# 1NC

### 1NC – OFF

#### Interp and Violation: The affirmative must only defend that the appropriation of outer space by private entities is unjust and may only garner offense from the hypothetical implementation of the resolution. At the very least, their performance at the top and garnering offense from solving settler colonialism is more than the resolution.

#### Resolved requires policy action

Louisiana State Legislature (“Legislative Glossary”, <https://www.legis.la.gov/legis/Glossary.aspx>) Ngong

**Resolution**

**A legislative instrument** that generally is **used for** making declarations, **stating policies**, and making decisions where some other form is not required. A bill includes the constitutionally required enacting clause; a resolution **uses the term "resolved".** Not subject to a time limit for introduction nor to governor's veto. (Const. Art. III, §17(B) and House Rules 8.11, 13.1, 6.8, and 7.4 and Senate Rules 10.9, 13.5 and 15.1)

**Vote neg for predictable limits and ground---allowing the aff to pick any grounds for the debate makes negative engagement impossible**

**1.    Accessibility and clash– Changing the topic post facto structurally favors the aff by making neg prep, which is based on the resolution, useless—the judge can only make a meaningful decision when both sides have had an equal opportunity. Only our model ensures effective clash through rigorous testing.**

**2.    Competitive equity – debate is a competitive game which loses meaning without substantive constraints- Everybody comes to debate for different reasons, but the fact that the other team is here and has presented a 1ac means they have bought into the game, and b) concedes the authority of fairness, or the judges hack against you**

**Fairness first: Debate is a game: forced winner/loser, competitive norms, and the tournament invite prove. Alternative impacts like activism or education can be pursued in other forums. This makes fairness the most important impact**

#### Metaconstraint

1. Intrinsic
2. Hack against them

#### TFW has to be drop the debater – it indicts their method of engagement and proves we couldn’t engage fairly with their aff

#### No impact turns—exclusions are inevitable because we only have 45 minutes so it’s best to draw those exclusions along reciprocal lines to ensure a role for the negative

### 1NC – OFF

#### CP – States should maintain private appropriation but

#### establish a collaborative global forum for debating the ethical implications of plans to explore and settle space already in motion, specifically including marginalized and indigenous communities and perspectives.

#### Increase efforts to make access to space possible for all, specifically indigenous and developing communities.

#### establish accountability for space exploration efforts where governments and private space actors can be subject to critique and restraint.

#### establish mutual responsibility on space exploration efforts for both space and Earth.

#### CP solves Colonial Logics by ensuring different perspectives and mutual responsibility – this directly solves the CX explanation of the aff’s solvency because they’re changing the way they look at space to improve earth

Monica Vidaurri 19, astrobiologist and policy and ethics specialist consulting for NASA Goddard, et al., 11/12/19, “Absolute Prioritization of Planetary Protection, Safety, and Avoiding Imperialism in All Future Science Missions: A Policy Perspective,” Space Policy, https://doi.org/10.1016/j.spacepol.2019.101345

With Mars2020, Europa Clipper, and the inevitable exploration of other bodies in the solar system such as ocean worlds, regulatory entities such as NASA, UN committees (primarily United Nations Office of Outer Space Affairs [UNOOSA]), the Committee on Space Research (COSPAR), and all other international partners must lead the effort to create and enforce planetary protection standards, cultivate a pathway with delegated authority for crewed and unscrewed space exploration campaigns, including tourism and commercial activities. In addition to setting international norms to be used in space law, all leaders and participants in space exploration must also adopt anticolonization standards and protocol in the form of agency-wide and government-wide guidelines to ensure equal and fair participation in space. Creating the norm of fair and ethical participation in space from the scientist level, as well as the adoption of ethical guidelines on the agency and government level, will allow for purely peaceful scientific purposes for exploration while ensuring minimal contamination.

Given the importance of planetary protection and new standards of safety with respect to technological and scientific advancement, it is vital to the international space community to work to improve international law and space policy. By actively implementing strict safety customs from the individual level, the proper chain of command via the respective government can ensure enforcement of standards simultaneously in the form of an independent and strengthened planetary protection office (PPO). In other words, a domestic PPO, remaining as part of an agency and coordinating internationally, would act as an advisory and authoritative body. In conjunction, collaboration between PPOs and the astrosciences is equally important in improving microbial detection and decontamination technologies.

2. Strengthening the framework—areas of consideration

Universalization of planetary protection, safety, and ethical standards is crucial for all future space exploration directives and missions. In this case, universalization of standards is heavily reliant upon building and maintaining a regulatory and communicative global infrastructure. Delegated roles are assigned vertically to provide adequate checks and continuous risk assessment starting after mission conception and throughout the lifetime of the mission. Simultaneously, individuals and mission management are encouraged to establish the practicing norms of voluntarily coordinating and collaborating with PPOs and ethics specialists. Implementing this infrastructure from both government policy and individual practice of norms of good faith would bridge the regulatory gap between private and public sectors. Delegation of safety procedures and anticolonization would be best executed by a PPO, ethics committees, active ad-hoc committees, and other representatives involved in mission communication and enforcement. In addition, without the implementation of practicing norms and customs from the individual level (mission management), any formal establishment of law, from the agency level to international level, will not have a solid practical foundation. Consequently, laws will be established with no prior background of how these norms can be improved and how they help.

2.1. Bridging the regulatory gap and the role of the space agency

The Outer Space Treaty (OST) places the responsibility of understanding and adhering to exploration safety and bioethical standards for non-government entities on the respective government(s) and relative agencies representing the entity [3]. For example, to establish the norm of proactive safety and ethics standards, NASA can take it upon themselves to outline and communicate with Congress its full planetary protection and bioethics strategies at the approval of every science mission. Meanwhile, strategies continue to remain compliant with UNOOSA standards including astronaut safety, contamination, non-militarization and anticolonization, and transparency of technology. Therefore, actions must be taken by governments ultimately responsible for these exploratory actions to allow the authority of the agency to constantly monitor, communicate, and enforce safety and protectionary regulations including private sector partnerships. These actions will effectively ensure enforcement of standards in addition to those stated in NASA Procedural Requirements (NPR) 8020.12D, outlining the use of NASA (agency) funding from non-NASA entities only at the demonstration of adherence to policies regarding planetary protection [4].

While NPR 8020.12D was superseded by NASA Interim Directive (NID) 8020.109A, the importance of stating and creating the framework for interagency communication and adhesion to updated planetary protection and ethics policies is of the utmost importance. Language from NPR 8020.12D most accurately aligns with the suggestions of this paper and will be referenced. Section 2.3. of NPR 8020.12D requires non-NASA entities to submit future protectionary procedural outlines to the NASA PPO. In the proposed framework, submissions are approved by the agency and the PPO and enforced accordingly. Protectionary procedure reports would be submitted to the PPO and must include planetary protection procedures outlined by the agency and highlight any extra items set forth by the non-agency entity. For this reason, it would benefit every agency to have a communicative and transparent PPO (a function of the agency) or equivalent entity to follow and modify these procedures as needed over the course of a mission, while remaining compliant with and communicating the concerns of ethical committees and liaisons. Compliance with ethics officials can be started by two simultaneous fronts: mission management practicing the norm of willing cooperation with ethics officials, and governments adopting language similar to NPR 8020.12D that requires ethical review of a mission and mission processes.

Furthermore, Section 2.4 of NPR 8020.12D states that, at the request of the PPO, mission management shall make arrangements to allow PPO representatives to be present during transport, decontamination, hardware and environment assessments, and writing of documentation relative to safety and protection [4]. To strengthen this with regard to the proposed framework, the PPO and any relevant ethics and safety committees should be present from conception (which includes mission categorization) through mission completion, with the PPO scheduling regular assessments of decontamination procedure, adherence to standards, hardware, documentation, and any other mission detail falling under the jurisdiction of the PPO. Similar to ethical review, this practice can be implemented simultaneously by norms established by scientists, willingly subjected to regular PPO inspection, and government adaptation of guidelines enforcing this practice. Communication and enforcement/improvement of standards can be achieved with ad-hoc committees or representatives established within a mission team as a direct line to a PPO for the purposes of upholding strict protectionary standards and norms.

2.2. Reactive to proactive safety procedures and their jurisdiction

With the establishment of PPO as a domestic authoritative body within the agency, as well as governmental adaptations of legislation that requires compliance with PPOs, ethics, and safety officials, the proposed standards can be accomplished. In conjunction with a PPO, any existing ethical and safety committees or liaisons sharing this authority and necessary responsibilities throughout the mission may take more protective roles. This includes advising and assessing implications a mission poses to the future of planetary protection, ethics, global societies, and safety, while reporting these implications to the representative government and UNOOSA. The applicability, combined with language changes enforcing the role of the PPO and relevant committees/liaisons as objective and mandatory in all exploration missions—agency/government and non-agency—proves the reinstatement of relative language in NPR 8020.12D as procedural standard and international custom would benefit the progression of these standards. Moving forward, reinstatement of this procedural requirement, or the creation of a new requirement including language applicable to crewed and low Earth orbit (LEO) missions, is needed.

Two NASA policies prove adequate procedural foundation for international agreement in safety and decontamination standards for spacecraft and crewed spaceflight. NASA Policy Directive (NPD) 8020.7G, which accounts for the contamination control of both outbound and inbound spacecraft [2] and NASA Policy Instruction (NPI) 8020.7, accounting for proactive approach to safety and contamination with human exploration [5]. To illustrate, both policies provide the foundation for executable language and delegation of authority similar to that laid out in the previous section and ultimately prove useful for international law and domestic policy applications. Reinstatement of NPD 8020.7G after expiration, stressing the importance of improving safety and decontamination measures and instrumentation becomes more sophisticated, and applying the guidelines of human exploration stated in NPI 8020.7 to fit all human exploration missions would also prove useful in this sense as the space science community progresses further into robotic and human exploration.

Furthermore, having an interagency framework with respect to the safety and biothreat control of spacefaring missions can prove to be another method of obtaining and maintaining a proactive safety policy, as opposed to the current reactive system. For example, in the United States, partnership with the Department of Energy, the National Institutes of Health, and relevant agencies on comprehensive study and assessment of microbiome survivability in closed systems such as the ISS not only helps relieve NASA of studying these effects alone but also helps build an intellectual framework that is transparent and sharing in nature that all parties can benefit from and that can be used for other matters, such as the United States National Biodefense Strategy or future space tourism safety procedures. Because space travel is becoming more inclusive to not just astronauts and their space agencies, it is important that interagency and intergovernmental partnerships are established to prevent the use of space as a frontier for bioterrorism, in addition to researching the effects of non-Earth environments on human travelers, and updating medical procedures suited for these new environments. The subsequent discoveries and technologies, developed by interagency and intergovernmental scientists and engineers, will already be highly communicated and transparent, and ready for use.

2.3. Ethics and interstellar communication

An extension of the planetary protection framework could also apply to the consideration of sending messages that are intended to be received by other civilizations (often referred to as Messages to Extraterrestrial Intelligent life or METI). The discovery of exoplanets with orbital and size/mass properties that could allow globally habitable conditions and plans being submitted to decadal surveys to construct telescopes that could confirm the habitability of such worlds and search them for signs of life and increase the relevance of METI. The age of exoplanets has further motivated renewed efforts at the Search for Extraterrestrial Intelligence (or SETI) by searching stellar systems for anomalous radio or optical signals. Some organizations also explicitly advocate for METI as an effort to increase the likelihood of discovering extraterrestrial intelligent life. Various scholars have voiced opposition to any attempts at METI by citing ethical concerns, such as the negative consequences of initiating such contact or the inability to readily decide a spokesperson or message representative of Earth as a whole [[6], [7], [8]]. Others have pointed out that low-cost and low-power METI could provide beneficial preparation for the future, while any actual contact with extraterrestrials could also be immensely positive or wholly neutral, in addition to negative [7,8].

Past METI efforts and discussions have also expressed the potential positive benefits from constructing a message that represents humanity. They acknowledge that any message sent by Earth should be representative of the diversity of life on Earth. As a result, even research into what kinds of messages would be sent can be diverse, inclusive, and multicultural. Such efforts—if connected to broader topics and related careers—could lead to more inclusivity and diversity in exoplanets and astrophysics. However, any benefits from such an effort will only be realized if the message construction is intrinsically inclusive. Further, the daunting ethical issue remains of how to weigh the multitude of voices on Earth in the context of socioeconomic inequalities. Thus, UNOOSA, in consultation with global experts from relevant fields, will be critical in facilitating these future discussions, ensuring all relevant global communities have a say.

All of this demands ethical and moral infrastructure and that they be implemented as a fundamental part of any SETI or METI project.

2.4. Antiimperialism

“Seeking to prevent a new form of colonial competition” was the very premise to the OST [3]. As such, the creation of a norm and/or resolution barring non-scientific human settlement any celestial body is encouraged to be established and adopted as custom—at least for a period of time with which humanity can properly study forward and backward contamination, ensure a majority of the area explored remains for science, and until proper governance and methods of human settlement are discussed and adopted internationally with all global communities that do not explicitly represent the will of one government or community. It is critical that international law adopts a custom of good faith in antiimperialism, similar to militarization, with the presentation of these customs from a majority of each state and agency participating in space exploration, as well as the establishment of explicit antiimperialism as a clause of the OST [9]. It is important for space-faring nations to note that colonization is not just an act. Rather, is a structure; an institutionalized virtue stemming from exploitation of (often native) populations to preserve a central selfish ideal of preserving the way of life as seen by the colonizing nation, reliant upon imperialism. In addition, states party to and responsible for elements of scientific stations should uphold respective jurisdiction over their contributions, utilization, and liability rights of facilities, equipment, technologies, personnel, and territories.

It is paramount that the astro community not only recognize the institutions of colonialism and imperialism in the premise of settling other planets/celestial bodies and their orbits but also works together to prevent further colonialism and imperialism in the name of science on Earth. A proper check to colonialism from the astro community takes the example of the Thirty Meter Telescope (TMT), as well as the other telescopes that have been built on Native lands in Mauna Kea, Hawaii [10]. Management of the current set of telescopes in Mauna Kea have established the norms of paying rent, creating a work pipeline for the Native people, creating education outreach programs for Native youth, and actively facilitating communication with Native tribes and businesses, thus gaining the trust and approval of the Native people to build all current telescope operations. However, the continued controversy around Mauna Kea and the TMT should serve as a new regulatory area of consideration: one that includes “no further development, creating a community-based management authority including environmentalists, native Hawaiians, regulatory agencies, and collect[ing] rent.” [11] Ground-based observing, as well as other astroscience–related developments, cannot and should not take precedence over lands belonging to Native populations, or areas where telescope development is potentially harmful toward native ecosystems and the environment.

Thus, it is imperative that antiimperialist standards and methods of thinking begin in the early stages of mission conception, along with safety and ethics, and from the PI/individual level through the agency/global level, which can be facilitated and held accountable by the creation/utilization of ethics committees and liaisons. Similar to planetary protection framework suggestions stated above, establishing practices of good faith from scientists, hopefully simultaneous to implementation of mandatory ethical review guidelines from governments and agencies, will accomplish this.

In addition, antimilitarization articles and clauses of space allow for the existence of war facilitators1 in space, but no scientific justification can be made for the operation of such war facilitators for peaceful purposes on other celestial bodies. Therefore, anticolonization is to include antiestablishment of all military-like installments on celestial objects, including those with potential war facilitators. This clause shall exclude mining equipment put forth and approved by a PPO and UNOOSA, along with specific uses that a mission must adhere to where the use of mining and other potential war-facilitating science equipment for purposes other than those stated in the mission is met with discipline as understood by an international space community.

3. Ensuring the framework—norms and strategies

3.1. Lobbying

To preserve and uphold a more future-oriented, safe, and comprehensive interactive legal framework between the public and private sectors and international partners, it would benefit governments to not allow lobbying efforts to streamline certifications, permits, and renewals of legal documentation allowing access to LEO and other celestial bodies/orbits to pass. Though transparency of technologies used by the private sector is critical, it is not needed with the correct framework and agency technology, planetary protection, and ethics officers maintaining constant communication and regular assessments. In addition, private sector advisory committees or delegates (permanent or ad hoc/per mission) within an agency would greatly benefit the ability to properly assess status of projects, recommendations from the private entity. Committees and delegates may also serve to advise on potential legal protectionary standards and to uphold high standards of transparent communication between agency, government, international partners, and private entity.

3.2. Terra nullius and environmental law

The language used by governments and their respective agencies regarding a state presence in space currently reflects terra nullius law. However, at the emerging importance of regarding space as a human environment with needed protection, environmental law will also prove useful in adaptation and facilitation of standards of use. Rather than protecting state interests in space, space is to be protected by all states in collaboration for peaceful exploration and scientific advancement. However, states must also be ready to exercise the full extent of their jurisdiction on their space items, including debris and debris cleanup technologies and methods [9]. In this light, states and their agencies must also adopt a stricter practice of mission review to adhere to the assessment of a mission launch or other space activities. This takes the example of requesting consultation by other international space agencies or ethical committees/liaisons. The issue of space debris marks another aspect of space exploration where interagency and intergovernmental collaborations can work to ensure safe removal of debris.

3.3. International custom and norms

Like most jurisdiction reached by international courts on the matters of high seas, the environment, terra nullius, and resource use, the laws created regarding these matters are largely based off of established norms and practices from individuals (PIs), entities (agencies), and governments, including bilateral treaties and agreements. Establishing clear good faith relations, both in practice and in treaty, will set the international framework needed to create strict and preventative protectionary, ethical, and anticolonization methods for all future science missions. In this light, all levels of every science mission are encouraged to actively participate in effectively creating the norm of checks and balances so as to not abuse the presence of different entities, both private and public, in space. These checks may include but are not limited to voluntarily establishing regular mandatory assessments by PPOs throughout the entirety of a mission starting from concept as well as regular mandatory assessments from international law specialists, clear and transparent international/industry partner lines of communication and delegation of authority if applicable, establishing a clear chain of command and representatives from agencies working with private industries to ensure and enforce progressive safety procedures on the private entity, strict committee/delegate presence within the private industry to communicate needs to and from the agency, and any other behavioral suggestion laid out in this article.

Because space exploration is an extremely large, global, and mostly unified effort that is increasingly supported by private companies, governments will find that defining their responsibility of nongovernmental actors operating in space is in urgent need of review by passing laws to regulate such actors. In light of this, policies and customs with language and practices set to be implemented at the international level, coupled with high transparency and liaisons/infrastructure via active regional authoritative bodies in place for communicating new standards and concerns, are believed to be successful in defining the relationship between government and private entity. As the world progresses in technological and scientific advancement, policy and safety standards must also remain transparent and adequately communicated across all agencies and governments. In this case, it would benefit states party to the OST to have a diplomatic office based in their country that would report directly to the UNOOSA with matters regarding updates in biosecurity, exploration ethics, and norms and customs, continuously monitoring the government-company relationship, and allowing UNOOSA and OST party states to object when a potentially exclusive custom or act is about to take place. Active and immediate reports to the UN from states party to the OST would strengthen international custom regarding the issues expressed in this article. In addition, any possible infringement on UNOOSA/OST standards or any critique raised by a space-faring nation in response to another exploration effort would be able to be brought to the attention of the deploying nation, essentially acting as an international system of checks and balances to ensure that the priorities stated in international space law are abided by on all levels.

The private sector can help advance public science in a way that science has never seen before. However, it is important that international checks as well as government regulations are in place to ensure progress does not precede ethics in the form of exclusion and contamination.

3.4. Utilizing the goals of the astrosciences in collaboration

There are countless proposed and in-development instruments and missions intended to challenge our understanding of how life may exist on other worlds. The planetary protection strategy for these missions would benefit from committees made up of representatives from all potential mission stakeholders: planetary protection officers, mission astrobiologists, scientific investigators, and commercial engineers and executives. If people at every level of the mission proposal and execution process actively execute the norms laid out in this article with facilitation by committees, updated and strictly heeded standards with regard to ethics, planetary protection, and communication at every phase of the mission would be much more successful and effectively become custom for future missions. These committees would benefit from planetary protection and astrobiological research well within our current capabilities, such as investigations of closed-system microbial communities on closed facilities (e.g., the ISS) and advancements in detection of organic molecules. Mission safety can also be improved by research on potentially hazardous environmental concerns, such as quantifying and mitigating radiation exposure during long-period spaceflight, the effects of planetary regolith on mechanical systems and human health, potential in-situ equipment failures, and more. Given the recent Artemis and Moon-to-Mars program announcements, as well as NASA's selection of the next New Frontiers mission, Dragonfly, these concerns only grow more time-critical.

However, such collaboration between members of the space science community and the private sector are not limited to future planetary missions. Current commercial activity could also benefit from interdisciplinary advisory and regulatory action. The recent launch of SpaceX's Starlink internet satellite constellation raised concerns among the astronomy community because of the effects of a large artificial orbiting constellation on astronomical observing, as well as its impact on storm and climate monitoring satellites. The lack of a proactive effort to communicate with the astronomy community is detrimental to the future of a proactive space policy and open cooperation between public and private efforts. The public outcry could have been avoided with an ethical/communicative oversight body working from mission conception to not only mitigate the constellation's effects on observing efforts but to assess the impact of any constellation satellite array on all stakeholders. In this case, cooperative bodies made up of representatives from government agencies, academic institutions, and commercial interests can be empowered to provide effective and regular reviews of proposed commercial space activities so that any potential impacts to scientific activity (or the integrity of other ground- and space-based environments) can be minimized. This would allow for innovation and competition from the private sector to continue to flourish while holding private science to the standards used by government agencies and public science. This recognizes that public science adheres to strict safety and ethical practice, and “red tape” in the context of privatized ventures into space is necessary. Private industry must also recognize the necessity of transparent technological standards and technology sharing [12], as projects like constellation satellites and other space-based communications infrastructure are inherently justified by global use. These technologies put forth by the private industry with global needs in mind, though they have the ability to benefit communities worldwide, must also recognize that in the mind of one private entity, “global good” may not be an inherent “good” in the eyes of all communities worldwide. Thus, global efforts would have to go through global vetting. With these concerns in mind, we reiterate that commercial and scientific activity must avoid harm to both terrestrial and space environments, with particular emphasis on maintaining pristine environments and Native lands [12].

3.5. The suggested framework

Suggestions laid out in this article regarding ethical implications, safety assurances, contamination control and planetary protection, communication, and accountability standards would ideally fall within the earliest stages of the science traceability matrix. Policy guidelines ensuring continued and mandatory assessments of these standards throughout the mission must also be coupled with early traceability to ensure that these ideals remain throughout entire mission timeline starting shortly after mission conception and throughout all aspects of the mission. This way, a consistent watch on ethics, communication, planetary protection, and other policy and social concerns via committees and liaisons catches any possible infringements as the mission develops and pushes the international communities to adopt more updated and proactive standards. Running parallel to internal and transparent monitoring of ethics and communication is the internationally communicative component, capable of acting as a “check” on international relations and any actions taken by mission management, private contractors, and their government, thus turning reactive international policy into proactive and constantly updated policies that can be used by a variety of agencies and nations. Though this article uses the example of NASA and the United States Government, the framework of transparent and proactive standards that are open to critique and custom-setting can be applied to all governments, institutions, and missions.

#### Private Space Efforts for Exploration and Appropriation spill-down to solve Climate Change and Green Tech

Mascaro 14

Joseph Mascaro is a writer, Ph. D. Ecologist, and Science and Technology Policy Fellow at the American Association for the Advancement of Science, The Space Review, January 13, 2014, “Why greens should be pro-space”, <http://www.thespacereview.com/article/2433/1>

Next, the article seems to imply that high-powered space enthusiasts are just in it for the joy riding. But, by their own account, they’re simply trying to create a viable private industry, of which tourism is one small piece. These pro-space moneybags are also up to their eyebrows in green tech. Consider that Branson and his competitors are among the most active innovators of green technologies in the world. SpaceX chief Elon Musk is also an electric car kingpin and solar panel installer extraordinaire at the helm of Tesla and Solar City, respectively. Planetary Resources co-founder Peter Diamandis has led the X PRIZE Foundation to support competitions for high-efficiency cars. Clearly, the key players in the industry believe that space exploration and saving the Earth are not contradictory goals.

On the long view, it is rather surprising that a visionary organization like Breakthrough doesn’t seem to agree. A viable private space industry would be a boon for green technology—producing innovations right in Breakthrough’s wheelhouse. Space systems rely on low-carbon power sources like nuclear and solar; they employ fuel cells and advanced batteries. The viability of the nascent industry is almost wholly dependent on increasing efficiencies and lowering costs—and that means advanced manufacturing systems like 3-D metal printers and reusable rocket stages. Ultimately, having humans living and working in space and in Martian outposts means building closed-loop ecosystems and developing new methods of agriculture and resource sustainability.

All of these technologies will have immediate and dramatic effects at home. Consider efforts to draw down carbon dioxide on Earth, such as those in carbon capture and sequestration. These would benefit immediately from a humans-to-Mars mission like Zubrin’s “Mars Direct,” which uses a well-demonstrated method for extracting carbon dioxide from of the Martian atmosphere to make oxygen for fuel. Even brute-force rocket innovations are going to help: SpaceX has invested untold millions to make rocket stages reusable, particularly high-carbon-footprint components like engines. All reports suggest they are at the cusp of a true, ahem, breakthrough that will cause carbon budgets of regular space launches to plummet.

Perhaps trumping these tangible spinoffs, though, is the collective benefit we get from living in a culture of innovation. The Apollo missions infused our culture with what astrophysicist Neil deGrasse Tyson calls the “dreams of tomorrow.” Kids grew up wanting to be astronauts and then switched gears to be cancer biologists or child developmental psychologists or climatologists. Breakthrough Institute founders Michael Schellenberger and Ted Nordhaus recognized the power of this culture of innovation when they named their energy independence plan “Apollo II.”

Today, Branson, Musk and others are burning a tad more than their fair share of carbon trying to build a new space industry. But devolving into carbon accounting misses the big picture: innovations from the new space race will help save the Earth.

#### Efforts spill-down – they’re not MUTUALLY EXCLUSIVE

Orwig 15**,**(Jessica Orwig has a Master of Science in science and technology journalism from Texas A&M University and a Bachelor of Science in astronomy and physics,5 Undeniable Reasons why Humans Should Go To Mars, <http://www.businessinsider.com/5-undeniable-reasons-why-humans-should-go-to-mars-2015-4>, 04/21/2015)

3. Improving the quality of life on Earth "Only by pushing mankind to its limits, to the bottoms of the ocean and into space, will we make discoveries in science and technology that can be adapted to improve life on Earth." British doctor Alexander Kumar wrote that in a 2012 article for BBC News where he explored the pros and cons of sending humans to Mars. At the time, Kumar was living in the most Mars-like place on Earth, Antarctica, to test how he adapted to the extreme conditions both physiologically and psychologically. To better understand his poignant remark, let's look at an example: During its first three years in space, NASA's prized Hubble Space Telescope snapped blurry pictures because of a flaw in its engineering. The problem was fixed in 1993, but to try to make use of the blurry images during those initial years, astronomers developed a computer algorithm to better extract information from the images. It turns out the algorithm was eventually shared with a medical doctor who applied it to the X-ray images he was taking to detect breast cancer. The algorithm did a better job at detecting early stages of breast cancer than the conventional method, which at the time was the naked eye. "You can't script that. That happens all the time — this cross pollination of fields, innovation in one, stimulating revolutionary changes in another," Tyson, the StarTalk radio host, explained during an interview with Fareed Zakaria in 2012. It's impossible to predict how cutting-edge technologies used to develop manned missions to Mars and habitats on Mars will benefit other fields like medicine or agriculture. But we'll figure that out only by "pushing humankind to its limits" and boldy going where we've never been before.

#### Climate Change causes Extinciton.

Sears 21 (, N., 2021. Great Powers, Polarity, and Existential Threats to Humanity: An Analysis of the Distribution of the Forces of Total Destruction in International Security. [online] ResearchGate. Available at: <https://www.researchgate.net/publication/350500094> [Accessed 22 November 2021] Nathan Alexander Sears is a PhD Candidate in Political Science at The University of Toronto. Before beginning his PhD, he was a Professor of International Relations at the Universidad de Las Américas, Quito. His research focuses on international security and the existential threats to humanity posed by nuclear weapons, climate change, biotechnology, and artificial intelligence. His PhD dissertation is entitled, “International Politics in the Age of Existential Threats”)-re-cut rahulpenu

Climate Change Humanity faces existential risks from the large-scale destruction of Earth’s natural environment making the planet less hospitable for humankind (Wallace-Wells 2019). The decline of some of Earth’s natural systems may already exceed the “planetary boundaries” that represent a “safe operating space for humanity” (Rockstrom et al. 2009). Humanity has become one of the driving forces behind Earth’s climate system (Crutzen 2002). The major anthropogenic drivers of climate change are the burning of fossil fuels (e.g., coal, oil, and gas), combined with the degradation of Earth’s natural systems for absorbing carbon dioxide, such as deforestation for agriculture (e.g., livestock and monocultures) and resource extraction (e.g., mining and oil), and the warming of the oceans (Kump et al. 2003). While humanity has influenced Earth’s climate since at least the Industrial Revolution, the dramatic increase in greenhouse gas emissions since the mid-twentieth century—the “Great Acceleration” (Steffen et al. 2007; 2015; McNeill & Engelke 2016)— is responsible for contemporary climate change, which has reached approximately 1°C above preindustrial levels (IPCC 2018). Climate change could become an existential threat to humanity if the planet’s climate reaches a “Hothouse Earth” state (Ripple et al. 2020). What are the dangers? There are two mechanisms of climate change that threaten humankind. The direct threat is extreme heat. While human societies possesses some capacity for adaptation and resilience to climate change, the physiological response of humans to heat stress imposes physical limits—with a hard limit at roughly 35°C wet-bulb temperature (Sherwood et al. 2010). A rise in global average temperatures by 3–4°C would increase the risk of heat stress, while 7°C could render some regions uninhabitable, and 11–12°C would leave much of the planet too hot for human habitation (Sherwood et al. 2010). The indirect effects of climate change could include, inter alia, rising sea levels affecting coastal regions (e.g., Miami and Shanghai), or even swallowing entire countries (e.g., Bangladesh and the Maldives); extreme and unpredictable weather and natural disasters (e.g., hurricanes and forest fires); environmental pressures on water and food scarcity (e.g., droughts from less-dispersed rainfall, and lower wheat-yields at higher temperatures); the possible inception of new bacteria and viruses; and, of course, large-scale human migration (World Bank 2012; Wallace-Well 2019; Richards, Lupton & Allywood 2001). While it is difficult to determine the existential implications of extreme environmental conditions, there are historic precedents for the collapse of human societies under environmental pressures (Diamond 2005). Earth’s “big five” mass extinction events have been linked to dramatic shifts in Earth’s climate (Ward 2008; Payne & Clapham 2012; Kolbert 2014; Brannen 2017), and a Hothouse Earth climate would represent terra incognita for humanity. Thus, the assumption here is that a Hothouse Earth climate could pose an existential threat to the habitability of the planet for humanity (Steffen et al. 2018., 5). At what point could climate change cross the threshold of an existential threat to humankind? The complexity of Earth’s natural systems makes it extremely difficult to give a precise figure (Rockstrom et al. 2009; ). However, much of the concern about climate change is over the danger of crossing “tipping points,” whereby positive feedback loops in Earth’s climate system could lead to potentially irreversible and self-reinforcing “runaway” climate change. For example, the melting of Arctic “permafrost” could produce additional warming, as glacial retreat reduces the refractory effect of the ice and releases huge quantities of methane currently trapped beneath it. A recent study suggests that a “planetary threshold” could exist at global average temperature of 2°C above preindustrial levels (Steffen et al. 2018; also IPCC 2018). Therefore, the analysis here takes the 2°C rise in global average temperatures as representing the lower-boundary of an existential threat to humanity, with higher temperatures increasing the risk of runaway climate change leading to a Hothouse Earth. The Paris Agreement on Climate Change set the goal of limiting the increase in global average temperatures to “well below” 2°C and to pursue efforts to limit the increase to 1.5°C. If the Paris Agreement goals are met, then nations would likely keep climate change below the threshold of an existential threat to humanity. According to Climate Action Tracker (2020), however, current policies of states are expected to produce global average temperatures of 2.9°C above preindustrial levels by 2100 (range between +2.1 and +3.9°C), while if states succeed in meeting their pledges and targets, global average temperatures are still projected to increase by 2.6°C (range between +2.1 and +3.3°C). Thus, while the Paris Agreements sets a goal 6 that would reduce the existential risk of climate change, the actual policies of states could easily cross the threshold that would constitute an existential threat to humanity (CAT 2020).

#### Climate Change hurts Indigenous Communities disproportionately.

Laduzinsky 19 Paige Laduzinsky 12-19-2019 "The Disproportionate Impact of Climate Change on Indigenous Communities" <https://www.kcet.org/shows/tending-nature/the-disproportionate-impact-of-climate-change-on-indigenous-communities> //Elmer

Now more than ever, the topic of climate change has been receiving national attention and is at the forefront of many conversations. In addition to altering environments, it also has a social impact. Extreme weather events have been happening more than ever in recorded history, disrupting both ecosystems and livelihoods for people across the globe. However, marginalized communities, including Indigenous groups, are often the people most affected by devastating storms, flooding, or fires. Recent environmental changes brought on by climate change uniquely impact Indigenous people, especially because of their relationships with the land, ocean, and natural resources. The United Nations Department of Economic and Social Affairs articulately states, “Climate change poses threats and dangers to the survival of Indigenous communities worldwide, even though Indigenous peoples contribute the least to greenhouse gas emissions.” In the words of Survival International, an organization championing tribal peoples around the world, “Indigenous people are on the front line of climate change.” When community worldviews are deeply tied to the environment, what happens when that environment starts to change rapidly? Or when ancestral homelands that communities have lived in for thousands of years start to disappear? A few of the direct consequences of changing environmental conditions include loss of natural resources, restricted access to traditional gathering areas for food and medicine, and forced displacement or relocation. Despite these challenges, many Indigenous communities are adapting traditional lifeways and advocating for change. Traditional Ecological Knowledge (TEK) is an essential part of the climate conversation. In California, tribes across the state are actively involved in climate change-related planning and adaptation. The Karuk tribe in northern California recently completed a Climate Adaptation Plan that leans on Traditional Ecological Knowledge to protect their culture, according to Bill Tripp, deputy director of the Karuk Natural Resources Department. The tribe is currently implementing indigenous burning practices to reduce the buildup of forest fuels and help prevent high-severity wildfires. Many other tribal communities, including the North Fork Mono and Amah Mutsun Tribal Band, are also engaged in prescribed burning. The Coast Miwok are currently working with the National Park Service at Point Reyes to help protect cultural sites that are disappearing due to erosion and flooding. The organization Climate Science Alliance is supporting the La Jolla Band of Luiseño Indians to create a climate adaption plan. These projects and partnerships are just a few of the many climate change initiatives currently led by California tribal communities. These climate-related impacts extend beyond California. Climate change affects Indigenous communities across the globe who live in or are connected to a broad diversity of natural environments. The Carteret Islands in Papua New Guinea are the first place in the world to require population relocations specifically due to climate change. However, Papua New Guinea was also the first country to submit a formal climate action plan under the Paris Agreement, just one of many examples of community action and response. In Australia, which is currently facing drought, increased wildfires, rising sea levels, and coral bleaching in the Great Barrier Reef, many Aboriginal and Torres Strait Islander people are advocating for policy change within the Australian government for climate change planning, which includes actions like reducing carbon emissions and building emergency sea walls.

#### This outweighs under the 1AC FW – Space Exploration doesn’t need a trade-off w/ protecting our responsibility to Earth – they’re mutually affirming which isn’t anti-ethical to Indigenous Cosmologies.

## Case

#### 1] The role of the ballot is to determine if the aff’s a good idea—anything else is self-serving, arbitrary and begs the question of the rest of the debate. Consequences first.

Christopher A. Bracey 6, Associate Professor of Law, Associate Professor of African & African American Studies, Washington University in St. Louis, September, Southern California Law Review, 79 S. Cal. L. Rev. 1231, p. 1318

Second, reducing conversation on race matters to an ideological contest allows opponents to elide inquiry into whether the results of a particular preference policy are desirable. Policy positions masquerading as principled ideological stances create the impression that a racial policy is not simply a choice among available alternatives, but the embodiment of some higher moral principle. Thus, the "principle" becomes an end in itself, without reference to outcomes. Consider the prevailing view of colorblindness in constitutional discourse. Colorblindness has come to be understood as the embodiment of what is morally just, independent of its actual effect upon the lives of racial minorities. This explains Justice Thomas's belief in the "moral and constitutional equivalence" between Jim Crow laws and race preferences, and his tragic assertion that "Government cannot make us equal [but] can only recognize, respect, and protect us as equal before the law." [281](http://web.lexis-nexis.com/universe/document?_m=cd9713b340d60abd42c2b34c36d8ef95&_docnum=9&wchp=dGLbVzz-zSkVA&_md5=9645fa92f5740655bdc1c9ae7c82b328) For Thomas, there is no meaningful difference between laws designed to entrench racial subordination and those designed to alleviate conditions of oppression. Critics may point out that colorblindness in practice has the effect of entrenching existing racial disparities in health, wealth, and society. But in framing the debate in purely ideological terms, opponents are able to avoid the contentious issue of outcomes and make viability determinations based exclusively on whether racially progressive measures exude fidelity to the ideological principle of colorblindness. Meaningful policy debate is replaced by ideological exchange, which further exacerbates hostilities and deepens the cycle of resentment.

#### 2] No performative or methodological offense, only offense from the plan—reject it cuz it explodes predictable limits, spiking out of neg ground making any discussion qualitatively worse

#### 3] Yes epistemology matters but consequences overdetermine epistemology and not vice versa – our representations don’t exist in a vacuum, and the same justification be ethical or unethical depending on what it’s justifying – for example, the desire to protect your home can be used to justify indigenous sovereignty or xenophobia – which means analyzing our epistemology first is incoherent because it begs the question of consequences which answers their ROB cards

#### 4] The aff is responsible for solvency – even if space appropriation is AN instance of settler colonialism, the aff can’t solve for non-appropriative settler colonial actions in space like rocket launches, space tourism, observatories on native land, much less every instance of settler colonialism on Earth. If alt causes don’t matter, then there’s no impact to the solvency deficit to the PIC either.

#### 5] Focus on large scale catastrophes is good and they outweigh – appeals to social costs, moral rules, and securitization play into cognitive biases and flawed risk calculus – 2020 is living proof

Weber 20 (ELKE U. WEBER is Gerhard R. Andlinger Professor in Energy and the Environment and Professor of Psychology and Public Affairs at Princeton University.), November-December 2020 Issue, "Heads in the Sand," Foreign Affairs, <https://www.foreignaffairs.com/articles/2020-10-13/heads-sand> mvp

We are living in a time of crisis. From the immediate challenge of the COVID-19 pandemic to the looming existential threat of climate change, the world is grappling with massive global dangers—to say nothing of countless problems within countries, such as inequality, cyberattacks, unemployment, systemic racism, and obesity. In any given crisis, the right response is often clear. Wear a mask and keep away from other people. Burn less fossil fuel. Redistribute income. Protect digital infrastructure. The answers are out there. What’s lacking are governments that can translate them into actual policy. As a result, the crises continue. The death toll from the pandemic skyrockets, and the world makes dangerously slow progress on climate change, and so on.

It’s no secret how governments should react in times of crisis. First, they need to be nimble. Nimble means moving quickly, because problems often grow at exponential rates: a contagious virus, for example, or greenhouse gas emissions. That makes early action crucial and procrastination disastrous. Nimble also means adaptive. Policymakers need to continuously adjust their responses to crises as they learn from their own experience and from the work of scientists. Second, governments need to act wisely. That means incorporating the full range of scientific knowledge available about the problem at hand. It means embracing uncertainty, rather than willfully ignoring it. And it means thinking in terms of a long time horizon, rather than merely until the next election. But so often, policymakers are anything but nimble and wise. They are slow, inflexible, uninformed, overconfident, and myopic.

Why is everyone doing so badly? Part of the explanation lies in the inherent qualities of crises. Crises typically require navigating between risks. In the COVID-19 pandemic, policymakers want to save lives and jobs. With climate change, they seek a balance between avoiding extreme weather and allowing economic growth. Such tradeoffs are hard as it is, and they are further complicated by the fact that costs and benefits are not evenly distributed among stakeholders, making conflict a seemingly unavoidable part of any policy choice. Vested interests attempt to forestall needed action, using their money to influence decision-makers and the media. To make matters worse, policymakers must pay sustained attention to multiple issues and multiple constituencies over time. They must accept large amounts of uncertainty. Often, then, the easiest response is to stick with the status quo. But that can be a singularly dangerous response to many new hazards. After all, with the pandemic, business as usual would mean no social distancing. With climate change, it would mean continuing to burn fossil fuels.

But the explanation for humanity’s woeful response to crises goes beyond politics and incentives. To truly understand the failure to act, one must turn to human psychology. It is there that one can grasp the full impediments to proper decision-making—the cognitive biases, emotional reactions, and suboptimal shortcuts that hold policymakers back—and the tools to overcome them.

AVOIDING THE UNCOMFORTABLE

People are singularly bad at predicting and preparing for catastrophes. Many of these events are “black swans,” rare and unpredictable occurrences that most people find difficult to imagine, seemingly falling into the realm of science fiction. Others are “gray rhinos,” large and not uncommon threats that are still neglected until they stare you in the face (such as a coronavirus outbreak). Then there are “invisible gorillas,” threats in full view that should be noticed but aren’t—so named for a psychological experiment in which subjects watching a clip of a basketball game were so fixated on the players that they missed a person in a gorilla costume walking through the frame. Even professional forecasters, including security analysts, have a poor track record when it comes to accurately anticipating events. The COVID-19 crisis, in which a dystopic science-fiction narrative came to life and took everyone by surprise, serves as a cautionary tale about humans’ inability to foresee important events.

Not only do humans fail to anticipate crises; they also fail to respond rationally to them. At best, people display “bounded rationality,” the idea that instead of carefully considering their options and making perfectly rational decisions that optimize their preferences, humans in the real world act quickly and imperfectly, limited as they are by time and cognitive capacity. Add in the stress generated by crises, and their performance gets even worse.

Because humans don’t have enough time, information, or processing power to deliberate rationally, they have evolved easier ways of making decisions. They rely on their emotions, which serve as an early warning system of sorts: alerting people that they are in a positive context that can be explored and exploited or in a negative context where fight or flight is the appropriate response. They also rely on rules. To simplify decision-making, they might follow standard operating procedures or abide by some sort of moral code. They might decide to imitate the action taken by other people whom they trust or admire. They might follow what they perceive to be widespread norms. Out of habit, they might continue to do what they have been doing unless there is overwhelming evidence against it.

Not only do humans fail to anticipate crises; they also fail to respond rationally to them.

Humans evolved these shortcuts because they require little effort and work well in a broad range of situations. Without access to a real-time map of prey in different hunting grounds, for example, a prehistoric hunter might have resorted to a simple rule of thumb: look for animals where his fellow tribesmen found them yesterday. But in times of crisis, emotions and rules are not always helpful drivers of decision-making. High stakes, uncertainty, tradeoffs, and conflict—all elicit negative emotions, which can impede wise responses. Uncertainty is scary, as it signals an inability to predict what will happen, and what cannot be predicted might be deadly. The vast majority of people are already risk averse under normal circumstances. Under stress, they become even more so, and they retreat to the familiar comfort of the status quo. From gun laws to fossil fuel subsidies, once a piece of legislation is in place, it is hard to dislodge it, even when cost-benefit analysis argues for change.

#### Existential fears need not be settler projections of demise but can be contingently appropriated to reverse indigenous erasure

Weiss 15—Ph.D. candidate, Anthropology, University of Chicago (Joseph, “UNSETTLING FUTURES: HAIDA FUTURE-MAKING, POLITICS AND MOBILITY IN THE SETTLER COLONIAL PRESENT,” Dissertation submitted to the Faculty of the Division of Social Sciences, Department of Anthropology, University of Chicago, December 2015, 223-232, dml)

And yet, something has changed in this landscape from the initial erasures of Native futurity we drew out in the first chapter. In the narratives of colonial actors like Duncan Campbell Scott, it was absolutely clear that “Indians” were disappearing because their social worlds were being superseded by more “civilized” ways of living and being, ones that these Native subjects would also, inevitably, in the end, adopt (or failing that, perish outright). There was a future. It was simply a settler one. But the nightmare futures of that my Haida interlocutors ward against in their own future-making reach beyond Haida life alone. Environmental collapse, most dramatically, threatens the sustainability of all life; toxins in the land and the waters threaten human lives regardless of their relative indigeneity, race, or gender (e.g. Choy 2011; Crate 2011). Put another way, the impetus for non-Haida (and non-First Nations subjects more generally) to be “united against Enbridge” with their indigenous neighbours comes in no small part because an oil spill also profoundly threatens the lives and livelihoods of non-Aboriginal coastal residents, a fact which Masa Takei, among others, made clear in Chapter 3. Nor is the anxiety that young people might abandon their small town to pursue economic and educational advantage in an urban context limited to reserve communities. Instead, the compulsions of capitalist economic life compel such migrations throughout the globe. The nightmare futures that Haida people constitute alternative futures to ward against are not just future of indigenous erasure under settler colonialism. They are erasures of settler society itself.

There is thus an extraordinary political claim embedded in Haida future-making, a claim which gains its power precisely because Haida future-making as we have seen it does not (perhaps cannot) escape from the larger field of settler-colonial determination. Instead, in Haida future-making we find the implicit assertion that Haida people can make futures that address the dilemmas of Haida and settler life alike, ones that can at least “navigate,” to borrow Appadurai’s phrasing, towards possible futures that do not end in absolute erasure. If Povinelli and Byrd are correct and settler liberal governance makes itself possible and legitimate through a perpetual deferral of the problems of the present, then part of the power of Haida future-making is to expose the threatening non-futures that might emerge out of this bracketed present, to expose as lie the liberal promise of a good life always yet to come and to attempt to constitute alternatives.

#### Policy-making is more important than reps – focus exclusively on reps results in a disengaged academia – our card solves all their offense, we can still have critical theory but policy-making needs to be the emphasis.

Bruce W. **Jentleson** is Director of the Terry Sanford Institute of Public Policy and Professor of Public Policy and Political Science at Duke University. “The Need for Praxis Bringing Policy Relevance Back In.” International Security, Vol. 26, No. 4 (Spring 20**02**), pp. 169-183. JJN

\*\*\*SPRING STARTS IN MARCH AND I WAS BORN IN FEBRUARY SO HA GOTTEM

To be sure, political science and international relations have produced and continue to produce scholarly work that does bring important policy insights. Still it is hard to deny that contemporary political science and international relations as a discipline put limited value on policy relevance-too little, in my view, and the discipline suffers for it.1 The problem is not just the gap between theory and policy but its chasmlike widening in recent years and the limited valuation of efforts, in Alexander George's phrase, at "bridging the gap."2 The events of September 11 drive home the need to bring policy relevance back in to the discipline, to seek greater praxis between theory and practice. This is not to say that scholars should take up the agendas of think tanks, journalists, activists, or fast fax operations. The academy's agenda is and should be principally a more scholarly one. But theory can be valued without policy relevance being so undervalued. Dichotomization along the lines of "we" do theory and "they" do policy consigns international relations scholars almost exclusively to an intradisciplinary dialogue and purpose, with conver- sations and knowledge building that while highly intellectual are excessively insular and disconnected from the empirical realities that are the discipline's raison d'etre. This stunts the contributions that universities, one of society's most essential institutions, can make in dealing with the profound problems and challenges society faces. It also is counterproductive to the academy's own interests. Research and scholarship are bettered by pushing analysis and logic beyond just offering up a few paragraphs on implications for policy at the end of a forty-page article, as if a "ritualistic addendum."3 Teaching is enhanced when students' interest in "real world" issues is engaged in ways that reinforce the argument that the- ory really is relevant, and CNN is not enough. There also are gains to be made for the scholarly community's standing as perceived by those outside the aca- demic world, constituencies and colleagues whose opinions too often are self- servingly denigrated and defensively disregarded. It thus is both for the health of the discipline and to fulfill its broader societal responsibilities that greater praxis is to be pursued.