## 1AC – Plan

#### Plan – The appropriation of GSO by private entities is unjust

#### Normal means is ratification of the Bogota Declaration

#### Bogota Declaration allocates GSO to countries via territory – that allows rent charges and leverage for the G77 to negotiate a new international economic order

Stuart 14 [(Jill, PhD @ LSE), “Exploring the Relationship Between Outer Space and World Politics: English School and Regime Theory Perspectives,” a thesis submitted to the Department of International Relations of the London School of Economics and Political Science for the degree of Doctor of Philosophy in International Relations, ProQuest LLC] TDI Recut Ethan Yang

Yet the broader context must be considered by asking why it was that LDCs perceived their access to GSO to be threatened in the first place—that is, what were the conditions (as actors representing LDCs understood them) in which actors were calculating their interests, and in which they came to understand GSO to be a scarce resource? From a strictly geophysical perspective it is logical to conceive of GSO as finite. It can be calculated that, were it laid out flat, GSO would be 17,000 miles long (Macauley 1998, 742), and satellites naturally “inhabit” a part of that orbit, including room to drift slightly back and forth.66 The number of satellites that the orbit can carry is also, in theory, limited because of signal interference. However the usability of the radio spectrum is also affected by technical developments that potentially expand the intensive and extensive margins of the spectrum (Levin 1971, 15), and developments in satellite technology change the amount of safe distance needed between objects in orbit. Thus the amount of space needed between satellites to avoid signal interference also changes with technological developments and based on complicated engineering calculations (Vogler 2000, 112; Levin 1971, 15).67 Therefore the actual carrying capacity and scarcity of the GSO resource is subject to technological developments, and the significance of those developments is subject to interpretation. In 1972 there were five GEOSATs in orbit, and in 1977 there were twenty (Peterson 2006, 177)— however the significance attributed to those numbers is controversial and ultimately related to individual actors’ interpretation of technical factors. Throughout the 1960s and 1970s there was limited intersubjective agreement amongst actors as to how limited the orbit-spectrum resource actually was. There was genuine concern amongst LDCs about future access to GSO, but the complicated nature of understanding GSO scarcity meant that interests and interpretations regarding scarcity were also potentially influenced by wider international politics; at times a perceived understanding of scarcity was preceded by actors’ other political agendas. In the 1960s and 1970s LDCs were posing challenges to other areas of international law and expressing concerns over permanent ownership of resources such as the sea bed. Challenging outer space law fit into the discourse of those wider challenges (Bull and Watson 1984, 234). The ITU’s system of a priori planning fit into the wider agenda of LDCs of demanding greater equality within the Cold War system. The LDC challenges to GSO governance were initially coordinated under the Group of 77, which had been formed in 1964 with the purpose of providing, “the means for the developing world to articulate and promote its collective economic interests and enhance its joint negotiating capacity on all major international economic issues in the United Nations system, and promote economic and technical cooperation among developing countries” (Group of Seventy Seven 2007). LDCs proposed the New International Economic Order (NIEO) in 1973, and the New World Information and Communications Order (NWICO) was announced within the NIEO context shortly thereafter (Savage 1989, 5). While the NIEO sought to address the imbalance of international economic progress and wealth, the NWICO sought to reaffirm the sovereign rights of states to control the dissemination of information to its citizenry (Savage 1989, 5 and 44). This related to deeper concerns amongst LDCs that not only were they not able to exploit telecommunications technology, but that widespread broadcasting made possible by satellites meant that the developing world was able to propagate its own information and culture (Savage 1989, 44). Therefore issues of access to GSO governance tied in to \* concerns not only of how international society and the international system were organized, but also how it was spread, controlled, and recreated. Therefore the GSO issue-area must be considered with relation to the international social context in which actors were embedded, and how that context generated understandings about various transnational resources. Given the LDCs’ broader agenda of challenging international law, GSO was a reasonable extension of that challenge because the ITU rules and decision-making procedures give each member of the organization one vote. Therefore (unlike the UN) less developed countries could coordinate their position within the ITU with regard to GSO and be more effective as a voting block. In seeking to understand the politics of GSO, it is useful to consider how actors’ perceived identities created the context in which actors determined their interests with regards to the issue-area. Less developed countries had hugely variable interests, ideologies, and resources, yet formed a perceived shared identity as “non-aligned” and “developing.” The structure of the international system, in which certain countries were less developed, helped to shape the actors’ identity and subsequently their interests.68 Actors also understood their circumstances in accordance to their acceptance of Westphalian statehood. The institution of sovereignty can be understood as preestablishing mutual understandings amongst actors (in conjunction with state-centric international law) that it would be states who were the main actors in space, and hence that states would be responsible for registering signal-usage and for claiming liability for their satellites. The international society institution of equality of peoples can also be seen as an influence on (and also reconstitutive of) the GSO issue area—albeit through the dominant institution of sovereignty. The institution of equality of peoples can be understood as present because of the discourse LDCs constructed around the GSO issuearea and the NWICO (with regards to equitable access as a right to all communities). Equality of peoples also influenced the wider Group of 77 agenda, and hence the language used by LDCs with regards to equality of peoples was mutually reinforcing across multiple-issue areas. The institution can be seen as rising and being both an influence on, and reconstituted by, the GSO issue-area. However the institution of equality of peoples was at play with that of sovereignty in that equality was to be guaranteed through greater equality for individuals via states. Therefore the interhuman domain, which could be associated with the equality of peoples institution, was not a significant influence on negotiations. The balance of power can also be seen as rising, as LDCs sought to redress the balance in the bipolar system by asserting their collective influence—both in the case of GSO and also through the wider Group of 77 agenda. As such the international society reflected in the GSO case at this point was coexistent international society—as actors sought to establish governance that would allow coordination but not cooperation in geosynchronous orbit. This reflected wider Cold War pluralism in international society in the 1960s, 1970s, and 1980s. However the GSO issue-area also had the potential to challenge basic coexistence in international society by leading to cooperation and the integration of issues such as equality of peoples. As such the GSO case reflected wider international Cold War society, but also embodied dynamics that could challenge that pluralism. Bogota Declaration By the mid-1960s discussions regarding orbital and frequency allocation were underway within the ITU, and the Group of 77 had consolidated their position on GSO governance (i.e. demanding a priori allocations). In 1976 a sub-group of less developed countries launched a separate challenge to GSO governance, which specifically targeted the lack of a definition for “outer space” and proposed a radically different definition of GSO. The resultant document was the Bogota Declaration, signed on 3 December 1976 by eight equatorial countries: Brazil, Colombia, Congo, Ecuador, Kenya, Uganda, and Zaire (hereafter the “Bogota group”) .69 The Bogota Declaration (“the Declaration,” Appendix F) asserted that GSO should not be considered part of outer space (and hence not neutral territory), and contingent on this fact should fall within the jurisdiction (sovereignty) of the nation-states that are geostationary “beneath” it (Section 1, Paragraph 3).70 The Declaration quoted the UN General Assembly Resolution which says states have sovereignty over their natural resources.71 The final section detailed the implications of the claim: (Section 3, a) that there will be tangible benefits for the equatorial states, “to their respective people and for the universal community,” as opposed to only the most developed countries; (b) that orbits above the high seas will still be considered the common heritage of mankind;72 (c) that other orbits and satellites are not implicated in the claim; (d) that GEOSATs “shall require previous and expressed authorization on the part of the concerned state, and the operation of the device should conform with the national law of that territorial country over which it is placed,” as separate from the ITU’s regulations; (e) and that current GEOSATs are in violation of the Declaration. Why did the Bogota group choose to draft a separate challenge to ITU governance, distinct from the wider LDC challenges to GSO governance? On explanation is that if the Bogota Declaration was adopted, it would give financial benefits to the relevant equatorial countries. According to the Declaration, states placing objects in GSO above equatorial states’ territory would need “authorization” for dong so— a process which would likely carry a fee payable to the equatorial country. The Bogota states would also gain power and prestige by having control over the sections of GSO above their respective territories. Brazil had also come to see itself as a leader in the non-aligned movement and saw its participation in the Bogota Declaration as a bargaining chip in its wider policy of the NIEO (Peterson 2005, 74). As such, for Brazil the GSO issue-area was connected to its sense of identity as an LDC leader—GSO was not a primary issue but rather part of wider preference formulations on broader geopolitical concerns about power and economics within the international system. For Colombia, the issue was more intimately related to issues of domestic politics in that the country’s constitution made mention of geostationary orbit and the electromagnetic spectrum as part of its territory (Gorove 1991, 4 1).73 Indonesia’s reasons were largely practical in that, as a geographically large territory with some remote reaches, satellite communications were particularly important for providing the population of the country with communications (Peterson 2005, 181-182).74 For all Bogota group countries pooling efforts with other equatorial countries increased the strength and legitimacy of their challenge. Thus strategic calculations and perceived identity influenced the actions of various Bogota group actors. The Bogota group decide to formulate its challenge in the way that they did? Considering the language of the Declaration shows how international society institutions also created the context in which the Bogota actors formulated their interests and identities. As above, the Bogota Declaration was embedded in the language of territorial Westphalian sovereignty and hence indicated the internalization of the institution of sovereignty. Outer space was deemed “neutral territory,” the very concept of which could inherently challenge the institution of sovereignty and lend itself to arguments against great powers assuming the right to maintain ownership over satellites in space, and to maintain de facto ownership of orbital slots (through satellite occupation). Despite additional references to the category of “mankind” and ‘‘universal society,” the Bogota group appealed for their legitimacy through the institution of sovereignty over resources and territory to establish the legitimacy of their claim. The Bogota Declaration was contrary to recognized principles of outer space neutrality, yet stated in the terms of those principles (by arguing that GSO was not part of outer space), which attests to the internalization of sovereignty and its influence on constructing the context in which actors calculated their interests.

#### International consensus approves

Durrani 19 [(Haris Durrani, JD/PhD candidate at Columbia Law School and Princeton University (History of Science), and winner of the Sacknoff Prize for Space History), “Is Spaceflight Colonialism?” 7/19/19, <https://www.thenation.com/article/apollo-space-lunar-rockets-colonialism/>] TDI Recut Ethan Yang

In 1975, Indalecio Liévano Aguirre, the Colombian Minister of Foreign Affairs, declared to the UN General Assembly in New York City that the UN must pursue a new and more satisfactory balance between the affluent and the impoverished worlds, between the rich peoples and the vast pauperized masses of the planet, on whose discontent one cannot build a lasting international order. Let us hope that no one will yield to the temptation of thinking that power and force constitute effective instruments for the perpetuation of old policies of privilege. These words concluded a speech in which Liévano made legal claims over geostationary orbit. Arthur C. Clarke had famously proposed the concept of geostationary satellites in 1945: If a satellite were placed above the equator at an altitude of about 35,786 km, it would orbit at the same rate as Earth’s rotation, such that the satellite hovered above a specific point on the ground. Because of this convenient physics, segments in this orbit were more valuable than others for remote sensing and, most importantly, for the nascent telecommunications satellite industry. Based on this physics, Liévano argued that international law must divide sovereignty in geostationary orbit according to the equatorial territory below. In other words, equatorial countries’ sovereignty included geostationary orbital segments above their territories. A year later, Liévano’s country gathered leaders from seven other equatorial nations—Congo, Ecuador, Indonesia, Kenya, Uganda, and Zaire, with Brazil as observer—to sign the Bogotá Declaration of 1976. These countries not only claimed sovereignty over geostationary orbital segments above their territories but argued that segments hovering above the “high seas” were the “common heritage of mankind” and ought therefore to be collectively governed by all nations. Access to those segments would have to be distributed equitably among the “universal community” by keeping in mind developing countries’ interests. The signatories also proclaimed that American and Soviet dominance of space amounted to de facto claims of sovereignty—a “technological partition” of orbit. Today, the Colombian Constitution still contains a provision claiming sovereignty over the orbital segment above the country’s territory. The Bogotà Declaration is one piece of a bigger story. Historically, Third World lawyers and diplomats have long sought to reshape international law to equitably reorder barriers to access in extraterritorial or transnational domains like space, the sea, and the electromagnetic spectrum (for telecommunications). They articulated these claims by portraying US and Soviet or Russian extraterritorial activity as a unique form of empire. They saw global inequality as a perpetuation of older, more formal colonial orders, and they argued that the “Great Powers” exploited such inequality as they shaped the laws that governed extraterritorial domains. It is often forgotten that the Outer Space Treaty of 1967—the first and, to this day, most influential treaty governing spaceflight—arrived on the heels of decolonization. Article II of the Space Treaty, which famously proscribes “national appropriation by claim of sovereignty, by means of use or occupation, or by any other means” in space, is frequently interpreted by US, Soviet, and European lawyers as an artifact of a Cold War compromise between the United States and USSR. But during its drafting, developing countries had recently declared independence or were continuously staving off foreign intervention. In light of this historical context, the treaty’s ban on claims of sovereignty has probably meant something different to the majority of the 107 state parties to the treaty which might be considered developing countries. Meanwhile, the treaty came to ban only weapons of mass destruction in space, not militarization as a whole. While the treaty, like the moon landing’s “one giant leap for mankind,” famously opened by declaring space “the province of mankind,” lawyers disagreed about what that principle meant. When the Brazilian delegation added language to this phrase clarifying that spaceflight must benefit all countries “irrespective of their degree of economic or scientific development,” the US and Soviet delegations ensured that this would not amount to strong collective property rights. Instead, US lawyers argued that this much-lauded provision was not, legally speaking, a strong one. It was a general statement of the “spirit” of the text, not a formal, legal demand for equitable distribution of resources and access to space, particularly for developing countries. These claims were part of a broader mid-20th century movement to decolonize international law. From the 1950s to ’70s, Third World leaders initiated transnational projects like the Non-Aligned Movement and the New International Economic Order, aiming to redistribute markets and natural resources to repay developing countries for their economic strife in the aftermath of imperialism. In international laws on the sea, space, and intellectual property, Non-Aligned countries proposed concepts like “common interest” or the “common heritage of mankind.” By these theories, all states would collectively govern extraterritorial domains, such that property rights over scientific information in those domains, technologies used to access them, and economic benefits derived from them would be equitably shared with developing countries. These countries were concerned that American and Soviet technology, made possible with postcolonial violence and inequitable accumulations of capital and expertise, would deplete valuable extraterrestrial resources before the rest of the world could “catch up.” Anti-imperial notions of collective sovereignty were preceded by Latin American and Caribbean lawyers’ positions on space law. Even before the Space Treaty of 1967, lawyers in the Inter-American Bar Association signed the “Magna Carta of Space” at Bogotá in 1961 and at San Juan, Puerto Rico in 1965. In part, the document aimed to establish space as res communis—in other words, collectively owned by the international community. Decades later, in the Moon Agreement of 1984, several developing countries declared lunar resources to be the common heritage of mankind, attempting to establish a system for equitably distributing property rights for lunar mining. But subsequent efforts to get the international community to consider spaceflight itself as a resource that ought to be redistributed—and, in the process, restructure global inequality—mostly failed. Spacefaring countries have refused anti-imperial legal moves via explicit official statements or simply through technological practice. If outer space is a “global commons” or res communis at all—those terms’ legal meanings are controversially ambiguous—it is only insofar as space provides a domain not for collective sovereignty or property ownership but, rather, the free and uninhibited exercise of commercial and military might.

## 1AC – Inherency

#### Contention One is Inherency -

#### Space access is privatizing – concentrated profits of outer space universalize inequality

Shammas and Holen 19 [(Victor L Shammas, Oslo Metropolitan University, Work Research Institute (AFI), Oslo, Norway and Thomas B Holen, Independent scholar, Oslo, Norway) “One giant leap for capitalistkind: private enterprise in outer space,” Palgrave Communications, 2019] TDI Recut Ethan Yang

Outer space is becoming a space for capitalism. We are entering a new era of the commercialization of space, geared towards generating profits from satellite launches, space tourism, asteroid mining, and related ventures. This era, driven by private corporations such as Elon Musk’s SpaceX and Jeff Bezos’s Blue Origins, has been labeled by industry insiders as ‘NewSpace'—in contrast to ‘Old Space', a Cold War-era mode of space relations when (allegedly) slow-moving, sluggish states dominated outer space. NewSpace marks the arrival of capitalism in space. While challenging the libertarian rhetoric of its proponents—space enterprises remain enmeshed in the state, relying on funding, physical infrastructure, technology transfers, regulatory frameworks, and symbolic support—NewSpace nevertheless heralds a novel form of human activity in space. Despite its humanistic, universalizing pretensions, however, NewSpace does not benefit humankind as such but rather a specific set of wealthy entrepreneurs, many of them originating in Silicon Valley, who strategically deploy humanist tropes to engender enthusiasm for their activities. We describe this complex as ‘capitalistkind'. Moreover, the arrival of capitalism in space is fueled by the expansionary logic of capital accumulation. Outer space serves as a spatial fix, allowing capital to transcend its inherent terrestrial limitations. In this way, the ultimate spatial fix is perhaps (outer) space itself. On 6 February 2018, the California-based Space Exploration Technologies Corp., also known as SpaceX, launched its first Falcon Heavy rocket, a powerful, partially reusable launch vehicle, into space from Cape Canaveral Launch Complex 39 in Florida. With its significant thrust and payload capacity, the Falcon Heavy had the ‘ability to lift into orbit nearly 64 metric tons…a mass greater than a 737 jetliner loaded with passengers, crew, luggage and fuel' (SpaceX, 2018). Multiple reusable parts, including first-stage boosters (and, in later versions, composite payload fairing)Footnote1 provided a lift capacity nearly twice that of the next-most powerful rocket in operation, the United Launch Alliance’s (ULA) Delta IV Heavy, and at nearly one-third the cost. With this first Falcon Heavy test flight, which produced widespread public enthusiasm and outpourings of support from both politicians and industry observers,Footnote2 SpaceX demonstrated that private corporations were busy redefining the domain of space exploration. SpaceX seemed to usher in an era differing markedly from that other period of astronautical excitement, the Cold War-era space race between the United States and the Soviet Union. Additionally, visions once restricted to the domain of science fiction now seemed increasingly attainable, freed from the (alleged) impediments of slow-moving nation-states: with the ascendancy of private corporations like SpaceX, satellite launches, space tourism, asteroid mining, and even the colonization of Mars seemed increasingly achievable (Cohen, 2017; Dickens and Ormrod, 2007a, 2007b; Klinger, 2017; Lewis, 1996). In this sense, SpaceX’s Falcon Heavy also carried a crucial ideological payload: the very idea of private enterprise and capitalist relations overtaking outer space.Footnote3 The Falcon Heavy conveyed this idea quite concretely. Onboard the rocket was an electric car, a Tesla Roadster (said to be Elon Musk’s personal vehicle), which functioned as the rocket’s ‘dummy load', playing David Bowie’s ‘Space Oddity' and ‘Life on Mars?' on repeat on the car’s stereo system. An enticing marketing stunt viewed by millions online through SpaceX’s YouTube live stream—with 2.3 million concurrent views, it was the second biggest live stream in YouTube history (Singleton, 2018)—the Falcon Heavy test flight embraced the logic of ‘cool capitalism' (Schleusener, 2014), with in-jokes referencing Douglas Adam’s Hitchhiker’s Guide to the Galaxy, while heralding the arrival of a commercialized space age, dubbed by industry insiders as the age of ‘NewSpace'.Footnote4 But how are we to understand NewSpace? In some ways, NewSpace signals the emergence of capitalism in space. The production of carrier rockets, placement of satellites into orbit around Earth, and the exploration, exploitation, or colonization of outer space (including planets, asteroids, and other celestial objects), will not be the work of humankind as such, a pure species-being (Gattungswesen), but of particular capitalist entrepreneurs who stand in for and represent humanity. Crucially, they will do so in ways modulated by the exigencies of capital accumulation. These enterprising capitalists are forging a new political-economic regime in space, a post-Fordism in space aimed at profit maximization and the apparent minimization of government interference. A new breed of charismatic, starry-eyed entrepreneurs, including Musk’s SpaceX, Richard Branson’s Virgin Galactic, and Amazon billionaire Jeff Bezos’s Blue Origin, to name but a selection, aim at becoming ‘capitalists in space' (Parker, 2009) or space capitalists. Neil Armstrong’s famous statement will have to be reformulated: space will not be the site of ‘one giant leap for mankind', but rather one giant leap for capitalistkind.Footnote5 With the ascendancy of NewSpace, humanity’s future in space will not be ‘ours', benefiting humanity tout court, but will rather be the result of particular capitalists, or capitalistkind,Footnote6 toiling to recuperate space and bring its vast domain into the fold of capital accumulation: NewSpace sees outer space as the domain of private enterprise, set to become the ‘first-trillion dollar industry', according to some estimates, and likely to produce the world’s first trillionaires (see, e.g., Honan, 2018)—as opposed to Old Space, a derisive moniker coined by enthusiastic proponents of capitalism-in-space, widely seen to have been the sole preserve of the state and a handful of giant aerospace corporations, including Boeing and Lockheed Martin, in Cold War-era Space Age. Under Donald Trump’s presidency, the adherents of NewSpace have found a ready political partner. The commercialization of outer space was already well under way with Obama’s 2010 National Space Policy, which emphasized ‘promoting and supporting a competitive U. S. commercial space sector', which was ‘considered vital to…continued progress in space' (Tronchetti, 2013, p. 67–68). But the Trump administration has aggressively pursued the deregulation of outer space in the service of profit margins. Wilbur Ross, President Trump’s Secretary of Commerce, has eagerly supported the private space industry by pushing the dismantling of regulatory frameworks. As Ross emphatically stated, ‘The rate of regulatory change must accelerate until it can match the rate of technological change!' (Foust, 2018a). Trump has proposed privatizing the provision of supplies to the International Space Station (ISS) while re-establishing the Cold War-era National Space Council, which includes members from Lockheed Martin, Boeing, ULA, and a series of NewSpace actors, such as SpaceX and Blue Origin. Ross was visibly enthusiastic about SpaceX’s Falcon Heavy launch in February 2018 and seemed to embrace Musk’s marketing ploy. ‘It was really quite an amazing thing', Ross said. ‘At the end of it, you have that little red Tesla hurdling [sic] off to an orbit around the sun and the moon' (Bryan, 2018). That same month, Ross spoke before the National Space Council, commenting appreciatively that ‘space is already a $330 billion industry' that was set to become a ‘multitrillion-dollar one in coming decades'. He noted that private corporations needed ‘all the help we can give them' and said it was ‘time to unshackle business activity in space' (Department of Commerce, 2018).

#### Privatization of outer space occurs on a first come first serve basis

Supancana 10 [(Supancana, I. B. R, Chairman and Founder of the Center for Regulatory Research) "GUARANTEEING ACCESS OF DEVELOPING COUNTRIES TO OUTER SPACE," 2010] TDI Recut Ethan Yang

4.1 Access of Developing Countries to the Taking of Benefits from Natural Resources in Outer Space, including the Moon and other Celestial Bodies

With the rapid growth of comer-cialization and privatization of space activities in the era of global market economy, the issue of access of developing countries to space is relevant and therefore, should be seriously considered. Especially when it deals with fulfillment of their basic needs of which space science and technology may contribute at an affordable price. This makes sense as developing nations are in general lacks of financial and technical capabilities (In addition, they also lack of scientific infrastructure; lack of data and information; lack of sufficient scientific infrastructure etc. For detail analysis, see I.B.R Supancana, The Commercialization of Space Activities, Challenges an, Opportunities for Developing Countries" paper presented at UN/Indonesia Regional Conference on Space Science and Technology for Sustainable Development, Bandung Indonesia, 17-21 May 1993. See also I.B.I Supancana, "Commercial Utilization o Outer Space and Its Legal Formulation Developing Countries' Perspectives", Bra ceedines of the DM Thirty-Fourth Collomuium rm the Law of (Inter Spar. Montreal Canada, 1991, pp 348 - 356). In recent years, we can observe the increasing utilization of natural resource in outer space, especially earth-orbits spectrum resource (GEO, HEO, MEO/ICO, LEO) for certain activities. As it is generally recognized, that earth-orbits spectrum resources are limited natural resources, there must be an evaluation to the existing law whether it i able to accommodate the interest of both developed and developing countries in fair, just and equitable manner. Previously regulations concerning access to earth-orbits spectrum resources. are mainly based on "first come, first serve principle which are more favorable in accommodating the interest of developed countries. However, consistent efforts on the part of developing countries to get a fair and just access to this limited natural resource have shown substantial progress This can be seen in the outcome of Work Administrative Radio Conferences of th. ITU at their 1985 and 1988 sessions. The. concept of "apriori planning' and "simplifier improved procedures" provides guarantee. for access, particularly those of develop\* countries. Furthermore, the concepts an elaborated in the amendment of the ITC Convention as appears in ITU Constitution of 1992. In the practical management o: earth-orbits' utilization some new rules hay. been applied such as ...administrative du. diligence' and 'financial due diligence' ti prevent the abuse of rights in the ITU ' registration process like: "paper satellites' "excessive and un-proportional" application.

## 1AC – Inequality

#### Contention Two is Inequality –

#### “First come first serve” basis denies the global south GSO access

Viikari 7 [(Lotta, PhD in Faculty of Law @ International Institute of Air and Space Law, Leiden University) “The Environmental Element in Space Law, ” 2007, ISBN 978-90-04-16744-5, Koninklijke Brill, p 21-23.] TDI Recut Ethan Yang

At the beginning of the space era, not many other states possessed any capacity to engage in space activities. Nevertheless, the UN space treaties constantly use phrases such as “province of all mankind”, “for the benefit and in the interests of all countries”, or “common heritage of mankind” when referring to outer space and the activities relating thereto. Accordingly, one would imagine that this ‘mankind’ (or humankind) plays a prominent role in the governance of space activities. In the same vein, speaking about outer space and its resources in terms of ‘global commons’67 suggests that it is the global community that is in charge of the management of these areas which fall outside the scope of national jurisdictions. This global community has been, first and foremost, the community of states, which has concluded international conventions for managing outer space relatively early in the history of human space activities. In practice, the language of the space treaties promises much more for the humankind as a whole than what space utilization actually provides it with. The benefits do not accrue evenly among humanity (or even the state community) in accordance with some common regime. Instead, the space sector largely follows the far less noble principles of the modern industrial economy. Furthermore, states are increasingly not the unitary rational actors of the traditional assumptions. Neither are they autonomous but embedded in a framework of interactions among numerous entities in the international system. Despite the fact that space activities continue to be extremely hazardous and costly, there exist today a variety of different actors who are willing to invest in this sector. This is obviously due to the significant potential benefits which the use of outer space entails. The universe contains a myriad of natural resources, varying from solar power to minerals in celestial bodies. Also outer space as a whole has been depicted as a resource: one need only consider, for instance, the possibilities that the mere existence of Earth orbits provides for satellite activities. Now that technological development has enabled the utilization of space also for those capable of lesser investments, states comprise only a part of the global network of entities active in the space sector. In such a setting, the management of space activities by states alone is proving increasingly complicated and inefficient. Indeed, states are facing serious legitimacy problems in the space sector. In order to retain their focal position, states need to demonstrate that they are relevant agents also as regards the new challenges confronted in this area. They have not succeeded very well here, however. The international legal instruments thus far adopted for the regulation of space activities have mostly proven far too vague, and the state community has failed to reach agreement on new instruments (other than legally non-binding declarations and the like) for some decades already. Moreover, considering that states have faced major difficulties in achieving substantial improvements in any natural conditions of global magnitude, their possibilities in the environmental management of outer space seem less than promising. Nevertheless, in the formation of the international law of outer space, the focal organ still is the United Nations. It was originally founded for very different purposes than solving today’s global crises, which center around environmental and development issues rather than questions of world peace.68 As an organization of states, the UN also directly reflects the problems related to states and their role in the international system. One is the fact that there are many kinds of states. For instance, although sovereign states formally are all equal, some of them are in reality far more influential and active in the space sector and, accordingly, have much greater practical interests in the international regulation of this area. In addition to being ‘big business’ economically, space activities play a major role politically. This was particularly evident during the Cold War in the ‘space race’ between the US and the Soviet Union, but the political and strategic relevance of space by no means vanished at the end of the Cold War.69 The space sector also needs to cope with the global differences in development. Despite the global commons rhetoric, the relationship between more and less developed areas (‘the North’ and ‘the South’) is most often depicted in terms of conflict. Outer space as an environment and a resource is typically perceived as some sort of a limited ‘pie’ of rights, to which all states aspire. However, such rights often appear in practice as something very close to a right to destroy and pollute the environment if needed (in the name of utilization). Conflicts will unavoidably arise, as more or less all states today share the same basic ideology of industrial development, for the purposes of which outer space is seen as a mere resource available for exploitation by all who have the necessary means. This is only likely to intensify the competition for the limited possibilities. In such a situation, it is no surprise that the North, which has the means to conduct space activities, is eager to perceive outer space and its resources as common property, available on the basis of the ‘first come, first served’ principle. The South, on the other hand, is concerned about being guaranteed adequate possibilities for equal benefits either now or in the future. Southern states expect technical assistance to enable them to utilize outer space, the reservation of ‘their share’ for possible future use, or financial compensation for allowing the exploitation of ‘their’ resources by others.70 Typically, those states have also been in favor of the inclusion of liability regimes in international environmental agreements whereas the North has more often resisted provisions to that end.71 Environmental degradation is making the picture increasingly complicated: if space activities need to be limited already in the name of environmental protection, the prospects for the current non-spacefaring nations to realize their ‘reserved’ rights in the future do not look too bright. As a matter of fact, increased environmental standards could generate even more benefits for the technologically most developed nations and thereby widen the gap between the North and the South. If, for instance, technical standards or pollution reductions are made mandatory, this will give a competitive advantage to the countries which can afford the technology needed to comply with such norms. Moreover, such requirements would necessitate further development of technology, which is likely to create still further competitive advantage. Hence, it seems inevitable that tensions between the environment and development cannot be averted in the space sector, nor can a setting be avoided where many of the key issues pit developed against developing countries

#### The G77 vision for space prevents inequality – refusing to integrate outer space into leftist political-economic critique cedes space to corporate capitalism

Levine 15 [(Nick LEVINE, MPhil Candidate Philosophy of Science @ Cambridge) “Space Industry Extraction,” 2015, <https://www.jacobinmag.com/2015/03/space-industry-extraction-levine>] //Recut Ethan Yang

As Below, So Above Left critics of space proposals make the same mistakes as the most techno-utopian starry-eyed industrialists. From the point of view of the latter, celestial development will provide ultimate salvation to the human race by making us a multi-planetary species; the former see outer space as an infinite void essentially antagonistic to human life, interest in which is only orchestrated for cynical political ends. Each side misconceives extraterrestrial pursuits as qualitatively different from economic activities on Earth. Venturing into space may be a greater technical challenge; it may cost more, be more dangerous, or be a mistaken use of resources. But to understand these prospects in existential terms rather than as a new episode in the familiar history of industrial development and resource extraction — with all the political-strategic dangers and organizing opportunities that come with them — is to be blinded by the space romanticism that is a peculiar vestige of Cold War geopolitics. Whether and how we should go to space are not profound philosophical questions, at least not primarily. What’s at stake is not just the “stature of man,” as Hannah Arendt put it, but a political-economic struggle over the future of the celestial commons, which could result in a dramatic intensification of inequality — or a small step for humankind toward a more egalitarian state of affairs on our current planet. Undoubtedly, there are good reasons to be skeptical about going to space. Some have argued that it shifts attention away from solving the difficult problems of economic and environmental justice on Earth — think of Gil Scott-Heron’s spoken-word poem “Whitey on the Moon,” which juxtaposes the deprivation of the American underclass with the vast resources diverted to space. Scott-Heron’s critique is powerful, but it’s important to remember that he was denouncing an unjust economic system. He wasn’t issuing a timeless condemnation of space pursuits as such. Whether the aims of providing for all and developing outer space are mutually exclusive depends on the political forces on the ground. We might also question whether mining asteroids would be detrimental to our current planet’s environment in the medium term. If we don’t find a renewable way to blast off into outer space, the exploitation of these resources could lead to an intensification of, not a move away from, the fossil-fuel economy. If the environmental impact of space mining turns out to be large, it would be analogous to fracking — a technological development that gives us access to new resources, but with devastating ecological side effects — and ought to be opposed on similar grounds. On the other hand, some speculate that mining the Moon’s Helium-3 reserves, for example, could provide an abundant source of clean energy. The terrestrial environmental impact of space activity remains an open question that must be explored before we stake our hopes on the economic development of outer space. Philosophers have suggested that we might have ethical duties to preserve the “natural” states of celestial bodies. Others fear that our activities might unknowingly wipe out alien microbial life. We should remain sensitive to the aesthetic and cultural value of outer space, as well as the potential for extinction and the exhaustion of resources misleadingly proclaimed to be limitless. But if the Left rejects space on these grounds we abandon its fate to the will of private interests. These concerns shouldn’t cause us to write off space altogether — rather, they should motivate us even more to fight for the careful, democratic use of celestial resources for the benefit of all. There is also reason to be cautiously optimistic about extending economic activity to outer space. For one, the resources there — whether platinum-group metals useful in electronics, or fuels that could be central to the semi-independent functioning of an outer space economy — have the potential to raise our standards of living. Imagine, a superabundance of asteroid metals that are scarce on Earth, like platinum, driving the sort of automation that could expand output and reduce the need to work. Of course, there’s nothing inevitable about the benefits of productivity gains being distributed widely, as we’ve seen in the United States over the past forty years. This is a problem not limited to space, and the myth of the “final frontier” must not distract us from the already existing problems of wealth and income distribution on Earth. While the industrialization of the solar system isn’t a panacea for all economic ills, it does offer a significant organizing opportunity, since it will force a confrontation over the future of the vast celestial commons. The democratic possibilities of such a struggle have been recognized before: one conservative American citizens’ group in the 1970s called a progressive UN space treaty a “vital component of Third World demands for massive redistribution of wealth so as ultimately to equate the economic positions of the two hemispheres.” Many in the 1970s identified the egalitarian potential in the development of outer space, and the Left must not overlook it today. Back to the Future One of the Group of 77’s major goals was to apply some of the redistributive functions of the welfare state on a global scale. In 1974, that coalition issued a “Declaration on the Establishment of a New International Economic Order,” which called for a fairer system of global trade and resource distribution, one that could alleviate historical inequality. One of the battlegrounds for the Group of 77 was the negotiation over extraterrestrial property rights. The Outer Space Treaty of 1967, signed by over ninety countries in the heat of the first sprint to the moon, rejected the notion that celestial bodies fell under the legal principle of res nullius — meaning that outer space was empty territory that could be claimed for a nation through occupation. It forbade the “national appropriation by claim of sovereignty, by means of use or occupation, or by any other means” of outer space. But the treaty was not just restrictive. It also had a positive requirement for extraterrestrial conduct: “The exploration and use of outer space,” it declared, “shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind.” However, nobody knew what this would mean in practice: was it a call for egalitarian economics, or an empty proclamation of liberal benevolence? Complicating matters, it was unclear whether the extraction and sale of natural resources from outer space fell under the category of “appropriation,” which had been forbidden. And what exactly was this benefit to all countries that our outer space pursuits were supposed to bring? How would its distribution be enforced? Which interpretation would win out was more a question of political power than of esoteric legal maneuvers. The Group of 77 took an activist approach to these issues, proposing amendments to the Outer Space Treaty regime that would spread the economic benefits of the celestial commons to less developed countries that did not have the resources to get to space, let alone mine it. Thus in 1970, the Argentine delegate to the UN Committee on the Peaceful Uses of Outer Space proposed to legally designate outer space and its resources “the common heritage of mankind.” First applied in negotiations over maritime law a few years earlier, the “common heritage” concept was intended to give legal grounding to the peaceful international governance of the commons. As an alternative to the laissez-faire approach advocated by many private interests, the “common heritage” principle also provided a legal framework for the democratic distribution of revenues derived from the international commons. In 1973, the Indian delegation to the Committee on the Peaceful Uses of Outer Space tried to put this idea into celestial practice, proposing an amendment to the Outer Space Treaty that called for equitable sharing of space benefits, particularly with developing countries. The Brazilian delegate to the committee summarized the group’s position: “It does not seem justifiable . . . that space activities . . . should evolve in a climate of total laissez-faire, which would conceal under the cloak of rationality new ways for an abusive exercise of power by those who exert control over technology.” Despite opposition from both the Soviet Union and the United States, the final draft of this new outer space agreement included a version of the “common heritage of mankind” doctrine. When the finalized treaty was brought to the US in 1979 for ratification, business groups balked. The vision of egalitarian galactic democracy suggested by the document was rightly seen as contrary to narrow American interests. The United Technologies Corp­oration, a designer and manufacturer of aircrafts and other heavy machinery (including the Black Hawk helicopter) took out a large advertisement in the Washington Post and a number of other newspapers, warning that the treaty would establish an “OPEC-like monopoly, require mandatory transfer of technology, and impose high international taxes on profits as a way of shifting wealth from the developed to the less developed countries.” The president of the corporation, Alexander Haig, also testified against the treaty in Congress in 1979, warning that “the common heritage concept expressed in the treaty underlies Third World efforts directed at a fundamental redistribution of global wealth.” Haig was hired as Ronald Reagan’s secretary of state in 1981, and political opposition to the bill forced NASA’s chief counsel to abandon defense of the treaty. In the end, the Moon Treaty, as the 1979 document came to be known, failed to gain more than a few signatories, leaving open the question of how the benefits of outer space were to be shared. In 1988, a different coalition of developing countries added the question of space benefits to the UN outer space committee’s agenda. But they failed to gain traction, and by 1993 they had to concede, as two long-time delegates to the outer space committee put it, that “their attempt [at] a redistributive revolution in international space cooperation had failed.” The conversation had shifted from the distribution of economic benefits to a narrower emphasis on international scientific coordination and development aid. This retreat culminated in a 1996 declaration that limited the interpretation of the “benefit” clause of the Outer Space Treaty to vague promises to help less developed countries improve their space technologies. The ultimate failure of the Moon Treaty was representative of broader developments in international politics, as the influence of the Group of 77 declined. The fact that the structural adjustment policies of the Washington Consensus won out over the Third World’s redistributive goals was the result of contingent factors — the oil shock’s exacerbation of debt crises, for instance — but it also indicated the limits of the power the Group of 77 had wielded in the first place. In October 2014, the UN outer space committee issued a press release summarizing its most recent session. Its headline: “Outer Space Benefits Must Not Be Allowed to Widen Global Gap between Economic, Social Inequality, Fourth Committee Told.” Despite paying lip service to its past concerns, the outer space committee now emphasizes equal access, voluntary technology transfers, and modest development aid over the direct redistributive approach it took in the 1970s. This shift from struggling for equality of outcome to equality of opportunity, with no accountability mechanism in place to ensure even the latter, represents a striking regression. The egalitarian dreams of the “revolution of the colonized” in the UN, as it was called at the time, have been forgotten.

#### Space democratization solves inequality – consider space as immediately relevant

Klinger 18 [(Julie Michelle, Professor of International Relations at the Frederick S. Pardee School of Global Studies at Boston University) “A Brief History of Outer Space Cooperation Between Latin America and China,” Journal of Latin American Geography, Volume 17, Number 2, 2018] TDI Recut Ethan Yang

\*\*\*Brackets in original

As envisioned during the Cold War in a series of conferences among newly or nearly independent states3, South-South cooperation would consist of mutual support and solidarity among Third World, developing, or nonaligned states. By sharing technology, expertise, and capital, delegates from these countries envisioned a world in which formerly subjugated nations would build modern and prosperous societies (Tsing, 2005; Prashad, 2007; Mielniczuk, 2013). Many have critiqued China’s twenty-first century “South-South” and “win-win” rhetoric toward Latin American countries as a ploy to advance asymmetrical, pro-China agendas that reinforce Latin America’s subordinate position in the global division of labor ( Jenkins, 2012; Barbosa, 2010; Moreira, 2007). Although the picture is demonstrably more complex (Mora, 1999; Oliveira, 2004; Klinger, 2015; Narins, 2017; Oliveira, 2017), these critiques arise from legitimate environmental, economic, and geopolitical concerns (Queiroz, 2009; Escudé, 2011; Ray et al., 2017; Ray, 2017; Pirzkall, 2017). However, it is noteworthy that in keeping with the mid-twentieth-century ideals of South-South cooperation, in the outer space sector the exchange of scientific and technological expertise has actually occurred, with several African, Asian, and Latin American countries supporting the advancement of one another’s space programs (Wood & Weigel, 2012; Sarli et al., 2015; Peter, 2006; Nagendra, 2016). This is not to suggest that outer space cooperation is benign or apolitical. Existing inequalities and political struggles on Earth are manifest in outer space development (e.g. Committee, 2009; Jasentuliyana, 1994). A growing body of geographical literature analyzes outer space as a key area in which Earthly politics are expressed and an increasingly important arena with which Earthly political economies are coproduced (Beery, 2011; Messeri, 2016). The manner in which outer space is imagined and represented is dialectically related to ongoing practices of resource use, technological development, and scientific research on Earth (Geppert, 2007; Beery, 2016; Klinger, 2017). Human engagement with outer space reflects unequal power relations on Earth, while also holding the potential to either mitigate or exacerbate structural injustices. In an important recognition of the capacity for human society to engage in outer space for better or for worse, the international community enshrined outer space as the “province of all mankind [sic],” and mandated that it be used only for peaceful purposes in the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies (hereafter Outer Space Treaty, or OST) (UN, 1967). Because the services provided by spacebased technologies are so crucial to economic, political, and cultural globalization, access to outer space and use of space-based data is important to culture, scientific progress, development, and geopolitical competition (Penley, 1997; Parks & Schwoch, 2012; Harrison, 2013). Therefore, contemporary society cannot be understood without considering “the ever-increasing dependence of mankind [sic] on space-based services,” (Al-Rodhan, 2016, p. 124). This includes the importance of outer space to capital accumulation (Dickens, 2007; Klinger, 2017), military strategy (Dolman, 2002; Sage, 2008), and the maintenance of heteropatriarchy (Pesterfield, 2016; Weitekamp, 2004). The accumulating significance of outer space-based technologies compels us to rethink those areas of outer space in which human activity is concentrated as immediately relevant to Earthly affairs at all levels, rather than as being beyond the global. This requires social scientists to rescale our inquiries to account for a defining feature of our age: the behavior of markets, states, social movements, and scientists is mediated through outer space-based technologies. These technologies link local, national, and international actors and institutions to their enabling infrastructures in outer space. Practically speaking, this means that orbital space is another critical scale of inquiry in social science in general, and in Latin America-China relations in particular.

#### Regional space assets are key to development goals – squo foreign aid competition fractures regional alliances

Liao 15 [(Xavier L.W., PhD in Political Science at Ghent University) “The Growing Space Regionalization of the Global Space Regime Complex” The Aviation & Space Journal, January/March 2015, No 1.] TDI Recut Ethan Yang

Dynamics of regional astropolitics Regional spacefaring countries often seek to demonstrate their regional leadership, or to ensure the regional power - balance equilibrium by creating a regional space - related regime under their cooperative supremacy. In order to counter their political adver-saries and strategic competitors in the same geographical region, these regional space regimes provide technological facilities and space applications incentives to involve neighbouring allies into the interdependency of a regional space system. These region-al space regimes determine what would be the centralities for the cooperation net-works. They set up norms, rules or practical arrangements for security, safety, com-mercial and ecological cooperation. When one regional space power starts up a space regionalism process, the other regional powers will duplicate the same action to counter it. Quite often, space regionalism of this kind might not aim to enhance substan-tial regional space cooperation, but aims to counter other space regionalization initia-tives led by other spacefaring countries in the same region. In practice, these regional regimes offer cooperation incentives that are similar to what their counterpart organi-zations offers in order not to loose the overlapping member states that are affiliated with the competing regional space regimes. But, these regional space regimes normal-ly only provide vital exclusive cooperation projects to satisfy the loyal allies who stand historically, ideologically or culturally on the same side of the leading space power. The regional space leaders cautiously release any critical technology or know - how if they are unsure about the possible fair return from or possible leaks lamed by their protégés. An example, which demonstrates that the dynamics of regional astropolitics sparked duplicate space regionalization processes led by adversary or competitive regional spacefaring states occurred in the 1970s among the Arab League states. In principle, it would be perfect if a unique Arab regional satellite system regulatory and cooperation mechanism can be established in order to efficiently coordinate national satellite communication frequency attribution, avoid transnational radio signal interference, and to disseminate a pooled satellite TV and radio broadcasting program gathered from different Arabic - speaking states for the benefits of the entire Arab League states. But the reality was, when Saudi Arabia was arising during the 1970s oil boom and Egypt endured the subsequent expulsion from the Arab League following its 1979 peace treaty with Israel, the competing space regionalism between Egypt and Saudi Arabia has led to the consequence that the Cairo - led Arab States Broadcasting Union (ASBU) created in the 1960s was heavily challenged by the Riyadh - led Arab Satellite Communication Organization (ARABSAT) founded in 1970s. The two regional satellite related operations organizations, which shared the overlapping membership of the Arab League states, could hardly work together. Further to the ASBU - ARABSAT com-petitive regionalization story in the 1970s, it occurred recently that competition be-tween the Japan - led APRSAF and the China - led APSCO, and perhaps soon the neces-sary addition of an India - led SAARC satellite network, are vying for leading a regional-ism of their own in the Asia - Pacific region. The different regional space regimes with overlapping objectives and membership are created based on the competition be-tween the leading regional spacefaring states. Since the functioning of these regional regimes is highly connected to the regional astropolitics, the regional member states will choose their affiliation by pragmatism to fulfil their own short - term interests, noted as ‘ regime shopping ’. In the case of APRSAF vs. APSCO, the overlapping member states are mostly from the ASEAN countries. These countries take part in both regional space regimes but only pick the issue - relevant cooperation, which fits their respective national interest instead of being fully engaged into any regional astropolitical strate-gic interdependency. The quest for regional space capacity - building The collective quest for developing common regional space capacity or a specific or exclusive regional space system ( e.g. for satellite TV and radio broadcasting, disaster mitigation, navigation safety, and Earth Observation) can also stimulate and nourish space regionalisation. The regionalisation is therefore undertaken with actors ’ func-tional or cost - benefit logic. By knowing the fact that developing space capacity and upholding it is an expensive and highly risky business, there is no country, even not the US that can handle it alone. Pooling different material or immaterial resources to de-velop regional space capacity doubtlessly becomes the optimal and legitimate strate-gy for collective and individual prosperity and benefits. Since the space ‘ democratization ’ after the Cold War, emergent industrial countries and developing continents have various ways to continue or to start up their own space capacity. Hence, they are all keen to enjoy the utilities of space technology applications for military, civil or dual - use. The path of the European space regionalization in pursuit of its collective prosperity and common benefits was a well - known example. Europe started its space regionaliza-tion from the early 1960s by having established two different space agencies. The Eu-ropean Launch Development Organisation (ELDO) to develop a European launcher sys-tem with six member states and one associate member. The other, the European Space Research Organisation (ESRO) with 10 members was created to develop Europe-an spacecraft. Soon after, the ELDO and the ESRO were merged to become the Euro-pean Space Agency (ESA) in 1964. It was only in 1975 the ESA formally and operation-ally replaced the two organisations. One of the reasons for that the European states explored a regional space institutional centrality, such as the ELDO, ESRO and ESA, were based on the aforementioned strategic and functional logics for their respective national interests. These regional space institutions gradually created a interdepend-ent space network which gathered the crucial space capability elements among the intra - regional partners and facilitate the member states to exchange resources, rein-force their own national space capability, share financial burdens and reduce the risks of marketing failure. Additionally, the space regionalization has strengthened European regional political and economic position to on the one hand, reduce the dependen-cy on the US space capacity. It offered the leverage to allow Europe to explore possi-ble space cooperation with the Soviet Union. Until now, the European space regionali-zation is subsequently viewed as the most inspiring model and was duplicated by other regional spacefaring countries that also try to create their respective space regionali-zation. Another case was the ARABSAT, the ARABSAT established in 1976 was dedicated to answers the regional request for providing satellite services in order to facilitate tele-communication, promote common culture and education programs in the light of the commitments of the Arab League Charter member states. The ARABSAT became the major regional space mechanism for the Arab League member states to coordinate satellite industries and services operators. Similarly, the enthusiast initiatives and debates about a start - up of an expected Latin - American Space Agency (LASA) (Monroy 2010) 10 and the recent kick - off of the 1 st Latin American Satellite Communication and Broadcasting Summit ( Space Mart 2014) 11 , an ASEAN Space Organization (ASO) (Noichim) 12 , or an African Space Agency (ASA) (Martinez 2012 13 ; Aganaba - Jeanty 2013 14 ) took place constantly. These space regionalism initiatives mostly stress indigenous regional space capacity building. Yet, due to a lack of a strong spacefaring nation to continuously lead and carry on these space regionalization initiatives, concrete start - up hardly takes off. In these cases, extra - regional assistance is expected to bring suit-able technology and sufficient means, but this causes worries of triggering an unex-pected regional astropolitics reshuffle that can destabilize the equilibrium of the en-tire regional homo astro ecosystem. In the Asia - Pacific region, the Japan - led APRSAF and the China - led APSCO are both committed to establish a regional space technology cooperative regime for their over-overlapping Asia - Pacific member states. The APRSAF, claimed as a voluntary regional space agency cooperation mechanism, aims to lead a long - term and mid - term space capacity building regionalization throughout space science and technology coopera-tion activities though the Japanese Space Basic Law, approved by the two Parlia-ments in 2005, explicitly states that ‘ space diplomacy ’ is one of the objectives that Japan shall integrate into its future national space policy. The APSCO, particularly after the launch of the Chinese Beidou (COMPASS) Satellite Navigation System, pro-motes APSCO regional partners e.g. Thailand, Pakistan (and it is expected other ASEAN states) to share the benefits of China ’ s satellite navigation system by hosting the ground network facilities in their territories. Until now, the question whether these two regional space regimes could respond to the quest for regional space ca-pacity needs further observation, particularly since the India - led South Asian Associa-tion of Regional Cooperation (SAARC) ( The Times of India 2014) 15 seems also enthusi-astic to gain the regional space leadership by exploring the similar method with a South Asian approach for proposing a tentative SAARC Satellite Service project. Necessity of regional space governance Nowadays, it occurs that the neighboring states develop their own space systems for national satellite telecommunication, weather monitoring, TV and radio broadcast-ing, and navigation services for military or civil utilities. Subsequently, these systems are not compatible due to the blockage based on the national security concerns or simply caused by technical incompatibility. Throughout the regionalisation process, states negotiate common measures, such as regulations, standards, tariffs, and inter-ference avoidance rules for heterogeneous national space systems within a given geo-graphical region. Especially nowadays, the growing commercialization of space tech-nology for its design, manufacture, launch and operations and its application for tele-communication, TV and radio broadcasting, remote sensing and navigation are in-creasingly taking more ground, the quest of establishing regional common conduct rules and operational standards become more and more important. The necessity for institutionalise such regional space governance architecture is doubtless uncontested. These space regimes are created to respond to these specific needs. Yet, whether the design as well as the perfection path for building any regional space regimes de-pends on whether the desired regime meets its member states ’ strategic calculation and functional concerns. This often made the managerial manoeuvre of a given space regionalisation more complicate and complex. The aforementioned Arab Satellite Communications Organization (ARABSAT since 1976) that established an Arab Space Communication network, the Asia - Pacific Broad-casting Union (ABU since 1964) - a regional platform for national TV and radio broad-casters (which are mostly state - owned at least from their staring period) the Asia Pacific regional – set up the ABU Emergency Warning Broadcasting Systems (EWBS) to disseminate information to alert people of neighbouring countries before a disaster occurs. Together with ARABSAT and ABU the Regional African Satellite Communica-tions Organization (RASCOM) were all created for the reason of regional space gov-ernance in Africa, and are examples of the space regionalization for improving re-gional space governance. To enable this space governance regionalization, the parties of a regional group seemingly need to posses similar space capacities and the willing-ness to share a common development strategy. Nowadays, as the commercialization of all development steps of satellite technology (production, launch and operations) and all utilities of satellite technology applications (communication, broadcasting, remote sensing and navigation) are growingly taking more ground, which increasingly the quests of coordinating common regional conduct rules and operational standards may become more important but will also become more complex. Extra - regional inputs Apart from the intra - regional inputs, the inputs from the extra - regional dimension also offer sounding influences in sparking and to fuelling the rise of space regionalisa-tion. These extra - regional inputs can be perceived from three dimensions of the glob-al space regime complex: (1) the stimuli from extra - regional space powers, (2) the inspiration other regionalisation from other regionalisation ( mirror effect ), and (3) the endorsement from global space related regimes. It is important to state that never a single one of these inputs but always a mix of them results in the activation and the growth of these space regionalisation processes in different regions. Space powers ’ stimulation The stimuli from extra - regional space powers, namely from the US, Russia and nowa-days China, India or others, are centripetal forces that congregate various new regional space centralities. These space powers, with their crucial technology know - how and financial supports, push to institutionalise a regional space centrality is either to en-hance their ties with the extent allies, make new friends or attract new followers from non - spacefaring countries in a given region. This outreach toward the regional level is supposed to increase the respective space power ’ s political and strategic in-fluences on both regional and global astropolitics. It is also commercially interesting for the space powers to conquer foreign regional markets more efficiently. As for the choice where to do such space power stretch exercises, it depends on every space power ’ s geopolitical concerns and strategic interests. Furthermore, while sponsoring a given space regionalisation, the space powers do not provide full space capacity assistance and do not offer it for free neither. The attractive incentives for the accommodating countries for having and keeping the deals are often accompanied with strict conditions. The U.S. has supported most of their allies in the Western European and Asia - Pacific regions by sharing American space technologies, know - how , as well providing finan-cial aid to the regional leading states for building their space capacities, though often through bilateral cooperation channel. This bilateral cooperation has indirectly facili-tated the foundation of space regionalization. While building these strategic space interdependencies, Washington usually requires the beneficiary states of American space system and products to behave strictly under the US International Traffic in Arms Regulations (ITAR). The ITAR has unilateral power to decide whether a piece of technology can be sold to the US allies or interested states or companies, but it can also sanction the contractor if contracted project is leaked to a third party. Conse-quently, European states were somehow pushed to seek their independency or at least non - dependency from the US, and therefore wanted to create their own regional space cluster. The Soviet Union was doing the same during the Cold War by forcing the Eastern European socialist states into a closer regional space community. Finally, whether a targeted region has political desires and adequate capacity to host and develop a given space regionalisation sponsored by extra - regional space powers has no co - relationship to the efforts provided by the space powers. The former Soviet Union has incorporated the Eastern European socialist states into a closer regional space community. These days, Russia is doing it again with the Eurasia states via the space related regional cooperation, such as the Russia - Kazakhstan - Belarus formed Eurasia Economic Union (EEU). Russia also claimed to study Armenia ’ s capacity of using space for peaceful purposes under the Russia - Armenia cooperation framework in scientific, technical and industrial areas. However, after the Russia - Ukraine stand-off, Russia cessed the longstanding space cooperation with Ukraine ( Space News 2015) 16 . With a strong geopolitical mind - set, Africa, Latin America, ASEAN and Central Asia became nowadays the new power playground for the US, Russia and China to bid for allies or followers. In this circumstance, non - spacefaring states from a given re-gions often undertake the practice of ‘ regime shopping ’ (Keohane & Victor 2011) by opting the most advantageous regimes in accordance to their functional interests and preferences to gain beneficial issue linkages. The stimuli from the space powers are valuable to help the space regionalization. Yet, it can hardly be the only factor to lead such processes to its final goal.

#### Regional cooperation is crucial to effective data integration and reducing interoperability costs

Gottschalk 8 [(Gottschalk, Political Studies Department, University of the Western Cape) “The Roles of Africa’s Institutions in Ensuring Africa’s Active Participation in the Space Enterprise: The Case for an African Space Agency (ASA),” African Skies/Cieux Africains, No. 12, 2008] TDI Recut Ethan Yang

By contrast, the underdeveloped, poorer countries of our continent only managed to re-engineer the ineffective OAU into the African Union in 2002 — and have not yet pooled their resources to form an African space agency. Let us spell out explicitly the case for continental coordination. First is the efficient and effective use of our scarce resources. Africa is a capital-scarce continent. The allocation of resources to the extreme cost of access to space requires solid justification. The space enterprise also demands an allocation of scarce high-level human resources, plus costly hi-tech peripherals. Even combined as a whole continent, Africa will command less space resources than an individual member of ESA such as France. Consequently, the space enterprise in Africa needs such coordination far more than Europe does. Second is the argument from spherical geometry. The geosynchronous orbit footprint of a satellite is continental, and of all the continents Africa more than any other has the equator at its centre, optimal for geo-stationary orbit-keeping. Medium-Earth Orbit satellites have a footprint which covers the whole of a Regional Economic Community, such as the Economic Community of West African States (ECOWAS), the East African Community (EAC), or the Southern African Development Community (SADC). One after another, Algeria, Egypt, Nigeria and South Africa are now launching national constellations of micro sats whose image swathes run through each other’s countries — but we download data from less than 1% of each orbit of our satellites. It is logical to download data continuously during the transect of every satellite’s orbit over the whole of Africa, and to centrally archive and process such data. South Africa is discussing co-ordinated satellite programmes with African countries.1 As a continent we will be able to negotiate better offers for satellite construction, space launches, technology transfer, and share data, scarce facilities and infrastructure, than as individual small countries alone. Security issues, such as images of a specific location, or of a specific resolution, can be easily resolved by inter-governmental agreement. The African Resource Management Constellation will be best operated by a continental space agency.

#### Space assets provide information communication technology and telemedicine – only common but differentiated responsibilities can solve

Ferreira-Snyman 13 [(Anél, B Juris (PUCHE); LLB (PUCHE); LLM (PUCHE); LLD (UJ). Professor: Department of Jurisprudence, at University of South Africa) “The environmental responsibility of states for space debris and the implications for developing countries in Africa” The Comparative and International Law Journal of Southern Africa, Vol. 46, No. 1, 44-49, 2013] TDI Recut Ethan Yang

As was pointed out at the onset, the involvement of states in space activities is no longer a mere luxury, but is increasingly becoming a necessity. Although it may be argued that African states are already struggling merely to meet the UN Millennium Development Goals and cannot, therefore, be expected to engage in space activities, space technology can be used in a number of beneficial ways,152 and involvement in space activities is especially important for their development and human security.153 This will also answer the objectives of NEPAD, which has identified the development of science and technology on the African continent as one of its sectoral priorities.154 In terms of section 13 of the Constitutive Act of the Africa Union,155 the Executive Council of the Union shall coordinate and take decisions on policies in certain areas of common interest to member states, including science and technology.156 Specifically, the use of satellite technology has the potential to promote a state's development and assist in transforming the socio-economic needs of its citizens.157 Communication satellites can provide developing states with the opportunity to communicate freely and to access in imperative for their economic, social, and technical development.158 Satellites are used for disaster management through remote sensing in order to promote human safety in the instance of disasters such as, floods, earthquakes, volcanic eruptions, landslides, and wildfires.159 Space telecommunication systems can also play an important role in promoting education on the African continent by, for example, providing for distance education via satellite, and by giving advice to farmers on the planting of their crops.160 In the health sector, too, space technology has a significant role to play in areas of tele-medicine (where specialists assist health care workers in remote areas by providing diagnostic and curative assistance), preventative health care, and infant mortality.16 These socio-economic benefits have made the development of space programmes attractive to a number of developing states.162 Several African states have also realised the importance of space technology in achieving their national development goals, as well as the Millennium Development Goals.163 Modest space programmes have, therefore, been launched which are mainly focused on earth observation for the purpose of environmental and agricultural monitoring in order to serve social and development goals. The main actors in this field are Nigeria, South Africa and Algeria. Nigeria has already launched a number of satellites on foreign launchers.164 After launching a government-owned earth observation satellite in 2009, South Africa established a national space agency165 in 2010 to implement South Africa's space policy166 which is focused on capacity-building, the development of space applications, and international space cooperation. South Africa has also created the South African National Space, Science and Technology Strategy. Algeria has a national space agency, and has constructed a centre for the development of satellites.167 Other states in North Africa, including Tunisia, Morocco, and Egypt (the fourth state to launch a satellite in Africa) also have space agencies or space application centres.168 Angola has shown an interest in space technology and concluded a contract for a communications satellite with Russia in 2009.169 A number of African states, including South Africa, have also enacted their own domestic space legislation. On a regional level, the African Leadership Conference on Space Science and Technology for Sustainable Development was established by South Africa, Algeria, Kenya, and Nigeria to discuss space-related issues. Between 2005 and 2011, four conferences have been held and their recommendations have been shared with non-African member states of the UNCOPUOS.171 A declaration of intent on the African Management and Environmental Constellation was signed by South Africa, Nigeria, and Algeria in 2008. The data accumulated by earth observation satellites in the lower earth orbit will be shared by these three states.172 On an international level, South Africa has shown that it has a role to play in the international space arena. It served as co-chair of the Group on Earth Observations in 2005, and it chaired the Committee of Earth Observation Satellites in 2008. In 2009, the European Union-South Africa Space Dialogue was established. In May 2012, an independent advisory committee decided that the world's largest and most advanced radio telescope, the Square Kilometre Array (SKA) will be constructed on sites in South Africa (with the majority of transmitters being sited here), Australia, and New Zealand. The telescope will be used to explore deep space in order to study the origins of the universe and detect weak signals indicating possible extraterritorial life.173 These opportunities for international cooperation have the potential of increasing the space capacity of developing states in Africa. As African states realise the socio-economic and human security benefits of space applications and thus become increasingly involved in space activities, the issue of space debris will inevitably also become a greater concern for these states. The consequences of damage as a result of satellites being involved in accidents with space debris will be especially serious for the developing states which have limited resources.175 There is also a possibility of environmental damage on the territories of the developing states as a result of falling space debris. It is, therefore, imperative that more African states (including states not involved in space activities) become parties to and comply with the space treaties. They should further increase their representation in the UNCOPUOS in order to have stronger bargaining power and influence in this Committee, by presenting a united African position on space issues One of the issues that will need to be negotiated between developing and developed states, is the responsibility for current and future levels of space debris. As the current levels of space debris are proportionate to the number of space launches to date, a greater responsibility for the maintenance of the environment should be assigned to the space powers that have carried out these launches.177 This is in accordance with the environmental law principle of ' common but differentiated responsibilities ' that is enunciated in a number of international environmental law instruments.178 In terms of this principle, which is based on the idea of international equity, environmental degradation has its origin mainly in industrialised countries and they should, therefore, be primarily responsible for eradicating environmental pollution. These countries usually also have greater capacity to respond to environmental problems and they should, therefore, assist developing countries in accessing relevant resources and technologies to achieve sustainable development.179 As a result of the difference in the social, economic, and ecological circumstances of states, the environmental standards applied to industrialised and developing countries cannot be the same, hence the need for a differentiated approach. In the context of outer space, non-space-faring nations insist that the space faring nations (thus mainly industrialised countries) that have caused (and continue to cause) the current levels of space pollution, should bear the main responsibility to improve the situation, so as to guarantee the possibility of future space activity (including that of developing states). Space-faring nations are obviously in a better position to take the necessary action in this regard.181

#### Lack of African ICT makes telemedicine impossible

Bisu et al 18 [(Anas A., Department of Engineering, Durham University)(Andrew Gallant, Hongjian Sun, Katharine Brigham, and Alan Purvis) “Telemedicine via Satellite: Improving Access to Healthcare for Remote Rural Communities in Africa” IEEE Region 10 Humanitarian Technology Conference, 2018] TDI Recut Ethan Yang

I. INTRODUCTION The population of Africa is increasing rapidly with projected growth from 1.288 billion to 2.528 billion people by 2050 [1]–[3], yet Sub-saharan Africa (SSA) has lowest health workforce capacity of 3% and healthcare expenditure of 1% globally, which has contributed to the region’s highest burden of communicable diseases (25% of global) such as malaria, HIV/AIDS tuberculosis [5]. Today, about 58% of African population live in remotely isolated rural areas [3], mostly sparsely populated with little or no access to medical care due to the lack of medical facilities and professionals at a time when 55% of the world population lives in urban areas with 53% of the world digitally connected and having advanced healthcare [4, 6]. Moreover, 3.4 billion of the world population live in rural areas and this figure is expected to rise before its decline in 2050 due to urbanisation. Africa and Asia contribute about 90% of the global rural population [4]. Although sustainable urbanisation has been identified as key to successful development as the world continues to urbanise, sustainable development largely depends on successful management of urban growth, particularly in low-income and lower-middle-income countries like Africa [4]. However, policies to improve the lives in both urban and rural areas are required to ensure access to infrastructure and services such as healthcare for all [4]. Telemedicine is becoming vital to the healthcare system as it has the potential to help deliver quality medical care to isolated rural areas and, when implemented correctly, it can be a cost-effective way of expanding access to excellent medical care. However, because it is a relatively new and quickly changing field, some challenges need to be addressed. Telemedicine, which is the use of telecommunications and information technology also known as the use of Information and Communications Technology (ICT) to extend access to quality medical care and to provide improved health care using remote diagnosis, treatment and health information to underserved isolated rural areas by removing distance and cost barriers [5, 7]. The Telemedicine Task Force (TTF) set up in Brussels in January 2006 during a workshop sponsored by European Space Agency (ESA) and European Commission (EC) is tasked with the mandate to develop a comprehensive picture of telemedicine opportunities in Africa on recognition of the potential of Satellite Communications (SatComs) technology to strengthen health systems in Africa and significantly extend the reach of communication to remote and isolated areas of the continent, given the limited reach of terrestrial communication networks. Africa remains the most disenfranchised region in the world with regards to Internet access, with only 34% internet users as of 2018 [6]. The TTF is convinced that by complementing terrestrial infrastructure with SatComs, complete coverage of the African region can be achieved thereby enabling effective and sustainable telemedical services in the region [5].

#### Telemedicine solves Africa’s disease burden

Mbarika and Okoli 2 [(Victor W. A. Mbarika, Department of Information Systems and Decision Sciences)(Chitu Okoli, Department of Information Systems and Decision Sciences)“Telemedicine in Sub-Saharan Africa: A Proposed Delphi Study,” Proceedings of the 36th Hawaii International Conference on System Sciences, IEEE, 2002] TDI Recut Ethan Yang

1.2. Telemedicine in Sub-Saharan Africa Numerous studies documenting the spread of the Internet in various parts of the world have highlighted the fact that Sub-Saharan Africa (SSA)— part of the world’s second largest continent—is the region with the lowest level of economic, technological, and Internet development in the world [15, 16]. The delivery of healthcare is unarguably one of the most fundamental needs for SSA, considering the region’s medical nightmare of growing medical problems with an acute shortage of medical facilities and personnel. Both academic and practitioner literature report on the many medical problems of SSA. The World Health Organization reported that by the end of 2001, an estimated 40 million people worldwide—2.7 million of them younger than 15 years—were living with HIV/AIDS. More than 70 percent of these people (28.1 million) live in SSA; another 15 percent (6.1 million) live in South and Southeast Asia [26]. Furthermore, malaria kills more than a million children each year—2,800 per day—in Africa alone. This represents as many as half the deaths of African children under the age of five. In regions of intense transmission, 40% of toddlers may die of acute malaria, even though there would be a good chance of survival with timely medical attention. Other diseases that kill millions of Africans each year include dysentery, cholera, typhoid, yellow fever, and diarrhea; there are many others. Another major problem faced by Sub-Saharan countries is the shortage of medical personnel. Many developing countries have an acute shortage of doctors, particularly specialists. SSA has fewer than 10 doctors per 100,000 people, and 14 countries do not have a single radiologist. The few specialists and services available are concentrated in cities. Rural health workers, who serve most of the population, are isolated from specialist support and up to date information by poor roads, scarce and expensive telephones, and a lack of library facilities [5]. Telemedicine overcomes the barriers of physical distribution of medical resources by bringing medical personnel and expertise virtually to those who need them in SSA. In a bid to find a solution to the growing medical problems of SSA, many governmental, non-governmental, and international developmental organizations have engaged in an endless effort to implement telemedicine. For example, during the period 1996-2000 the International Telecommunications Union organized several missions of telemedicine experts to selected African countries. These missions tried to identify Africa’s needs and priorities for the introduction of telemedicine services taking into account the state-ofthe-art of the local telecommunications networks and their evolution [9]. However, most of SSA’s telecommunications networks are very poorly developed [12]. Another obstacle is that few African countries have experience in the application of telemedicine, even in urban areas equipped with telecommunications infrastructure. Furthermore, African countries cannot afford the very sophisticated telemedicine solutions involving ATM, virtual reality, etc. Notwithstanding these obstacles, among many others, telemedicine adoption is still important and feasible for most, if not all, Sub-Saharan countries (Table 1). Given that telemedicine is important and feasible for SSA, this study first presents some cases of successful telemedicine projects in the region (Mbarika, Forthcoming). We focus on SSA because countries within the region share a different socioeconomic structure compared to the richer northern and southern African countries. In the next major section, we present a Delphi study to identify critical success factors for telemedicine implementation in Sub-Saharan Africa. We conclude with a discussion of further research. 1.2.1. Importance of telemedicine adoption in Sub-Saharan Africa • There is an overwhelming need for the provision of medical and health care services, especially in areas outside the cities; • Telemedicine links between hospitals and other medical institutions could bring overall improvement of health-care services by centralization and coordination of resources (specialists, hardware and software packages). • The modernization of internal communication in the hospitals could considerably improve the efficiency of health-care delivery. It will be the basis for the introduction of telemedicine services. • The maternity units in any region could be connected by a telemedicine link to the maternity service in a large regional hospital or to the referral hospital. This will allow remote monitoring of the health of pregnant women, especially those with pathological problems [9]. • Tourists would be encouraged to visit the country and visit remote areas if there is a facility for telemedicine. From all medical emergencies, good and qualified medical attention may be provided with the backup of telemedicine service.

#### And data integration provides mapping that solves malaria

Ceccato 5 [(P. Ceccato1,1International Research Institute for Climate Prediction, The Earth Institute, Columbia University, S.J. Connor1, I. Jeanne2, M.C. Thomson) “Application of Geographical Information Systems and Remote Sensing technologies for assessing and monitoring malaria risk,” 2005, Parassitologia 47: 81-96] TDI Recut Ethan Yang

Operational use of remotely sensed images has taken a long time to be implemented in technologically developing regions because image and processing software costs were prohibitive. This problem is now diminishing since: (i) computer processing and data storage facilities are now accessible at lower cost, (ii) satellite images at high spatial resolution have become accessible free of charge (MODIS data) via the Internet and (iii) processing tools such as Healthmapper (GIS tool), Windisp (image display tool), and ADDAPIX (image analysis tool) are being made available to the user community at no cost by organizations such as the World Health Organization and the UN Food and Agriculture Organization (FAO). The recent availability of free images and processing tools has enabled the rapid development of applications using RS and GIS for operational purposes. In the case of Desert Locust monitoring using RS, GIS and data collection tools including GPS and palmtop computers shows that technology can be made operational in Africa under harsh conditions and at low cost. This successful operational early warning system for Desert Locust monitoring developed by FAO could also be applied for Malaria Early Warning System. The major challenge would be to harmonize data collection and tools in the Malaria community in order to enable data dissemination and analyses. This harmonization for the African continent should be made by an organization such as the UN which has the ability to develop standards and negotiate processes to reach consensus on methodologies and best practices between countries. Thanks to the availability of free image data at high spatial resolution (MODIS images), a new generation of applications can be now implemented to help decisionmakers in the field. The image (Fig. 5) shows the area between Niger-Mali and Burkina Faso where a project is currently underway (NOMADE project). The following image (Fig. 6) shows the presence of vegetation and water bodies with sufficient spatial resolution to allow analyses of where and when (i) vector can develop and (ii) where nomad herds can congregate for food and water and therefore be at risk of malaria. The NOMADE project will allow direct access of information to the user community by using MODIS images which are free of charge via the Internet. The use of MODIS images is also operational in the desert locust monitoring systems implemented in 20 countries where the Department of Plant Protection (DPP) of the Ministry of Agriculture has access via a FTP site at FAO to the MODIS images processed locally in Rome. Each DPP downloads the images and integrates them into a customized GIS developed specifically to monitor desert locust. The desert locust Officer is then able to analyze where and when to send survey teams in the desert to scout for desert locust. Once found, information can be provided to the control team on the area to be treated (Ceccato, in press). This approach can also be adapted for the malaria control community. The launch of initiatives to reduce malaria such as the Roll Back Malaria (RBM), the Millennium Development Goals (MDGs) and the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) can also provide a platform to help the transfer of these new technologies toward the most affected countries. Data and good intentions alone, however, are not sufficient. Developing countries will also need assistance in the process of technology transfer, and in structuring their national information systems and decision-making processes, if they are to derive full benefit from this exceedingly powerful technology. Integration GIS-RS-Models to produce Malaria Early Warning System The ready availability of frequently updated data on environmental variables pertinent to malaria transmission over large and remote regions makes RS a useful source of information for epidemic early warning systems. The concept of an early warning system for the prediction of malaria epidemics predates satellite technology by many decades. In fact an early warning system in response to the massive epidemics that occurred periodically in pre-independence India was operated routinely in the Pubjab from the early 1920s until the early 1950s (Najera, 1999). Christophers (1911) observed that between 1868-1908 severe and explosive ‘fever’ epidemics of two-three month duration (AugustOctober) were common in the region. In particular he noted that the worst of the epidemics, which had a periodicity of 7-8 years, coincided with high grain prices and famine. Christophers saw this ‘human factor’ as an ‘essential requirement’ which undermined the population and resulted in high death rates as a result of the epidemics (Christophers, 1911). Christophers’ suggestions for an early warning system were taken up by Gill (1923) who developed a system based on a set of risk indicators: epidemiological assessment of previous infection, economic assessment of grain prices; the JulyAugust rainfall levels; and occurrence of an epidemicwithin the last 5 years (Gill, 1923). Gill tested the system in 1921 and it went into routine operation in 1923. Retrospective reviews of the system outlined the statistical significance and its operational value in epidemic early warning (Yacob and Swaroop, 1944; Swaroop, 1949) but also identified the potential significance of May rainfall, offering a lead warning time of three months (Connor et al., 1999). Despite this example, much of the interest in early warning systems for malaria epidemics was lost during the Global Malaria Control/Eradication Era (Najera, 1998). It was not until the 1990s when a number of epidemics were reported from the East African highlands and a regional epidemic in Southern Africa stimulated renewed interest. At its launch in 1998 the Roll Back Malaria partnership identified Early Detection and Control of Epidemics as one of its four key elements (RBM, 1998). RBM established a Technical Resource Network on Epidemic Prevention and Control which held its first meeting in Geneva in 1998. Among the recommendations of the meeting was the development of a research framework to establish Malaria Early Warning Systems (MEWS) in sub-Saharan Africa and the identification of indicators and thresholds which could be used for early detection of epidemics by epidemiological surveillance systems. The MEWS framework was developed and published in 2001 (WHO, 2001). It set out a series of activities which together form the basis of an integrated monitoring process to identify changes in epidemic potential and increased risk of transmission in areas prone to epidemics (Fig. 7). A pre-requisite to MEWS is the mapping of areas prone to epidemics, either through historical analysis, or in combination with climatic suitability and environmental suitability for malaria transmission. Epidemic risk mapping should be dynamic and updated frequently to reflect changes in vulnerability factors. Clearly an epidemic response plan and the capacity to respond in the vulnerable areas are also essential. The first of the MEWS monitoring processes involves consideration of the dynamic factors which may make populations more vulnerable to severe epidemic outcome. As with the Punjab model, drought, inadequate food security and nutritional/economic status may be important. Increasing levels of drug or insecticide resistance, reduction in health service provision or a high burden of other diseases, such a HIV/AIDS, may also compromise any immunity and increase vulnerability to epidemics. While these factors are unlikely to give an indication of when an epidemic might occur, they do provide some warning of the severity that can be expected if one does occur and is not prevented. The second MEWS monitoring process considers the forthcoming season’s climate. Will it be a drier, normal, or wetter season? What does this mean for epidemic risk considering the recent history? A number of years of drought may disrupt populations, may lower immunity and make populations more susceptible when higher, or even normal, rainfall levels occur. In recent years there have been a number of regular regional meetings (Regional Climate Outlook Fora) where available climate forecasts for the forthcoming seasons are discussed, and considered by the various sectors, such as agriculture, water resources and, increasingly, health. In September 2004, the first Southern African Regional Epidemic Outlook Forum was held in Harare, Zimbabwe. The forthcoming seasons’ climate was presented and discussed to develop action plans for epidemic preparedness and response in the countries that are part of the Southern Africa Development Community (SADC) (http://www.malariajournal.com/content/3/1/37). The third MEWS process is monitoring the weather as it occurs. Are temperatures unusual for this time of year? Is the rainfall higher than would normally be expected? The latter is now freely monitored through meteorological satellites and these are often more readily and frequently available than rain station data through the local meteorological services, who often have to charge for their data. Considering where high rainfall, following two or three years of drought occurs on a vulnerable population in a desert-fringe area which has had epidemics in the past may be one of the most realistic early warning systems available in many African countries. However, the interplay of temperature with rainfall are crucially important in highland-fringe epidemic settings, where the impact of high rainfall may increase epidemic risk or cool the environment to levels which lower transmission potential. Current work is investigating the development and implementation of near-real-time temperature information along with rainfall as a routinely available environmental monitoring product for use in the highland-fringe epidemic settings (Fig. 8) The fourth monitoring process is epidemiological surveillance. Entomological surveillance may offer valuable insights into the vector- parasite-host dynamics and provide warning of changes in epidemic risk. This is generally beyond the scope of most African health services. However, the example of Desert Locust monitoring at Ministry of Agriculture level in 15 countries in Africa, Middle East and South-West Asia showed that surveillance is possible using simple GIS tools (Ceccato, in press). It may be possible to establish sentinel sites in particular locations, known to be epidemic prone and where rapid detection and reporting is possible, and a number of studies are attempting this. While the detection of an epidemic through a rapid increase in the number of cases would be the most reliable, it is unfortunate that routine case reporting systems in sub-Saharan African countries are, at present, unable to detect epidemics in sufficient time to enable an effective response. Due to the complexity of the variables to be considered and the remoteness of the areas affected, RS is an ideal source on which to base an early warning system for malaria epidemics. The research framework established by the RBM partnership provides a useful structure on which to base the required system. Specifically, a comprehensive system must take into account 1) population vulnerability, 2) the forthcoming season’s climate, 3) current weather conditions and 4) vector/parasite/host dynamics. Ideally a country will monitor all of these processes in an integrated framework, which when taken together act as a series of compounding indicators which give control services sufficient confidence to prepare and act early (in accordance with their pre-formulated epidemic response plan) to prevent the rapid rise in cases before they occur. Conclusions Malaria is a deadly but preventable and curable disease. Although the environmental drivers that determine the life cycles of both the vector, host and the Plasmodium parasite are complex, they can be monitored and analyzed using newly available technologies such as RS and GIS. Research has shown that the technological building blocks are available to create an operational early warning system which could prevent epidemics and limit the scale of outbreaks until such time as the disease can be eradicated, as it has in Europe and the USA. A holistic early warning system must consider all of the factors that influence the development of malaria as well as their interactions. Rainfall, temperature, humidity, vegetation and seasonality in weather and climate can all have an effect on the vector, the parasite and susceptibility of the human to the disease. Over the years, many tools have been developed to monitor these factors which are currently available. Rainfall Estimates and Malaria Risk Analyses are available on the ADDS FEWS web page. The vectorial capacity model was developed to express malaria transmission risk and has since been extended to enable temperature and rainfall to drive the model. Information on climate forecast and climate anomalies is becoming more reliable with recent scientific advances and is made available through the IRI Data Library mining factor. Effective control systems should: 1) have access to forecast information on diseases outbreaks and 2) have the means and the organization required to implement control measures. A good early warning system should take into account the effect of any strengths or weaknesses in these areas.

#### Malaria, tuberculosis, and AIDS are all preventable, but kill 5 mil annually – “acceptable losses” frame cements inequality

Murphy 6 [(Sean C., MD, Assistant Professor, Laboratory Medicine at the University of Washington) “Malaria and Global Infectious Diseases: Why Should We Care?,” Virtual Mentor, 2006;8(4):245-250] TDI Recut Ethan Yang

The morning after Ronald Ross confirmed that mosquitoes formed a critical link in the lifecycle of the malaria parasite, he wrote in his notebook: …I have found thy secret deeds Oh million-murdering Death. I know that this little thing A million men will save [1]. In the US and Europe, Ross’s prediction has come true. Although 1 million malaria cases occurred annually in the US throughout the 1930s, today the disease is virtually nonexistent. The story of malaria eradication in the US recounts the development of our health care infrastructure and the success of public health programs. However, in the developing world where such advances are absent, malaria rages as one of the worst infectious killers. And yet malaria is by no means the only one. Infectious diseases are the leading cause of global morbidity and mortality [2]. The “big 3” pathogens—HIV, tuberculosis, and malaria—cause hundreds of millions of infections annually and collectively kill more than 5 million people each year, mostly in sub-Saharan Africa and Asia. The great travesty of these statistics is that all 3 “perpetual” epidemics are preventable and largely treatable. Why do preventable, treatable diseases continue to weigh heavily on the poor? What are the ethical implications for the medical profession and society when drastic health disparities are perpetuated? What arguments can be made for changing the status quo? Since the history of malaria encapsulates our failure to combat global health threats, it is worth exploring the above issues as they relate to malaria in particular and all “forgotten epidemics” in general. Poverty and Health Bacterial, viral, and parasitic diseases cause approximately 163 000 deaths in the developed world annually (mostly among the elderly and those with compromised immune systems) compared to 9.2 million deaths (mostly among children) in the developing world [3]. Communicable diseases cause 56 percent of deaths in the poorest fifth of the world compared to only 8 percent in the richest fifth [4]. Infectious diseases are the world’s leading killers of children and young adults [5]. By every measurable health statistic, the developing world is at an extreme disadvantage in matters of infectious disease. In addition to morbidity and mortality, infectious diseases are bidirectionally linked to poverty. Malaria has micro- and macroeconomic consequences for affected regions: decreased income, tourism, and foreign investment and increased health expenditures [6]. In contrast, areas that control malaria realize higher life expectancies and economic gains. Malarious countries face far more than the parasite itself; they must also grapple with limited access to essential medicines or health care, poor hygiene and sanitation, low subsistence incomes, limited education, and scant health information. Unfortunately, the developed world has not committed to addressing these problems. Ninety percent of health care dollars treat a mere 10 percent of the world’s population. This skew is reflected in pharmaceutical portfolios; only 13 of 1233 drugs licensed from 1975 to 1997 were approved for tropical diseases, despite the overwhelming burden imposed by these diseases [7]. Current antimalarial drugs are being rendered ineffective by parasite resistance. Without colonial interests to mandate tropical disease research, and with these diseases virtually eliminated from developed countries, governments have refocused their attention on health problems at home. Meanwhile, as “acceptable losses,” millions continue to die from malaria and other infections, leaving us with intensifying disease burdens among the poor, limited interest among the rich, and a dangerous and ever-widening gap between these spheres. According to public health expert Paul Farmer, the world’s double standard for health is the leading bioethical problem of our time [8].

## 1AC – Framework

#### Contention Three is Framework -

#### First is the standard – minimizing structural violence

#### 1] Structural violence is based in moral exclusion, which is fundamentally flawed since it’s based on arbitrary differences.

Opotow 01 [Susan Opotow is a social and organizational psychologist. Her work examines the intersection of conflict, justice, and identity as they give rise to moral exclusion -- seeing others as outside the scope of justice and as eligible targets of discrimination, exploitation, hate, or violence. She studies moral exclusion and moral inclusion in such everyday contexts as schooling, environmental and public policy conflict, and in more violent contexts, such as deadly wars and the post-war period. She has guest edited The Journal of Social Issues and Social Justice Research and co-edited Identity and the Natural Environment: The Psychological Significance of Nature (MIT Press, 2003). She is associate editor of Peace and Conflict: Journal of Peace Psychology and Past President of the Society for the Psychological Study of Social Issues], “Social Injustice”, Peace, Conflict, and Violence: Peace Psychology for the 21st Centuryl Englewood Cliffs, New Jersey: Prentice-Hall, 2001,

Both structural and direct violence result from moral justifications and rationalizations. Morals are the norms, rights, entitlements, obligations, responsibilities, and duties that shape our sense of justice and guide our behavior with others (Deutsch, 1985). Morals operationalize our sense of justice by identifying what we owe to whom, whose needs, views, and well-being count, and whose do not. Our morals apply to people we value, which define who is inside our scope of justice (or “moral community”), such as family members, friends, compatriots, and coreligionists (Deutsch, 1974, 1985; Opotow, 1990; Staub, 1989). We extend considerations of fairness to them, share community resources with them, and make sacrifices for them that foster their well- being (Opotow, 1987, 1993). We see other kinds of people such as enemies or strangers outside our scope of justice; they are morally excluded. Gender, ethnicity, religious identity, age, mental capacity, sexual orientation, and political affiliation are some criteria used to define moral exclusion. Excluded people can be hated and viewed as “vermin” or “plague” or they can be seen as expendable non-entities. In either case, disadvantage, hardship, and exploitation inflicted on them seems normal, accept- able, and just—as “the way things are” or the way they “ought to be.” Fairness and deserving seem irrelevant when applied to them and harm befalling them elicits neither remorse, outrage, nor demands for restitution; instead, harm inflicted on them can inspire celebration. Many social issues and controversies, such as aid to school drop-outs, illegal immigrants, “welfare moms,” people who are homeless, substance abusers, and those infected with HIV are essentially moral debates about who deserves public resources, and thus, ultimately, about moral inclusion. When we see other people’s circumstances to be a result of their moral failings, moral exclusion seems warranted. But when we see others’ circumstances as a result of structural violence, moral exclusion seems unwarranted and unjust. While it is psychologically more comfortable to perceive harm-doers to be evil or demented, we each have boundaries for justice. Our moral obligations are stronger toward those close to us and weaker toward those who are distant. When the media reports suffering and death in Cambodia, El Salvador, Nicaragua, the former Yugoslavia, and Rwanda, we often fail—as a nation, as com- munities, and as individuals—to protest or to provide aid. Rationalizations include insufficient knowledge of the political dynamics, the futility of doing much of use, and not knowing where to begin. Our tendency to exclude people is fostered by a number of normal perceptual tendencies: 1. Social categorization. Our tendency to group and classify objects, including social categories, is ordinarily innocuous, facilitating acquisition of information and memory (Tajfel & Wilkes, 1963). Social categorizations can become invidious, however, when they serve as a basis for rationalizing structural inequality and social injustice. For example, race is a neutral physical characteristic, but it often becomes a value-loaded label, which generates unequal treatment and outcomes (Archer, 1985; Tajfel, 1978). 2. Evaluative judgments. Our tendency to make simple, evaluative, dichotomous judgments (e.g., good and bad, like and dislike) is a fundamental feature of human perception. Evaluative judgments have cognitive, affective, and moral components. From a behavioral, evolutionary, and social learning perspective, evaluative judgments have positive adaptive value because they provide feedback that protects our well-being (Edwards & von Hippel, 1995; Osgood, Suci, & Tannenbaum, 1957). Evaluative judgments can support structural violence and exclusionary thinking, however, when they lend a negative slant to perceived difference. In-group-out-group and we-them thinking can result from social comparisons made on dimensions that maximize a positive social identity for oneself or one’s group at the expense of others (Tajfel, 1982).

#### 2] The structural violence of inequality outweighs other impacts—there is an ethical obligation to address it.

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There are many different kinds of violence. Some are obvious: punches, attacks, gunshots, explosions. These are the kinds of interpersonal violence that we tend to hear about in the news. Other kinds of violence are intimate and emotional. But the **deadliest** and most thoroughgoing kind of violence is woven into the fabric of American society. It exists when some groups have more access to goods, resources, and opportunities than other groups, including health and life itself. This violence delivers **specific blows against particular bodies in particular neighborhoods**. This unequal advantage and violence is built into the very rules that govern our society. In the absence of this violence, **large numbers of Americans would be able to live fuller and longer lives**. This kind of violence is called structural violence, because it is embedded in the very laws, policies, and rules that govern day-to-day life.8 It is the cumulative impact of laws and social and economic policies and practices that render some Americans less able to access resources and opportunities than others. This inequity of advantage is not a result of the individual’s personal abilities but is built into the systems that govern society. Often it is a product of **racism**, **gender**, and **income inequality**. The diseases and premature mortality that Windora and many of my patients experienced were, in the words of Dr. Paul Farmer, “biological reflections of social fault lines.”9 As a result of these fault lines, a disproportional burden of illness, suffering, and premature mortality falls on certain neighborhoods, like Windora’s. Structural violence can overwhelm an individual’s ability to live a free, unfettered, healthy life. As I ran to evaluate Windora, I knew that her stroke was caused in part by lifelong exposure to suffering, racism, and economic deprivation. Worse, the poverty of West Humboldt Park that contributed to her illness is directly and inextricably related to the massive concentration of wealth and power in other neighborhoods just miles away in Chicago’s Gold Coast and suburbs. That concentration of wealth could not have occurred without laws, policies, and practices that favored some at the expense of others. Those laws, policies, and practices could not have been passed or enforced if access to political and economic power had not been concentrated in the hands of a few. Yet these political and economic structures have become so firmly entrenched (in habits, social relations, economic arrangements, institutional practices, law, and policy) that they have become part of the matrix of American society. The rules that govern day-to-day life were written to benefit a small elite at the expense of people like Windora and her family. These rules and structures are powerful destructive forces. The same structures that render life predictable, secure, comfortable, and pleasant for many destroy the lives of others like Windora through **suffering**, **poverty**, **ill health**, and **violence**. These structures are neither natural nor neutral. The results of structural violence can be very specific. In Windora’s case, stroke precursors like chronic stress, poverty, and uncontrolled hypertension run rampant in neighborhoods like hers. Windora’s illness was caused by neither her cultural traits nor the failure of her will. Her stroke was caused in part by inequity. She is one of the lucky ones, though, because even while structural violence ravages her neighborhood, it also abets the concentration of expensive stroke- intervention services in certain wealthy teaching hospitals like mine. If I can get to her in time, we can still help her. Income Inequality and Life Inequality Of course, Windora is not the only person struggling on account of structural violence. Countless neighborhoods nationwide are suffering from it, and people are dying needlessly young as a result. The magnitude of this excess mortality is mind-boggling. In 2009 my friend Dr. Steve Whitman asked a simple question, “How many extra black people died in Chicago each year, just because they do not have the same health outcomes as white Chicagoans?” When the Chicago Sun-Times got wind of his results, it ran them on the front page in bold white letters on a black background: “HEALTH CARE GAP KILLS 3200 Black Chicagoans and the Gap is Growing.” The paper styled the headline to look like the declaration of war that it should have been. In fact, we did find ourselves at warnot long ago, when almost 3,000 Americans were killed. That was September 11, 2001. That tragedy propelled the country to war. Yet when it comes to the premature deaths of urban Americans, no disaster area has been declared. No federal troops have been called up. No acts of Congress have been passed. Yet this disaster is **even worse**: those 3,200 black people were in Chicago alone, in just one year. Nationwide each year, more than **60,000** black people die prematurely because of inequality.10 While blacks suffer the most from this, it is not just an issue of racism, though racism has been a unique and powerful transmitter of violence in America for over four hundred years.11 Beyond racism, poverty and income inequality perpetuated by exploitative market capitalism are singular agents of transmission of **disease and early death**. As a result, there is a new and alarming pattern of declining life expectancy among white Americans as well. Deaths from drug overdoses in young white Americans ages 25 to 34 have exploded to levels not seen since the AIDS epidemic. This generation is the first since the Vietnam War era to experience higher death rates than the prior generation.12 White Americans ages 45 to 54 have experienced skyrocketing premature death rates as well, something not seen in any other developed nation.13 White men in some Appalachian towns live on average twenty years less than white men a half-day’s drive away in the suburbs of Washington, DC. Men in McDowell County, West Virginia, can look forward to a life expectancy only slightly better than that of Haitians.14 But those statistics reflect averages, and every death from structural violence is **a person**. When these illnesses and deaths are occurring one at a time in neighborhoods that society has decided not to care about—neighborhoods populated by poor, black, or brown people—they seem easy to overlook, especially if you are among the fortunate few who are doing incredibly well. The tide of prosperity in America has lifted some boats while others have swamped. Paul Farmer, the physician-anthropologist who founded Partners in Health, an international human rights agency, reflects on the juxtaposition of “unprecedented bounty and untold penury”: “It stands to reason that as beneficiaries of growing inequality, we do not like to be reminded of misery of squalor and failure. Our popular culture provides us with no shortage of anesthesia.”15 That people suffer and die prematurely because of inequality is wrong. It is wrong from an ethical perspective. It is wrong from a fairness perspective. And it is wrong because we have the means to fix it.

#### Second is risk analysis:

#### 1] No extinction – it’s a distraction from structural violence

Jackson ’12 (Richard; 8/5/12; Ph.D. in Political Science from the University of Canterbury, Professor of Peace Studies at the University of Otago, Director of the National Centre for Peace and Conflict Studies, former senior lecturer at the University of Manchester; Richard Jackson Terrorism Blog, “The Great Con of National Security,” <https://richardjacksonterrorismblog.wordpress.com/2012/08/05/the-great-con-of-national-security/)>

It may have once been the case that being attacked by another country was a major threat to the lives of ordinary people. It may also be true that there are still some pretty serious dangers out there associated with the spread of nuclear weapons. For the most part, however, most of what you’ve been told about national security and all the big threats which can supposedly kill you is one big con designed to distract you from the things that can really hurt you, such as the poverty, inequality and structural violence of capitalism, global warming, and the manufacture and proliferation of weapons – among others. The facts are simple and irrefutable: you’re far more likely to die from lack of health care provision than you are from terrorism; from stress and overwork than Iranian or North Korean nuclear missiles; from lack of road safety than from illegal immigrants; from mental illness and suicide than from computer hackers; from domestic violence than from asylum seekers; from the misuse of legal medicines and alcohol abuse than from international drug lords. And yet, politicians and the servile media spend most of their time talking about the threats posed by terrorism, immigration, asylum seekers, the international drug trade, the nuclear programmes of Iran and North Korea, computer hackers, animal rights activism, the threat of China, and a host of other issues which are all about as equally unlikely to affect the health and well-being of you and your family. Along with this obsessive and perennial discussion of so-called ‘national security issues’, the state spends truly vast sums on security measures which have virtually no impact on the actual risk of dying from these threats, and then engages in massive displays of ‘security theatre’ designed to show just how seriously the state takes these threats – such as the x-ray machines and security measures in every public building, surveillance cameras everywhere, missile launchers in urban areas, drones in Afghanistan, armed police in airports, and a thousand other things. This display is meant to convince you that these threats are really, really serious. And while all this is going on, the rulers of society are hoping that you won’t notice that increasing social and economic inequality in society leads to increased ill health for a growing underclass; that suicide and crime always rise when unemployment rises; that workplaces remain highly dangerous and kill and maim hundreds of people per year; that there are preventable diseases which plague the poorer sections of society; that domestic violence kills and injures thousands of women and children annually; and that globally, poverty and preventable disease kills tens of millions of people needlessly every year. In other words, they are hoping that you won’t notice how much structural violence there is in the world. More than this, they are hoping that you won’t notice that while literally trillions of dollars are spent on military weapons, foreign wars and security theatre (which also arguably do nothing to make any us any safer, and may even make us marginally less safe), that domestic violence programmes struggle to provide even minimal support for women and children at risk of serious harm from their partners; that underfunded mental health programmes mean long waiting lists to receive basic care for at-risk individuals; that drug and alcohol rehabilitation programmes lack the funding to match the demand for help; that welfare measures aimed at reducing inequality have been inadequate for decades; that health and safety measures at many workplaces remain insufficiently resourced; and that measures to tackle global warming and developing alternative energy remain hopelessly inadequate. Of course, none of this is surprising. Politicians are a part of the system; they don’t want to change it. For them, all the insecurity, death and ill-health caused by capitalist inequality are a price worth paying to keep the basic social structures as they are. A more egalitarian society based on equality, solidarity, and other non-materialist values would not suit their interests, or the special interests of the lobby groups they are indebted to. It is also true that dealing with economic and social inequality, improving public health, changing international structures of inequality, restructuring the military-industrial complex, and making the necessary economic and political changes to deal with global warming will be extremely difficult and will require long-term commitment and determination. For politicians looking towards the next election, it is clearly much easier to paint immigrants as a threat to social order or pontificate about the ongoing danger of terrorists. It is also more exciting for the media than stories about how poor people and people of colour are discriminated against and suffer worse health as a consequence. Viewed from this vantage point, national security is one massive confidence trick – misdirection on an epic scale. Its primary function is to distract you from the structures and inequalities in society which are the real threat to the health and wellbeing of you and your family, and to convince you to be permanently afraid so that you will acquiesce to all the security measures which keep you under state control and keep the military-industrial complex ticking along. Keep this in mind next time you hear a politician talking about the threat of uncontrolled immigration, the risk posed by asylum seekers or the threat of Iran, or the need to expand counter-terrorism powers. The question is: when politicians are talking about national security, what is that they don’t want you to think and talk about? What exactly is the misdirection they are engaged in? The truth is, if you think that terrorists or immigrants or asylum seekers or Iran are a greater threat to your safety than the capitalist system, you have been well and truly conned, my friend. Don’t believe the hype: you’re much more likely to die from any one of several forms of structural violence in society than you are from immigrants or terrorism. Somehow, we need to challenge the politicians on this fact.

#### Every course of action or inaction has a negligible possibility of causing extinction. This makes it impossible to prioritize averting existential risk over all else because such risk is unavoidable. We have no choice but to prioritize REALISTIC probabilities.

#### 2] Probability first

Kessler ‘8 (Oliver; April 2008; Ph.D. in IR, Professor of Sociology at the University of Bielefeld, Professor of History and Theory of IR at the Faculty of Arts; Alternatives, Vol. 33, “From Insecurity to Uncertainty: Risk and the Paradox of Security Politics” p. 211-232)

The problem with this kind of risk assessment is, however, that even the most absurd scenarios can gain plausibility. By constructing a chain of potentialities, improbable events are linked and brought into the realm of the possible, if not even the probable. “Although the likelihood of the scenario dwindles with each step, the residual impression is one of plausibility.”54 This so-called Othello effect has been effective in the dawn of the recent war in Iraq. The connection between Saddam Hussein and Al Qaeda that the US government tried to prove was disputed from the very beginning. False evidence was again and again presented and refuted, but this did not prevent the administration from presenting as the main rationale for war the improbable yet possible connection between Iraq and the terrorist network and the improbable yet possible proliferation of an improbable yet possible nuclear weapon into the hands of Bin Laden. As Donald Rumsfeld famously said: “Absence of evidence is not evidence of absence.” This sentence indicates that under the condition of genuine uncertainty, different evidence criteria prevail than in situations where security problems can be assessed with relative certainty.

#### Third is preempts:

#### 1] Public sector solves every net-benefit

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(KATE ARONOFF is a staff writer at The New Republic and author of Overheated: How Capitalism Broke the Planet — And How We Fight Back. <https://inthesetimes.com/article/elon-musk-spacex-tesla-falcon-heavy-launch> , 2-8)

Scientific American gawked, ​“Elon Musk Does It Again,” praising the ​“bold technological innovations and newfound operational efficiencies that allow SpaceX to not only build its rockets for less money, but also reuse them.” That view — shared by several other outlets — fits comfortably with the Tony Stark-like image Musk has crafted for himself over the years: a quirky and slightly off-kilter playboy genius inventor capable of conquering everything from outer space to the climate crisis with the sheer force of his imagination. One of Musk’s long-term goals is to create a self-sustaining colony on Mars, and make humanity an interplanetary species. He hopes to shoot two very wealthy people around the moon at some point this year. Musk has invested an awful lot of public money into making those dreams a reality. But why should Americans keep footing the bill for projects where only Musk and his wealthy friends can reap the rewards? Enter: the case for nationalizing Elon Musk, and making the U.S. government a major stakeholder in his companies. The common logic now holds that the private sector — and prodigies like Musk, in particular — are better at coming up with world-changing ideas than the public sector, which is allegedly bloated and allergic to new, outside-the-box thinking. Corporations’ hunt for profits and lack of bureaucratic constraints, it’s said, compel cutting-edge research and development in a way that the government is simply incapable of. With any hope, more of these billionaires’ breakthroughs than not will be in the public interest. The reality, as economist Mariana Mazzucato argues in her 2013 book The Entrepreneurial State: Debunking Public vs. Private Sector Myths, is very different. Many of the companies that are today considered to be headed by brilliant savants — people like Steve Jobs and, yes, Elon Musk — owe much of their success to decades of public sector innovation, through repackaging technologies developed over the course of several decades into new products. Take the iPhone, essentially a collection of Defense Department research and National Science Foundation-grant projects packed into one shiny machine. “The prospect of the State owning a stake in a private corporation may be anathema to many parts of the capitalist world,” Mazzucato writes, ​“but given that governments are already investing in the private sector, they may as well earn a return on those investments.” As she notes, Musk’s future-oriented empire — Tesla Motors, SolarCity and SpaceX — has benefitted from around $5 billion in local, state and federal government support, not to mention many years of foundational public research into programs like rocket technology. SpaceX itself exists largely for the sake of competing for government contracts, like its $5.5 billion partnership with NASA and the U.S. Air Force. The U.S. Department of Energy invested directly in that company, as well as in Tesla’s work on battery technology and solar panels. The latter is perhaps the biggest success story of the Department of Energy stimulus grant that also supported Solyndra, a solar energy company reliably held up by the Right as an example of the government’s failure to make wise investment decisions. ​“Taxpayers footed the bill for Solyndra’s losses — yet got hardly any of Tesla’s profits,” Mazzucato notes. As Mazzucato finds, the private sector hasn’t done much to earn its reputation as a risk-taker. Corporations and venture capitalists often adopt conservative thinking and fall into ​“path dependency,” and are generally reluctant to invest in important early-stage research that won’t necessarily turn a profit in the short-run. This kind of research is inherently risky, and the vast majority of this kind of protean R&D (research and development) fails. For every internet — birthed in the Defense Department — there are a well over a dozen Solyndras, but it’s virtually impossible to have one without the other. The problem runs deeper still. Whereas in the past public sector research has been able to attract top-tier talent, the myth that the private sector can do what the State can’t has created a negative feedback loop whereby bright young scientists and engineers flock toward a private sector that goes on to further its reputation for being the place where the real innovation is happening. The alternative Mazzucato suggests is to socialize risk and reward alike, rather than simply allowing companies that enjoy the benefits of public innovation to funnel their profits into things like stock buybacks and tax havens — or, for that matter, flamethrowers. When companies like SpaceX make it big, they’d be obligated to return some portion of their gains to the public infrastructure that helped them succeed, expanding the government’s capacity to facilitate more innovative development. All this is not to say that there isn’t a critical role to play for people like Jobs and Musk in bringing new technology to the market. In all likelihood, Tesla’s Powerwall and SolarCity panels will play a key role in our transition off of fossil fuels. But lionizing Musk as the sole creator of the Powerwall and this week’s space launch stands to perpetuate a dangerous series of myths about who’s responsible for such cutting-edge development. Through smart supply-and-demand-side policy, states can play a crucial role in shaping and creating markets for the technologies we’ll need to navigate the 21st century. This can happen not just through R&D but also through developments like fuel efficiency standards, which encourage carmakers to prioritize vehicles that run off of renewable energy. Given the mounting reality of climate change and the necessity to rapidly switch over to a clean energy economy, there’s also a bigger question about how actively the state should be encouraging certain kinds of research and manufacturing. During World War II, the United States essentially had a planned economy: By 1945, around a quarter of manufacturing in the country was under state control. The reason for that was simple — the U.S. government saw an existential threat, and directed some of its biggest corporations to pitch in to stop it or else risk getting taken over by the state. There’s some Cold War nostalgia to hoisting shiny objects into orbit — a telegenic show of America’s technological supremacy. But it may not be much solace to coastal residents forced to flee in the coming decades, whose homes are rendered unlivable by a mixture of extreme weather and crumbling, antiquated infrastructure. And if you’ve watched any number of big-budget sci-fi productions over the last several years, it’s not hard to imagine Musk’s Martian colony spinning off into some Elysium-style eco-apartheid, where the rich — for the right price — can escape to new worlds while the rest of us make do on a planet of dystopian slums, swamps and deserts. Today, the risk posed by climate change is greater still than that posed by fascism on the eve of World War II, threatening to bring about a planet that’s uninhabitable for humans, and plenty hostile to them in the meantime. In such a context, do we need to launch cars into space? Maybe not. If the public sector is going to continue footing the bill for Elon Musk’s fantasies, though, he should at least have to give back some credit, and a cut of the profits.

#### 2] No China war

Nye 21 – Joseph S. Nye, Jr. is a professor at Harvard University and author of Do Morals Matter? Presidents and Foreign Policy from FDR to Trump, March 2nd ("What Could Cause a US-China War?", Project Syndicate, Available online at https://www.project-syndicate.org/commentary/what-could-cause-us-china-war-by-joseph-s-nye-2021-03, Accessed 3-3-2021)

CAMBRIDGE – When China’s foreign minister, Wang Yi, recently called for a reset of bilateral relations with the United States, a White House spokesperson replied that the US saw the relationship as one of strong competition that required a position of strength. It is clear that President Joe Biden’s administration is not simply reversing Trump’s policies. Some analysts, citing Thucydides’ attribution of the Peloponnesian War to Sparta’s fear of a rising Athens, believe the US-China relationship is entering a period of conflict pitting an established hegemon against an increasingly powerful challenger. I am not that pessimistic. In my view, economic and ecological interdependence reduces the probability of a real cold war, much less a hot one, because both countries have an incentive to cooperate in a number of areas. At the same time, miscalculation is always possible, and some see the danger of “sleepwalking” into catastrophe, as happened with World War I. History is replete with cases of misperception about changing power balances. For example, when President Richard Nixon visited China in 1972, he wanted to balance what he saw as a growing Soviet threat to a declining America. But what Nixon interpreted as decline was really the return to normal of America’s artificially high share of global output after World War II. Nixon proclaimed multipolarity, but what followed was the end of the Soviet Union and America’s unipolar moment two decades later. Today, some Chinese analysts underestimate America’s resilience and predict Chinese dominance, but this, too, could turn out to be a dangerous miscalculation. It is equally dangerous for Americans to over- or underestimate Chinese power, and the US contains groups with economic and political incentives to do both. Measured in dollars, China’s economy is about two-thirds the size of the US economy, but many economists expect China to surpass the US sometime in the 2030s, depending on what one assumes about Chinese and American growth rates. Will American leaders acknowledge this change in a way that permits a constructive relationship, or will they succumb to fear? Will Chinese leaders take more risks, or will Chinese and Americans learn to cooperate in producing global public goods under a changing distribution of power? Recall that Thucydides attributed the war that ripped apart the ancient Greek world to two causes: the rise of a new power, and the fear that this created in the established power. The second cause is as important as the first. The US and China must avoid exaggerated fears that could create a new cold or hot war. Even if China surpasses the US to become the world’s largest economy, national income is not the only measure of geopolitical power. China ranks well behind the US in soft power, and US military expenditure is nearly four times that of China. While Chinese military capabilities have been increasing in recent years, analysts who look carefully at the military balance conclude that China will not, say, be able to exclude the US from the Western Pacific.2 On the other hand, the US was once the world’s largest trading economy and its largest bilateral lender. Today, nearly 100 countries count China as their largest trading partner, compared to 57 for the US. China plans to lend more than $1 trillion for infrastructure projects with its Belt and Road Initiative over the next decade, while the US has cut back aid. China will gain economic power from the sheer size of its market as well as its overseas investments and development assistance. China’s overall power relative to the US is likely to increase.1 Nonetheless, balances of power are hard to judge. The US will retain some long-term power advantages that contrast with areas of Chinese vulnerability. One is geography. The US is surrounded by oceans and neighbors that are likely to remain friendly. China has borders with 14 countries, and territorial disputes with India, Japan, and Vietnam set limits on its hard and soft power. Energy is another area where America has an advantage. A decade ago, the US was dependent on imported energy, but the shale revolution transformed North America from an energy importer to exporter. At the same time, China became more dependent on energy imports from the Middle East, which it must transport along sea routes that highlight its problematic relations with India. The US also has demographic advantages. It is the only major developed country that is projected to hold its global ranking (third) in terms of population. While the rate of US population growth has slowed in recent years, it will not turn negative, as in Russia, Europe, and Japan. China, meanwhile, rightly fears “growing old before it grows rich.” India will soon overtake it as the most populous country, and its labor force peaked in 2015. America also remains at the forefront in key technologies (bio, nano, information) that are central to twenty-first-century economic growth. China is investing heavily in research and development, and competes well in some fields. But 15 of the world’s top 20 research universities are in the US; none is in China. Those who proclaim Pax Sinica and American decline fail to take account of the full range of power resources. American hubris is always a danger, but so is exaggerated fear, which can lead to overreaction. Equally dangerous is rising Chinese nationalism, which, combined with a belief in American decline, leads China to take greater risks. Both sides must beware miscalculation. After all, more often than not, the greatest risk we face is our own capacity for error.