# 1NC

## 1

### 1NC---T

#### Interp: The AFF must defend policy action in a plan text in the 1AC.

#### "Resolved:" the appropriation of outer space by private entities is "unjust" entails policy action:

#### 1---Resolved.

Parcher 1 [Jeff; former debate coach at Georgetown; Feb 26, 2001; <https://web.archive.org/web/20020929065555/http://www.ndtceda.com/archives/200102/0790.html>] brett

(1) Pardon me if I turn to a source besides Bill. American Heritage Dictionary: Resolve: 1. To make a firm decision about. 2. To decide or express by formal vote. 3. To separate something into constiutent parts See Syns at \*analyze\* (emphasis in orginal) 4. Find a solution to. See Syns at \*Solve\* (emphasis in original) 5. To dispel: resolve a doubt. - n 1. Frimness of purpose; resolution. 2. A determination or decision.

(2) The very nature of the word "resolution" makes it a question. American Heritage: A course of action determined or decided on. A formal statemnt of a deciion, as by a legislature.

(3) The resolution is obviously a question. Any other conclusion is utterly inconcievable. Why? Context. The debate community empowers a topic committee to write a topic for ALTERNATE side debating. The committee is not a random group of people coming together to "reserve" themselves about some issue. There is context - they are empowered by a community to do something. In their deliberations, the topic community attempts to craft a resolution which can be ANSWERED in either direction. They focus on issues like ground and fairness because they know the resolution will serve as the basis for debate which will be resolved by determining the policy desireablility of that resolution. That's not only what they do, but it's what we REQUIRE them to do. We don't just send the topic committtee somewhere to adopt their own group resolution. It's not the end point of a resolution adopted by a body - it's the prelimanary wording of a resolution sent to others to be answered or decided upon.

(4) Further context: the word resolved is used to emphasis the fact that it's policy debate. Resolved comes from the adoption of resolutions by legislative bodies. A resolution is either adopted or it is not. It's a question before a legislative body. Should this statement be adopted or not.

#### 2---Unjust.

Black’s Law [The Law Dictionary Featuring Black's Law Dictionary Free Online Legal Dictionary 2nd Ed. No Date. <https://thelawdictionary.org/unjust/>] brett

What is UNJUST?

Contrary to right and justice, or to the enjoyment of his rights by another, or to the standards of conduct furnished by the laws.

#### Violation: There’s no plan, they defend the res as a general rule.

#### Prefer:

#### 1---Ground---absent meeting precise words in the res, we lose all the pre-round prep we did around the resolution, killing neg ground.

#### 2---Topic ed---specific policies teaches lets us go deep into the topic, uniquely important given the evolving character of space law

#### CI bc reasonability is arbitrary and invites judge intervention

#### DTD to deter future abuse

#### No RVIs – illogical to win for being fair and baits theory

#### Neg theory first because AFF abuse made it impossible to engage so any neg abuse was to get back in the game.

## 2

### CP

#### CP text:

#### The appropriation of outer space by megaconstellations is just and ought to be managed by indigenous people, including at least the establishment of an international cultural ethics office including all indigenous nations at the forefront of decision-making regarding the appropriation of outer space by private entities.

#### The appropriation of outerspace in all other forms is unjust

#### Appropriation can be good but only if it is grounded in indigenous voices. That’s key to ensure space is maintained as a cultural heritage, rather than a final frontier, and meets their role of the ballot.

Vidaurri et al. ‘20 [Monica, Department of Physics and Astronomy, Howard University, NASA Goddard Space Flight Center; Aparna Venkatesan, Department of Physics and Astronomy, University of San Francisco; James Lowenthal, Department of Astronomy, Smith College; Parvathy Prem, Johns Hopkins University Applied Physics Laboratory;. Nature Astronomy, “The impact of satellite constellations on space as an ancestral global commons,” <https://www.nature.com/articles/s41550-020-01238-3>] brett

Most students of astrophysics learn early in their careers that we, and what we consume or use daily, have been in the cores of stars multiple times or created in the death throes of stars. When we analyse the data of galaxies from billions of light years away, we know we are looking at our cosmic past. This perspective—knowing that the Universe is within us and that we and the Sun will recycle back into future generations of stars and planets—is not as removed as some may believe from the relational view of many Indigenous cultures rooted in ‘Space and Place’, or cultural views of the night sky. Space is our past and our future; we are united in this ancestry and this ultimate fate.

We advocate for a radical shift in the policy framework of international regulatory bodies towards the view of space as an ancestral global commons that contains the heritage and future of humanity’s scientific and cultural practices. We do not use the term radical lightly; this shift requires a profound change in attitude towards what space means to all of us and our inherent beliefs about human ownership of space. Such an attitude contradicts the policies of many nations and actors in space today; for example, as recently as April 2020, the White House issued an Executive Order asserting that “Outer space is a legally and physically unique domain of human activity, and the United States does not view it as a global commons”.

We also urge federal and private space agencies and corporations to immediately establish a cultural ethics office that can offer an integrative approach for cultural intelligence, supporting scientific progress and cultural protocols from a shared ethical space rather than artificially siloed perspectives, and that the reports and findings of such offices be at the forefront of decision-making. This will begin the long overdue process of involving all the stakeholders for dark skies and near-Earth space, especially historically marginalized and Indigenous communities, as we develop new policies for space treaties and planetary protection that avoid replicating the costly mistakes of the past. The exhilaration of space exploration must be grounded in long-term thinking, centring of Indigenous voices, and sustainability.

#### Constellations are key to ensure indigenous access to broadband, ecological sustainability, and bridge the rural broadband gap.

Vidaurri et al. ‘20 [Monica, Department of Physics and Astronomy, Howard University, NASA Goddard Space Flight Center; Aparna Venkatesan, Department of Physics and Astronomy, University of San Francisco; James Lowenthal, Department of Astronomy, Smith College; Parvathy Prem, Johns Hopkins University Applied Physics Laboratory;. Nature Astronomy, “The impact of satellite constellations on space as an ancestral global commons,” <https://www.nature.com/articles/s41550-020-01238-3>] brett

Satellite constellations could greatly improve communications and ongoing monitoring of Earth phenomena ranging from weather and climate to disaster management. Such large constellations also have the potential to offer global connectivity through low-cost high-speed broadband internet. In principle, this could be the critical leap needed to bridge the very real digital divide2, especially for the world’s most minoritized populations, including Indigenous communities. This divide has been exposed as a chasm during this pandemic year, affecting many millions of students and low-income workers. Broadband internet has become essential for daily life, especially during a pandemic year when remote forms of learning, teaching, work and even health (for example, telemedicine) have become the norm. In 2019, the FCC offered US$20 billion in subsidies over ten years to address the digital divide in rural communities in the United States, which was quickly followed by a number of filings for LEOsats. LEOsat broadband may benefit rural communities more than urban areas—these ‘last mile’ connections are still challenging to complete relative to concentrated (urban) populations where ground-based cable/fibre internet infrastructure is cheaper. Large satellite constellations thus have the potential to bridge the digital chasm, but time will tell whether the promise of low-cost high-speed internet worldwide is achieved, and what the financial costs to customers are. This potential democratization of space is worth noting, even if it may not lead to fair participation in space.

#### **Only ensuring large scale access to rural broadband can enable adoption of precision agriculture.**

USDA ‘19 [US department of agriculture, April 2019, A Case For Rural Broadband, accessed 8/12/21, <https://mobroadband.org/wp-content/uploads/sites/44/2020/07/case-for-rural-broadband.pdf>] brett

Across the agricultural production cycle, farmers and ranchers can implement digital technologies as other modern businesses are doing, enhancing agriculture by driving decision-making based on integrated data, automating processes to increase operational efficiency, improving productivity with tasks driven by real-time insights, augmenting the role of management in the business of farming, and creating new markets with extended geographic reach. These patterns of digital transformation create fundamental shifts in agricultural production, developing new ways of working that make the industry more productive, attractive, and financially sustainable for farmers and ranchers. Tech companies which stand to benefit from industry transformation continue to capitalize on these shifts by developing new technologies, which according to one recent study, may help position themselves to capture a portion of an estimated $254 billion to $340 billion in global addressable digital agriculture market.13 Business Management shifts decision making from instinct to integrated data Precision Agriculture is transforming the way producers collect, organize, and rely on information to make key decisions. Traditionally, producers’ long-term experiences have created a competitive advantage: years of experiments have produced insights and instincts about the land they have farmed and the animals they have raised. But the volume of data that is possible to collect today can accelerate that learning curve, helping producers learn faster and more rapidly adapt to market shifts—particularly on new fields and with new animals—and creating more nuanced insights, enabling them to act on leading indicators. This creates a disparity between producers who can utilize high-speed Internet service and those who cannot. Examples include the ability to do the following: • create decision tools to help farmers and ranchers estimate the potential profit and economic risks associated with growing one particular crop over another • decide which fertilizer is best for current soil conditions • apply pesticides in targeted areas of the field, to control pests rather than applying pesticides over the entire field • use limited water resources more effectively • respond to findings of sensors that monitor animal health and nutrition Better choices about what, where, and when to plant, fertilize, and harvest—or breed, feed, and slaughter—can drive above-average returns by removing unrecognized inefficiencies and scaling insights. Digitization shifts supply chain management and resource allocation from generic to precise. Precision Agriculture helps make the business of farming more efficient by minimizing inputs— such as raw materials and labor—and maximizing outputs. For example, previous research has found that 40 percent of fields are over-fertilized, which not only inflates the cost of inputs but also results in 15 percent–20 percent yield loss suffered from improper fertilizer application.14 Precise application of inputs, such as fertilizer, herbicides, and pesticides, allows farmers to adjust inputs to location-based characteristics and use exact amounts needed, which saves money and increases sustainability due to more efficient resource stewardship. Improved fertilizer, soil, and water use can significantly improve water quality with less runoff and reduce climate gas emissions, which is important since agriculture accounts for 10-15 percent of worldwide emissions.15 Despite reductions in necessary inputs, Next Generation Precision Agriculture helps maintain or increase yields, leading to significant gains in efficiency14. Real-time insights also improve logistics. When growing melons, for instance, real-time data can help farmers overcome challenges in storing and shipping their products. Melons should be stored in an optimal refrigeration environment to minimize spoilage, and real-time precision sensors can reduce spoilage by alerting staff to suboptimal variations in temperature and humidity, allowing the execution of remedies before major losses occur. When refrigerated storage is full or the market price is at a peak, the “Internet of Things” can provide real-time information about where trucks are located and locating customers to market products to help make the sale. LABOR EFFICIENCY boosts productivity by automating routine processes and enabling real-time response Connected devices equip farmers with a clear picture of their operations at any moment, making it possible to prioritize tasks more effectively and triage the most pressing issues. While routine inspection and scouting has typically been a regular part of farm management and has increased farm profitability14, connected technologies can track, sense, and flag where a producer should focus their time and attention that day. Similarly, e-connectivity has allowed rural farms to access new training resources and high-skilled labor that has not been previously available. Real-time data and automation can radically improve a producer’s peace of mind and performance under time constraints, especially because of reduced physical and mental stress (no longer struggling to keep the machine on a row line between 6 and 10 hours in the field during harvest or planting). On dairy farms, for example, automated devices that milk and feed animals can also track each cow’s activity and alert producers to potential problems. Because these tasks are traditionally done by the producer and farm personnel, e-connectivity can substantially reduce the amount of time and effort necessary to run farms. This leads to dramatic increases in flexibility, enabling time and talent to be directed to more advanced tasks. Farmers can use newly found time to re-invest in more high-value tasks like long-term planning and management of the operation. This shift towards farm management opens new possibilities for the way that farms conduct business. GEOGRAPHIC ACCESS extends the reach of the supply chain and shifts marketing from standard to differentiated As explained in the previous section, as Precision Agriculture unlocks additional time and resources to explore new ways of doing business farmers are re-investing their time into identifying options to improve inputs, including better-trained labor and more effective types of inputs. New customers and markets can also be explored to increase sales volume and revenues.

#### Food shortages go nuclear.

FDI 12 [FDI; a Research institute providing strategic analysis of Australia’s global interests; citing Lindsay Falvery, PhD in Agricultural Science and former Professor at the University of Melbourne’s Institute of Land and Environment (Future Directions International, , “Food and Water Insecurity: International Conflict Triggers & Potential Conflict Points,” <http://www.futuredirections.org.au/workshop-papers/537-international-conflict-triggers-and-potential-conflict-points-resulting-from-food-and-water-insecurity.html>] brett

There is a growing appreciation that the conflicts in the next century will most likely be fought over a lack of resources. Yet, in a sense, this is not new. Researchers point to the French and Russian revolutions as conflicts induced by a lack of food. More recently, Germany’s World War Two efforts are said to have been inspired, at least in part, by its perceived need to gain access to more food. Yet the general sense among those that attended FDI’s recent workshops, was that the scale of the problem in the future could be significantly greater as a result of population pressures, changing weather, urbanisation, migration, loss of arable land and other farm inputs, and increased affluence in the developing world. In his book, Small Farmers Secure Food, Lindsay Falvey, a participant in FDI’s March 2012 workshop on the issue of food and conflict, clearly expresses the problem and why countries across the globe are starting to take note. . He writes (p.36), “…if people are hungry, especially in cities, the state is not stable – riots, violence, breakdown of law and order and migration result.” “Hunger feeds anarchy.” This view is also shared by Julian Cribb, who in his book, The Coming Famine, writes that if “large regions of the world run short of food, land or water in the decades that lie ahead, then wholesale, bloody wars are liable to follow.” He continues: “An increasingly credible scenario for World War 3 is not so much a confrontation of super powers and their allies, as a festering, self-perpetuating chain of resource conflicts.” He also says: “The wars of the 21st Century are less likely to be global conflicts with sharply defined sides and huge armies, than a scrappy mass of failed states, rebellions, civil strife, insurgencies, terrorism and genocides, sparked by bloody competition over dwindling resources.” As another workshop participant put it, people do not go to war to kill; they go to war over resources, either to protect or to gain the resources for themselves. Another observed that hunger results in passivity not conflict. Conflict is over resources, not because people are going hungry. A study by the International Peace Research Institute indicates that where food security is an issue, it is more likely to result in some form of conflict. Darfur, Rwanda, Eritrea andthe Balkans experienced such wars. Governments, especially in developed countries, are increasingly aware of this phenomenon. The UK Ministry of Defence, the CIA, the US Center for Strategic and International Studies and the Oslo Peace Research Institute, all identify famine as a potential trigger for conflicts and possibly even nuclear war.

#### Normal means is your aff says mega-constellations of satellites are a form of appropriation.

Johnson 20 [Chris, Space Law Advisor for Secure World Foundation, 9 years of professional experience in international space law and policy. J.D. from New York Law School; 2020; “The Legal Status of MegaLEO Constellations and Concerns About Appropriation of Large Swaths of Earth Orbit,” <https://swfound.org/media/206951/johnson2020_referenceworkentry_thelegalstatusofmegaleoconstel.pdf>] brett \*Yes this author is against constellations but they only exist to prove the link.

Excludes Others

The constellations above, because they seem to so overwhelmingly possess particular orbits through the use of multiple satellites to occupy orbital planes, and in a manner that precludes other actors from using those exact planes, constitute an appropriation of those orbits. While the access to outer space is nonrivalrous – in the sense that anyone with the technological capacity to launch space objects can therefore explore space – it is also true that orbits closer to Earth are unique, and when any actor utilizes that orbit to such an extent to these proposed constellations will, it means that other actors simply cannot go there.

To allow SpaceX, for example, to so overwhelmingly occupy a number of altitudes with so many of their spacecraft, essentially means that SpaceX will henceforth be the sole owner and user of that orbit (at least until their satellites are removed). No other actors can realistically expect to operate there until that time. No other operator would dare run the risk of possible collision with so many other spacecraft in that orbit. Consequently, the sole occupant will be SpaceX, and if “possession is 9/10th of the law,” then SpaceX appears to be the owner of that orbit.

Done Without Coordination

Additionally, SpaceX and other operators of megaconstellations are doing so without any real international conversation or agreement, which is especially egregious and transgressive of the norms of outer space. Compared to the regime for GSO, as administered by the ITU and national frequency administrators, Low Earth Orbit is essentially ungoverned, and SpaceX and others are attempting to seize this lack of authority to claim entire portions of LEO for itself; and before any international agreement, consensus, or even discussion is had. They are operating on a purely “first come, first served” basis that smacks of unilateralism, if not colonialism.

Governments Are Ultimately Implicated

As we know, under international space law, what a nongovernmental entity does, a State is responsible for. Article VI of the Outer Space Treaty requires that at least one State authorize and supervise its nongovernmental entities and assure their continuing compliance with international law. As such, the prohibition on nonappropriation imposed upon States under Article II of the Outer Space Treaty applies equally to nongovernmental private entities such as SpaceX.

Nevertheless, through the launching and bringing into use of the Starlink constellation, SpaceX will be the sole occupant, and thereby, possessor, both fact and in law, of 550 km, 1100 km, 1130 km, 1275 km, and 1325 km above our planet (or whatever orbits they finally come to occupy). The same is true for the other operators of these large constellations which will be solely occupying entire orbits.

Long-Term Occupation Constitutes Appropriation

These altitudes are additionally significant, as nonfunctional spacecraft in orbits lower than around 500 km will re-enter the Earth’s atmosphere in months or a few years, but the altitudes selected for the Starlink constellation, while technologically desirable for their purposes, also mean that any spacecraft which are not de-orbited from these regions may be there for decades, or possibly even hundreds of years. By comparison, the granting of rights for orbital slots at GSO is in 15-year increments, a length of time much less than what the altitudes of the megaconstellations threaten. Such long spans of time at these altitudes by these megaconstellations further bolster the contention that this occupation rises to the level of appropriation of these orbits.

Prevents Others from Using Space

Article I of the Outer Space Treaty establishes that the exploration and use of outer space is “the province of all mankind.” It further requires that this exploration and use shall be by all States “without discrimination of any kind, on a basis of equality and in accordance with international law...” However, when one private corporation so overwhelmingly possesses entire portions of outer space, their use is discriminatory to other potential users and interferes with their freedom to access, explore, and use outer space. So long as these actors are so dominantly possessing and occupying those orbits, their actions exclude others from using them. What other operator would dare use orbits where there are already hundreds of satellites operating as part of a constellation? It would be an extremely unwise and risky decision to try to share these orbits with a mega constellation, so they will likely choose other altitudes and orbits. This massive occupation of particular orbits effectively defeats others from enjoying the use of outer space. While a State can issue permits for one of its corporations allowing them to launch and operate satellites to this extent, that does not automatically mean that their activities in outer space, an area beyond national sovereignty, are therefore in perfect accordance with the strictures of international law. Indeed, national permissions offer no such guarantee.

No Due Regard for Others

That these megaconstellations violate the prohibition on appropriation in Article II is additionally supported by Article IX of the Outer Space Treaty. Article IX requires that in the exploration and use of outer space, States “shall be guided by the principle of cooperation and mutual assistance and shall conduct all their activities in outer space... with due regard to the corresponding interests of other States...” There is hardly any way to view this deployment of megaconstellations as showing any type of due regard to the corresponding interests of others. This lack of regard further supports the notion of their unilateral transgressive violations of the purposes of space law norms.

Harmful Contamination

The impacts of the spacecraft on the pressing issue of space debris need not be gone into detail here. Suffice it to say, megaconstellations threaten mega-debris. The failure rate of these comparatively cheap satellites should give pause, because if 5% of a constellation of 100 satellites fails, this is 5 guaranteed new pieces of debris intentionally introduced to the fragile space domain. Article IX of the Outer Space Treaty warns of harmful contamination of the space environment and requires States to take appropriate measures to prevent this harmful contamination. A responsible government could not, in all seriousness, permit the intentional release of such amounts of space debris, especially in the already fraught orbits that many megaconstellations are headed towards. While the threat of space debris is not directly relevant to the accusation of appropriation of outer space, it goes towards the argument that these actors are conducting activities in a manner lacking in regard to others, and in fact, amounts to excluding others from using the space domain. By excluding others, this has the effect of taking orbits for themselves, which IS occupation.

If This Isn’t Appropriation, Then What Is?

Arguing in the alternative, if these megaconstellations — in their dominant occupation of entire orbits in orbital planes with numerous satellites — could be considered (merely for the sake of argument) to not be appropriation, we must therefore ask: what would be appropriation? What use of void space, including orbits of the Earth, would constitute actual appropriation? What further, additional fact of these uses of space, if added to the scenario, would cause that constellation to cross over the line into clearly prohibited appropriation? Perhaps the exact same scenario, but supplemented with an actual, formal claim of sovereignty, issued by a government, is the only element which could be added to megaconstellations which would then cross the threshold into appropriation. However, a formal claim of sovereignty would be merely an act occurring on Earth and would not change any actual facts in the space domain. Consequently, the lack of a formal claim of sovereignty should not be the deciding criteria in arriving at the conclusion that megaconstellations constitute appropriation of orbits.

Conclusion

In conclusion, these megaconstellations effectively occupy entire orbital regions with their vast fleet of spacecraft and in so doing effectively preclude other actors from sharing those domains. They have done so, or are attempting to do so, without any international consensus or discussion, which is most egregious for a domain outside of State sovereignty and which no State can own. Governments will ultimately be responsible for this appropriation, and both are prohibited from appropriating space. In distinction to GSO, their permission to go there means that they could occupy these regions for incredibly long periods — which again shows their appropriation. These constellations significantly prevent others from using those regions, which therefore interferes with others’ right to explore and use space. And ultimately, this reckless ambition shows absolutely no due regard (as per Article IX) for the corresponding rights of others. As such, these megaconstellations constitute an impermissible appropriation of particular regions of outer space, regardless of any formal, official claim of such by a responsible, authorizing government

## 3

### DA

#### LEO is uniquely accessible to African industry - cheaper launch and production costs solves Earth Observation, internet, national security, and spills over to enrich the economy

Samanga 21 Ruvimbo Samanga, Zimbabwean scholar and lawyer working with the Space Law & Policy, holds a BA Law (cum laude), an LLB and an LLM in International Trade and Investment Law from the University of Pretoria. "Why Africa Should Expand its Mega-Satellite Constellation Capacity." Space Legal Issues, 3 May. 2021, www.spacelegalissues.com/why-africa-should-expand-its-mega-satellite-constellation-capacity.

Since 1988, Africa has spent approx. USD$4 billion towards the launch of 41 satellites (excluding the cost of the RASCOM-QAF 1R replacement). 30 of these satellites fall into the Small Satellite market. The majority of satellites owned by African institutions typically involves satellites with less than 600kgs in fueled mass and 24 of these satellites have less than 200kg fueled mass. The reason for the interest in the miniaturized satellites? In a nutshell, they offer cheaper design alternatives, coupled with the ease of mass production. They are also significantly more versatile in certain applications, owing to their reduced size. For example, they are the satellite of choice for low data rate communications, being launched in large multi-coverage constellations in Low Earth Orbit (LEO). It comes as no surprise then that small satellites are growing increasingly popular amongst developing countries, no less within the region, for the accessibility. The growth of the small satellite industry is evident in commercial as well as large programs which exhibit steady growth. In 2019, 5 African countries launched 8 satellites, 6 of which were small satellites. It is expected that by the year 2024, 19 African countries would have launched additional satellites into space. These small, sometimes called nano-satellites, are really driving the African space program, especially in line with the African Union’s (AU) science and technology ambitions which are expected to reap huge benefits for the continent. Most importantly through the AU Science, Technology and Innovation Science Strategy for Africa – 2024 (STISA-2024). Small satellites are categorized as space systems of up to 600 kg (falling into the categories of Minisatellites, Microsatellite, Nanosatellite, Picosatellite, and Femto Satellites). They range across different applications (Satellite Communications, Imaging & Earth Observations, Space Situational Awareness, and Technology Development), and have different end users (Government & Defense, and Civil & Commercial). Of the 8 satellites launched in 2019, 6 were small satellites (3 Nanosatellites, 2 Microsatellites, and 1 Picosatellite). Satellite communications mega-constellations are on the rise, however this growing interest is not without its challenges and uncertainties. The biggest risks in the small sat interest in the coming years are mostly ascribed to investor’s rick assessment & funding availability; Securing customers & Return on Investment (ROI); Stronger regulations; Competition from heavier satellite, and reliability. This is also further compounded by the fact that establishing a satellite service industry which is sustainable requires adequate funding. Skillset deficit is also a prominent challenge. Even though Africa has and will in future have the largest population of young people, the youth are generally not interested in pursuing careers in STEM (science, technology, engineering and mathematics). You can expect more satellites to be launched despite these crises. As regards the African Small Sat market, the growth perspectives seem to point towards predominant university projects which demonstrates a capacity to operate Smallsats, also attesting to the affordability of the systems. This is also a sign of government effort to support the growth of this industry, and the contributions of the youth in satellite development. Indeed the manufacturing ability is extremely important, but also the service capability and development prospects. Despite these positive steps there is still quite a need for funding in this area. Of the overall revenue and results, Earth Observation is the most predominant small sat use, however it is expected in the next few years this may shift to internet broadband, but ultimately, creating value for users and enabling services that drive industry development will be the ultimate determining factor. Internet coverage allows people to create capacity and this might undoubtedly be Africa’s most prolific use of small satellite solutions. CubeSats which are around 50 kg, are the most popular and are only getting bigger because of the interest for carrying larger payloads. But in future it may become less stringent to use the restricted platform, but the threshold is bound to switch to a smaller regular platform. These services are enabled through satellite mega-constellations. Satellite mega-constellations operate in the Lower Earth Orbit which is described as the orbit located no more than 2,000 kilometers from the Earth’s surface. There is room for LEO regarding low-latency connectivity. But this does not mean that the Geostationary Orbit will become redundant, rather, and on the other hand GEO will remain an asset for broadband, because of its efficiency and coverage as well as less-sophisticated ground segments. Nevertheless, the LEO offers the most advantageous orbital resource to come and deserves much policy intervention to regulate, owing to the fact that it is a finite, scare resource. At the end of the day, whether Smallsats are launched in a constellation or as individual space systems, they offer a cost-effective alternative to traditional space objects, and would allow Africa the opportunity to release its potential in various areas of interest including but not limited to communications, global positioning and navigation, and Earth observation. Africa would be enriched by the ability to use this new technology to enable users through diverse services, to protect assets within the value chain, or simply to monitor areas of national security such as the environment and borders. These are all aspects which will have a substantial developmental impact in the African economy, and is well aligned to the African space policy which speaks towards increase of space and satellite capacity in an affordable and beneficial manner.

#### Independent African satellite constellation key to push out foreign, Chinese investment – which kills African democracy

Tuerk 20 Tuerk, Miriam. CEO and cofounder of Clear Blue Technologies Inc."Africa Is The Next Frontier For The Internet." Forbes, 8 June 2020, www.forbes.com/sites/miriamtuerk/2020/06/09/africa-is-the-next-frontier-for-the-internet/?sh=1f5e9eec4900.

Expanding network connectivity across sub-Saharan Africa will open up digital services that many of us now take for granted. Mobile Banking, Whatsapp Chatting and video, e-health, e-education are key services only possible with reliable internet connectivity. For a geographically disparate population, it will mean greater access to essential services, including e-agri services. There are hugely populous cities in sub-Saharan Africa – Lagos in Nigeria is one of the fastest growing cities in the world – but even in the center on Victoria Island, the internet connection can be patchy and face frequent outages. For those populations, access to the internet means being able to save, invest and borrow money, getting an education, having access to basic healthcare, and being able to trade with bigger markets; are all fundamental to socioeconomic advancement. That has been a powerful force fueling economic growth over the past century across Europe, North America and Asia. The Demand Is There There is a lot of pent-up demand for internet services in sub-Saharan Africa. Indeed, a substantial portion of mobile phones have internet and messaging capabilities. Mobile usage in sub-Saharan is more widespread than electricity – in 2016, The Economist found that while less than half the population has access to electricity, two-fifths own a mobile phone. In a Pew Research survey of six sub-Saharan Africa countries, a median of 41% used the internet occasionally or had access to an internet-capable smartphone – that compares to 89% of Americans. Digital innovations have also taken off quickly in sub-Saharan Africa, partly because the younger demographic is more ready for adoption of new technologies. Compared to aging populations in developed countries, the median age in Africa is 19.2 years old. In a study by Pew Research, it notes that adults younger than 30 in six sub-Saharan African countries are more likely to use the Internet, echoing trends seen elsewhere. We’ve seen this in the quick adoption of digital technologies. Safaricom, Kenya’s largest telecom operator, has seen widespread adoption of its mobile payment app, M-Pesa, since it was launched in 2007. The app now has 24.5 million users, representing over 70% of the mobile money market in Kenya, and can be used to send and receive funds via SMS without having a bank account. The Supply Is Growing, But Still Faces Bottlenecks There are a number of mobile carriers now seeking to expand network coverage in Africa, especially in rural areas. Governments are pushing for these infrastructure roll outs as they recognize that communications and renewable energy are two key tenets of development for their countries. Telecom technology over the past decade has advanced significantly, with specialized product development to address the needs of Rural telecom particularly in terms of the off-grid renewable energy, resilience to extreme temperatures, and software driven base stations meaning that masts can placed almost anywhere. The wider need for infrastructure development in telecom and renewable energy is well recognized. The African Development Bank (AfDB) estimates that the continent of Africa will need investment of at least US$130 billion to $170 billion annually. In recent years, the majority of that capital investment into African infrastructure has come from China – foreign direct investment from China has grown 40% annually over the past decade, and it could be even higher, dwarfing investment from other economic partners, including the U.S. ZAMBIA CHINA A pedestrian runs past a Huawei Technologies Co. mural painted on a wall in Lusaka, Zambia, on ... [+] © 2018 Bloomberg Finance LP Huawei, ZTE and China Telecom CHA 0.0% have all made in-roads into the region. Huawei recently announced that it was launching a 5G transport network with Rain in South Africa, the first network operator in the country to deploy 5G. Huawei’s growth in the region has raised concerns that it could be used for surveillance; The Wall Street Journal reported last year that technicians from the company helped African governments to spy on their political opponents. At the same time, Western companies such as Vanu and Parallel Wireless are developing innovative solutions and products. While growth in technology is overall a good thing for society, it cannot come at the cost of democracy. Western governments need to do more to invest in African telecoms to secure the future of this region and our economic relationships with it.

#### Expansion in Africa escalates absent democratic relations

Maru 19 - a scholar of peace and security, law and governance, strategy and management, human rights and migration issues. (Mehari, “A new cold war in Africa” Aljazeera. July 1, 2019. DOA: November 17, 2019. https://www.aljazeera.com/indepth/opinion/cold-war-africa-190630102044847.html)//MGalian

Increasing tensions between China and the US will be detrimental to African prosperity and peace. Last week, the 12th US-Africa Business Summit, a high-level event attended by 11 African heads of state and government and some 1,000 business leaders, was held in Maputo, Mozambique. During the three-day event, US officials unveiled a $60bn investment agency which will seek to invest in low and middle-income countries, with a special focus on Africa. The announcement came six months after National Security Advisor John Bolton presented the Trump administration's "New Africa Strategy". According to the document: "Great power competitors, namely China and Russia, are rapidly expanding their financial and political influence across Africa. They are deliberately and aggressively targeting their investments in the region to gain a competitive advantage over the United States." Although both China and Russia are mentioned, over the past few months, the US has demonstrated that it is mainly concerned about the former. In fact, it already appears that Africa is set to become yet another battleground for the escalating trade war between Beijing and Washington. With increasing foreign military presence and growing diplomatic tensions, the continent is already witnessing the first signs of an emerging new cold war. And just like the previous one devastated Africa, fuelling wars and forcing African governments to make economic choices not in their best interests, this one will also be detrimental to African development and peace. Economic war China's approach to Africa has always been trade oriented. The continent became one of the top destinations for Chinese investment after Beijing introduced the so-called "Go Out" policy in 1999 which encouraged private and state-owned business to seek economic opportunities abroad. As a result, Chinese trade with Africa has increased 40-fold over the past two decades; in 2017, it stood at $140bn. Between 2003 and 2017, Chinese foreign direct investment (FDI) flows have also jumped more close to 60-fold to $4bn a year; FDI stocks stand at $43bn - a significant part of which has gone to infrastructure and energy projects. China has significantly expanded African railways, investing in various projects in Kenya, Ethiopia, Djibouti, Angola and Nigeria; it is currently building a massive hydropower plant in Angola and have built Africa's longest railway connecting Ethiopia and Djibouti; it has built the headquarters of the African Union in Addis Ababa and the West African regional bloc ECOWAS in Abuja. By contrast, for a long time the US has viewed Africa as a battlefield where it can confront its enemies, whether the Soviets during the Cold War, terrorists after 9/11 or now the Chinese. Washington has never really made a concerted effort to develop its economic relations with the continent. As a result, trade between the US and Africa has decreased from $120bn in 2012 to just over $50bn today. US FDI flows have also slumped from $9.4bn in 2009 to around $330m in 2017. The new $60bn investment fund announced last week is a welcome initiative from the US but it will not be able to challenge Chinese economic presence on the continent. Just last year Chinese President Xi Jinping pledged $60bn too but dedicated it solely to investment in Africa. The US has repeatedly accused China of using "debt to hold states in Africa captive to [its] wishes and demands" and has warned African states to avoid Chinese "debt diplomacy" which is supposedly incompatible with the independence of African nations and civil society and poses "a significant threat to US national security interests". Yet, Africa is only the fourth-biggest recipient of Chinese FDI after Europe (mainly Germany, UK and Netherlands), the Americas (mainly the US and Canada), and Asia. The US has also borrowed heavily from China; currently its debt to its rival stands at $1.12 trillion. By contrast, Africa owes China around $83bn. Africans are fully aware of and concerned about high indebtedness, trade imbalances, the relatively poor quality of Chinese goods and services and Beijing's application of lower standards of labour and environmental practices. But many do not share the American perspective that their economic relationship with China is to their detriment and rather see it as an opportunity that provides much-needed unconditional funding and that takes into account local priorities. As Djibouti's President Ismail Omar Guelleh has pointed out, "The reality is that no one but the Chinese offers a long-term partnership." The pressure the US is currently exerting on African countries to move away from partnerships with China could hurt African economies. It could force African countries into making choices that are not in their best economic interests and miss out on important development projects or funding. Meanwhile, the US-China trade war is already affecting the continent. According to the African Development Bank, it could cause as much as a 2.5 percent decrease in GDP for resource-intensive African economies and a 1.9 percent dip for oil-exporting countries. Militarisation The escalating tensions between the US and China could also end up threatening the security of the continent**.** Both countries are militarily involved in Africa. Over the past 15 years, the Chinese People's Liberation Army has been engaged in a number of security missions across the continent, making modest auxiliary troop contributions to peacekeeping operations in Sudan, South Sudan, Liberia, Mali and the Democratic Republic of Congo. It has also contributed millions of dollars of peacekeeping equipment to the African Union Mission in Somalia and provided significant funding to the Intergovernmental Authority on Development for its mediation in South Sudan. In 2017, the first Chinese overseas military base was opened in Djibouti. The facility, which currently hosts some 400 staff and troops, and has the capacity to accommodate 10,000, is officially supposed to provide support for the ongoing anti-piracy operations of the Chinese navy, but it also plays a role in securing maritime routes, part of the Belt and Road Initiative. There has also been speculation that this is the first of a number of planned bases meant to secure Chinese interests in Africa. China's military presence in Africa, however, pales in comparison to that of the US. Over the past few years, US Africa Command has run some 36 different military operations in 13 African countries, including Burkina Faso, Cameroon, Central African Republic, Chad, Democratic Republic of Congo, Kenya, Libya, Mali, Mauritania, Niger, Somalia, South Sudan and Tunisia. It has more than 7,000 troops deployed on the continent. It has a large base in Djibouti - the biggest and only permanent US military base in Africa - but it also runs at least 34 other military outposts scattered across the west, east and north of the continent where US troops are deployed and military operations (including drone attacks) are launched from. The US also directly supports the armies of Egypt, Nigeria, Ethiopia, Mali, Niger and others as well as the G5 Sahel force tasked with counterterrorism. While a direct confrontation between US and Chinese forces in Africa is unlikely, their growing presence is becoming an increasingly destabilising factor. Already Washington's strategy to contain Chinese influence over Africa is playing out at different conflict and social upheaval hotspots across the continent. The fallout of the US-Chinese competition is particularly apparent in the strategic Red Sea region, through which passes one of the most important maritime routes. Countries in the region are not only feeling growing US and Chinese pressure to take one side or the other, but are also increasingly exposed to outside interference by various regional powers. Growing regional tensions Djibouti has recently found itself at the centre of US-Chinese diplomatic confrontation. Being a host to military bases of both superpowers, the small country has had to play a difficult balancing game. In 2018, Djibouti seized control of its Doraleh Container Terminal from the Emirati company DP World, claiming its operation of the facility was threatening its sovereignty. The Djibouti authorities had feared that the UAE's investment in the nearby Port of Berbera in the autonomous Somali region of Somaliland could challenge its position as the main maritime hub for Ethiopia's large economy. Its decision to terminate the contract with DP World, however, triggered a sharp reaction from Washington, a close Emirati ally. The Trump administration fears that Djibouti could hand over control of the terminal to China. Bolton has warned: "Should this occur, the balance of power in the Horn of Africa - astride major arteries of maritime trade between Europe, the Middle East, and South Asia - would shift in favour of China. And, our US military personnel at Camp Lemonnier could face even further challenges in their efforts to protect the American people." Djibouti was forced to declare publicly that it would not allow China to take over the terminal but that has not assuaged US fears. Ever since, the US sought to secure a possible alternative location for its African military base: neighbouring Eritrea. It encouraged regional actors, including Saudi Arabia and the UAE, to pull Eritrea out of its decades-long isolation. In a matter of months, long-time enemies Ethiopia and Eritrea concluded a peace agreement to end their 20-year-old cold conflict, while the UN lifted sanctions on Asmara. As a result, Eritrea could emerge as a strategic rival to Djibouti, offering its coast for foreign military and economic facilities. The UAE, for example, has already set up a military base near the port of Assab. Sudan, to the north, has also been the battleground of the ongoing superpower turf war. China had been a long-term supporter of President Omar al-Bashir. Under his rule, Beijing came to dominate its oil industry, buying some 80 percent of its oil and thus providing Khartoum with much-needed cash to wage war against various rebel groups. It was also one of the few countries, along with Russia, that would break the UN arms embargo and sell weapons to al-Bashir's regime. After South Sudan gained independence in 2011, China continued to be a close partner of the Sudanese regime, remaining its main trading partner. Sudan in fact became the biggest beneficiary of the $60bn Africa investment package China pledged in 2018, having some $10bn in Chinese debt written off. The Chinese government also made a lot of plans to develop facilities in Port Sudan, where it already operates an oil terminal. Qatar and Turkey also signed deals with al-Bashir for various facilities in the port city. When mass protests erupted in December last year, Beijing stood by al-Bashir, who it saw as the main guarantor of stability in the country, which falls on strategic routes, part of its Belt and Road Initiative. Meanwhile, the US had repeatedly demonstrated that it did not want al-Bashir running for another term. His removal was approved in Washington, which has since appeared to back the interests of Saudi Arabia and the UAE in the country. The two Gulf states currently hope to install another strongman sympathetic to their regional politics, who would maintain Sudan's participation in the war in Yemen and curb Turkish and Qatari influence. At this point, it seems China is at risk of being sidelined by the significant sway the UAE and Saudi Arabia have with Sudan's Transitional Military Council (TMC). Apart from Djibouti and Sudan, various other countries in the region have felt the consequences of the US bid to contain China. This political confrontation has also added to the already rising tensions between other players in the region, including Egypt, Gulf countries, Iran and Turkey. The Trump administration has particularly favoured Emirati, Saudi and Egyptian interests which have emboldened these three countries in their efforts to shape regional dynamics to their advantage. Thus, in the long-term, given the pre-existing faultlines and conflicts in the region, the US-China cold war could have a detrimental effect, not only on its economy but also on its security. At this point, to preserve its interests and its peace, Africa has only one option: to reject pressures to swear allegiance to either of the two powers. African countries should uphold their sovereignty in policy and decision-making and pursue the course that is in the best interests of their nations. If the US wants to compete with China on the continent, it should do so in good faith. It can gain a competitive advantage by offering African countries better, more credible and principled alternatives to those put forward by China. But that can only happen if the US develops a strategy that focuses on Africa itself, not on containing and undermining the business of a third party.

#### Uniquely resists Chinese neo-colonialism

Kelly 17 [Ryan Kelly, 10-9-2017, "How China’s Soft Power Is Building A Neo-Colonial System In Africa," Ketagalan Media, <https://ketagalanmedia.com/2017/10/09/how-chinas-soft-power-is-building-a-neo-colonial-system-in-africa/> [accessed 2-12-22] lydia

With the help of FOCAC and other IGOs, Beijing has embedded itself into the continent, but the real danger of China’s renewed interest in sub-Saharan Africa is economic exploitation and its accompanying political power. The extent to which China is involved in Africa is staggering. Between 2000 and 2010, the CCP and Chinese firms have promised upwards of US$67 billion in FDI, loan packages, and infrastructure spending. This is a whopping US$12 billion more than what the World Bank loaned out during the same time period. China has funded opulent infrastructure projects such as the brand new US$200 million African Union Headquarters in Addis Abba, Ethiopia. In fact, China has funded infrastructure projects in 50 of 54 countries in Africa, including whole cities in Angola, Tanzania’s entire railroad system, the Democratic Republic of the Congo’s (DRC) highways, and[Addis Abba’s subway system](https://www.theguardian.com/global-development-professionals-network/2016/dec/22/the-new-scramble-for-africa-how-china-became-the-partner-of-choice). These massive infrastructure projects, however, are a prime example of China’s soft power offensive. The monetary benefits attract countries to the CCP, and then it traps them in the neo-colonialist system through massive amounts of debt and economic control under the guise of a “win-win” relationship. Specifically, the primary vehicle for China’s economic attraction is the low-interest resource-for-infrastructure loans (R4I), which allow the CCP and Chinese firms to corner markets and set prices, and by extension, seize control of impoverished nations’ economies. From a fiscal perspective, an R4I loan is a low-interest loan that exchanges Chinese infrastructure investment for[Africa’s natural resources](https://www.saiia.org.za/occasional-papers/586-chinese-resources-for-infrastructure-r4i-swaps-an-escape-from-the-resource-curse/file). While this may appear as a win-win for both parties, as it allows for a symbiotic relationship – China needs natural resources to sustain its manufacturing sector and Africa desperately needs infrastructure – there are two factors that make these loans predatory vessels of China’s neo-colonialist gambit: lack of diversification of economic partners on the part of the African nations, and the liquidity and debt crises that R4I loans cause. Once ensnared in debt, China extorts political favors ranging from breaking promises on local African employment and ignorance for local labor laws, to offering exorbitant packages for nations to vote with China in the United Nations, or break ties with Taiwan. The economic profile that China targets for predatory loans allows for them to easily manipulate markets and seize control of the exports and trade of their debtors. Of China’s top eight debtors in Africa, five have signed R4I loans – Angola, Sudan, Nigeria, Democratic Republic of the Congo and Ghana, and every one of these nations owes China billions of dollars in[natural resources](http://www.sais-cari.org/data-chinese-loans-and-aid-to-africa/). Furthermore, at the time the R4I loans were issued, three of these five nations (Angola, Sudan, and DRC) had recently exited bloody civil wars, all five nations had[unranked or junk bond designation](https://tradingeconomics.com/country-list/rating) by the three major credit rating agencies (S&P’s, Moody’s, and Fitch’s), and all five nations were in the bottom ten or had unranked[economic complexity indices](http://atlas.media.mit.edu/en/rankings/country/eci/) (ECI), which declined since the nations began dealing with China. Thus, these nations were perfect targets for risky, low-interest loans that were backed and paid for by their precious hydrocarbons and minerals, as they have low quantities of hard currency to pay back their Chinese debtors and extremely concentrated and weak economies. The central African nation of Angola is a case in point. Angola signed its first R4I loan with China in 2004 leveraging its massive petroleum reserves in exchange for US$2 billion of infrastructure investment, including the “ghost city” Nova Ciudade de Kilamaba. However, as the price of oil has fallen, Angola’s oil backed debt has snowballed to upwards of US$25 billion and Angola has consistently fallen behind on loan payments. This has forced Angola to sign an extension and a new R4I loans to try to gain [new lines of credit in 2007 and 2009](https://www.saiia.org.za/occasional-papers/586-chinese-resources-for-infrastructure-r4i-swaps-an-escape-from-the-resource-curse/file) respectively. However, rather than usher in financial resurgence, China has gained control of Angola’s economy and its massive petroleum reserves. Over the last decade, Chinese imports of Angolan goods has consistently risen and now accounts for [over 35% of the African nation’s economy](https://www.imf.org/external/pubs/ft/wp/2013/wp13250.pdf). Furthermore, the portion of Angola’s petroleum reserves that is shipped to China has increased from four or five of Angola’s 50-60 tankers per month, to[upwards of 40-50 tankers per month](https://www.reuters.com/article/angola-oil-finance/growing-chinese-debt-leaves-angola-with-little-spare-oil-idUSL5N16H3EV), a whopping 1,000% increase. Thus, Angola is trapped between a rock and a hard place. If they disobey the Chinese, their economy is at risk and but if they listen, they continue down the rabbit hole with no escape in sight. Hence, Angola has become a “neo-colony” of China, with all the “outward trappings” of economic autonomy, but in reality, it is at the beck and call of the Politburo and its pocketbook. China’s resource gambit is not just confined to petroleum. China’s massive manufacturing sector, which accounts for[30% of the Chinese economy](https://data.worldbank.org/indicator/NV.IND.MANF.ZS?locations=CN), requires access to the massive mineral reserves found in Africa. Sub-Saharan Africa has over 50% of the world’s cobalt reserves, 77% of the world’s manganese reserves, and 88% of the world’s platinum group [metal reserves](http://www.csl.army.mil/usacsl/publications/ccs1_09_chinaspursuitofafricasnaturalresources.pdf). It is also home to the “copper-cobalt” belt, a massive swath of resource rich land with large quantities of copper and cobalt, both of which are necessary for manufacturing. One of the major countries along this belt in the Democratic Republic of the Congo. In early 2007, through an R4I loan, the DRC agreed to transfer a large portion of the stake in its highly resource rich mines to Chinese companies. However, it appears that the price that Chinese firms paid for the mining rights to this land was[drastically undervalued](http://www.reuters.com/article/africa-mining-panel/congo-loses-out-on-1-4-bln-as-mine-assets-sold-cheap-annan-panel-idUSL6N0DP2CE20130510). Much like Chinese petroleum exports, the trade was pushed through and incentivized by the Politburo. The CCP approved a US$6 billion credit line for African infrastructure along with the deal and has since produced hundreds of thousands of tons of copper from the mine, providing China with US$500 million USD in [unrefined copper and cobalt](http://www.reuters.com/article/congodemocratic-mining-china/insight-chinas-infrastructure-for-minerals-deal-gets-reality-check-in-congo-idUSL8N0ZN2QZ20150708) resources per year.

# Case

### FW

#### Perf con – the aff is a settler move to innocence because they literally do nothing

#### The Role of the ballot and Judge is to vote for whoever does the better debating – any alternative framework must explain why we switch sides, why there has to be a winner and a loser, and why there are structural rules. Stasis in the resolution is key to all the prep we do on it

#### The standard and role of the ballot is to maximize expected well-being.

#### Extinction outweighs

Todd 17 [Ben has a 1st from Oxford in Physics and Philosophy, has published in Climate Physics, once kick-boxed for Oxford, and speaks Chinese, badly. "The case for reducing extinction risk." <https://80000hours.org/articles/extinction-risk/>] brett

In this new age, what should be our biggest priority as a civilisation? Improving technology? Helping the poor? Changing the political system? Here’s a suggestion that’s not so often discussed: our first priority should be to survive. So long as civilisation continues to exist, we’ll have the chance to solve all our other problems, and have a far better future. But if we go extinct, that’s it. Why isn’t this priority more discussed? Here’s one reason: many people don’t yet appreciate the change in situation, and so don’t think our future is at risk. Social science researcher Spencer Greenberg surveyed Americans on their estimate of the chances of human extinction within 50 years. The results found that many think the chances are extremely low, with over 30% guessing they’re under one in ten million.3 We used to think the risks were extremely low as well, but when we looked into it, we changed our minds. As we’ll see, researchers who study these issues think the risks are over one thousand times higher, and are probably increasing. These concerns have started a new movement working to safeguard civilisation, which has been joined by Stephen Hawking, Max Tegmark, and new institutes founded by researchers at Cambridge, MIT, Oxford, and elsewhere. In the rest of this article, we cover the greatest risks to civilisation, including some that might be bigger than nuclear war and climate change. We then make the case that reducing these risks could be the most important thing you do with your life, and explain exactly what you can do to help. If you would like to use your career to work on these issues, we can also give one-on-one support. Reading time: 25 minutes How likely are you to be killed by an asteroid? An overview of naturally occurring existential risks A one in ten million chance of extinction in the next 50 years — what many people think the risk is — must be an underestimate. Naturally occurring existential risks can be estimated pretty accurately from history, and are much higher. If Earth was hit by a 1km-wide asteroid, there’s a chance that civilisation would be destroyed. By looking at the historical record, and tracking the objects in the sky, astronomers can estimate the risk of an asteroid this size hitting Earth as about 1 in 5000 per century.4 That’s higher than most people’s chances of being in a plane crash (about one in five million per flight), and already about 1000-times higher than the one in ten million risk that some people estimated.5 Some argue that although a 1km-sized object would be a disaster, it wouldn’t be enough to cause extinction, so this is a high estimate of the risk. But on the other hand, there are other naturally occurring risks, such as supervolcanoes.6 All this said, natural risks are still quite small in absolute terms. An upcoming paper by Dr. Toby Ord estimated that if we sum all the natural risks together, they’re very unlikely to add up to more than a 1 in 300 chance of extinction per century.7 Unfortunately, as we’ll now show, the natural risks are dwarfed by the human-caused ones. And this is why the risk of extinction has become an especially urgent issue. A history of progress, leading to the start of the most dangerous epoch in human history If you look at history over millennia, the basic message is that for a long-time almost everyone was poor, and then in the 18th century, that changed.8 Large economic growth created the conditions in which now face anthropogenic existential risks This was caused by the industrial revolution — perhaps the most important event in history. It wasn’t just wealth that grew. The following chart shows that over the long-term, life expectancy, energy use and democracy have all grown rapidly, while the percentage living in poverty has dramatically decreased.9 Chart prepared by Luke Muehlhauser in 2017. Literacy and education levels have also dramatically increased: Image source. People also seem to become happier as they get wealthier. In The Better Angels of Our Nature, Steven Pinker argues that violence is going down.10 Individual freedom has increased, while racism, sexism and homophobia have decreased. Many people think the world is getting worse,11 and it’s true that modern civilisation does some terrible things, such as factory farming. But as you can see in the data, many important measures of progress have improved dramatically. More to the point, no matter what you think has happened in the past, if we look forward, improving technology, political organisation and freedom gives our descendants the potential to solve our current problems, and have vastly better lives.12 It is possible to end poverty, prevent climate change, alleviate suffering, and more. But also notice the purple line on the second chart: war-making capacity. It’s based on estimates of global military power by the historian Ian Morris, and it has also increased dramatically. Here’s the issue: improving technology holds the possibility of enormous gains, but also enormous risks. Each time we discover a new technology, most of the time it yields huge benefits. But there’s also a chance we discover a technology with more destructive power than we have the ability to wisely use. And so, although the present generation lives in the most prosperous period in human history, it’s plausibly also the most dangerous. The first destructive technology of this kind was nuclear weapons. Nuclear weapons: a history of near-misses Today we all have North Korea’s nuclear programme on our minds, but current events are just one chapter in a long saga of near misses. We came near to nuclear war several times during the Cuban Missile crisis alone.13 In one incident, the Americans resolved that if one of their spy planes were shot down, they would immediately invade Cuba without a further War Council meeting. The next day, a spy plane was shot down. JFK called the council anyway, and decided against invading. An invasion of Cuba might well have triggered nuclear war; it later emerged that Castro was in favour of nuclear retaliation even if “it would’ve led to the complete annihilation of Cuba”. Some of the launch commanders in Cuba also had independent authority to target American forces with tactical nuclear weapons in the event of an invasion. In another incident, a Russian nuclear submarine was trying to smuggle materials into Cuba when they were discovered by the American fleet. The fleet began to drop dummy depth charges to force the submarine to surface. The Russian captain thought they were real depth charges and that, while out of radio communication, the third world war had started. He ordered a nuclear strike on the American fleet with one of their nuclear torpedoes. Fortunately, he needed the approval of other senior officers. One, Vasili Arkhipov, disagreed, preventing war. Thanks to Vasili Arkhipov, we narrowly averted a global catastrophic risk from nuclear weapons Thank you Vasili Arkhipov. Putting all these events together, JFK later estimated that the chances of nuclear war were “between one in three and even”.14 There have been plenty of other close calls with Russia, even after the Cold War, as listed on this nice Wikipedia page. And those are just the ones we know about. Nuclear experts today are just as concerned about tensions between India and Pakistan, which both possess nuclear weapons, as North Korea.15 The key problem is that several countries maintain large nuclear arsenals that are ready to be deployed in minutes. This means that a false alarm or accident can rapidly escalate into a full-blown nuclear war, especially in times of tense foreign relations. Would a nuclear war end civilisation? It was initially thought that a nuclear blast might be so hot that it would ignite the atmosphere and make the Earth uninhabitable. Scientists estimated this was sufficiently unlikely that the weapons could be “safely” tested, and we now know this won’t happen. In the 1980s, the concern was that ash from burning buildings would plunge the Earth into a long-term winter that would make it impossible to grow crops for decades.16 Modern climate models suggest that a nuclear winter severe enough to kill everyone is very unlikely, though it’s hard to be confident due to model uncertainty.17 Even a “mild” nuclear winter, however, could still cause mass starvation.18 For this and other reasons, a nuclear war would be extremely destabilising, and it’s unclear whether civilisation could recover. How likely is a nuclear war to permanently end civilisation? It’s very hard to estimate, but it seems hard to conclude that the chance of a civilisation-ending nuclear war in the next century isn’t over 0.3%. That would mean the risks from nuclear weapons are greater than all the natural risks put together. (Read more about nuclear risks.) This is why the 1950s marked the start of a new age for humanity. For the first time in history, it became possible for a small number of decision-makers to wreak havoc on the whole world. We now pose the greatest threat to our own survival — that makes today the most dangerous point in human history. And nuclear weapons aren’t the only way we could end civilisation. How big is the risk of run-away climate change? In 2015, President Obama said in his State of the Union address that:19 “No challenge  poses a greater threat to future generations than climate change” Climate change is certainly a major risk to civilisation. The graph below shows estimates of climate sensitivity. Climate sensitivity is how much warming to expect in the long-term if CO2 concentrations double, which is roughly what’s expected within the century. Does climate change pose an existential risk? Wagner and Weitzman predict a greater than 10% chance of greater than 6 degrees celsius of warming. Image source The most likely outcome is 2-4 degrees of warming, which would be bad, but survivable. However, these estimates give a 10% chance of warming over 6 degrees, and perhaps a 1% chance of warming of 9 degrees. That would render large fractions of the Earth functionally uninhabitable, requiring at least a massive reorganisation of society. It would also probably increase conflict, and make us more vulnerable to other risks. (If you’re sceptical of climate models, then you should increase your uncertainty, which makes the situation more worrying.) So, it seems like the chance of a massive climate disaster created by CO2 is perhaps similar to the chance of a nuclear war. Researchers who study these issues think nuclear war seems more likely to result in outright extinction, due to the possibility of nuclear winter, which is why we think nuclear weapons pose an even greater risk than climate change. That said, climate change is certainly a major problem, which should raise our estimate of the risks even higher. (Read more about run-away climate change.) What new technologies might be as dangerous as nuclear weapons? The invention of nuclear weapons led to the anti-nuclear movement just a decade later in the 1960s, and the environmentalist movement soon adopted the cause of fighting climate change. What’s less appreciated is that new technologies will present further catastrophic risks. This is why we need a movement that is concerned with safeguarding civilisation in general. Predicting the future of technology is difficult, but because we only have one civilisation, we need to try our best. Here are some candidates for the next technology that’s as dangerous as nuclear weapons. In 1918-1919, over 3% of the world’s population died of the Spanish Flu.20 If such a pandemic arose today, it might be even harder to contain due to rapid global transport. What’s more concerning, though, is that it may soon be possible to genetically engineer a virus that’s as contagious as the Spanish Flu, but also deadlier, and which could spread for years undetected. That would be a weapon with the destructive power of nuclear weapons, but far harder to prevent from being used. Nuclear weapons require huge factories and rare materials to make, which makes them relatively easy to control. Designer viruses might be possible to create in a lab with a couple of biology PhDs. In fact, in 2006, The Guardian was able to receive segments of the extinct smallpox virus by mail order.21 Some terrorist groups have expressed interest in using indiscriminate weapons like these. (Read more about pandemic risks.) In fact, in 2006, The Guardian was able to receive segments of the extinct smallpox virus by mail order. Relevant experts suggest synthetic pathogens could potentially pose a global catastrophic risk. Who ordered the smallpox? Credit: The Guardian Another new technology with huge potential power is artificial intelligence. The reason that humans are in charge and not chimps is purely a matter of intelligence. Our large and powerful brains give us incredible control of the world, despite the fact that we are so much physically weaker than chimpanzees. So then what would happen if one day we created something much more intelligent than ourselves? In 2017, 350 researchers who have published peer-reviewed research into artificial intelligence at top conferences were polled about when they believe that we will develop computers with human-level intelligence: that is, a machine that is capable of carrying out all work tasks better than humans. The median estimate was that there is a 50% chance we will develop high-level machine intelligence in 45 years, and 75% by the end of the century.22 Graph of expert prediction from Grace et al: The median estimate was that there is a 50% chance we will develop high-level machine intelligence in 45 years These probabilities are hard to estimate, and the researchers gave very different figures depending on precisely how you ask the question.23 Nevertheless, it seems there is at least a reasonable chance that some kind of transformative machine intelligence is invented in the next century. Moreover, greater uncertainty means that it might come sooner than people think rather than later. What risks might this development pose? The original pioneers in computing, like Alan Turing and Marvin Minsky, raised concerns about the risks of powerful computer systems,24 and these risks are still around today. We’re not talking about computers “turning evil”. Rather, one concern is that a powerful AI system could be used by one group to gain control of the world, or otherwise be mis-used. If the USSR had developed nuclear weapons 10 years before the USA, the USSR might have become the dominant global power. Powerful computer technology might pose similar risks. Another concern is that deploying the system could have unintended consequences, since it would be difficult to predict what something smarter than us would do. A sufficiently powerful system might also be difficult to control, and so be hard to reverse once implemented. These concerns have been documented by Oxford Professor Nick Bostrom in Superintelligence and by AI pioneer Stuart Russell. Most experts think that better AI will be a hugely positive development, but they also agree there are risks. In the survey we just mentioned, AI experts estimated that the development of high-level machine intelligence has a 10% chance of a “bad outcome” and a 5% chance of an “extremely bad” outcome, such as human extinction.22 And we should probably expect this group to be positively biased, since, after all, they make their living from the technology. Putting the estimates together, if there’s a 75% chance that high-level machine intelligence is developed in the next century, then this means that the chance of a major AI disaster is 5% of 75%, which is about 4%. (Read more about risks from artificial intelligence.) People have raised concern about other new technologies, such as other forms of geo-engineering and atomic manufacturing, but they seem significantly less imminent, so are widely seen as less dangerous than the other technologies we’ve covered. You can see a longer list of existential risks here. What’s probably more concerning is the risks we haven’t thought of yet. If you had asked people in 1900 what the greatest risks to civilisation were, they probably wouldn’t have suggested nuclear weapons, genetic engineering or artificial intelligence, since none of these were yet invented. It’s possible we’re in the same situation looking forward to the next century. Future “unknown unknowns” might pose a greater risk than the risks we know today. Each time we discover a new technology, it’s a little like betting against a single number on a roulette wheel. Most of the time we win, and the technology is overall good. But each time there’s also a small chance the technology gives us more destructive power than we can handle, and we lose everything. Each new technology we develop has both unprecedented potential and perils. Image source. What’s the total risk of human extinction if we add everything together? Many experts who study these issues estimate that the total chance of human extinction in the next century is between 1 and 20%. For instance, an informal poll in 2008 at a conference on catastrophic risks found they believe it’s pretty likely we’ll face a catastrophe that kills over a billion people, and estimate a 19% chance of extinction before 2100.25 Risk At least 1 billion dead Human extinction Number killed by molecular nanotech weapons. 10% 5% Total killed by superintelligent AI. 5% 5% Total killed in all wars (including civil wars). 30% 4% Number killed in the single biggest engineered pandemic. 10% 2% Total killed in all nuclear wars. 10% 1% Number killed in the single biggest nanotech accident. 1% 0.5% Number killed in the single biggest natural pandemic. 5% 0.05% Total killed in all acts of nuclear terrorism. 1% 0.03% Overall risk of extinction prior to 2100 n/a 19% These figures are about one million times higher than what people normally think. In our podcast episode with Will MacAskill we discuss why he puts the risk of extinction this century at around 1%. In his his book The Precipice: Existential Risk and the Future of Humanity, Dr Toby Ord gives his guess at our total existential risk this century as 1 in 6 — a roll of the dice. Listen to our episode with Toby. What should we make of these estimates? Presumably, the researchers only work on these issues because they think they’re so important, so we should expect their estimates to be high (“selection bias”). But does that mean we can dismiss their concerns entirely? Given this, what’s our personal best guess? It’s very hard to say, but we find it hard to confidently ignore the risks. Overall, we guess the risk is likely over 3%. Why helping to safeguard the future could be the most important thing you can do with your life How much should we prioritise working to reduce these risks compared to other issues, like global poverty, ending cancer or political change? At 80,000 Hours, we do research to help people find careers with positive social impact. As part of this, we try to find the most urgent problems in the world to work on. We evaluate different global problems using our problem framework, which compares problems in terms of: Scale – how many are affected by the problem Neglectedness -how many people are working on it already Solvability – how easy it is to make progress If you apply this framework, we think that safeguarding the future comes out as the world’s biggest priority. And so, if you want to have a big positive impact with your career, this is the top area to focus on. In the next few sections, we’ll evaluate this issue on scale, neglectedness and solvability, drawing heavily on Existential Risk Prevention as a Global Priority by Nick Bostrom and unpublished work by Toby Ord, as well as our own research. First, let’s start with the scale of the issue. We’ve argued there’s likely over a 3% chance of extinction in the next century. How big an issue is this? One figure we can look at is how many people might die in such a catastrophe. The population of the Earth in the middle of the century will be about 10 billion, so a 3% chance of everyone dying means the expected number of deaths is about 300 million. This is probably more deaths than we can expect over the next century due to the diseases of poverty, like malaria.26 Many of the risks we’ve covered could also cause a “medium” catastrophe rather than one that ends civilisation, and this is presumably significantly more likely. The survey we covered earlier suggested over a 10% chance of a catastrophe that kills over 1 billion people in the next century, which would be at least another 100 million deaths in expectation, along with far more suffering among those who survive. So, even if we only focus on the impact on the present generation, these catastrophic risks are one of the most serious issues facing humanity. But this is a huge underestimate of the scale of the problem, because if civilisation ends, then we give up our entire future too. Most people want to leave a better world for their grandchildren, and most also think we should have some concern for future generations more broadly. There could be many more people having great lives in the future than there are people alive today, and we should have some concern for their interests. There’s a possibility that human civilization could last for millions of years, so when we consider the impact of the risks on future generations, the stakes are millions of times higher — for good or evil. As Carl Sagan wrote on the costs of nuclear war in Foreign Affairs: A nuclear war imperils all of our descendants, for as long as there will be humans. Even if the population remains static, with an average lifetime of the order of 100 years, over a typical time period for the biological evolution of a successful species (roughly ten million years), we are talking about some 500 trillion people yet to come. By this criterion, the stakes are one million times greater for extinction than for the more modest nuclear wars that kill “only” hundreds of millions of people. There are many other possible measures of the potential loss–including culture and science, the evolutionary history of the planet, and the significance of the lives of all of our ancestors who contributed to the future of their descendants. Extinction is the undoing of the human enterprise. We’re glad the Romans didn’t let humanity go extinct, since it means that all of modern civilisation has been able to exist. We think we owe a similar responsibility to the people who will come after us, assuming (as we believe) that they are likely to lead fulfilling lives. It would be reckless and unjust to endanger their existence just to make ourselves better off in the short-term. It’s not just that there might be more people in the future. As Sagan also pointed out, no matter what you think is of value, there is potentially a lot more of it in the future. Future civilisation could create a world without need or want, and make mindblowing intellectual and artistic achievements. We could build a far more just and virtuous society. And there’s no in-principle reason why civilisation couldn’t reach other planets, of which there are some 100 billion in our galaxy.27 If we let civilisation end, then none of this can ever happen. We’re unsure whether this great future will really happen, but that’s all the more reason to keep civilisation going so we have a chance to find out. Failing to pass on the torch to the next generation might be the worst thing we could ever do. So, a couple of percent risk that civilisation ends seems likely to be the biggest issue facing the world today. What’s also striking is just how neglected these risks are. Why these risks are some of the most neglected global issues Here is how much money per year goes into some important causes:28 Cause Annual targeted spending from all sources (highly approximate) Global R&D $1.5 trillion Luxury goods $1.3 trillion US social welfare $900 billion Climate change >$300 billion To the global poor >$250 billion Nuclear security $1-10 billion Extreme pandemic prevention $1 billion AI safety research $10 million As you can see, we spend a vast amount of resources on R&D to develop even more powerful technology. We also expend a lot in a (possibly misguided) attempt to improve our lives by buying luxury goods. Far less is spent mitigating catastrophic risks from climate change. Welfare spending in the US alone dwarfs global spending on climate change. But climate change still receives enormous amounts of money compared to some of these other risks we’ve covered. We roughly estimate that the prevention of extreme global pandemics receives under 300 times less, even though the size of the risk seems about the same. Research to avoid accidents from AI systems is the most neglected of all, perhaps receiving 100-times fewer resources again, at around only $10m per year. You’d find a similar picture if you looked at the number of people working on these risks rather than money spent, but it’s easier to get figures for money. If we look at scientific attention instead, we see a similar picture of neglect (though, some of the individual risks receive significant attention, such as climate change): Existential risk research receives less funding than dung beetle research. Credit: Nick Bostrom Our impression is that if you look at political attention, you’d find a similar picture to the funding figures. An overwhelming amount of political attention goes on concrete issues that help the present generation in the short-term, since that’s what gets votes. Catastrophic risks are far more neglected. Then, among the catastrophic risks, climate change gets the most attention, while issues like pandemics and AI are the most neglected. This neglect in resources, scientific study and political attention is exactly what you’d expect to happen from the underlying economics, and are why the area presents an opportunity for people who want to make the world a better place. First, these risks aren’t the responsibility of any single nation. Suppose the US invested heavily to prevent climate change. This benefits everyone in the world, but only about 5% of the world’s population lives in the US, so US citizens would only receive 5% of the benefits of this spending. This means the US will dramatically underinvest in these efforts compared to how much they’re worth to the world. And the same is true of every other country. This could be solved if we could all coordinate — if every nation agreed to contribute its fair share to reducing climate change, then all nations would benefit by avoiding its worst effects. Unfortunately, from the perspective of each individual nation, it’s better if every other country reduces their emissions, while leaving their own economy unhampered. So, there’s an incentive for each nation to defect from climate agreements, and this is why so little progress gets made (it’s a prisoner’s dilemma). And in fact, this dramatically understates the problem. The greatest beneficiaries of efforts to reduce catastrophic risks are future generations. They have no way to stand up for their interests, whether economically or politically. If future generations could vote in our elections, then they’d vote overwhelmingly in favour of safer policies. Likewise, if future generations could send money back in time, they’d be willing to pay us huge amounts of money to reduce these risks. (Technically, reducing these risks creates a trans-generational, global public good, which should make them among the most neglected ways to do good.) Our current system does a poor job of protecting future generations. We know people who have spoken to top government officials in the UK, and many want to do something about these risks, but they say the pressures of the news and election cycle make it hard to focus on them. In most countries, there is no government agency that naturally has mitigation of these risks in its remit. This is a depressing situation, but it’s also an opportunity. For people who do want to make the world a better place, this lack of attention means there are lots high-impact ways to help. What can be done about these risks? We’ve covered the scale and neglectedness of these issues, but what about the third element of our framework, solvability? It’s less certain that we can make progress on these issues than more conventional areas like global health. It’s much easier to measure our impact on health (at least in the short-run) and we have decades of evidence on what works. This means working to reduce catastrophic risks looks worse on solvability. However, there is still much we can do, and given the huge scale and neglectedness of these risks, they still seem like the most urgent issues. We’ll sketch out some ways to reduce these risks, divided into three broad categories: 1. Targeted efforts to reduce specific risks One approach is to address each risk directly. There are many concrete proposals for dealing with each, such as the following: Many experts agree that better disease surveillance would reduce the risk of pandemics. This could involve improved technology or better collection and aggregation of existing data, to help us spot new pandemics faster. And the faster you can spot a new pandemic, the easier it is to manage. There are many ways to reduce climate change, such as helping to develop better solar panels, or introducing a carbon tax. With AI, we can do research into the “control problem” within computer science, to reduce the chance of unintended damage from powerful AI systems. A recent paper, Concrete problems in AI safety, outlines some specific topics, but only about 20 people work full-time on similar research today. In nuclear security, many experts think that the deterrence benefits of nuclear weapons could be maintained with far smaller stockpiles. But, lower stockpiles would also reduce the risks of accidents, as well as the chance that a nuclear war, if it occurred, would end civilisation. We go into more depth on what you can do to tackle each risk within our problem profiles: AI safety Pandemic prevention Nuclear security Run-away climate change We don’t focus on naturally caused risks in this section, because they’re much less likely and we’re already doing a lot to deal with some of them. Improved wealth and technology makes us more resilient to natural risks, and a huge amount of effort already goes into getting more of these. 2. Broad efforts to reduce risks Rather than try to reduce each risk individually, we can try to make civilisation generally better at managing them. The “broad” efforts help to reduce all the threats at once, even those we haven’t thought of yet. For instance, there are key decision-makers, often in government, who will need to manage these risks as they arise. If we could improve the decision-making ability of these people and institutions, then it would help to make society in general more resilient, and solve many other problems. Recent research has uncovered lots of ways to improve decision-making, but most of it hasn’t yet been implemented. At the same time, few people are working on the issue. We go into more depth in our write-up of improving institutional decision-making. Another example is that we could try to make it easier for civilisation to rebound from a catastrophe. The Global Seed Vault is a frozen vault in the Arctic, which contains the seeds of many important crop varieties, reducing the chance we lose an important species. Melting water recently entered the tunnel leading to the vault due, ironically, to climate change, so could probably use more funding. There are lots of other projects like this we could do to preserve knowledge. Similarly, we could create better disaster shelters, which would reduce the chance of extinction from pandemics, nuclear winter and asteroids (though not AI), while also increasing the chance of a recovery after a disaster. Right now, these measures don’t seem as effective as reducing the risks in the first place, but they still help. A more neglected, and perhaps much cheaper option is to create alternative food sources, such as those that be produced without light, and could be quickly scaled up in a prolonged winter. Since broad efforts help even if we’re not sure about the details of the risks, they’re more attractive the more uncertain you are. As you get closer to the risks, you should gradually reallocate resources from broad to targeted efforts (read more). We expect there are many more promising broad interventions, but it’s an area where little research has been done. For instance, another approach could involve improving international coordination. Since these risks are caused by humanity, they can be prevented by humanity, but what stops us is the difficulty of coordination. For instance, Russia doesn’t want to disarm because it would put it at a disadvantage compared to the US, and vice versa, even though both countries would be better off if there were no possibility of nuclear war. However, it might be possible to improve our ability to coordinate as a civilisation, such as by improving foreign relations or developing better international institutions. We’re keen to see more research into these kinds of proposals. Mainstream efforts to do good like improving education and international development can also help to make society more resilient and wise, and so also contribute to reducing catastrophic risks. For instance, a better educated population would probably elect more enlightened leaders (cough), and richer countries are, all else equal, better able to prevent pandemics — it’s no accident that Ebola took hold in some of the poorest parts of West Africa. But, we don’t see education and health as the best areas to focus on for two reasons. First, these areas are far less neglected than the more unconventional approaches we’ve covered. In fact, improving education is perhaps the most popular cause for people who want to do good, and in the US alone, receives 800 billion dollars of government funding, and another trillion dollars of private funding. Second, these approaches have much more diffuse effects on reducing these risks — you’d have to improve education on a very large scale to have any noticeable effect. We prefer to focus on more targeted and neglected solutions.

#### Anticipating extinction breeds empathy and entangled care. Distancing ourselves from considering extinction reifies detached elitism – answers Dalley

Offord, 17—Faculty of Humanities, School of Humanities Research and Graduate Studies, Bentley Campus (Baden, “BEYOND OUR NUCLEAR ENTANGLEMENT,” Angelaki, 22:3, 17-25, dml) [ableist language modifications denoted by brackets]

You are steered towards overwhelming and inexplicable pain when you consider the nuclear entanglement that the species Homo sapiens finds itself in. This is because the fact of living in the nuclear age presents an existential, aesthetic, ethical and psychological challenge that defines human consciousness. Although an immanent threat and ever-present danger to the very existence of the human species, living with the possibility of nuclear war has infiltrated the matrix of modernity so profoundly as to paralyse [shut down] our mind-set to respond adequately. We have chosen to ignore the facts at the heart of the nuclear program with its dangerous algorithm; we have chosen to live with the capacity and possibility of a collective, pervasive and even planetary-scale suicide; and the techno-industrial-national powers that claim there is “no immediate danger” ad infinitum.8

This has led to one of the key logics of modernity's insanity. As Harari writes: “Nuclear weapons have turned war between superpowers into a mad act of collective suicide, and therefore forced the most powerful nations on earth to find alternative and peaceful ways to resolve conflicts.”9 This is the nuclear algorithm at work, a methodology of madness. In revisiting Jacques Derrida in “No Apocalypse, Not Now (Full Speed Ahead, Seven Missiles, Seven Missives),”10 who described nuclear war as a “non-event,” it is clear that the pathology of the “non-event” remains as active as ever even in the time of Donald Trump and Kim Jong-un with their stichomythic nuclear posturing.

The question of our times is whether we have an equal or more compelling capacity and willingness to end this impoverished but ever-present logic of pain and uncertainty. How not simply to bring about disarmament, but to go beyond this politically charged, as well as mythological and psychological nuclear algorithm? How to find love amidst the nuclear entanglement; the antidote to this entanglement? Is it possible to end the pathology of power that exists with nuclear capacity? Sadly, the last lines of Nitin Sawhney's “Broken Skin” underscore this entanglement:

Just 5 miles from India's nuclear test site

Children play in the shade of the village water tank

Here in the Rajasthan desert people say

They're proud their country showed their nuclear capability.11

As an activist scholar working in the fields of human rights and cultural studies, responding to the nuclear algorithm is an imperative. Your politics, ethics and scholarship are indivisible in this cause. An acute sense of care for the world, informed by pacifist and non-violent, de-colonialist approaches to knowledge and practice, pervades your concern. You are aware that there are other ways of knowing than those you are familiar and credentialed with. You are aware that you are complicit in the prisons that you choose to live inside,12 and that there is no such thing as an innocent bystander. You use your scholarship to shake up the world from its paralysis, abjection and amnesia; to unsettle the epistemic and structural violence that is ubiquitous to neoliberalism and its machinery; to create dialogic and learning spaces for the work of critical human rights and critical justice to take place. All this, and to enable an ethics of intervention through understanding what is at the very heart of the critical human rights impulse, creating a “dialogue for being, because I am not without the other.”13

Furthermore, as a critical human rights advocate living in a nuclear armed world, your challenge is to reconceptualise the human community as Ashis Nandy has argued, to see how we can learn to co-exist with others in conviviality and also learn to co-survive with the non-human, even to flourish. A dialogue for being requires a leap into a human rights frame that includes a deep ecological dimension, where the planet itself is inherently involved as a participant in its future. This requires scholarship that “thinks like a mountain.”14 A critical human rights approach understands that it cannot be simply human-centric. It requires a nuanced and arresting clarity to present perspectives on co-existence and co-survival that are from human and non-human viewpoints.15

Ultimately, you realise that your struggle is not confined to declarations, treaties, legislation, and law, though they have their role. It must go further to produce “creative intellectual exchange that might release new ethical energies for mutually assured survival.”16 Taking an anti-nuclear stance and enabling a post-nuclear activism demands a revolution within the field of human rights work. Recognising the entanglement of nuclearism with the Anthropocene, for one thing, requires a profound shift in focus from the human-centric to a more-than-human co-survival. It also requires a fundamental shift in understanding our human culture, in which the very epistemic and rational acts of sundering from co-survival with the planet and environment takes place. In the end, you realise, as Raimon Panikkar has articulated, “it is not realistic to toil for peace if we do not proceed to a disarmament of the bellicose culture in which we live.”17 Or, as Geshe Lhakdor suggests, there must be “inner disarmament for external disarmament.”18 In this sense, it is within the cultural arena, our human society, where the entanglement of subjective meaning making, nature and politics occurs, that we need to disarm.

It is 1982, and you are reading Jonathan Schell's The Fate of the Earth on a Sydney bus. Sleeping has not been easy over the past few nights as you reluctantly but compulsively read about the consequences of nuclear war. For some critics, Schell's account is high polemic, but for you it is more like Rabindranath Tagore: it expresses the suffering we make for ourselves. What you find noteworthy is that although Schell's scenario of widespread destruction of the planet through nuclear weaponry, of immeasurable harm to the bio-sphere through radiation, is powerfully laid out, the horror and scale of nuclear obliteration also seems surreal and far away as the bus makes its way through the suburban streets.

A few years later, you read a statement from an interview with Paul Tibbets, the pilot of “Enola Gay,” the plane that bombed Hiroshima. He says, “The morality of dropping that bomb was not my business.”19 This abstraction from moral responsibility – the denial of the implications on human life and the consequences of engagement through the machinery of war – together with the sweeping amnesia that came afterwards from thinking about the bombing of Hiroshima, are what make you become an environmental and human rights activist. You realise that what makes the nuclear algorithm work involves a politically engineered and deeply embedded insecurity-based recipe to elide the nuclear threat from everyday life. The spectre of nuclear obliteration, like the idea of human rights, can appear abstract and distant, not our everyday business. You realise that within this recipe is the creation of a moral tyranny of distance, an abnegation of myself with the other. One of modernity's greatest and earliest achievements was the mediation of the self with the world. How this became a project assisted and shaped through the military-industrial-technological-capitalist complex is fraught and hard to untangle. But as a critical human rights scholar you have come to see through that complex, and you put energies into challenging that tyranny of distance, to activate a politics, ethics and scholarship that recognises the other as integral to yourself. Ultimately, even, to see that the other is also within.20

#### Reps don't shape reality.

Balzacq 05 [Thierry, Professor of Political Science and International Relations at Namur University. “The Three Faces of Securitization: Political Agency, Audience and Context” European Journal of International Relations, London: Jun 2005, Volume 11, Issue 2. <https://sci-hub.se/https://doi.org/10.1177/1354066105052960>] brett

However, despite important insights, this position remains highly disputable. The reason behind this qualification is not hard to understand. With great trepidation my contention is that one of the main distinctions we need to take into account while examining securitization is that between 'institutional' and 'brute' threats. In its attempts to follow a more radical approach to security problems wherein threats are institutional, that is, mere products of communicative relations between agents, the CS has neglected the importance of 'external or brute threats', that is, threats that do not depend on language mediation to be what they are - hazards for human life. In methodological terms, however, any framework over-emphasizing either institutional or brute threat risks losing sight of important aspects of a multifaceted phenomenon. Indeed, securitization, as suggested earlier, is successful when the securitizing agent and the audience reach a common structured perception of an ominous development. In this scheme, there is no security problem except through the language game. Therefore, how problems are 'out there' is exclusively contingent upon how we linguistically depict them. This is not always true. For one, language does not construct reality; at best, it shapes our perception of it. Moreover, it is not theoretically useful nor is it empirically credible to hold that what we say about a problem would determine its essence. For instance, what I say about a typhoon would not change its essence. The consequence of this position, which would require a deeper articulation, is that some security problems are the attribute of the development itself. In short, threats are not only institutional; some of them can actually wreck entire political communities regardless of the use of language. Analyzing security problems then becomes a matter of understanding how external contexts, including external objective developments, affect securitization. Thus, far from being a departure from constructivist approaches to security, external developments are central to it.

#### Frame the 1AC through solvency, not impacts – any attempt to filter offense through the RotB or the speech act of the aff is an arbitrary goalpost that only serves to insulate it from criticism and nuanced testing – forcing us to negate the efficacy of personal strategies is at best impossible and at worst violent– no warrant for how the aff spills up to impact structures of politics writ large or out of debate means you vote neg on presumption.

### 1NC -- Solvency

#### Projects like the Thirty Meter Telescope are alt causes.

**1AC Smiles 20** (Deondre Smiles, PhD, is an Ojibwe, Black, and settler citizen of the Leech Lake Band of Ojibwe and is an Assistant Professor in the Department of Geography at the University of Victoria, in B.C., Canada. Smiles is an Indigenous geographer, chair of the Indigenous Peoples Specialty Group of the American Association of Geographers, and a member of the Native American and Indigenous Studies Association and Canadian Association of Geographers. "The Settler Logics of (Outer) Space". 10-26-2020. https://www.societyandspace.org/articles/the-settler-logics-of-outer-space. Accessed 11-28-2021, HKR-RM)

The fact that similar language is being used around the potential of American power being extended to space could reasonably be expected, given the economic and military potential that comes from such a move. Space represents yet another ‘unknown’ to be conquered and bent to America’s will. However, such interplanetary conquest does not exist solely in outer space. I wish to situate the very real colonial legacies and violence associated with the desire to explore space, tracing the ways that they are perpetuated and reified through their destructive engagements with Indigenous peoples. I argue that a scientific venture such as space exploration does not exist in a vacuum, but instead draws from settler colonialism and feeds back into it through the prioritization of ‘science’ over Indigenous epistemologies. I begin by exploring the ways that space exploration by the American settler state is situated within questions of hegemony, imperialism, and terra nullius, including a brief synopsis of the controversy surrounding the planned construction of the Thirty Meter Telescope on Mauna Kea. I conclude by exploring Indigenous engagement with ‘space’ in both its Earthbound and beyond-earth forms as it relates to outer space, and what implications this might have for the ways we think about our engagement with space as the American settler state begins to turn its gaze skyward once again. I position this essay alongside a growing body of academic work, as well as journalistic endeavors (Haskins, 2020; Koren, 2020) that demands that the American settler colonial state exercise self-reflexivity as to why it engages with outer space, and who is advantaged and disadvantaged here on Earth as a result of this engagement. A brief exploration of what settler colonialism is, and its engagement with ‘space’ here on Earth is necessary to start. Settler colonialism is commonly understood to be a form of colonialism that is based upon the permanent presence of colonists upon land. This is a distinction from forms of colonialism based upon resource extraction (Wolfe, 2006; Veracini, 2013). What this means is that the settler colony is intimately tied with the space within which it exists—it cannot exist or sustain itself without settler control over land and space. This permanent presence upon land by ‘settlers’ is usually at the expense of the Indigenous, or original people, in a given space or territory. To reiterate: control over space is paramount. As Wolfe states, “Land is life—or at least, land is necessary for life. Thus, contests for land can be—indeed, often are—contests for life” (2006: 387). Without land, the settler state ‘dies’; conversely, deprivation of land from the indigenous population means that in settler logic, indigeneity dies (Povinelli, 2002; Wolfe, 2006.) The ultimate aims of settler colonialism is therefore the occupation and remaking of space. As Wolfe (2006) describes, the settler state seeks to make use of land and resources in order to continue on; whether that is through homesteading/residence, farming and agriculture, mining, or any number of activities that settler colonial logic deems necessary to its own survival. These activities are tied to a racist and hubristic logic that only settler society itself possesses the ability to make proper use of land and space (Wolfe, 2006). This is mated with a viewpoint of landscapes prior to European arrival as terra nullius, or empty land that was owned by no one, via European/Western conceptions of land ownership and tenure (Wolfe, 1994). Because of this overarching goal of space, there is an inherent anxiety in settler colonies about space, and how it can be occupied and subsequently rewritten to remove Indigenous presence. In Anglo settler colonies, this often takes place within a lens of conservation. Scholars such as Banivanua Mar (2010), Lannoy (2012), Wright (2014) and Tristan Ahtone (2019) have written extensively on the ways that settler reinscription of space can be extremely damaging to Indigenous people from a lens of ‘conservation’. However, dispossession of Indigenous space in favor of settler uses can also be tied to some of the most destructive forces of our time. For example, Aboriginal land in the Australian Outback was viewed as ‘empty’ land that was turned into weapons ranges where the British military tested nuclear weapons in the 1950s, which directly led to negative health effects upon Aboriginal communities downwind from the testing sites (Vincent, 2010). Indigenous nations in the United States have struggled with environmental damage related to military-industrial exploitation as well. But, what does this all look like in regard to outer space? In order to really understand the potential (settler) colonial logics of space exploration, we must go back and explore the ways in which space exploration became inextricably tied with questions of state hegemony and geopolitics during the Cold War. US and Soviet space programs were born partially out of military utility, and propaganda value—the ability to send a nuclear warhead across a great distance to strike the enemy via a ICBM and the accompanying geopolitical respect that came with such a capability was something that greatly appealed to the superpowers, and when the Soviets took an early lead in the ‘Space Race’ with Sputnik and their Luna probes, the United States poured money and resources into making up ground (Werth, 2004). The fear of not only falling behind the Soviets militarily as well as a perceived loss of prestige in the court of world opinion spurred the US onto a course of space exploration that led to the Apollo moon landings in the late 1960s and the early 70s (Werth, 2004; Cornish, 2019). I argue that this fits neatly into the American settler creation myth referenced by Trump—after ‘conquering’ a continent and bringing it under American dominion, why would the United States stop solely at ‘space’ on Earth? To return to Grandin (2019), space represented yet another frontier to be conquered and known by the settler colonial state; if not explicitly for the possibility of further settlement, then for the preservation of its existing spatial extent on Earth. However, scholars such as Alan Marshall (1995) have cautioned that newer logics of space exploration such as potential resource extraction tie in with existing military logics in a way that creates a new way of thinking about the ‘openness’ of outer space to the logics of empire, in what Marshall calls res nullius (1995: 51)[i]. But we cannot forget the concept of terra nullius and how our exploration of the stars has real effects on Indigenous landscapes here on Earth. We also cannot forget about forms of space exploration that may not be explicitly tied to military means. Doing so deprives us of another lens through which to view the tensions between settler and Indigenous views of space and to which end is useful. Indeed, even reinscribing of Indigenous space towards ‘peaceful’ settler space exploration have very real consequences for Indigenous sovereignty and Indigenous spaces. Perhaps the most prominent example of the fractures between settler space exploration and Indigenous peoples is the on-going controversy surrounding the construction of the Thirty Meter Telescope on Mauna Kea, on the island of Hawaii. While an extremely detailed description of the processes of construction on the TMT and the opposition presented to it by Native Hawai’ians and their allies is beyond the scope of this essay, and in fact is already expertly done by a number of scholars[ii], the controversy surrounding TMT is a prime example of the logics presented towards ‘space’ in both Earth-bound and beyond-Earth contexts by the settler colonial state as well as the violence that these logics place upon Indigenous spaces, such as Mauna Kea, which in particular already plays host to a number of telescopes and observatories (Witze, 2020). In particular, astronomers such as Chanda Prescod-Weinstein, Lucianne Walkowicz, and others have taken decisive action to push back against the idea that settler scientific advancement via space exploration should take precedence over Indigenous sovereignty in Earth-space. Prescod-Weinstein and Walkowicz, alongside Sarah Tuttle, Brian Nord and Hilding Neilson (2020) make clear that settler scientific pursuits such as building the TMT are simply new footnotes in a long history of colonial disrespect of Indigenous people and Indigenous spaces in the name of science, and that astronomy is not innocent of this disrespect. In fact, Native Hawai’ian scholars such as Iokepa Casumbal-Salazar strike at the heart of the professed neutrality of sciences like astronomy: One scientist told me that astronomy is a “benign science” because it is based on observation, and that it is universally beneficial because it offers “basic human knowledge” that everyone should know “like human anatomy.” Such a statement underscores the cultural bias within conventional notions of what constitutes the “human” and “knowledge.” In the absence of a critical self-reflection on this inherent ethnocentrism, the tacit claim to universal truth reproduces the cultural supremacy of Western science as self-evident. Here, the needs of astronomers for tall peaks in remote locations supplant the needs of Indigenous communities on whose ancestral territories these observatories are built (2017: 8). As Casumbal-Salazar and other scholars who have written about the TMT and the violence that has been done to Native Hawai’ians (such as police actions designed to dislodge blockades that prevented construction) as well as the potential violence to come such as the construction of the telescope have skillfully said, when it comes to the infringement upon Indigenous space by settler scientific endeavors tied to space exploration, there is no neutrality to be had—dispossession and violence are dispossession and violence, no matter the potential ‘good for humanity’ that might come about through these things.

### Space col

#### Won’t go commerical

Szocik 18 (Konrad Szocik, Assistant Professor at the University of Information Technology and Management in Rzeszow, Poland (Department of Philosophy and Cognitive Science), 2018. “Should and could humans go to Mars? Yes, but not now and not in the near future”. Futures. doi:10.1016/j.futures.2018.08.004)

7. Commercial exploration of space is not a workable alternative

Risk of funding the wall might be avoided by commercial exploration of space (Crawford 2016). According to Crawford, some space projects such as next generation of large telescopes or crewed mission to Mars are non-profitable. While they are a governmental duty, they could be funded partially by profits from commercial exploration of space (for instance, space mining). Hope for private exploration sounds reasonable but is counterbalanced by commercial focus on profits. Because mission to Mars has only scientific profits, only public sponsors will be invested in this project. James S. J. Schwartz (2014) adds that two of the possible reasons for human space mission, such as improving human welfare and progress in scientific exploration, are well beyond interests of private companies. Christopher J. Newman and Mark Williamson (2018) quite similarly expect that private space exploration will be focused on financial profits more than on environmental sustainability. Private investors are not obliged to act altruistically and to sacrifice their business for uncertain idea. W. Henry Lambright (2017) adds that private companies at least at first stages of Mars space program will not be able to fund it. For this reason, Mars space program requires multi-generational effort and political stabilization.

The challenge of safety works against private investors in space program. Public space agencies have achieved high standards of safety. They behave in careful and conservative ways. Commercial, private projects do not have the same advanced technology, the large number of scientists and support staff, and the generous budgets. Catastrophe would likely break a private space program. The lack of experience of private companies in space exploration is partially responsible for higher risk of technological failures even in relatively easy tasks as crash of Momo-2 rocket launched by Japanese start-up on 30 June 2018 several seconds after launch.

#### Independent colony is impossible

Levchenko 19 (Professors in the Plasma Sources and Applications Centre/Space Propulsion Centre, NIE, Nanyang Technological University. 2019. “Mars Colonization: Beyond Getting There.” Global Challenges, vol. 3, no. 1.)

Settlement of Mars—is it a dream or a necessity? From scientific publications to public forms, there is certainly little consensus on whether colonization of Mars is necessary or even possible, with a rich diversity of opinions that range from categorical It is a necessity!20 to equally categorical Should Humans Colonize Other Planets? No.21 A strong proponent of the idea, Orwig puts forward five reasons for Mars colonization, implicitly stating that establishing a permanent colony of humans on Mars is no longer an option but a real necessity.20 Specifically, these arguments are: Survival of humans as a species; Exploring the potential of life on Mars to sustain humans; Using space technology to positively contribute to our quality of life, from health to minimizing and reversing negative aspects of anthropogenic activity of humans on Earth; Developing as a species; Gaining political and economic leadership. The first argument captures the essence of what most space colonization proponents feel—our ever growing environmental footprint threatens the survival of human race on Earth. Indeed, a large body of evidence points to human activity as the main cause of extinction of many species, with shrinking biodiversity and depleting resources threatening the very survival of humans on this planet. Colonization of other planets could potentially increase the probability of our survival. While being at the core of such ambitious projects as Mars One, a self‐sustained colony of any size on Mars is hardly feasible in the foreseeable future. Indeed, sustaining even a small number of colonists would require a continuous supply of food, oxygen, water and basic materials. At this stage, it is not clear whether it would be possible to establish a system that would generate these resources locally, or whether it would at least in part rely on the delivery of these resources (or essential components necessary for their local production) from Earth. Beyond the supply of these very basic resources, it would be quite challenging if not impossible for the colonists to independently produce hi‐tech but vitally important assets such as medicines, electronics and robotics systems, or advanced materials that provide us with a decent quality of life. In this case, would their existence become little more than the jogtrot of life, as compared with the standards expected at the Earth?22

#### Space colonization fails – tech failure, momentum loss, psychology

Szocik 18 (Konrad Szocik, Assistant Professor at the University of Information Technology and Management in Rzeszow, Poland (Department of Philosophy and Cognitive Science), 2018. “Should and could humans go to Mars? Yes, but not now and not in the near future”. Futures. doi:10.1016/j.futures.2018.08.004)

11. Conclusions

Deep faith in power of human reason supported by experience and experiments is not enough to organize safe and effective human mission to Mars. The main obstacle to go to Mars now and in the near future is a technological barrier. Future technological advancement may be counterbalanced by increasing threats. The risk of catastrophes and threats is increasing every year. Challenges associated with overpopulation, limited resources and climate changes including extensive fires probably will inhibit any serious investing in human space program. Only an urgent, real, and serious rationale would be able to argue for need for current longterm, deep-space human interplanetary program, but there is no such urgent rationale now and probably it will not appear in the near future. Human interplanetary missions look more like an extravagant display of human creativity, complacency, and high self-esteem than like a real need of humanity and a real possibility. The multi-generational international collaboration that seems to be necessary for effective human mission to Mars is problematic for political and financial reasons.

Last but not least. I did not find in papers discussing the idea of refuge (Baum et al. 2015; Jebari 2015; Turchin and Green 2017) any deep analysis of the psychological challenge of living in a close, confined shelter or capsule, whether in an earthly or a space habitat. This challenge may be greater in space refuge but we may expect that many years of isolation in nuclear submarine may be psychologically deleterious as well.12 Margaret Boone Rappaport and Christopher Corbally (2019) in excellent and detailed way show how challenging psychologically will be every minute of life in confined Mars base. Their analysis may be referred to Earth refuge as well. This psychological harm raises ethical questions. Among them one of the most important is the basic question of the ethics of quality of life: is such kind of life worth to be alive?

### Institutions good

#### Their analytic is too abstracted and conflates a metaphysical constant with discrete events of oppression

Pappas 17 – PhD, Associate Professor of Philosophy at Texas A& M University (Gregory, “The Limitations and Dangers of Decolonial Philosophies: Lessons from Zapatista Luis Villoro,” *Radical Philosophy Review*, DOI: 10.5840/radphilrev201732768) --- ability edited

For decolonialists the sickness that afflicts Latin America is the global hegemony—economic, military, political, and cultural—of the West, first via Europe and then the United States, broadcast under the philosophy of the Enlightenment with Europe carrying the mission. As Vallega explains, “Latin America suffered and continues to suffer under western hegemonic modernity and its system of power and knowledge.”19 Villoro believed that at the turn of the twentieth century one of the modern ideas we inherited that must be questioned is “global explanations” because “general ideologies tend to slip into totalitarianism in our thinking.”20 I think Villoro’s reservations are warranted and can be extended to decolonial thought. Granted, a theory of grand historical evil and systematic sickness in the Americas can have great explanatory power and provide theoretical comfort,21 but where are we standing when we start with such large historical metanarratives? How is it this not a God’s-eye view of history? Is there a danger of slipping back into a form of universalism, which they have explicitly avoided? Isn’t there a danger that when a theory explains so much it becomes nonfalsifiable and therefore nonempirical? In any case, the quest for a comprehensive explanation and a grand historical narrative is also in danger of not capturing the historical and concrete particularity (pluralism, complexity, uniqueness) of actual injustices. When we start at the broad level of globality and history as decolonialists often do, there is a risk of oversimplifying and encouraging blindness [ignorance] about concrete injustices. Consulting recent rigorous research done by historians and social anthropologist about Latin America (more on this later) confirms what many know from simply living there: most injustices in different parts of the Americas are so complex that any simple explanation merits the suspicion of being wishful thinking. To be fair, compared to Marxism the decolonial turn added complexity and made a significant shift. Marxism as a tool was not sensitive enough to the realities on the ground in Latin America. It was a universal model that did not adequately address its particular problems. However, decolonialists do not seem to have abandoned or questioned a similar methodological starting point. As a result, decolonial theories may sometimes be presented with the same pretension of offering a universal diagnosis of the complex and tragic problems of Latin America. Perhaps a more pluralistic and context-sensitive approach could avoid some of the dangers I have presented. Here is where the contrast with Villoro is useful. To be sure, Villoro was critical of the same things as the decolonialists: the Eurocentric narrative, modernity, liberalism, and so on. However, when he takes a reflective historical perspective about these large historical and lumpy categories there is a difference in how he does it. He anchors his account in his local present situation, is very specific about what particular aspects of modernity or liberalism are problematic, and does not have one preferred category of analysis such as coloniality. For most decolonial theorists, however, the legacy of colonialism is central (understood broadly as coloniality), and the situation of the oppressed is to be analyzed in relation to a global narrative in which Europe is at its center or in relation to modernity or a global capitalist system. The decolonial project is centered on detecting plural manifestations of the single evolving domination (a social pathology) that started in 1492. Liberation is understood as decolonization via undoing “the coloniality of power” and affirming what has been “conceal[ed] by the Western modern epistemic hegemony.”22 In contrast, at the center of Villoro’s approach is liberation from domination, and the causes of domination are plural and contextual and therefore too complex to be articulated or framed by a global theory of domination. For Villoro liberation is a local event; one of its tools is to sometimes take a global perspective, and the complexity of the problems on the ground may not be fully captured by even our best academic global historical narratives and categories. He inquired into the history of a systematic injustice in order to facilitate inquiry into the present unique, context-bound injustice. If injustice is an illness then Villoro’s approach takes as its main focus diagnosing and treating the particular present illness, i.e., the particular injustice in a corner of Mexico, and not a global “social pathology” or some single transhistorical source of injustice. As concepts and categories, global hierarchies, white supremacy, and coloniality can be great tools that can have planetary significance. One could even argue that they pick out much-larger areas of people’s lives and injustices than the categories of class and gender. However, in spite of their reach and explanatory theoretical value they are nothing more than tools to make reference to and ameliorate particular injustices experienced (suffered) in the midst of a particular and unique relationship in a situation. Why is this important? In present situations (events) of injustice in the Americas there are not only intersecting histories of white supremacy, capitalist exploitation, and patriarchy; there are also unique events, multiple countries with different complex histories and present circumstances, as well as a variety of responsible agents—local and international governments, corporations, particular individuals and communities. Regardless of how much a theory of global domination that centers on coloniality can actually explain, it is reasonable to worry about what it leaves out and question the extent to which it really helps those who are victims of injustice. A wider net may bring more fish from the ocean, but I am not sure this applies to injustices. Such theories may lead to analysis or diagnosis that while true at some level, may actually have very little to offer in terms of more specific diagnoses and solutions that can be of any help to someone suffering an injustice. However, for Mignolo coloniality is “the underlying logic of the foundation and unfolding of Western civilization from the Renaissance to today”23 Coloniality helps explain how race and gender became the basis of classification in the Americas, but it remains an open question how these categories actually operate in particular countries or even in particular unjust events. We can say all we want that the oppressed live in power structures located in global hierarchies and a world-system, but that does not fully capture where they are. However useful and true that account may be about someone’s particular circumstances, it is still overabstracted. Knowing how people have been classified according to a colonial matrix of power is important, but only insofar as it may help us inquire about the present actual causes of an injustice. Moreover, it is not obvious how the use of a single name and the prism of a single cause helps in trying to ameliorate the particular and context-specific evils from which particular countries and people in Latin America suffer. One could reply that my worries are misplaced. Calling decolonization the cure may suggest that coloniality is some sort of single homogeneous cause, but the decolonialists have distinguished between different types of coloniality and have included in their diagnosis a plurality of causes such as exploitation of resources, political manipulation, and assimilation of people from other cultures. If this is the case then why not address these more particular evils, unless one is really committed to some unitary account in which all of these evils can be reduced to a singular cause?

#### That reifies a totalizing understanding of settlerism that doom aff solvency and perpetuates the violence of labor exploitation

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The prescription for decolonisation—that is, a normative project committed to the liberation of the colonised and the overturning of colonial relationships of power (Kohn & McBride, 2011: 3)—is indeed one of the most counterhegemonic implications of the settler colonial paradigm as applied to IsraelPalestine, potentially shifting it from a diagnostic frame to a prognostic one which offers a ‘proposed solution to the problem, or at least a plan of attack’ (Benford & Snow, 2000: 616). What, however, does the settler colonial paradigm offer by way of envisioning decolonisation? As Veracini (2007) notes, while settler colonial studies scholars have sought to address the lack of attention paid to the experiences of Indigenous peoples in conventional historiographical accounts of decolonisation (which have mostly focused on settler independence and the loosening of ties to the ‘motherland’), there is nevertheless a ‘narrative deficit’ when it comes to imagining settler decolonisation. While Veracini (2007) relates this deficit to a matter of conceptualisation, it is apparent that the structural perspective of the paradigm in many ways closes down possibilities of imagining the type of social and political transformation to which the notion of decolonisation aspires. In this regard, there is a worrying tendency (if not tautological discrepancy) in settler colonial studies, where the only solution to settler colonialism is decolonisation—which a faithful adherence to the paradigm renders largely unachievable, if not impossible. To understand why this is the case, it is necessary to return to Wolfe’s (2013a: 257) account of settler colonialism as guided by a ‘zero-sum logic whereby settler societies, for all their internal complexities, uniformly require the elimination of Native alternatives’. The structuralism of this account has immense power as a means of mapping forms of injustice and indignity as well as strategies of resistance and refusal, and Wolfe is careful to show how transmutations of the logic of elimination are complex, variable, discontinuous and uneven. Yet, in seeking to elucidate the logic of elimination as the overarching historical force guiding settler-native relations there is an operational weakness in the theory, whereby such a logic is simply there, omnipresent and manifest even when (and perhaps especially when) it appears not to be; the settler colonial studies scholar need only read it into a situation or context. It thus hurtles from the past to the present into the future, never to be fully extinguished until the native is, or until history itself ends. There is thus a powerful ontological (if not metaphysical) dimension to Wolfe’s account, where there is such thing as a ‘settler will’ that inherently desires the elimination of the native and the distinction between the settler and native can only ever be categorical, founded as it is on the ‘primal binarism of the frontier’ (2013a: 258). It is here that the differences between earlier settler colonial scholarship on Israel-Palestine and the recent settler colonial turn come into clearest view. While Jamal Hilal’s (1976) Marxist account of the conflict, for instance, engaged Palestinians and Jewish Israelis in terms of their relations to the means of production, Wolfe’s account brings its own ontology: the bourgeoisie/proletariat distinction becomes that of settler/native, and the class struggle the struggle between settler, who seeks to destroy and replace the native, and native, who can only ever push back. Indeed, if the settler colonial paradigm views history in similar teleological terms to the Marxist framework, it does not offer the same hopeful vision of a liberated future. After all, settler colonialism has only one story to tell—‘either total victory or total failure’ (Veracini, 2007). Veracini’s attempt to disaggregate different forms of settler decolonisation is revealing of the difficulties that come along with this zero-sum perspective. It is significant to note that beyond settler evacuation (which may decolonise territory, he cautions, but not necessarily relationships) the picture he paints is a relatively bleak one. For Veracini (2011: 5), claims for decolonisation from Indigenous peoples in settler societies can take two broad forms: an ‘anticolonial rhetoric expressing a demand for indigenous sovereign independence and self-determination… and an “ultra”-colonial one that seeks a reconstituted partnership with the [settler state] and advocates a return to a relatively more respectful middle ground and “treaty” conditions’. While both, he suggests, are tempting strategies in the struggle for change, though ‘ultimately ineffective against settler colonial structures of domination’ (2011: 5), it is the latter strategy that invites Veracini’s most scathing assessment. As he writes, under settler colonial conditions the independent polity is the settler polity and sanctioning the equal rights of indigenous peoples has historically been used as a powerful weapon in the denial of indigenous entitlement and in the enactment of various forms of coercive assimilation. This decolonisation actually enhances the subjection of indigenous peoples… it is at best irrelevant and at worst detrimental to indigenous peoples in settler societies (2011: 6-7). The ‘primal binarism of the frontier’ plays a particularly ambivalent role in Veracini’s (2011: 6) formulation, where the categorical distinction between settler and native obstructs the ‘possibility of a genuinely decolonised relationship’ (by virtue of its lopsidedness) yet is a necessary political strategy to guard against the absorption of Indigenous people into the settler fold, which would represent settler colonialism’s final victory. The battle here is between a ‘settler colonialism [that] is designed to produce a fundamental discontinuity as its “logic of elimination” runs its course until it actually extinguishes the settler colonial relation’ and an anti-colonial struggle that ‘must aim to keep the settler-indigenous relationship going’ (2011: 7). In other words, the categorical distinction produced by the frontier must be maintained in order to struggle against its effects. Given the lack of options presented to Indigenous peoples by Veracini (2014: 315), his conclusion that settler decolonisation demands a ‘radical, post-settler colonial passage’ is perhaps not surprising – although he has ‘no suggestion as to how this may be achieved and [is] pessimistic about its feasibility’. Scholars have long reckoned with the ambivalence of the settler colonial situation, which is simultaneously colonial and postcolonial, colonising and decolonising (Curthoys, 1999: 288). Given the generally dreadful Fourth World circumstances facing many Indigenous peoples in settler societies, it could be argued that there is good reason for such pessimism. The settler colonial paradigm, in this sense, offers an important caution against celebratory narratives of progress. Wolfe (1994), it must be recalled, wrote the original articulation of his thesis precisely against the idea of ‘historical rupture’ that dominated in Australia post-Mabo, and was thus as much a scholarly intervention as it was a political challenge to the idea of Australia having broken with its colonial past. Nonetheless, the fatalism of the settler colonial paradigm—whereby decolonisation is by and large put beyond the realms of possibility—has seen it come under considerable critique for reifying settler colonialism as a transhistorical meta-structure where colonial relations of domination are inevitable (Macoun & Strakosch, 2013: 435; Snelgrove et al., 2014: 9). Not only does Wolfe’s ontology erase contingency, heterogeneity and (crucially) agency (Merlan, 1997; Rowse, 2014), but its polarised framework effectively ‘puts politics to death’ (Svirsky, 2014: 327). In response to such critiques, Wolfe (2013a: 213) suggests that ‘the repudiation of binarism’ may just represent a ‘settler perspective’. However, as Elizabeth Povinelli (1997: 22) has astutely shown, it is in this regard that the totalising logic of Wolfe’s structure of invasion rests on a disciplinary gesture where ‘any discussion which does not insist on the polarity of the [settler] colonial project’ is assimilationist, worse still, genocidal in effect if not intent. Any attempt to ‘explore the dialogical or hybrid nature of colonial subjectivity’—which would entail working beyond the bounds of absolute polarity—is disciplined as complicit in the settler colonial project itself, leaving ‘the only nonassimilationist position one that adheres strictly and solely to a critique of [settler] state discourse’. This gesture not only disallows the possibility of counter-publics and strategic alliances (even limited ones), but also comes dangerously close to ‘resistance as acquiescence’ insofar as the settler colonial studies scholar may malign the structures set in play by settler colonialism, but only from a safe distance unsullied by the messiness of ambivalences and contradictions of settler and Native subjectivities and relations. Opposition is thus left as our only option, but, as we know from critical anti-colonial and postcolonial scholarship, opposition in itself is not decolonisation.

#### Strategic engagement is key---structuralism can’t explain decades of indigenous progress

NoiseCat 17 (Julian Brave - enrolled member of the Canim Lake Band Tsq'escen in British Columbia where he was nominated to run for Chief in 2014 AND a graduate of Columbia University and the University of Oxford, “When the Indians Defeat the Cowboys,” 1/15/17, https://www.jacobinmag.com/2017/01/standing-rock-indigenous-american-progress/)

Consider, for example, the most cited work in the fields of settler colonial and indigenous studies: “Settler Colonialism and the Elimination of the Native,” a 2006 essay by the late radical Australian anthropologist Patrick Wolfe. In a clever turn of phrase, repeated today like a Feuerbach Thesis for indigenous radicals and scholars, Wolfe described the invasion of indigenous lands as “a structure not an event.” His argument was that settler colonialism — a form of colonialism where colonists come to stay, as in the United States, Canada, Australia, New Zealand, South Africa, Palestine, and some Pacific Islands — requires the elimination of Native people and societies to access and occupy their land. As Wolfe put it, “Settler colonialism destroys to replace.” Wolfe’s theory of settler colonialism emerged out of the ongoing “History Wars” in Australia, a public, battle-hardened, and career-defining debate over whether Australia’s treatment of Aborigines should be considered genocide. For decades, specialists have squabbled over the numbers massacred at places like Tasman and Slaughterhouse Creek. These debates remain passionate and deeply controversial. They are tied to political battles over land rights, reconciliation, constitutional recognition, mass incarceration, racism, and Aboriginal treaties. But while his contemporaries tried to win the History Wars by appealing to documents, figures, and definitions, Wolfe sought to reframe the debate. He shifted the focus from determining the point at which butcheries become genocide to the “logic” of eliminating indigenous people over centuries and around the world. Settler colonialism, he argued, is a structural phenomenon that plays an ongoing and central role in shaping the modern world. Wolfe’s was a brilliant intervention. In the jargon-riddled field of postcolonial studies, he homed in on the empires, colonies, states, and territories of ongoing settlement and indigenous dispossession. His theory traveled well. For indigenous scholars and activists from the United States to Palestine and Canada to New Zealand, “settler colonialism” became the dominant framework for understanding ongoing Fourth World struggles. But Wolfe’s theory ran into a rather significant problem — reality. If settler societies like Australia, Canada, New Zealand, and the United States are structurally dependent upon the elimination of the Native, how do we explain the survival, resilience, and resurgence of that same Native? How do we explain the global emergence of policies of indigenous self-determination, recognition, and land rights in various forms? Are these policies lipstick on the same colonial pig? Are indigenous people permanently cast in cameo roles — their victories small exceptions that prove the rule? How do we explain Standing Rock? Wolfe’s theory, however popular and illuminating, is in a sense, a gussied-up version of the inevitable victory of Cowboys over Indians — a reworking of Victorian ideology as critical theory. The indigenous story unfolding before us demands more. Explaining Standing Rock The Cowboy is supposed to be everything the Indian is not. While the Indian is depicted as a tragic vanquished trope, the Cowboy is a handsome, swaggering, and triumphant trickster. While the Indian retreats into the wild, the Cowboy hunts down his enemies to settle old scores. While the Indian is at best a noble savage and at worst a villain, the Cowboy is a cultural icon and hero. And, while the Indian is a loser, the Cowboy is a winner. At Standing Rock, generations of myth and folk wisdom proved wrong. As Bill McKibben put it in the Guardian, the Standing Rock movement “is a break in that long-running story, a new chapter.” In a moment when the Left is struggling in the face of a globalizing free market and an ascendant right, indigenous victory stands as both a surprising puzzle and an intriguing promise. It begs the rarely considered question: why have indigenous people been able to secure a stunning victory while even the most successful movements of late have faltered? And what can other movements learn from Indians? Various voices have risen to offer answers. Writing in the Nation, Audrea Lim argues that Standing Rock shows a multiracial coalition united against neoliberalism and white supremacy can win in the heartland. McKibben and Naomi Klein tout the power of direct action and praise indigenous organizers for catalyzing nonviolent mass resistance. In the New Yorker, novelist Louise Erdrich suggests that Standing Rock prevailed because it offered the world an emotionally, historically, and environmentally compelling story rooted in faith. “Every time the water protectors showed the fortitude of staying on message and advancing through prayer and ceremony, they gave the rest of the world a template for resistance,” Erdrich concludes. All of these analyses are accurate, but their individual and collective explanations for the Standing Rock victory are insufficient. They fail to ask key questions about the when, where, how, and who. They do not explain what made this movement and moment different. And perhaps most importantly, in their haste to explain a seemingly improbable and episodic victory, these writers miss the remarkable big picture. Outflanking Corporate Globalization Since the 1970s, unions, public goods, social welfare, and other essential building blocks of social democracy have been beaten back by the free market consensus. Yet over these same decades, indigenous rights to land, jurisdiction, and sovereignty have gained ground. At the same time workers lost their unions, the environment was winning a union of its own. That union takes the form of indigenous rights. Credit for these often-overlooked indigenous victories belongs to the indigenous movements that unswervingly pushed for similar goals across decades and even centuries: return of indigenous lands, restoration of indigenous sovereignties, and dignity for indigenous peoples. From the time their lands were seized in the nineteenth century and even before, indigenous people came together, forming tribal, intertribal, regional, and national coalitions and organizations. They pressured states and empires built on lands taken from them to recognize their demands. They stood strong against obstinate and repressive governments determined to claim their remaining territories and assimilate their people into the laboring class. They remained resolute. As the Chiefs of the Syilx, Nlaka’pamux, and Secwepemc nations wrote in a petition to then–Canadian prime minister Wilfrid Laurier in 1910: So long as what we consider justice is withheld from us, so long will dissatisfaction and unrest exist among us, and we will continue to struggle to better ourselves. For the accomplishment of this end we and other Indian tribes of this country are now uniting and we ask the help of yourself and government in this fight for our rights. In moments of global political and economic crisis like the 1880s, 1930s, 1940s, 1970s, and now 2010s, state policies toward indigenous people worldwide often shifted. During the 1880s and 1940s, the United States applied assimilationist pressure on indigenous communities, with disastrous consequences. In the 1880s allotment and privatization policies under the Dawes Act of 1887 splintered indigenous lands and communities and brought poverty and political, social, and cultural erosion. In the 1940s, termination policies designed to eliminate tribes and assimilate Native laborers further devastated indigenous communities. Children were taken from their families and placed in abusive residential schools. Workers were displaced from their homelands and dropped into poverty and homelessness in urban ghettos. Indigenous people, particularly indigenous women, were subjected to sexual violence, sterilization, and medical experimentation. Yet the stubborn dream of indigenous resurgence endured. And crises sometimes ushered in marginal progress. In the 1930s, Franklin Delano Roosevelt’s so-called “Indian New Deal” afforded tribes greater control over their lands and resources and restored a measure of sovereignty and self-determination. The 1960s and 70s saw the rise of the Red Power movement, a momentous breakthrough that pushed the US and Canadian states to adopt policies based on recognition instead of assimilation. The contemporaneous Maori Renaissance in Aotearoa/New Zealand and Aboriginal land rights movement in Australia won similar gains. These movements often found unlikely allies in neoconservatives, neoliberals, and their predecessors who, beginning in the 1970s and especially from the 1980s onwards, saw indigenous self-determination and autonomy as an opportunity to scale back social welfare spending and reduce indigenous dependence on the government. It was Richard Nixon who inaugurated the current era of indigenous self-determination. He outlined his commitment to the policy in a special message to Congress on July 8, 1970: This, then, must be the goal of any new national policy toward the Indian people: to strengthen the Indian’s sense of autonomy without threatening his sense of community. We must assure the Indian that he can assume control of his own life without being separated involuntarily from the tribal group. And we must make it clear that Indians can become independent of Federal control without being cut off from Federal concern and Federal support. At times, support from capital-friendly politicians contained and defanged the revolutionary potential inherent in the restoration of indigenous lands and sovereignties. In some instances, capital interests used self-determination as a facade to restructure tribes as junior corporate partners in the global political economy. This occurred at times with Indian gaming, Alaska Native Corporations, corporate iwi that manage Treaty of Waitangi settlement money in New Zealand, the Indigenous Land Corporation in Australia, and First Nations natural resource corporations in Canada. More often, however, indigenous people have coopted conservative forces as agents of an indigenous agenda.

Across the world, while other Left and progressive movements gained little and often lost ground, indigenous people moved debate and policy in directions favorable to their interests. Self-determination is now the established framework for indigenous policy in the United States, Canada, Australia, and Aotearoa/New Zealand. It has been firmly endorsed and furthered through the United Nations Declaration on the Rights of Indigenous Peoples. In states built upon the dispossession, marginalization, and attempted elimination of indigenous people, these are remarkable victories. At Standing Rock and at proposed pipeline sites across the United States and Canada, neoliberals have been forced to confront indigenous rights — a legal precedent and policy partially of their own creation — when in a prior age they would have plowed through these communities without a moment’s hesitation. Politicians like Nixon did not anticipate that indigenous people would, for instance, be able to parlay the minor restoration of self-governance over expanded acreage in the hinterlands into a transformative political, economic, and cultural movement. Indigenous people, according to common sense, could never win. The future that is now our present would never happen. This condescending assumption turned out to be dead wrong. And it opened up pathways to victory for indigenous people precisely because they had been underestimated. Viewed from a decades-long and global view, indigenous people emerge as cunning, courageous, and even heroic political tricksters. They took their struggle out onto their lands and waters and into the courts. They outsmarted and outflanked politicians by simultaneously pressuring and cozying up to them. In so doing, they won important and lasting concessions bit by bit. In the long run, these concessions and relationships have provided indigenous nations with access to government as well as the political, economic, and legal leverage to deliver devastating blows to the networks and infrastructure of carbon-dependent capitalism, which threaten the future of indigenous communities, lands, and waters and all who share these with them. This dynamic revealed itself most vividly under the administration of Barack Obama, who many Indians adopted and embraced. Obama became one of the only sitting presidents to visit an Indian reservation when he journeyed to Standing Rock in 2014. In September 2016, at the Obama administration’s final Tribal Nations Conference, National Congress of American Indians president Brian Cladoosby honored Obama with a song, blanket, and traditional cedar hat. At the same time, Standing Rock marshaled a global indigenous-led coalition, pressuring Obama to halt the Dakota Access Pipeline. “Help us stop this pipeline. Stick true to your words because you said you had our back,” Standing Rock youth Kendrick Eagle pleaded in a moving message to the president in November. “I believed in you then, and I still believe in you now that you can make this happen.” A similar dynamic is unfolding in Canada, where Liberal Prime Minister Justin Trudeau has promised to renew a “nation-to-nation” relationship with First Nations, a position which contradicts his economic agenda and is forcing him to either backpedal or face a Standing Rock North in the forces aligned against a proposed Kinder Morgan pipeline. But indigenous movements used more than cunning and moral suasion. They also identified pressure points and exploited them. The Dakota Access Pipeline, by its very nature, was a vulnerable target. Trenches cannot be dug where people stand. A pipeline cannot be rerouted without incurring immense expense. Bakken shale oil costs more to refine and transport to market than other forms of crude oil. Investors, bankers, and business partners are risk averse. They don’t like delays, and they don’t like bad headlines. OPEC, not American and Canadian oil barons and politicians, controls the largest share of the global oil market. In short, if your objective is to shore up the Bakken as a viable domestic alternative to OPEC, Dakota Access looks like a risky play. Now, indigenous operatives and their supporters are pushing investors to divest. In recent weeks, they’ve posted a conspicuous billboard in Times Square and unfurled a massive banner at an NFL game, even as they maintain their presence in North Dakota. While President-elect Trump has threatened to approve Dakota Access, divestment, environmental review processes, and proposed rerouting could end up delivering more partial victories for Standing Rock in the coming months. Had the Democrats won in November, the movement could have killed Dakota Access like Keystone XL, delivering a ~~crippling~~ [devastating] blow to the Bakken oil barons. But to assume Trump’s election guarantees the pipeline will be completed is to again underestimate the indigenous movement. Indians Make the Best Cowboys At Standing Rock, Indians settled old scores. They danced inside and outside the lines as lawyers and outlaws. They took on pipelines and bulldozers where the tools and trappings of the oil industry were most vulnerable. As capital and corporate globalization threatened to squelch progress and conscience, the Indians rode to victory. The water protectors emerged as heroes. Their enemies became villains. For today, it’s victory. For generations it will be remembered and honored. For the movements of the Left, it’s a lesson. Beyond well-worn analyses of the power of action, solidarity, and narrative, Standing Rock points to the necessity to act when and where the networks and infrastructures of capital are most vulnerable, at the level of individual projects as well as entire industries and global systems. It shows that movements must remain resolute in their aims — even if their goals take decades to achieve. Politics is a long game. Standing Rock also reminds us that resistance is key, but that effective resistance is strategic. And strategic resistance is even more impactful when paired with subtle and cunning forms of persuasion. This is especially essential for Indians, who comprise less than 2 percent of the population and so must out-strategize and outsmart the powers aligned against them to win. Lastly, it suggests that indigenous rights are potentially revolutionary, and that indigenous sovereignty is an increasingly powerful instrument against the forces of capital. When the Justice Department halted construction of the Dakota Access Pipeline in October, they committed to look into Free Prior Informed Consent legislation. Such a move would greatly strengthen the rights and leverage of indigenous nations. The Left should see these and other indigenous struggles as its own, incorporating an indigenous platform into the next generation of radical coalitions and writing and thinking about indigenous issues alongside more commonly discussed forms of oppression. Dark times lie ahead for the first people of this land and all who share it with us. President-elect Trump, a former Dakota Access investor, has threatened to approve the pipeline and others like it. He is lining up resources to accelerate energy exploitation, devastating the natural world and pushing the global thermometer higher and higher. Trump’s advisors have called for the privatization of oil, gas, and coal-rich Indian reservations, mirroring policies like the Dawes Act of 1887 and the “Termination” policies of the 1940s and 50s, both designed to destroy tribal communities. But the frontier is turning. In an unforeseen and previously unimaginable twist, it is the Indians who shepherd forward progress. In their right hand, they clutch a long history of unrequited struggle for Native Sovereignty. Among its many chapters is the story of Standing Rock and the rallying cry heard around the world, “Water is Life!” With their left hand, they sow the seeds and point the way forward for the forces of conscience against capital. In politics, it turns out that Indians make the best Cowboys.