). While some might see the influence of gender on state or national identity as a ‘second-image’ or unit-level explanation,17 Waltz explains that a factor is structural if it is not influencing state identity (and therefore state function) in states individually, but instead influencing the identities (and therefore functions) of states generally. In other words, forces that define one state’s identity or five states’ identities are secondimage; forces that influence all states identities are third-image. Feminist scholars have shown that ‘nationalism is naturalized, and legitimated, through gender discourses that naturalized the domination of one group over another through the disparagement of the feminine’ (Peterson 1999). These gender hierarchies are always present even if specific genders and their orders in hierarchies are fungible. In other words, it is not particular nationalisms that are gendered (and some nationalisms that are not), it is that gender hierarchy as a structural feature of global politics defines the properties and functions of the system’s constituent units, including their national identities. All nationalisms being gendered does not mean that all nationalisms are the same, however. The mechanism through which gender hierarchy can be seen to influence national identity and state function is through the link between any given state’s national identity and the ‘hegemonic masculinity,’ or particular ideal-typical gender that is on top of the gender hierarchy that state ‘units’ are situated in at any given time and place (Hooper 1998, 34). The argument that states’ structures and functions are often defined by masculinities (see Peterson 1992) is not based on the observation that states are (mostly) governed by men. Instead, as Connell explains, ‘the state organizational practices are structured in relation to the reproductive arena’ (1995, 73). Some states’ hegemonic masculinities are aggressive and projected, others are tough but tender, and still others are stoic and reserved. All hegemonic masculinities relate to a feminized other, but they do so in different ways: some encourage violating it, some define themselves in 20 LAURA SJOBERG opposition to it, some understand it as treasured and to be protected, and some mix elements of all of the above. The gendered nature of national identities influences the function of states, particularly in the areas of warmaking and war-fighting, but also in terms of citizenship, economic organization, diplomatic relations, and involvement in international organizations.18 For example, feminists have catalogued throughout the history of the modern state system a relationship between military service, masculinity, and full citizenship (either de jure or de facto) in states (Moscovici 2000). Though the relationship between gender and nationalism generally (and genders and nationalisms specifically) influences the function of units whether they are like units (in anarchy) or not like units (indicative of a hierarchical system in Waltz’s terms), evidence of different gendered nationalisms suggests that gender hierarchy in global politics differentiates between functions of units in the system rather than dictating that all units function similarly. Units in the system (even defined in the narrow realist terms where only states count as units) do have many similar functions in terms of governance, education, health care, and the like. But especially in their external relations, states also have a number of differentiated functions. Some states were/are colonizers, some states were colonized and still deal with remaining markers of colonization. Some states are aggressors, while other states are the victims of aggression. Some states are protectors, while other states require protection. Some states provide peacekeeping troops, international humanitarian aid, and other public goods, while other states do not serve those functions, depending on state identity (e.g. Savery 2007). Some states serve to facilitate international cooperation while others act as cogs in cooperation’s wheels. Some states see their masculinity as affirmed in the interstate equivalent of rape and pillage, while other states see it in chivalry, honor, and a sense of the genteel. While Waltz might classify these differences as merely capabilities gaps, different state functions in the community of states do not map one-toone onto capabilities. Instead, I propose that they map onto the ways that gender shapes state identities and functions. As Peterson (2010) notes, ‘not only subjects but also concepts, desires, tastes, styles, ways of knowing y can be [masculinized or] feminized,’ such that states’ ontological security is related to their gendered identities. For example, a number of feminist analyses of the United States during the first Gulf War identify its policy choices and military strategies as consonant with a new, post-Cold War ‘tough-but-tender’ image of the United States’ masculinity, which maintained the Cold War-era projection of strength, but added an element of sensitivity and a chivalric conception of protecting the weak (e.g. Niva 1998; Sjoberg 2006a). Seemingly inconsonant functions for the US military as at once an attack force and a tool for protection then make sense, because the state does function differently based on its self-perception of identity, which might be seen as (at least in part) a product of structural gender hierarchy in the international arena.

#### The aff’s drive to prevent extinction is a form of masculine survivalism where gendered bodies become the unwilling tools to sustain humanity. You should refuse their obsession with patriarchal reproduction.

Mitchell 15

(Audra Mitchell, Audra Mitchell is a settler scholar who lives and works on the Ancestral and treaty lands of the Neutral (Attawandaron), Haudenosaunee and Mississaugas of the New Credit (please see Honouring the Land). She currently holds the the Canada Research Chair in Global Political Ecology at Wilfrid Laurier University. From 2015-18 she held the CIGI Chair in Global Governance and Ethics at the Balsillie School of International Affairs Audra is an Associate Professor at Wilfrid Laurier University, Canada, 8-3-2015, "Gendering extinction," Worldly, <https://worldlyir.wordpress.com/2015/08/03/gendering-extinction/>, JKS)

The reproduction of survival/ the survival of reproduction

Extinction is almost always understood against the horizon of survival and the imperative to sustain it – at least for life forms deemed to be of value to humans. In many cases, this imperative takes the form of deliberate strategies for enforcing existence. Donna Haraway’s influential book When Species Meet devotes considerable attention to the logics, practices and politics of Species Survival Plans. These plans monitor and enforce reproduction amongst ‘endangered’ species, not least by collecting data on populations, genetic profiles and genetic materials to enable selective breeding. This strategy assumes that all organisms can, should, and can be made to exercise their reproductive capacities in order to resist extinction, and it actively mobilizes members of ‘endangered species’ into this project. In so doing, it helps to entrench norms regarding gender, sexuality and reproductive labour that are deeply entrenched in modern, Western human cultures. Attention to these programmes highlights an important way in which extinction is gendered in dominant scientific and policy frameworks. Specifically, strategic breeding programmes share in the belief that reproduction is an imperative for those capable of reproducing if ‘the species’ is at risk’. This belief is directly related to Western norms of the reproductive imperative for women. Indeed, Haraway points out that it is precisely “‘woman’s’ putative self-defining responsibility to ‘the species’ as this singular and typological female is reduced to her reproductive function”. In a similar sense, within SSPs and other strategies of enforced survival, entire life forms are reduced to their reproductive capacities. Moreover, programmes of enforced survival can, in the context of sexual reproduction, disproportionately burden female organisms with the task of avoiding extinction. This logic is particularly fraught in discussions of the possibility of human extinction, in which female fertility (captured in the standard policy language of ‘births per woman’) is framed simultaneously as a threat to survival, and the only hope for escaping extinction (see, for instance, Alan Weisman’s comments on this). In these ways, the securitization of survival entrenches the intersectional categories of gender, species and race discussed above. Dominant discourses of extinction and conservation also entrench and privilege sexual reproduction, in ways that entrench heteronormative assumptions and norms. This is reflected in the way that the subjects of extinction and conservation are framed. The standard object of conservation is the biological ‘species’, a term which is defined by the ability of organisms to reproduce sexually. As Myra Hird has pointed out, this conception of ‘species’ makes it appear as if sexual reproduction is the ‘best’ means of sustaining the existence of a life form. However, Hird’s work demonstrates that Earthly life forms actually engage in myriad forms of reproduction, from the free exchange of DNA between bacteria to the hermaphroditic practices of some fish. The upshot of these arguments is that Earthly life is sustained through a huge variety of reproductive activities that do not conform to biological understandings of life processes or species. Crucially, Hird argues that there is no necessary hierarchy between forms of reproduction. In Darwinian terms, all species that manage to survive are equally successful. However, by conflating survival with sexual reproduction, existing discourses of extinction embed hetero-normative frameworks that devalue other forms of reproduction. They also reduce reproduction to the imperative to survive, ignoring the myriad cultural, political, aesthetic, sensual and other dimensions of reproduction.

#### The 1ac’s approach to space is apocalyptically neutral, engendering the biopolitical production of life and death – feminist geopolitics is key

Klinger 19 [Julie Michelle Klinger (PhD in Geography @ UC Berkeley, Assistant Professor @ BU), 2019, “Environmental Geopolitics and Outer Space,” Geopolitics, DOI: 10.1080/14650045.2019.1590340]

Smith’s (1990) thesis on the production of nature, from which environmental geopolitics drew insights, holds that nature is produced through human labor rather than pregiven. The use of outer space is enfolded in this dialectical relationship between geopolitics and the environment through power-laden practices that co-produce society and outer space (Beery 2011, 2016a; Dickens and Ormrod 2016; Dunnett et al. 2017). Indeed, the multibillion dollar investments in satellite instrumentation intended to generate greater “certainty” about a changing climate have been critiqued by scholars positing that a comparable investment in developing alternatives to fossil fuels would do much more social and environmental good (Litfin 1997). A critical attention to state and imperial power, as exercised through and in relation to the environment, distinguishes environmental geopolitics from classical geopolitical concerns with the maintenance and expansion of national power. Feminist Geopolitics The production of space is always an environmental process, which entails geographical questions of justice, access, risk, and vulnerability. Feminist geopoliticians critique both conventional and critical geopolitics as disembodied, noting that “critical geopolitics decentres the nation-state, but in its quest to destabilize the normative, it rarely engages transformative or embodied ways of knowing and seeing” (Ó Tuathail et al. 2010, 317). The perception of outer space as unthinkably “big” has perhaps undermined greater geopolitical reasoning of outer space and the environment in relation to the putatively “little” things such as embodied experience in and in relation to human action in outer space.2 This follows on a practice, long critiqued by ecofeminist scholars, of erasing the local in placeless formulations of the global (Haraway 1988; Litfin 1997; Tsing 2005). By challenging conventional scalar divisions (Christian, Dowler, and Cuomo 2016; Hyndman 2001; Sharp 2011), and connecting seemingly disparate people, places, and events, a feminist geopolitical approach reveals the connections across distance, difference, and various operations of power as they are materially manifested and lived (Dowler and Sharp 2001; Fluri 2009; Koopman 2011; Massaro and Williams 2013; Pain 2009; Secor 2001). In this configuration, the state is neither the unquestioned primary actor in global affairs nor “simply repressive and thus always and everywhere something to be resisted,” (Sharp 2011, 273; see also: Smith 2011; Harker 2011). A feminist geopolitical analysis of human engagement with outer space thus does not aspire to the ‘imperialist pretense’ of supplanting all other forms of analysis (Dixon 2015), in this case through a dismissal of classical or critical geopolitics, rather it views different schools of thought as useful for illuminating how diverse actors and institutions think and act in relation to outer space. Hyndman’s (2001) formulation of feminist geopolitics provides analytical purchase on the environmental geopolitics of outer space because it is concerned with “examining politics at scales other than that of the nation-state; by challenging the public/private divide at a global scale; and by analyzing the politics of mobility,” calling attention to the specific arrangements of capital, infrastructure, and raced and gendered vulnerability in the pursuit of greater engagement with outer space. Thus feminist geopolitics enables a “both/and” approach to the environment and outer space, by examining the actions of empowered actors in the production of outer space, while also interrogating the interests vested in the perpetuation of narrow, disembodied definitions of the environment in relation to outer space. The point is to identify structures and instances of injustice so that they can be remedied while shifting the paradigm from one characterized by conflict in the name of competitive national security regimes to one focused on peace-making and bodily security. Hence, this approach can account for the material, discursive, ideological, and lived spaces and practices that produce not only the environments of Earth and space but also our ongoing attempts to understand them. Outer Space as an Environment Defining the outer space environment can take on mind-bending complexity in the attempt to reconcile infinite distances with quotidian lived experience. It has proven challenging enough, as Hecht (2018, 112 emphasis original) noted, to “hold the planet and a place on the planet on the same analytic plane.” But just as neither place nor planet make sense without the other, so it is with Earth and space. We define the outer space environment relationally – in relation to Earth, to the anthropos, to our imagined absence, or in relation to human visions of possibility and peril. Relational definitions of the outer space environment invariably draw on relational geographies across Earthly environments, which, following the feminist geopolitical approach, reveals how the perhaps unexpected connections between people, places, and power produce outer space environments on Earth and in space. Environmental justice shares this epistemological orientation. The premise of environmental justice is that the rights of those who suffer environmental harm “have been systematically usurped by more powerful social actors, and that ‘justice’ resides in the return of these rights” (Capek 1993, 7). For the environmental justice framework to help us make sense of outer space, we must not only understand outer space as an environment, but also think through how human engagement with outer space constitutes environments in which (in)justice can occur. Outer space environments are mutually transformed with human society when we encounter them. Whether people and machines have altered a particular interplanetary landscape (Gorman 2005) or observed the far greater number of sites that are unlikely to be visited by humans or robots in the future (Vertesi 2015), coming to know new space environments ignites human imaginations with new possibilities. New imaginaries have material consequences, informing policy, practice, and investment choices (Kearnes and Thom 2017; Klinger 2017; Messeri 2016). Material consequences are mediated through the technological capacity to deal with dynamics of distance, temperature, radiation, and institutional capacity to orchestrate ongoing engagements with outer space. In the broadest sense, the environment of outer space encompasses everything that was and ever will be (Hawking and Penrose 1996). Perhaps because of a certain epistemological agoraphobia that inhibits geographical engagements with questions of infinity, the political economic effects of the popularization of these theories over the course of the twentieth century has received limited attention (Giudice 2012; Riordan 2001), and this totalizing scale has been left outside of most studies of human-environment dynamics. Using environmental geopolitics, it is possible to build our epistemologies out to the totality without reproducing earlier religious-themed schemata that placed the heavens utterly and ineffably “beyond.” Put simply, outer space is a global environment insofar as it is the environment in which Earth resides. By thinking of outer space as Earth’s environment, much as we might think of the space within our atmosphere as “our” environment, this “nested” approach replicates problematic conceptions of the environment as a separate thing outside of the self. Our planet is of the cosmos, an accretion of matter floating through space that consolidated over billions of years and now hosts its own diverse environments of which we are. Outer space as a global environment is dynamic, as our planet spins on its axis at a constant speed while orbiting the sun at thirty kilometers per second along a trajectory that is nine hundred and forty six million kilometers in circumference. Anything that enters this trajectory at a given point in space and time can also enter the global environment. Large objects such as asteroids and space weather phenomena, such as solar flares, capture more popular attention because they may spectacularly damage orbital and terrestrial infrastructure. Less well known are the daily showers of microscopic space dust that nourishes the microbial life that regulates global oceanic and atmospheric environments (Baker 2002; Helmreich 2009). Anthropocene and Outer Space Even with the expansion of Anthropocene literature, efforts to think at the scale of the planetary (Spivak 2003) draw our attention “inward and downward” (Olson and Messeri 2015), to the regions of the cosmos where human activity is concentrated or to our own solar system (Dickens and Ormrod 2016; Praet and Salazar 2017; Salazar 2017a). Noting this tendency, Olson and Messeri (2015), building on Agrawal (2005), proposed a “heliosystemic environmentality” to describe how our concept of the environment centers on the sun and its crucial role in sustaining life on Earth. Thinking of the environment as something on the scale of our solar system amplifies the significance of environmental changes on Earth. As Salazar (2017a) has observed, the loss of Earth’s polar ice caps is made even more dramatic when one considers that they are not only important to stabilizing Earth’s orbit, they are also likely unique in our solar system. Anthropocene concerns with global environments have, in practice, delineated inner and outer environments, where the “outer” environments consist of the spaces beyond the atmosphere and beneath the lithosphere. This brackets what tends to count as the human environment to the space between the surface of the Earth and the limits of our atmosphere (Olson and Messeri 2015), although indigenous concepts of the anthropocene have more nuanced conceptions of boundaries (Inoue, Aoki, and Moreira 2017). But much of climate change, everyday life, and localized environmental experience unfolds within this space, hence our anthropocentric “surface bias” (Bebbington and Bury 2013) when defining what, and where, constitutes the environment. Life, Death, and Boundaries The atmosphere serves as a boundary layer between life and death, the biosphere and the beyond. Most of life as we know it can only live within this layer between the ocean floor and the atmosphere, indicating that definitions of the environment tend to be synonymous with life, although the growing research on “extremophiles” living beneath glaciers or on hot ocean vents animates the search for similar sorts of life on other moons and planets (Hashimoto and Kunieda 2017; Helmreich 2009; Rothschild 2007; Salazar 2017b; Vaidyanathan 2017). As fears over the precarity of life on Earth become increasingly salient within the Anthropocene (Pain and Smith 2008; Swyngedouw 2013), the search not only for life but also for habitable exo-planets represents an extension of environmental sensibilities to other parts of our solar system and galaxy (Helmreich 2009; Olson 2018; Segura et al. 2005). This is driven by multiple motivations: from scientific curiosity, to the pursuit of profits, to an apocalyptic sensibility looking for an escape from an Earthly doomsday scenario (Dittmer and Sturm 2010; O’Neill 2000; Walker 2018). Each of these approaches to the question of life in our cosmos informs different material practices in Earthly environments. The question of life in relation to outer space takes three primary forms: the search for new forms of life; experiments with living in outer space, and mitigating threats of an uncertain future on Earth. The latter compels humans to fantasize about colonizing the cosmos in order to survive. This abiding concern with the future informs a series of “anticipatory practices,” intended to provide relief to some – not necessarily all – lives (Anderson 2010). Building on this, environmental geopolitics of outer space are therefore about life and death. This is not simply a matter of “making live” and “letting die” but about rethinking environments in which life and death are both possible and predictable (Foucault 2003). The public declarations of Mars One activists’ willingness to die in space are a display of human volition to approach a deadly environment in order to make it livable. Through their sacrifice, they hope to create extraterrestrial spaces where life and death are rendered more predictable (Greene 2014; Jamieson 2016). In the process of remaking environments in outer space, understandings of the human position shift in relation to Earthly environments. Most critically, the dominant trend seems to be rethinking Earth as something that can be “left behind” (Bianco 2018) in the relentless pursuit of a “somewhere else” that looks like Eden (Messeri 2017). Thinking concretely about specific elements of our biosphere dissolves the boundary between life and “the environment” on Earth contrasted to the deathliness of outer space. For example, microbial and chemical processes such as photosynthesis illustrate the elegant links between the cosmos and life on Earth. The plants that sustain a breathable atmosphere and an abundant food supply are “communicating and mediating between the cosmic and the mineral, the sky and the ground, taking up and transforming energies and materials through their processes” (Gabrys 2016, 13). Although the solar radiation that nourishes life on Earth has extreme origins in a ball of plasma over a hundred times larger than Earth, with a surface temperature of over five thousand degrees Celsius, its interactions with the biosphere in many parts of our world are celebrated as life giving, nourishing, and pleasant. Life and environment, Earth and outer space, are linked in a long series of chemical reactions and flows of electromagnetic radiation. This moves us away from “environment as container” and toward a milieu from which life is inseparable (Canguilhelm 2001). Indeed, transporting humans beyond the atmosphere requires engineering living milieus within closely contained spaces (Aronowsky 2017; Battaglia 2017). Similarly, dreams of interplanetary civilization involve creating Earthly milieus on other worlds (Kearnes and Thom 2017). In contrast to most human-environment relations on Earth, in outer space great lengths are taken to close the human body off from the outer space environment within the world of the space suit, ship, and station. While this closure may be possible down to the molecular scale, it is not possible at the atomic level, as cosmic radiation penetrates space station and space suit walls to alter the DNA of astronauts taken outside of the protective membrane of our atmosphere (Dietz et al. 2013). The “extreme” serves as a uniting principle for social science research in outer space and in analog environments on Earth, such as the deep ocean or Antarctica (Olson 2018; Praet and Salazar 2017). This concept “shapes an analytic of limits and ever-opening horizons – epistemological and physical – provoking new understandings of humanness, environment, temporality, and of inter-species life as we think we understand it, here on Earth” (Battaglia, Valentine, and Olson 2015, 252). If geopolitics is about how power is situated across “a spectrum of scales of social life” (Hyndman 2009), then environmental geopolitics is about how life and living are mediated by power relations exercised through our physical environment. An environmental geopolitics of outer space simply ceases to take for granted the spaces beyond our atmosphere as we consider the complexity of human-environment relations. Like global environments, outer space is perhaps not so much extremely distant as it is startlingly immediate. Outer space is big but it is also always experienced locally. Local experiences of the outer space environment take a variety of forms beyond those astronauts who have stepped out of the airlock (Jones 2006): from the sixty tonnes of cosmic dust that showers Earth daily (Gardner et al. 2014), accumulating in stratospheric clouds and coating rooftops and sidewalks (Genge et al. 2017), to the mediated experience of exploring different other-worldly environs through robot proxies (Vertesi 2015), to the individualized ‘uplinking and downlinking’ (Thrift 2005) that connects people and machines to satellites in Earth’s orbits for a multitude of purposes. It is from this ‘yoking’ (Abbott 1995; Moore 2008) of locality-andtotality that we can discern the environmental geopolitics of outer space on Earth and in space. Environmental Geopolitics of Outer Space on Earth On Earth, the environmental geopolitics of outer space are inseparable from questions of environmental justice. Environmental (in)justice unfolds across multiple scales through concrete processes: localized and stratospheric emissions from space launches (Carlsen, Kenesova, and Batyrbekova 2007; Jones, Bekki, and Pyle 1995), the placement of outer space related infrastructure in national and global peripheries (Gorman 2007; Mitchell 2017; Redfield 2001), and the use of such infrastructure to advance or thwart environmental destruction (Da Costa 2001; Guzmán 2013; Parks 2012). Human engagement with outer space enlists industrial economies, global networks of infrastructure and expertise, and the generation and control of information. All of these activities take place in specific sites and are subject to ongoing transformations in territorial governance practices. By locating infrastructures that are securitized, dangerous, and environmentally toxic in remote areas, the state or empire accomplishes two things. It consolidates power in far-flung territories while mitigating against liabilities and security threats that might arise from placing launch infrastructures closer to the metropole. In order to reduce environmental impacts, adequate resources, personnel, and expertise need to be assigned to the task of monitoring and mitigating the regional fallout of rocket launches (Hall et al. 2014). This may not be the case if the site in question has been deemed sacrificable by those with territorial control. Launches and Their Infrastructures Reaching outer space requires Earthly infrastructure, which means that space launches have concrete footprints that change according to developments in launch technologies. The placement of outer space related infrastructure on Earth is a question of environmental (in)justice. Which sites are chosen, who is expropriated, and which environments are impacted is subject to strategic geopolitical calculations, which, more often than not, employ classical geopolitical reasoning (Hickman and Dolman 2002; Ingold 2006; Meira Filho, Guimarães Fortes, and Barcelos 2014; NDRI 2006). Launch sites are tightly controlled to reduce the risk of interference or failure, therefore situating launch sites in remote areas is often explained in terms of safety and security (Zapata and Murray 2008). No doubt this is important: rockets are composed of many tonnes of material and combustive fuel, so they must be launched in places where damage from routine as well as potentially catastrophic explosions can be contained. For humans to reach “the final frontier,” they must first find a frontier space on Earth that can be made into an empty space in which controlled explosions can be routine. Frontiers are seldom as empty as those aiming to conquer them would claim. Where they are not populated by people, they are filled with other sorts of meanings and life forms (Klinger 2017; Tsing 2005). Potential launch sites and testing ranges deemed by government authorities to be simultaneously remote, safe, and suitable to contain the risks of rocket launch must first be made empty of people, with prior land use regimes or territorial claims pushed beyond designated buffer zones (Gorman 2007; Mitchell 2017). Hence the placement of space infrastructure follows colonial geographies of extraction, sacrifice, and risk (Mitchell 2017; Redfield 2001). As Gorman (2007) put it: “because of their distance from the metropole, these places lend themselves to hosting prisons, detention camps, military installations, nuclear weapons, and nuclear waste. All of these establishments, including rocket ranges, have inspired reactions of protest.” These so-called ‘peripheral’ spaces are nevertheless central to their inhabitants and their neighbors, who question the logic of extraglobal conquest in the face of unresolved Earthly injustices. Consider, for example, the case of the launch site in Alcântara, Brazil, which has been well documented by Araújo and Filho (2006) and Mitchell (2017). Through a close examination of local, national, and international politics, these authors document how the government’s racialized approach to the subsistence communities displaced by space infrastructure deepened structural inequalities. Grassroots opposition to the launch site grew not out of an a priori ideological opposition of poor people to national progress in outer space, as some officials alleged, but rather resulted from the failure to account for the food insecurity generated by state resettlement projects. The resettlement schemes were themselves misinformed by impoverished notions of local livelihoods. Local claims against the deprivations caused by statesponsored space practices have deepened schisms between the military and civilian space programs at the federal government level. Through the lens of classical geopolitics, these structural inequalities scarcely register, with the result that the ‘crawling’ progress of Brazil’s space program is pathologized as poor management practices symptomatic of an inadequately implemented national development vision (Amaral 2010). Critical geopolitics helps deconstruct the nationalist performativity of such endeavors by considering the political and economic value placed on the spectacle of spaceflight (Boczkowska 2017; Macdonald 2008, 2010; Sage 2016). Feminist geopolitics draws our attention to the racialized and gendered dispossession advanced by the state, through the construction of space infrastructure and exercised through access to land. The fact that environmental and public health impacts were only considered by the authorities after years of mobilization by Black social movements, religious communities, and scholars highlights the ways in which inattention to the local in the pursuit of space power perpetuates environmental injustice, which in turn interrupts national plans for space progress. Rocket launches affect local and global environments through the construction of infrastructure, the exposure of local environments to toxic residues, and the dispersal of pollutants in land, air, and sea. Rockets are the only source of direct anthropogenic emissions sources in the stratosphere. Ozone-depleting substances (ODS) such as nitrous oxide, hydrogen chlorine, and aluminum oxide are emitted by rockets, and can destroy 105 ozone molecules before degrading (Voigt et al. 2013). The ozone layer prevents cancer and cataract-causing ultraviolet-b waves from reaching the Earth. As of 2013, rocket launches accounted for less than 1% of ODS emissions. As other ODS are phased out under the Montreal Protocol and the frequency of lower cost space launches increases, the proportion and quantity is likely to increase (Durrieu and Nelson 2013; Ross et al. 2009). Although affluent economies in the northern hemisphere are responsible for most ODS emissions (Polvani 2011; Rousseaux et al. 1999), the geography of exposure disproportionately affects an overall higher population in remote regions and in the southern hemisphere (Norval et al. 2011; Robinson and Erickson 2015; Thompson et al. 2011) because ozone depletion is most serious in regions where high altitude stratospheric clouds are most likely to form: above the polar regions and major mountain ranges (Carslaw et al. 1998; Perlwitz et al. 2008). This is an example of environmental injustice on a global scale, where the global south bears the environmental burden of actions predominately taken in the global north, rocket launches included. In the process, global power relations are reinscribed through the uneven distribution of harm to peripheral and southern bodies, mediated in this case through the redistribution of gases in the stratosphere that increase exposure to solar radiation. Coming closer to Earth, environmental geopolitics of outer space are manifest in the dispersal of particulate matter into ecosystems surrounding active launch sites. This is more than a strictly local environmental concern, because which spaces are subject to the hazards of launch sites involves careful calculations weighing financial cost, state power, and multifarious territorial interests. With each launch, surrounding areas are showered with toxins, heavy metals, and acids over a distance that varies widely with wind, weather, and precipitation patterns at the moment of lift-off.3 The most researched of these pollutants are hydrogen chloride, aluminum oxide, and various aerosolized heavy metals. Release of these pollutants from rocket launches results in localized regional acid rain (Madsen 1981), plant death, fish kills, and failed seed germination of native plants in launch sites (Marion, Black, and Zedler 1989; Schmalzer et al. 1992). These effects, and research on them, are mostly concentrated within one kilometer of the launch site. But they have been recorded several kilometers away under certain weather conditions (Schmalzer et al. 1998). Recent studies on the concentration of trace elements in wildlife in areas near NASA launch activities in Florida, USA, found that more than half of the adults and juvenile alligators had “greater than toxic levels” of trace elements in their liver (Horai et al. 2014). Both the subject, and the vague statement of findings, highlights the lack of research into the impacts on downstream human and non-human communities. In contrast to the precautions taken to protect workers in buildings adjacent to facilities where these technologies are developed (Bolch et al. 1990; Chrostowski, Gan, and Campbell 2010), much less consideration is given to communities within the dynamic pollutant shadow of rocket launches. In Kazakhstan, Russia, and China, researchers have begun examining the effects of the highly toxic liquid propellant, unsymmetrical dimethylhydrazine (UDMH), which has been in use since the dawn of the space age. It has noted carcinogenic, mutagenic, convulsant, teratogenic, and embryotoxic effects (Carlsen, Kenesova, and Batyrbekova 2007), and it has been found to cause DNA damage and chromosomal aberrations in rodents living near the Baikonur cosmodrome in Kazakhstan (Kolumbayeva et al. 2014). Despite these known hazards, methods to detect UDMH at the trace concentrations at which toxic effects begin to manifest in humans do not yet exist (Kenessov, Bakaikina, and Ormanbekovna 2015), meaning that there is no knowledge of how this circulates in the environment, bioaccumulates up the food chain, or could potentially be sequestered through soil or plant filtration. The lack of technology or methodology to adequately track the dispersal of hazardous pollutants that have been used for decades in the surrounding environment illustrates another aspect of environmental injustice: the preference on the part of political and economic elites to create spaces of waste rather than allocate adequate resources to maintain safe and non-toxic environments.4 The hyper-local politics of basic livelihood security shape long-term access to outer space and space geopolitics at multiple scales. Attending to the local matters is important, not just because it sheds light on broader geopolitical processes, but because failing to do so leaves the substantive matters of human engagement with outer space entirely overlooked, at best. At worst, ignoring local environmental conditions recasts them as places to be “left behind,” casualties in a Darwinian race to the cosmos in which the poor have no place. Attending to the environmental geopolitics of outer space on Earth shows the co-production of Earth and space. Earthly environments and social relations are remade in our evolving relationship with outer space and reconceived alongside evolving deliberations on the prospects for human survival.

#### The impact is hypermasculine war-making. Claims of objectivity are patently flawed because they are based in gendered decision-making

Sjoberg 13

(Laura, total bae, associate professor of Political Science @ University of Florida, University of Chicago; Ph.D., University of Southern California School of International Relations; J.D. Boston College Law School, Gendering Global Conflict: Toward a Feminist Theory of War Chapter: “Relations International and War(s),” Gendered Lenses Look at War(s), googlebooks, JKS)

Feminist scholars have also interrogated the unitary nature of the state, pointing out that efforts to maximize the state's security interests often threaten the security of people inside the state. Specifically, as I discussed in the previous section, the state's most marginalized citizens are often made insecure by state security-seeking, making it clear that a state does not have a single interest in interstate interaction but many that conflict. J. Ann Tickner contends that "an explanation of the historical development of state sovereignty and state identities as they have evolved over time does indeed suggest deeply gendered constructions that have not included women on the same terms as men." This is because, according to Tickner:¶ From the time of their foundation, states have sought to control the right to define political identity. Since their legitimacy has constantly been threatened by the undermining power of subnational and transnational loyalties, states' survival and success have depended on the creation and maintenance of legitimating national identities; often these identities have depended on the manipulation of gendered representation. . . . Drawing on metaphors that evoke matrimonial and familial relations, the nation has been portrayed as both male and female. . . . The sense of community implicit in these family metaphors is deeply gendered in ways that not only legitimate foreign policy practices but also reinforce inequalities between men and women.”¶  ¶ Using these gendered metaphors, the state can, while shoring up its "national interest," both threaten the interest of marginalized citizens inside it and reinforce power inequalities among its groups. Catherine MacKinnon has explained that the "state's structures and actions are driven by and institutionalize strategy based on an epistemic angle of vision" that can "distinguish public from private, naturalize dominance as difference, hide coercion beyond consent, and conceal politics beyond morality.” These structures require a certain standard of behavior from some members of the state,” while suppressing the voices of others altogether.”¶ With these tools, the state can appear unitary by suppressing its diversity and presenting one concept of national interest, autonomous of and not necessarily representative of its citizens. In this understanding, the sovereign state can be "an extension of the separation-minded realist man, also autonomous to various degrees from the diverse 'domestic' interests he-it allegedly exists to protect.” Additionally, states are complicit with gender subordination when they fail to intervene in domestic violence, perpetuate a heterosexist bias in education, exercise discrimination in welfare policies, and operate on patriarchal laws.” ¶ In this conception, the unitary state is a misleading and malignant construction. Two implications for the process of state interaction follow; states that interact often promote unrepresentative interests, and those unrepresentative interests exclude gender, racial, and cultural minorities. In this sense, states' elites often make wars (or fail to) "representing" a limited group or groups among their populations, while claiming full representativeness, effectively rendering a significant portion of their supposed "constituency" invisible in the process of interacting with other states. Empirically, this means that there are a number of levels of interstate interaction, many of which are omitted from process-based notions of dyadic war theorizing. Normatively, it suggests that our conceptions of how states interact (and the content of those interactions) are problematically skewed.¶ Rationality in Interaction This skew is particularly evident in the assumption of rationality." The rationality assumption implies that the knower/actor can separate himself/herself from the “other” in interactions with that other. Feminists have argued that knowledge is always perspectival and political; therefore, states and their leaders’ decisions about how to interact with others are not rational, but informed by their situational and political biases. In this view, the rationality assumption may be seen as at once itself a political bias and obscuring other political biases. As Naomi Scheman argues, perceived rational cost-beneﬁt analysis about war-making and war-fighting should “always be seen as especially problematical when... constructed only by those in positions of privilege... [which provide] only distorted views about the world.”78 In this view, rational calculation is not an objective, attainable, and desirable end, but a partial representation of both interest and actors’ representation of those interests. In this way, through gender lenses, rationality has been seen as importantly incomplete, leaving out signiﬁcant (if not the most significant) factors that go into decision-making.79 In addition to understanding the rationality assumption as partial (and therefore unrepresentative), feminist research has pointed out links between rationality and mascuIinism.8° As Karen Jones notes, advocates of rationality as a guide for interstate interactions“ assume: 1. Available... conceptions of rationality and reason represent genuinely human norms and ideals; 2. The list of norms and ideals contained within available conceptions of rationality and reason are sufficiently complete; and 3. The external normative functions assigned to reason and rationality are unproblematic.82 Looking through gender lenses shows problems with each of these assumptions. Feminists have argued that “the identity of the modern subject-in models of human nature, citizenship, the rational actor, the knowing subject, economic man, and political agency-is not gender-neutral but masculine (and typically European and heterosexua|).”83 This impacts not only how we see the rational subject, but how we predict and understand his decisions, at the state level as well as at the individual level. According to Margaret Atherton, the possibility of rationality has “been used in a disturbing fashion to mark a gender distinction. We have, for example, on the one hand, the man of reason, and, on the other, the woman of passion.”84 In rationality assumptions, traits associated with masculinity are normalized and traits associated with femininity are excluded. The impact is compounded because (masculinized) rationality and its (feminized) alternatives are not on equal playing ﬁelds. As a result, Karen Jones notes that “women’s assumed deficiency in rationality” has been used to exclude both women and knowledge associated with femininity from accepted views of the world.85 The alleged gender neutrality of rationality, then, “is often a covert form of privileging maleness”85 and omission of “what has traditionally counted as ‘feminine.’”87 Still, adding women and values associated with femininity to current concepts of rationality is unlikely to create a gender-neutral concept of rationality.88 This is because, epistemologically, the sovereign rational subject constructs artificial gendered boundaries between rationality and emotion, male and female, and knower and known.89 Among states, those boundaries are not benign. Instead, they breed competition and domination that inspire and foster war(s) and conﬂict(s).90 This competition frequently relies on contrasting the state’s own masculinity to the enemy’s (actual or perceived) femininity. This cycle of genderings is not a series of events but a social continuum. In these gendered relationships, as Zillah Eisenstein argues, “gender differentiation will be mobilized for war and peace,” especially moving forward into the age of an American empire focused on manliness.9‘ Feminists have long argued that competitions between hegemonic masculinities and subordinate masculinities play a role in causing war(s).92 Hidden beneath the assumed independence, rationality, and unity of state interaction leading to war are gendered interstate interactions that cause, constitute, and relate to war and wars. Feminist scholars have recognized the extent to which the preeminence of masculine values dominates (particularly conﬂictual) accounts of interstate interactions, wherein “rational” interactions often become “a self-reproducing discourse of fear, suspicion, anticipated violence, and violence” in which “force is used to checkmate force.”93 Interstate interactions leading to wars often show the gendered nature of war narratives, war logics, and war languages, which produce (and reproduce) gendered cycles of violence.

#### The alternative is to reject the aff in favor of an ontological revisionism that deconstructs the myth of the masculine western subject. This is a politics that destabilizes the masculine subject by revealing how its false universality underwrites gender violence globally

Youngs 04

(Gillian, Professor of Digital Economy at the University of Brighton, Feminist International Relations: a contradiction in terms? Or: why women and gender are essential to understanding the world ‘we’ live in\*, International Affairs, 80, pgs 77-80, JKS)

* disrupts things like the assumed ontology of the state as the main actor in conflicts and challenges them to incorporate gender as a factor
* it’s not like an affirmation of a static ontology but a revision/challenging of those static understandings of the world that exist in IR now

This discussion will demonstrate, in the ways outlined above, the depth and range of feminist perspectives on power—a prime concern of International Relations and indeed of the whole study of politics. It will illustrate the varied ways in which scholars using these perspectives study power in relation to gender, a nexus largely disregarded in mainstream approaches. From feminist positions, this lacuna marks out mainstream analyses as trapped in a narrow and superficial ontological and epistemological framework. A major part of the problem is the way in which the mainstream takes the appearance of a pre- dominantly male-constructed reality as a given, and thus as the beginning and end of investigation and knowledge-building. Feminism requires an ontological revisionism: a recognition that it is necessary to go behind the appearance and examine how differentiated and gendered power constructs the social relations that form that reality. ¶ While it may be empirically accurate to observe that historically and contemporaneously men have dominated the realms of international politics and ¶ economics, feminists argue that a full understanding of the nature of those realms must include understanding the intricate patterns of (gendered) inequalities that shape them. Mainstream International Relations, in accepting that because these realms appear to be predominantly man-made, there is no reason to ask how or why that is the case, stop short of taking account of gender. As long as those who adhere to this position continue to accept the sufficiency of the appearances and probe no further, then the ontological and epistemological limitations will continue to be reproduced. ¶ Early work in feminist International Relations in the 1980s had to address this problem directly by peeling back the masculinist surface of world politics to reveal its more complex gendered (and racialized) dynamics. Key scholars such as Cynthia Enloe focused on core International Relations issues of war, militarism and security, highlighting the dependence of these concepts on gender structures—e.g. dominant forms of the masculine (warrior) subject as protector/conqueror/exploiter of the feminine/feminized object/other—and thus the fundamental importance of subjecting them to gender analysis. In a series of works, including the early Bananas, beaches and bases: making feminist sense of international politics (1989), Enloe has addressed different aspects of the most overtly masculine realms of international relations, conflict and defence, to reveal their deeper gendered realities.3 This body of work has launched a powerful critique of the taboo that made women and gender most invisible, in theory and practice, where masculinity had its most extreme, defining (and violent) expression. Enloe’s research has provided one of the most comprehensive bodies of evidence for the ontological revisionism required of mainstream International Relations, especially in relation to its core concerns. ¶ When Enloe claimed that ‘gender makes the world go round’,4 she was in fact turning the abstract logic of malestream International Relations inside out. This abstract logic saw little need to take theoretical and analytical account of gender as a social force because in practical terms only one gender, the male, appeared to define International Relations. Ann Tickner has recently offered the reminder that this situation persists: ‘During the 1990s, women were admitted to most combat positions in the U.S. military, and the U.S. president appointed ¶ the first female secretary of state, but occupations in foreign and military policy- making in most states remain overwhelmingly male, and usually elite male.’5 ¶ Nearly a decade earlier, in her groundbreaking work Gender in International Relations: feminist perspectives on achieving global security,6 she had asked the kinds of questions that were foundational to early feminist International Relations: ‘Why is the subject matter of my discipline so distant from women’s lived experiences? Why have women been conspicuous only by their absence in the worlds of diplomacy and military and foreign policy-making?’ Tickner, like Enloe, has interrogated core issues in mainstream International Relations, such as security and peace, providing feminist bases for gendered understanding of issues that have defined it. Her reflection on what has happened since Gender in International Relations was published indicates the prominence of tensions between theory and practice. ‘We may have provided some answers to my questions as to why IR and foreign policymaking remain male-dominated; but breaking down the unequal gender hierarchies that perpetuate these androcentric biases remains a challenge.’7 ¶ The persistence of the overriding maleness of international relations in practice is part of the reason for the continued resistance and lack of responsiveness to the analytical relevance feminist International Relations claims. In other words, it is to some extent not surprising that feminist International Relations stands largely outside mainstream International Relations, because the concerns of the former, gender and women, continue to appear to be subsidiary to high politics and diplomacy. One has only to recall the limited attention to gender and women in the recent Afghanistan and Iraq crises to illustrate this point.8 So how have feminists tackled this problem? Necessarily, but problematically, by calling for a deeper level of ontological revisionism. I say problematically because, bearing in mind the limited success of the first kind discussed above, it can be anticipated that this deeper kind is likely to be even more challeng- ing for those in the mainstream camp. ¶ The second level of ontological revisionism required relates to critical understanding of why the appearance of international relations as predominantly a sphere of male influence and action continues to seem unproblematic from mainstream perspectives. This entails investigating masculinity itself: the nature of its subject position—including as reflected in the collective realm of politics— and the frameworks and hierarchies that structure its social relations, not only in relation to women but also in relation to men configured as (feminized) ‘others’ ¶ because of racial, colonial and other factors, including sexuality. Marysia Zalewski and Jane Parpart directly captured such an approach as ‘the “man” question in international relations’.9 I would like to suggest that for those sceptical about feminist International Relations, Zalewski’s introductory chapter, ‘From the “woman” question to the “man” question in International Relations’, offers an impressively transparent way in to its substantive terrain.10 Reflecting critically on the editors’ learning process in preparing the volume and working with its contributors, both men and women, Zalewski discusses the various modifications through which the title of the work had moved. These included at different stages the terms ‘women’, ‘masculinity’ and ‘feminism’, finally ending with ‘the “man” question’—signalling once again, I suggest, tensions between theory and practice, the difficulty of escaping the concrete dominance of the male subject position in the realm of international relations. ¶ The project’s starting point revealed a faith in the modernist commitment to the political importance of bringing women into the position of subjecthood. We implicitly accepted that women’s subjecthood could be exposed and revealed in the study and practice of international relations, hoping that this would also reveal the nature of male dominance and power. Posing the ‘man’ question instead reflects our diminishing belief that the exclusion of women can be remedied by converting them into subjects.11 ¶ Adding women appeared to have failed to ‘destabilize’ the field; so perhaps critically addressing its prime subject ‘man’ head-on could help to do so. ‘This leads us to ask questions about the roles of masculinity in the conduct of international relations and to question the accepted naturalness of the abundance of men in the theory and practice of international relations’ (emphasis added).12 ¶ The deeper level of ontological revisionism called for by feminist Inter- national Relations in this regard is as follows. Not only does it press beyond the appearance of international relations as a predominantly masculine terrain by including women in its analysis, it goes further to question the predominant masculinity itself and the accepted naturalness of its power and influence in collective (most significantly state) and individual forms.

#### The K comes first - policies are constituted by and produce subjects, not blanket assessments of outcomes and impacts. The ROB is to interrogate the gendered nature of the 1AC as a research project.

Bacchi 16

(Carol, University of Adelaide, Adelaide, South Australia, Australia, (2016): Policies as Gendering Practices: Re-Viewing Categorical Distinctions, Journal of Women, Politics & Policy, DOI: 10.1080/1554477X.2016.1198207, JKS)

One important constitutive effect is how we are produced as subjects through the problematizations implicit in such texts, a process described as “subjectification” (Bacchi 2009, 16–17). For example, Foucault (1980) argues that specific problematizations of sexuality (e.g., sexuality as moral code, sexuality as biological imperative) create “subject positions” that enjoin people to become particular kinds of sexual subjects (see Howarth and Griggs 2012, 308). Marston and McDonald (2006) describe how individual subjects are produced in specific policy practices “as worker-citizens in workfare programs, as parent-citizens in child and family services or consumer-citizens in a managerial and marketized mixed economy of welfare” (3). Given the proliferation of practices, the formation of one’s subjectivity is an ongoing and always incomplete process: “the doer/subject/person is never fixed, finally as a girl or a woman or whatever, but always becoming or being” (Jones 1997, 267). Subjectification effects therefore are neither deter- mined nor predictable. People sometimes take up subject positions in ways that challenge hierarchical relations. For example, the discourse of rights creates as one possible positioning that of the human rights advocate. Moreover, as practices “through which things take on meaning and value” (Shapiro 1988, xi), policies have material (lived) effects, shaping the possibilities for people’s and peoples’ lives (Bacchi 2009, 16–18). Policies achieve these constitutive effects through discursive practices, which comprise the “conditions of emergence, insertion and functioning” of discourses (Foucault 1972b, 163), and hence bridge a material-symbolic distinction (Bacchi and Bonham 2014). A particular conception of power underpins an understanding of policies as constitutive practices. Power is conceptualized as productive rather than as simply repressive. Power is not considered to be something people possess (e.g., “he or she has power”) but as a capacity exercised in the production of subjects and objects (Heller 1996, 83). This productive or generative view of power does not conclude that power and resistance are necessarily equal in their effects, however. Such a conclusion would deny the hierarchies by which the organization of discourse takes effect (see Howarth and Griggs 2012, 310). This understanding of policy as constitutive of subjects and objects sits in sharp contrast to conventional views of the policy process, which, in the main, can be characterized as reactive. That is, in general, policy is considered to be a response to some condition that needs to be ameliorated or “fixed.” Policies are conceived as “reactions” to “problems.” By contrast, the understanding of policy offered in this article portrays policies as constitutive or productive of (what are taken to be) “problems,” “subjects,” and “objects” (Allan 2010, 14). It follows that it is no longer adequate to think in terms of conventional policy “outcomes,” understood as the results or “impacts” of government actions. New questions are required, such as the following: What does the particular policy, or policy proposal, deem to be an appropriate target for intervention? What is left out? How does the shape of the proposal affect how people feel about themselves and the issue? And how does it produce them as particular kinds of subjects?

## Case

#### Only a theory of IR that accounts for space can accurately diagnose threats – vote neg on presumption since they lack a coherent analysis of the world

Lambach 21 [Daniel Lambach (PhD in PoliSci @ Universität zu Köln, professor), 07-09-2021, “Space, scale, and global politics: Towards a critical approach to space in international relations,” Review of International Studies, https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4]

The discussion above presents ways of fulfilling the four criteria of a spatial approach to IR. This section sketches a way of translating this discussion into a set of spatial practices, which avoids structuralism and determinism by focusing on people and their agency. As Margit Mayer puts it in her commentary on the TPSN framework: ‘it is never the spatial form that acts, but rather social actors who, embedded in particular (multidimensional) spatial forms and making use of particular (multidimensional) spatial forms, act’.[Footnote107](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn107) Echoing feminist notions of embodiment and performativity, it is the practical enactment of ‘minute rituals’[Footnote108](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn108) that makes spaces coalesce. I use the definition of ‘practice’ by Emmanuel Adler and Vincent Pouliot: ‘practices are socially meaningful patterns of action, which, in being performed more or less competently, simultaneously embody, act out, and possibly reify background knowledge and discourse in and on the material world’.[Footnote109](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn109) Adler and Pouliot identify five elements of practice: (1) practices are performative; (2) practices follow regular patterns without determining behaviour; (3) practices are interpreted and understood in terms of social relations; (4) practices depend on background knowledge that gives them a particular purpose; and (5) practices link discourses with the material world because the discourses give meaning to the act.[Footnote110](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn110) Practices are performed by agents – a weighty term with multiple layers and interpretations. Human beings are agents but, in some theoretical traditions, non-human objects, and assemblages can also have agency.[Footnote111](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn111) Geography has been engaging with ‘more-than-human’ agency, expanding the concept to animals, bacteria, and other forms of life, while Science and Technology Studies deliberate the agency of objects and algorithms.[Footnote112](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn112) These approaches have also informed debates in IR on what it means to be an agent.[Footnote113](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn113) Of course, agency – in whichever of these interpretations – is also constituted by structures, including spatial structures.[Footnote114](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn114) The effect of space is not just to enable or constrain action but also to affect agency itself, that is, shaping who is empowered to act in which ways in a particular setting. For example, the construction of the imperial colony as a political space made it possible, even necessary, for indigenous political agents to identify as anti-colonial activists or resistance fighters. Through their actions, they were able to push for independence and change spatial relations between metropoles and colonies. Following Andrea M. Brighenti, a practice approach asks how agents constitute spaces through practices and how these spaces impact future practices.[Footnote115](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn115) A spatial practice can be understood as any practice whose performance is aimed at deconstructing or enacting and thereby (re)creating spaces. Jeff Malpas argues that ‘extendedness’ – a size and also an openness – is the essential characteristic of space, which also implies boundedness, that is, a difference between inside and outside.[Footnote116](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn116) This ties into other discussions through which practices spaces are constituted.[Footnote117](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn117) These discussions can be translated into a taxonomy of practices that are jointly necessary to enact a space: 1.Reification: Referring to a space as a distinctive object in discourse, giving it a name and showing it accordingly on maps and in other representations. 2.Inscription of meaning: A space does not just have an extent and a name, agents also imbue it with meaning (for example, a purpose, a history). 3.Communication of boundedness between inside and outside: Agents must be able to distinguish Space A from not-A in their everyday actions. 4.Relation to other spaces: Spaces are not singular but are practiced in relation to other spaces of the same kind (and other kinds). These relations include physical (for example, distance) and social relationships (for example, comparison). This conceptualisation of the spatial ‘inherently implies the existence in the lived world of a simultaneous multiplicity of spaces: cross-cutting, intersecting, aligning with one another, or existing in relations of paradox and antagonism’.[Footnote118](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn118) It also accords agents a substantial role in how these processes play out in concrete instances. However, spatial arrangements arising from these practices are only momentary outcomes of social interaction. They may be the aim of deliberate strategy although, given the complexity of such an endeavour, the outcomes of such moves are uncertain. By choosing a specific sociospatial ontology, these practices can be specified further. Drawing on Jessop, Brenner, and Jones and other relevant literature, [Table 1](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#tab01) shows sample ways how the taxonomy of practices can be adapted for six different ontologies – territory, place, scale, network, body, and landscape.[Footnote119](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn119) A spatial inquiry can either adopt a single ontology or, following Jessop, Brenner, and Jones, explore their object through the intersection of different ontologies.[Footnote120](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn120) Jones and Jessop introduce the notion of ‘(in)compossibility’, that is, the (im)possibility of certain configurations of spatiality within a certain setting.[Footnote121](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn121) Arctic Security research To offer a brief illustration of the above conceptual framework and show how a spatial approach can be useful for IR, this section discusses the evolution of Arctic Security research. I chose Arctic Security research because of its relatively recent inception and fast evolution into a cross-disciplinary enterprise centred on a spatial approach.[Footnote122](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn122) Understandings of security inevitably have spatial dimensions, from scalarity (whose security?) to their relational character (from whom must security be protected?), leading to the emergence of what might be called ‘securityscapes’. The Arctic is also interesting in that its sparse population – only four million people permanently live inside the Arctic Circle, that is, north of the 66°33′ line – and the extreme environmental conditions mean that conventional security practices must be adapted. Governance is by necessity more distant and detached, mediated by technologies of surveillance and control. The spatial approach to the Arctic The Arctic used to be a region at the margins of global politics, an ‘empty stage’ on the periphery of the Cold War.[Footnote123](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn123) But after the end of the Cold War and with the thawing of the polar ice sheet, research on the region has increased significantly. Standard IR accounts analyse the region in terms of the international politics of conflict and cooperation, whether it be from a Realist, an Internationalist, or a Constructivist perspective.[Footnote124](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn124) These works have made useful points but they use a state-centric, territorial framework that is inattentive to ‘the diversity of material and political spaces that define the Arctic’ and that exogenises climate change and environmental factors.[Footnote125](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn125) Without wanting to argue for some kind of Arctic exceptionalism, the Arctic is an unusual space where the material properties of the environment need to be foregrounded. Hence, a spatial perspective tells the story of the Arctic differently, exploring ‘the continual “spatialisation” of the Arctic, the ongoing making of a region through a diverse set of practices’.[Footnote126](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn126) First, ‘the Arctic’ is treated as a spatial ontological concept.[Footnote127](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn127) Second, scholars acknowledge the constructedness of the Arctic, both in terms of geographic area and meaning.[Footnote128](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn128) Where the Arctic used to be a ‘frozen wasteland over which intercontinental missiles might fly’,[Footnote129](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn129) it has now ‘become a showcase of how quickly wholesale discursive constructions of a region can change’.[Footnote130](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn130) Third, much of Arctic security research takes a multi-scalar or cross-scalar perspective, which is detailed below. Fourth, several works explicitly discuss how ideas and the materiality of the Arctic jointly influence practices of space making. Corine Wood-Donelly has explored how Arctic states ‘perform’ effective occupation through the visual and symbolic representation of ‘Arctic-ness’, for example on postage stamps.[Footnote131](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn131) Other authors discuss how economic and political infrastructure (for example, ports, radio stations), or the lack thereof, shape regional politics.[Footnote132](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn132) Spatialities of the Arctic We can approach the multiple spatialities of the Arctic through the various spatial ontologies discussed in the previous section. This is not merely an analytical move – all of these ontologies inform various actors’ spatial practices. This is very evident for territory that forms the bedrock for most state approaches to the Arctic. A territorial ontology informs the creation of sovereign spaces on land and in coastal waters, maritime spaces like Exclusive Economic Zones and Search and Rescue Zones,[Footnote133](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn133) as well as extended continental shelf claims, some of which are strongly contested.[Footnote134](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn134) Arctic states, as ‘settler colonies’, can also be conceptualised in terms of (post)colonial relations.[Footnote135](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn135) Furthermore, a territorial ontology informs the politics of substate autonomy and self-government for indigenous communities, for whom land also has a cultural importance, thus creating a conceptual overlap with notions of place.[Footnote136](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn136) But territorialisation also introduces tensions – for instance, Inuit spatial constructs of Canada and Northern Greenland more closely resemble a network ontology than a territorial one.[Footnote137](https://www.cambridge.org/core/journals/review-of-international-studies/article/space-scale-and-global-politics-towards-a-critical-approach-to-space-in-international-relations/CDECA431906B61EA302E800BA5D14BA4#fn137)

#### Abstract debates about methods and research are valuable specifically in the context of gendered IR, even if they don’t immediately prescribe something material

Sjoberg 11 (Laura Sjoberg is Assistant Professor of Political Science at the University of Florida, Looking Forward, Conceptualizing Feminist Security Studies, Politics and Gender, 2011, doi:10.1017/S1743923X11000420, JKS)

Along these lines, I have come to see the substance of Feminist Security Studies as a dialectical-hermeneutic argument, an approach that has implications for its process and its product. In this understanding, the purpose of doing research in Feminist Security Studies is to raise problems, not to solve them; to draw attention to a field of inquiry, rather than survey it fully; to provoke discussion, rather than serve as a systematic treatise. The conflicts and contestations both among feminists in Feminist Security Studies and between feminists and security that have come up in this conversation are not an outline of problems that need to be solved or divides that need to be crossed, healed, or closed. Instead, those debates, along with how they are handled and addressed, constitute Feminist Security Studies. Feminist Security Studies, then, neither needs to solve nor ignore either the fundamental differences among feminists or the dissonance between Feminist Security Studies and security studies as a discipline. Instead, Feminist Security Studies is defined not only by its fundamental contestabilities but also by its actual contestations. Feminist Security Studies is not the sum of the different approaches or the winner of the debate between them, but the narrative generated from their arguments, disagreements, and compromises.

### 1 - Mining

#### Doesn’t say cuases most debris – other forms of mining thump

#### Asteroid mining fails

Fickling 20 [(David, Bloomberg opinion columnist, previously at Guardian and Financial Times, MA in Eng Lit from Cambridge) “We’re Never Going to Mine the Asteroid Belt,” Bloomberg Opinion, December 21, 2020, <https://www.bloomberg.com/opinion/articles/2020-12-21/space-mining-on-asteroids-is-never-going-to-happen>] TDI

It’s wonderful that people are shooting for the stars — but those who declined to fund the expansive plans of the nascent space mining industry were right about the fundamentals. Space mining won’t get off the ground in any foreseeable future — and you only have to look at the history of civilization to see why.

One factor rules out most space mining at the outset: gravity. On one hand, it guarantees that most of the solar system’s best mineral resources are to be found under our feet. Earth is the largest rocky planet orbiting the sun. As a result, the cornucopia of minerals the globe attracted as it coalesced is as rich as will be found this side of Alpha Centauri.

Gravity poses a more technical problem, too. Escaping Earth’s gravitational field makes transporting the volumes of material needed in a mining operation hugely expensive. On Falcon Heavy, the large rocket being developed by Elon Musk’s SpaceX, transporting a payload to the orbit of Mars comes to as little as [$5,357 per kilogram](https://www.spacex.com/media/Capabilities&Services.pdf) — a drastic reduction in normal launch costs. Still, at those prices just lofting a single half-ton drilling rig to the asteroid belt would use up the annual exploration budget of a small mining company.

Power is another issue. The international space station, with 35,000 square feet of solar arrays, generates up to 120 kilowatts of electricity. That drill would need a [similar-sized power plant](https://www.rocktechnology.sandvik/en/products/exploration-drill-rigs-and-tools/compact-core-drill-rigs/) — and most mining companies operate multiple rigs at a time. Power demands rise drastically once you move from exploration drilling to mining and processing. Bringing material back to Earth would raise the costs even more. Japan’s Hayabusa2 satellite spent six years and 16.4 billion yen ($157 million) recovering a single gram of material from the asteroid Ryugu and returning it to Earth earlier this month.

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

Fange 17 [Daniel Von Fange, Web Application Engineer, Founder and Owner of LeanCoder, Full Stack, Polyglot Web Developer, “Kessler Syndrome is Over Hyped”, 05/21/17, *Braino*, 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. How bad could Kessler Syndrome in High LEO be? Let’s imagine a worst case scenario. An evil alien intelligence chops up everything in High LEO, turning it into 1cm cubes of death orbiting at 1000km, spread as evenly across the surface of this sphere as orbital mechanics would allow. Is humanity cut off from space? I’m guessing the world has launched about 10,000 tons of satellites total. For guessing purposes, I’ll assume 2,500 tons of satellites and junk currently in High LEO. If satellites are made of aluminum, with a density of 2.70 g/cm3, then that’s 839,985,870 1cm cubes. A sphere for an orbit of 1,000km has a surface area of 682,752,000 square KM. So there would be one cube of junk per .81 square KM. If a rocket traveled through that, its odds of hitting that cube are tiny - less than 1 in 10,000. So even in the worst case, we don’t lose access to space. Now though you can travel through the debris, you couldn’t keep a satellite alive for long in this orbit of death. Kessler Syndrome at its worst just prevents us from putting satellites in certain orbits. In real life, there’s a lot of factors that make Kessler syndrome even less of a problem than our worst case though experiment. Debris would be spread over a volume of space, not a single orbital surface, making collisions orders of magnitudes less likely. Most impact debris will have a slower orbital velocity than either of its original pieces - this makes it deorbit much sooner. Any collision will create large and small objects. Small objects are much more affected by atmospheric drag and deorbit faster, even in a few months from high LEO. Larger objects can be tracked by earth based radar and avoided. The planned big new constellations are not in High LEO, but in Low LEO for faster communications with the earth. They aren’t an issue for Kessler. Most importantly, all new satellite launches since the 1990’s are required to include a plan to get rid of the satellite at the end of its useful life (usually by deorbiting) So the realistic worst case is that insurance premiums on satellites go up a bit. Given the current trend toward much smaller, cheaper micro satellites, this wouldn’t even have a huge effect. I’m removing Kessler Syndrome from my list of things to worry about.

#### **Asteroid mining is *science fiction* – gravity and lack of access to power and water make it impossible**

Fickling 20 [(David, Opinion columnist covering commodities, as well as industrial and consumer companies) “Space Mining on Asteroids Is Never Going to Happen” Bloomberg, 1/13/2021]  
It’s wonderful that people are shooting for the stars — but those who declined to fund the expansive plans of the nascent space mining industry were right about the fundamentals. Space mining won’t get off the ground in any foreseeable future — and you only have to look at the history of civilization to see why.

One factor rules out most space mining at the outset: gravity. On one hand, it guarantees that most of the solar system’s best mineral resources are to be found under our feet. Earth is the largest rocky planet orbiting the sun. As a result, the cornucopia of minerals the globe attracted as it coalesced is as rich as will be found this side of Alpha Centauri.

Gravity poses a more technical problem, too. Escaping Earth’s gravitational field makes transporting the volumes of material needed in a mining operation hugely expensive. On Falcon Heavy, the large rocket being developed by Elon Musk’s SpaceX, transporting a payload to the orbit of Mars comes to as little as $5,357 per kilogram — a drastic reduction in normal launch costs. Still, at those prices just lofting a single half-ton drilling rig to the asteroid belt would use up the annual exploration budget of a small mining company.

Power is another issue. The international space station, with 35,000 square feet of solar arrays, generates up to 120 kilowatts of electricity. That drill would need a similar-sized power plant — and most mining companies operate multiple rigs at a time.

Power demands rise drastically once you move from exploration drilling to mining and processing. Bringing material back to Earth would raise the costs even more. Japan’s Hayabusa2 satellite spent six years and 16.4 billion yen ($157 million) recovering a single gram of material from the asteroid Ryugu and returning it to Earth earlier this month.

What might you want to mine from space? Water is an essential component of most earth-bound mining operations and a potential raw material for hydrogen-oxygen fuel that could be used in space. The discovery in October of ice molecules in craters on the Moon was taken as a major breakthrough. Still, the concentrations of 100 to 412 parts per million are extraordinarily low by terrestrial standards. Copper, which typically costs about $4,500 per metric ton to refine, has an average ore grade of about 6,000 ppm.

The more promising commodities are platinum, palladium, gold and a handful of rare related metals. Because of their affinity for iron, these so-called siderophile elements mostly sunk toward the metallic core of our planet early in its formation, and are relatively scarce in the Earth’s crust. Estimates of their abundance on some asteroids, such as the enigmatic Psyche 16 beyond the orbit of Mars, suggest concentrations several times higher than can be found in terrestrial mines.

Still, human ingenuity is all about cutting our coat according to our cloth. If such platinum-group metals are going to justify the literally astronomical costs of space mining, they’ll need to count on sustained high prices for the decade or so that would be needed to get such an operation up and running — and that sort of situation is all but unheard-of in the materials industry.

When prices of an essential commodity get excessively high, chemists get extraordinarily good at finding ways to avoid using it, scrap merchants improve their recycling rates, and miners discover new deposits that wouldn’t have been viable at lower prices. Even criminals get in on the game. That eventually pushes supply up and demand down, so that prices rebalance — a dynamic we’ve seen play out in the markets for rare earths, lithium and cobalt in recent years. The world mines about three times more platinum than it did in the early 1970s, but prices have barely changed once adjusted for inflation.

#### Space resources aren’t used terrestrially

Whittington 17 [(Mark, writes frequently on space, politics, and popular culture. He has been published in the Wall Street Journal, Forbes, USA Today, and the Hill. He is the author of, most recently, Why is it So Hard to Go Back to the Moon? and The Man from Mars: The Asteroid Mining Caper. as well as Dark Crusade: A Vampire Gabriella Adventure) “Why mining asteroids and the moon will not destroy the world's economy,” Blasting News, 1/17/17, <https://us.blastingnews.com/opinion/2017/01/why-mining-asteroids-and-the-moon-will-not-destroy-the-world-s-economy-001401771.html>] TDI

The idea that asteroid mining is going to destroy the world economy exhibits a misunderstanding about how the new industry will work. The market for most Space materials**,** whether from the asteroids or the moon, will not be on Earth, for the most part, but in space. Water from the moon would be used to make rocket fuel and to support a lunar colony. Metals from worlds like 16 Psyche would be used to build things in space, not brought back to Earth as a building material. That arrangement would eliminate the need to ship everything from Earth.

**No ‘space war’ – Insurmountable barriers and everyone has an interest in keeping space peaceful**

**Dobos 19** [(Bohumil Doboš, scholar at the Institute of Political Studies, Faculty of Social Sciences, Charles University in Prague, Czech Republic, and a coordinator of the Geopolitical Studies Research Centre) “Geopolitics of the Outer Space, Chapter 3: Outer Space as a Military-Diplomatic Field,” Pgs. 48-49] TDI

Despite the theorized potential for the achievement of the terrestrial dominance throughout the utilization of the ultimate high ground and the ease of destruction of space-based assets by the potential space weaponry, the utilization of space weapons is with current technology and no effective means to protect them far from fulfilling this potential (Steinberg 2012, p. 255). In current global international political and technological setting, the utility of space weapons is very limited, even if we accept that the ultimate high ground presents the potential to get a decisive tangible military advantage (which is unclear). This stands among the reasons for the lack of their utilization so far. Last but not the least, it must be pointed out that the states also develop passive defense systems designed to protect the satellites on orbit or critical capabilities they provide. These further decrease the utility of space weapons. These systems include larger maneuvering capacities, launching of decoys, preparation of spare satellites that are ready for launch in case of ASAT attack on its twin on orbit, or attempts to decrease the visibility of satellites using paint or materials less visible from radars (Moltz 2014, p. 31). Finally, we must look at the main obstacles of connection of the outer space and warfare. The first set of barriers is comprised of physical obstructions. As has been presented in the previous chapter, the outer space is very challenging domain to operate in. Environmental factors still present the largest threat to any space military capabilities if compared to any man-made threats (Rendleman 2013, p. 79). A following issue that hinders military operations in the outer space is the predictability of orbital movement. If the reconnaissance satellite's orbit is known, the terrestrial actor might attempt to hide some critical capabilities-an option that is countered by new surveillance techniques (spectrometers, etc.) (Norris 2010, p. 196)-but the hide-and-seek game is on. This same principle is, however, in place for any other space asset-any nation with basic tracking capabilities may quickly detect whether the military asset or weapon is located above its territory or on the other side of the planet and thus mitigate the possible strategic impact of space weapons not aiming at mass destruction. Another possibility is to attempt to destroy the weapon in orbit. Given the level of development for the ASAT technology, it seems that they will prevail over any possible weapon system for the time to come. Next issue, directly connected to the first one, is the utilization of weak physical protection of space objects that need to be as light as possible to reach the orbit and to be able to withstand harsh conditions of the domain. This means that their protection against ASAT weapons is very limited, and, whereas some avoidance techniques are being discussed, they are of limited use in case of ASAT attack. We can thus add to the issue of predictability also the issue of easy destructibility of space weapons and other military hardware (Dolman 2005, p. 40; Anantatmula 2013, p. 137; Steinberg 2012, p. 255). Even if the high ground was effectively achieved and other nations could not attack the space assets directly, there is still a need for communication with those assets from Earth. There are also ground facilities that support and control such weapons located on the surface. Electromagnetic communication with satellites might be jammed or hacked and the ground facilities infiltrated or destroyed thus rendering the possible space weapons useless (Klein 2006, p. 105; Rendleman 2013, p. 81). This issue might be overcome by the establishment of a base controlling these assets outside the Earth-on Moon or lunar orbit, at lunar L-points, etc.-but this perspective remains, for now, unrealistic. Furthermore, no contemporary actor will risk full space weaponization in the face of possible competition and the possibility of rendering the outer space useless. No actor is dominant enough to prevent others to challenge any possible attempts to dominate the domain by military means. To quote 2016 Stratfor analysis, "(a) war in space would be devastating to all, and preventing it, rather than finding ways to fight it, will likely remain the goal" (Larnrani 20 16). This stands true unless some space actor finds a utility in disrupting the arena for others.

#### Deterrence in space solves even if we’re more vulnerable ---

#### Countries know we value our space assets and are willing to practice brinkmanship or escalate horizontally

Harrison, 9 – Director, Eisenhower Center for Space and Defense Studies Ambassador Roger G. Harrison, “Space Deterrence: The Delicate Balance of Risk,” Space and Defense, Volume 3, No. 1. Summer 2009. <http://www.usafa.edu/app/uploads/Space_and_Defense_3_1.pdf>

There are, however, potential mitigating factors. First, an adversary could not be certain that retaliation would be limited to space. Although the threat of escalation is often portrayed as inhibiting rather than empowering U.S. decision makers, that threat would also have to be taken seriously by an adversary. U.S. declaratory policy has always emphasized that retaliation for attacks on vital assets will be of a magnitude and by means of our choosing.38 No rational adversary could rule out a disproportionate response or so called “horizontal escalation” (for example in the cyber domain), especially if his conclusion was the same as ours: that limiting ourselves to space-f

or-space retaliation would leave the U.S. at a disadvantage. He would also have to take into account the possibility of a less than rational response to his action, perhaps leading to an even more rapid escalation.

#### MAD checks space escalation – nuclear response and debris

Bowen 18 [Bleddyn Bowen, Lecturer in International Relations at the University of Leicester. The Art of Space Deterrence. February 20, 2018. https://www.europeanleadershipnetwork.org/commentary/the-art-of-space-deterrence/]

Fourth, the ubiquity of space infrastructure and the fragility of the space environment may create a degree of existential deterrence. As space is so useful to modern economies and military forces, a large-scale disruption of space infrastructure may be so intuitively escalatory to decision-makers that there may be a natural caution against a wholesale assault on a state’s entire space capabilities because the consequences of doing so approach the mentalities of total war, or nuclear responses if a society begins tearing itself apart because of the collapse of optimised energy grids and just-in-time supply chains. In addition, the problem of space debris and the political-legal hurdles to conducting debris clean-up operations mean that even a handful of explosive events in space can render a region of Earth orbit unusable for everyone. This could caution a country like China from excessive kinetic intercept missions because its own military and economy is increasingly reliant on outer space, but perhaps not a country like North Korea which does not rely on space. The usefulness, sensitivity, and fragility of space may have some existential deterrent effect. China’s catastrophic anti-satellite weapons test in 2007 is a valuable lesson for all on the potentially devastating effect of kinetic warfare in orbit.

#### **No space terrorism**

Mehmood and Ahmed 21 [(Ashna Mehmood is a student of International Relations at National Defence University, Islamabad) (Shiza Ahmed is a student of International Relations at National Defence University, Islamabad.) “Terrorism in Space: A Possibility” A Journal of Strategic Studies, Summer 2021. http://journal.ciss.org.pk/index.php/ciss-insight/article/view/204] BC

The possibility of terrorism in space is an emerging concept, yet it has attracted attention of s ome experts and scholars like J.R Cain who described space terrorism as: - “An act of violence by one or more individuals or groups to prevent the development of a space settlement(s) and/or their aims including those of a spaceship or space station during Man‘s exploration of space”. 3 Howeve r, this definition is extremely vague and does not include the destruction that can occur on Earth and may have nothing to do with the settlement but still be related to the space sector, such as ground space stations, r ocket launch sites, and cyber - attacks on space system on ground etc. Also, this definition can be misleading as it regards all acts of violence or terror as terrorism regardless of the motivation. By following that analogy, every attack against the develop ment of space settlement, such as theft, can be considered as terrorism. Another definition of Space terrorism is proposed by Paweł Bernat and Elżbieta Posłuszna, “A purposeful and well - thought - out act of destruction against human and/or material resources of space industry undertaken by individuals or groups out of ideological motivation, where space industry is understood as an economic sector dedicated to producing components that go into Earth's orbit or beyond, delivering them to those regions, and rel ated services”. 4 This definition too is narrow as it states the space industry only in the economic domain whereas space is beyond that. It encompasses cultural, social, national security and cyber aspects as well. To narrow it to economically motivated terrorism excludes terrorist activities targeting other domain s . Hence, we have proposed the definition of Space terrorism that covers all aspects. “Space terrorism is an act of violence or terror that targets space industry whether in space (such as spa ce station, satellites, etc.) Or on Earth (ground stations, rocket launcher sites, etc.) and particular individuals (astronauts) that will endanger human and material resources in space and Earth alike. These acts can be motivated by ideological factors th at aim to target countries, and region as a whole since the world is increasingly becoming dependent on space technology”.

#### No Motive

McIntosh, PhD, and Storey, PhD, 18 – Christopher McIntosh [PhD Political Science from University of Chicago (Go Maroons!), Assistant Professor of Political Studies @ Bard] and Ian Storey [PhD Political Science from University of Chicago (Go Maroons!), Associate Fellow @ the Hannah Arendt Center for Politics and Humanities, Bard College], “Between Acquisition and Use: Assessing the Likelihood of Nuclear Terrorism,” International Studies Quarterly, Vol 62, 2018, <https://academic.oup.com/isq/article-abstract/62/2/289/4976557> C.VC

Our approach offers a point of departure for strategically assessing the options, likely responses, and potential outcomes that could arise from the different paths available to a nuclear-armed non-state group. Too often analysts treat the decision by such groups to use nuclear weapons as if it occurs in a vacuum. In practice, terrorist groups face many short-term and long-term considerations. They are influenced by factors both external and internal to their organization. These include the potential for backlash among supporters, internal factionalization over nuclear strategy and doctrine, and an overwhelming response by the target state and the international community.

Moreover, we suggest a way to bring the recursivity of strategic choice into the account of terrorist organizational decision-making. These organizations must consider the long-term effects of a nuclear attack. An attack occurs in the context of an ongoing campaign by a well-established organization. Opportunity costs exist because escalating to nuclear attack forecloses future options. As well, conducting an attack may not only preclude other strategies, but the continued existence of the group itself. This changes the game significantly. In most cases, a nuclear attack must present not just an effective option for the moment, but the only strategic option worth pursuing going forward.

Once we take these considerations into account, the detonation of a nuclear weapon generally appears the least strategically advantageous option for non-state groups. Indeed, the factors presented here are analytically independent, adaptable, and scalable to particular threat contexts. We can therefore use our framework to study the opportunities and constraints faced by specific future groups. It should therefore assist in the process of planning responses to potential nuclear acquisition by terrorist groups.

Successive governments have now identified nuclear terrorism as a critical concern in the formulation of security policy. This line of thinking systematically underspecifies, or simply misunderstands, key considerations that terrorist organizations take into account. These include the group’s organizational survival, opportunity costs, and the conflation of victory with the end of hostilities. Each factor presents strong disincentives to immediate nuclear attack.

A nuclear-armed terrorist group is exceedingly dangerous, but for different reasons than normally assumed. The options available to the group that fall short of detonation or attack remain considerable, albeit less spectacular and immediate.

Just as scholars like Bunn et al. (2015) are careful to do, political actors and analysts should resist uncritically deploying the term “nuclear terrorism” in an umbrella fashion. This point goes beyond even the attempts at disaggregating “use” presented here. The threat of an attack involving an improvised nuclear device is vastly different than that of a “dirty bomb,” and both have little in common with the threat posed by an attack on a nuclear facility. Each deserves separate consideration when formulating policy, even if measures taken to address these concerns, such as controlling nuclear leakage, ultimately overlap. If any of the acquisition or threat scenarios we explore come to fruition, then potential target states will need strategies that potentially employ positive, as well as negative, incentives to lessen the attractiveness of nuclear attack. As we argue, a crisis involving a nuclear-armed terrorist group will be a negotiation— regardless of what the target state chooses to label it. Far from demonstrating weakness, employing threats while dangling the possibility of political concessions can widen internal divisions, heightening the overall organizational costs of escalating violence (Toros 2008; Cronin 2009).

Finally, efforts designed to improve intelligence capabilities both prior to and post-attack remain vital. Signature analysis as a forensic measure has shown promise as a way of identifying the origin of nuclear material—in some cases it can identify whether or not it was provided by a state (Kristo and Tumey 2013). These efforts would be improved with a more widespread international commitment via the IAEA to placing signature markers in weapons and weaponizable material (Korbatov et al. 2015, 70; Findlay 2014, 6).

Ultimately, when it comes to the threat of a nuclear attack by a terrorist, presumption should lie squarely on the side of skepticism rather than inevitability. While some terrorist organizations have some incentives for nuclear acquisition, paradoxically and thankfully, the most strategic uses of a nuclear weapon fall well short of actual nuclear attack. From a scholarly perspective, as well as a political one, we need to start to think through how states would act in a world with nuclear-armed non-state actors. In doing so, we should avoid assumptions that fit neither with known nuclear strategy nor the empirical behavior of non-state organizations. Like most clichés, the post–Cold War trope that the threat of attack is higher now than it was during the US-USSR arms race (Litwak 2016) obscures much more than it reveals.