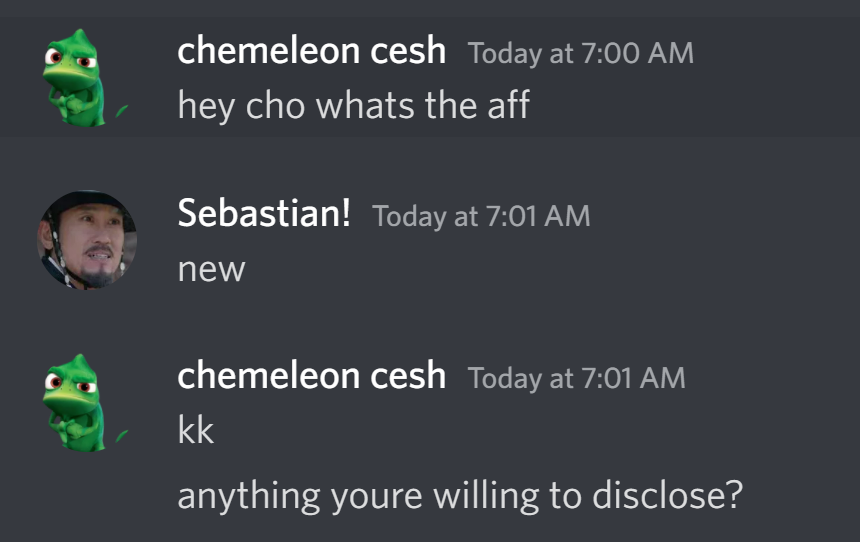
# 1NC TOC R1

### 1

#### Interpretation: Debaters must disclose affirmative frameworks, advocacy texts, and advantage areas thirty minutes before round if they haven’t read the affirmative before

#### Violation: They didn’t



#### Standards:

#### 1] Clash- Not disclosing incentivizes surprise tactics and poorly refined positions that rely on artificial and vague negative engagement to win debates. Their interpretation discourages third- and fourth-line testing by limiting the amount of time we have to prepare and forcing us to enter the debate with zero idea of what the affirmative is. Negatives are forced to rely on generics instead of smart contextual strategies destroying nuanced argumentation.

#### 2] Reciprocity – They get an infinite amount of time to frontline their aff to write the most efficient and effective answers to anything we could say against it while we get only four minutes in round. This gives them a tremendous advantage over us that makes it impossible to win substance.

#### 3] Shiftiness- Not knowing enough about the affirmative coming into round incentivizes 1ar shiftiness about what the aff is and what their framework/advocacy entails. That means even if we could read generics or find prep, they’d just find ways to recontextualize their obscure advocacy in the 1ar.

### 2

#### Interpretation – The Aff must defend theory interpretations and arguments unconditionally as presented in the AC. In other words, the aff may not say CX checks spec shells

#### Violation – they did

#### Theory recourse – CX checks

#### A] Causes sidestepping, encouraging you to have hidden abusive args since I either call you out on it in CX and you kick it or I concede it and you win, which makes debates innocuous

#### B] Causes ambiguity – what constitutes a sufficient "check" is unclear. Even if we isolate the abusive practice in CX, the aff can still go for the arg and establish new parameters for checking so they can shift in the 1AR decking any form on 1NC stasis

#### C] Prep skew – even if you don’t kick the abuse, you get extra time to prep my interp since you know what I’ll indict. That gives you nearly double the time to prep and creates irriciprocal burdens. Theory recourse is key to any voter since it ensures I can check back abusive strategies.

#### Their offense is predicated off of CX checks working but it fails

#### A] Judge isn’t obligated to flow CX so it’s impossible to verify a violation

#### B] Debaters forget to ask which doesn’t solve abuse – especially true in the context of novices because they don’t know what to ask

#### C] Prep time- you waste the entire 1AC prep time because I can never come up with a strategy until after you speak

#### D] Skews my CX time - they can stall me by taking a lot of time clarifying. CX time is key because you need it to get links. Either way, they can still be shifty say things like "the aff defends a discussion"

#### E] Judges don’t pay us much attention in CX as they do in speeches, so its clearer if you delineate offense in the NC

#### F] Allowing them to change their advocacy in cross-x is bad-it allows them to be abusive in the NC at no risk and hope I don’t catch on to the abuse.

#### G] Resolvability – we can’t verify what you said unless its recorded. That comes first since every debate needs a winner

### 3

#### Japan’s space industry is driven by private actors.

Jaxa 18 2-8-2018 "Focal Point on commercial space exploration in Japan" https://media.nature.com/full/nature-cms/uploads/ckeditor/attachments/8865/00\_Editorial\_UK.pdf (Japan Aerospace Exploration Agency is the Japanese national aerospace and space agency. Through the merger of three previously independent organizations, JAXA was formed on 1 October 2003.)//Elmer

“The world’s space industry is in the throes of a major transformation,” says Masayasu Ishida. An energetic Tokyoite, Ishida is a principal at the management consulting firm A.T. Kearney and co-founder and president of the Spacetide Foundation, an organization dedicated to promoting space businesses globally. Historically, space has been the exclusive domain of government and multinational projects, but increasingly private enterprises are venturing above in a movement dubbed ‘new space’. Entrepreneurs such as Jeff Bezos, Elon Musk and Richard Branson have captured the headlines, but this movement is not restricted to famous entrepreneurs or huge corporations. Increasingly, small to medium-sized businesses are becoming involved. Ishida, who has written a book on promoting the space industry to the private sector, is excited about Japan’s involvement in new space. “I think Japan has the potential to be one of the world’s new-space industry hubs,” he says. “Future space exploration needs innovative technologies like robotics, artificial intelligence, advanced communication, and new materials, which will be brought by non-space industries,” he explains. “Japan is home to many of the world’s leading industries, and has a variety of technological assets. Their involvement could be of help in the global space exploration effort.” Yasuhiro Yukimatsu, deputy director-general of the National Space Policy Secretariat, Cabinet Office, notes that Japanese companies and universities have developed micro-, nano- and even pico-satellite technology, which allows countries that have yet to join the space community affordable access to space. Ishida concurs: “Japanese space-related business players have unique technologies and are working on projects such as small launchers, space debris removal, and space resource mining.” JAPAN IN SPACE Japan has a proud history of ‘old space’ government-funded exploration. It was the fourth country to venture into space, and the third one to send spacecraft to both Mars and the Moon. It has the distinction of being the only country to have brought a sample back from an extraterrestrial body besides the Moon, when Hayabusa landed in the Australian outback in 2010 with a sample collected from the surface a deep-space asteroid. But times are changing. “For the industry to realize sustainable growth, a shift from the government to the private sector is urgently needed,” says Masanori Tsuruda from the Ministry of Economy, Trade and Industry (METI). This shift is driven in part by shrinking government budgets for big projects as well as the many emerging possibilities for enterprises to profit from space.

#### Japan space commitment re-vitalizes and modernizes the US-Japan Alliance.

Wright 20 John Wright 2-4-2020 "Where No Alliance Has Gone Before: US-Japan Military Cooperation in Space" <https://thediplomat.com/2020/02/where-no-alliance-has-gone-before-us-japan-military-cooperation-in-space/> (Major John Wright is a U.S. Air Force officer, pilot, and a Mike and Maureen Mansfield Fellow. He is a Foreign Area Officer who specializes in Japan, and recent author of the book “Deep Space Warfare: Military Strategy Beyond Orbit.” The views expressed in this article are solely those of the author, and not necessarily those of the U.S. Air Force, U.S. Government, Mansfield Foundation, or any other government or government entity.)//Elmer

With the United States’ December 21, 2019 creation of a separate and sovereign branch of its military completely devoted to space, the U.S. Space Force, the global race to emancipate a portion of national military power from terrestrial shackles and place it firmly into orbit is on. The announcement also unleashed a somewhat unexpected cascading effect: the increased attention paid to military space activities by U.S. allies and partners, who have no choice but to follow where the U.S. military moves its gravitational pull. In particular, Japan has made announcements in recent days that indicate its intention to remain in lockstep with the United States, at least in terms of defense. On January 5, 2020, scarcely two weeks following the U.S. Space Force announcement, the Japanese government indicated it plans to rename the Japan Air Self Defense Force to the Japan Aerospace Defense Force. Not coincidentally, on January 21, during a speech given on the occasion of the 60th anniversary of the U.S.-Japan Alliance, Prime Minister Shinzo Abe vowed to make the alliance “a pillar for safeguarding peace and security in both outer space and cyberspace.” While words are good, actions are better. In a less-noticed but more consequential move, the Ministry of Defense is finalizing a bill to be placed before the Diet that asks to craft a space operations-exclusive military unit staffed with 20 personnel. While this paltry number of people can barely be expected to efficiently run their task of monitoring space debris and “suspicious satellites,” the move is a significant step for a nation that often struggles with global defense developments due to Japan’s unique domestic restrictions and legal concerns. In many ways, it is surprising to see Japan, a nation that still sorties 1960s-era F-4 aircraft (though there are plans to replace them with F-35s), and is fielding their very first military Remote Piloted Aircraft (a model the United States has been flying for nearly 20 years) in 2021, take its defense posture in space seriously. These initiatives have several implications. First, the Japanese government’s attitude toward space and its place in the U.S.-Japan alliance reflects what’s at stake during the next major conflict, which will surely involve space. As an increasing number of government and commercial systems depend on space assets and space support, space can no longer be ignored as a future theater; the time is now to incorporate space into alliance strategy. This strategy, however, needs to catch up. Currently, Japan refers to space as a “new domain” in the 2018 National Defense Program Guidelines and briefly discusses space defense in the annual 2019 Defense of Japan white paper. Space is completely left out of the now-outdated 2015 Guidelines for U.S.- Japan Defense Cooperation. Enjoying this article? Click here to subscribe for full access. Just $5 a month. Second, Japan’s emphasis is a good move for the alliance as a whole, and enhances its survivability. If Japan takes measurable steps to join its ally and if Japan meaningfully contributes to space security, space is less likely to become another seam where the alliance could come undone. Further, there is a strategic advantage to taking a stance on both position and form when it comes to space. While other nations will struggle to “get serious” about space, and will need to decide between size, scope, and capability of their forces, Japan has confirmed its political and defensive outlook toward space, which means it has also acknowledged space’s effect on combined alliance defense. This is good, since the political dangers posed in space are very real. Despite the existence of the well-intentioned but toothless Outer Space Treaty of 1967, which prohibits use of force activities in space, the obvious future is that space will act as yet another stage upon which the political games of earthbound nation-states will play out. Nation-state competition will not disappear as states found and fund forces to travel, explore, and exploit the inky blackness of space; rather, competition will intensify, as discoveries with both economic and defense applications are made, and as states better understand how vulnerable they are without proper space defense and deterrence. This is the political reality of space, and the fact that both members of the U.S.-Japan alliance understand this means the alliance has much less danger of breaking apart upon first contact with space-centric competition. If anything, mutual interest in the same environment will lead to cooperative efforts and a strengthened alliance here on Earth. Notably, the odds of military confrontation in space have also increased. By funneling U.S. military space power into the highest echelon of military independence and funding (an independent service), escalation and competition is not far behind. It will not be surprising if we see several other competitors forming their own service-level forces by year’s end, though their actual forms will likely vary greatly. The fact that the United States has “jumped” to a service-sized solution to military space competition, and not a smaller organization like a corps or geographic command, means other nations have no real strategic options but to match the U.S. precedent as close as they can in size and capability. The U.S.-Japan alliance must prepare for this eventuality. Japanese government decisions to strengthen its space defense capabilities thus come from a mix of terrestrial strategy, political realities, and prudent alliance management. However, significant challenges remain. For one thing, today’s nation-states (including the United States) are understandably gun-shy about sharing space defense capabilities and space-centric technology, which means alliance military space activity will naturally move at the speed of the slowest member. For another, we do not yet know just what space-on-space conflict will look like between combatants who possess similar space-based strength, which makes warfare difficult to plan for and will present an immediate challenge to alliance coordination should such a conflict occur. Despite these doubts, recent Japanese government announces are positive and will help usher both the alliance and U.S.-Japan relations through its current comparatively rocky period of trade spats and quibbles over military basing. Without a doubt, the political impact of allied space defense could easily result in the U.S.-Japan alliance extending its prerogatives beyond Earth’s territorial confines.

#### Re-vitalized and updated US-Japan Alliance preserves US LIO against a revisionist China.

Fujisue 21 Kenzo Fujisue (Kenzo Fujisue is a member of the House of Councillors in Japan. He is also the director of the Multi-partisan Economic Security Policy Study Team. Previously, he was the chair of the Committee of Information and Telecommunication and the senior vice minister of Internal Affairs and Communications. He received an MS from the Massachusetts Institute of Technology Sloan School of Management, an MPA from Harvard Kennedy School, and two Ph.D.s in Industrial Management and in International Relations from Tokyo Institute of Technology and Waseda University, respectively.), 9/8/21, "Rebooting the Japan-US Alliance," <https://thediplomat.com/2021/09/rebooting-the-japan-us-alliance/> mvp

In fact, such a lingering legacy is a major impediment to the evolution of the Japan-U.S. alliance as it faces off an increasingly bellicose China. The sober reality is that Beijing is at war with the world. The U.S.-led liberal international order, of which post-war Japan is a direct beneficiary, is under ceaseless assault by China’s unrestricted warfare, seeking to replace it with a new world order under Beijing’s mandate. The retired Chinese Major General Qiao Liang, one of the co-authors of the 1999 treatise, “Unrestricted Warfare,” ominously advocated that “the first rule of unrestricted warfare is that there are no rules, with nothing forbidden.” Indeed, from artificial islands in the South China Sea to global cyber espionage, China has transformed all of society into a battlefield by “using all means, including armed force or non-armed force, military and non-military, and lethal and non-lethal means to compel the enemy to accept one’s interests.” While the former commander of the U.S. Indo-Pacific Command, Admiral Philip Davidson, correctly denounced China as the “greatest long-term strategic threat of the 21st century” earlier this year, Tokyo has yet to reciprocate Washington’s renewed perspective, merely expressing “grave concerns.” Given Tokyo’s enduring disinclination to recognize the Chinese threat, the current bilateral alliance suffers a perilous perception gap and is fundamentally lagging in effectively countering China’s post-Clausewitzian challenges. The upshot is the growing prospect of a Chinese geoeconomic suzerainty engulfing Japan before shots are even fired. China’s unrestricted offensives against Japan are most palpable in the emerging field of economic security. Ironically, Japan’s long-standing economic-centric approach to national security has scarcely inspired thinking about the country’s own economic security, let alone its economic statecraft. Instead, Japan has long allowed itself to wallow in the poisoned chalice of virtually unfettered access to an ascendant communist economy. As a result, blithe ignorance and unmitigated avarice have blinded Japan to the Marxist-Leninist nature of the Chinese Communist regime and its authoritarian agenda, culminating in Tokyo’s willful embrace of the Beijing-led Regional Comprehensive Economic Partnership Agreement (RCEP) earlier this year. In other words, Japan has sold China the rope with which it is to be hanged, to the ultimate detriment of the Japan-U.S. alliance. This has profound operational implications for the U.S. military assets forward deployed in Japan. For example, special operators in the U.S. forces in Japan could come under the constant risk of leaving digital footprints in a telecommunications environment increasingly compromised by Chinese providers, such as Huawei. Such information could lead to major vulnerabilities in operational security, endangering mission assurance in future operations. Unlike the United States, Japan has yet to exclude Huawei and other Chinese 5G technologies from its domestic market. Business viability is no excuse for being a liability if the alliance itself is at risk. Equally important, Japan’s decades-long economic engagement with China has ironically led to the erosion of the country’s industrial base, the very piece that supported Japan’s post-war prosperity as well as the rules-based order. Indeed, the advent of the coronavirus pandemic in 2020 exposed Japan’s severe supply chain risks as the country scrambled to procure masks and other medical equipment, only to discover its entrenched national reliance on Chinese producers. Such dependency is a crippling vulnerability of geopolitical significance, exploitation of which could subdue an entire society without firing a single bullet. Moreover, the revelation of the popular LINE messenger app’s suspicious ties to Beijing earlier this year also underscores fundamental flaws in Japan’s digital transformation (DX) process. Indeed, despite its tremendous innovation potential, Japan has yet to witness a homegrown alternative to LINE, largely due to the country’s lingering systemic constraints on entrepreneurship. According to the 2019 Inc. magazine survey, Japan was ranked the fourth least entrepreneurial country in the world. As a result, Japan has largely failed to leverage the technological prowess it once boasted during the Cold War and yielded its coveted place as the world’s leading technology powerhouse to China in the age of DX. As China looks to become the “Saudi Arabia of data,” Japan’s DX dependence on China is tantamount to aiding and abetting Beijing’s globalizing digital authoritarianism and is incompatible with the democratic world order. As the China-U.S. geopolitical competition increasingly turns into another Cold War, Japan finds itself at a historic crossroads that will determine the country’s future. As a member of the House of Councillors, Japan’s upper house, leading the country’s economic security policy, I argue that Japan must fully realign itself with the United States in fighting China’s unrestricted war against the rules-based order in the Indo-Pacific. To do so requires first and foremost a system upgrade in the Yoshida Doctrine, explicitly recognizing that economic security is national security. To this end, Japan must accelerate the process of targeted decoupling from China in the fields of essential goods and advanced technologies. The present degree of Japan’s economic dependence on China is so profound that total disengagement would be mutually destructive. Therefore, Tokyo must design its own economic statecraft based on a calculated balance between economic incentives and economic security. In implementing targeted decoupling from China, Japan’s economic statecraft must pursue strategic autonomy and strategic indispensability in key basic industries so as to ensure the country’s control over chokepoints in economic security.

#### Collapse of the LIO causes Extinction – Nuclear War, Warming, Emerging Tech.

Harari 18 Yuval Noah Harari, Professor of History at Hebrew University of Jerusalem, “We need a post-liberal order now,” The Economist, <https://www.economist.com/open-future/2018/09/26/we-need-a-post-liberal-order-now>

For several generations, the world has been governed by what today we call “the global liberal order”. Behind these lofty words is the idea that all humans share some core experiences, values and interests, and that no human group is inherently superior to all others. Cooperation is therefore more sensible than conflict. All humans should work together to protect their common values and advance their common interests. And the best way to foster such cooperation is to ease the movement of ideas, goods, money and people across the globe. Though the global liberal order has many faults and problems, it has proved superior to all alternatives. The liberal world of the early 21st century is more prosperous, healthy and peaceful than ever before. For the first time in human history, starvation kills fewer people than obesity; plagues kill fewer people than old age; and violence kills fewer people than accidents. When I was six months old I didn’t die in an epidemic, thanks to medicines discovered by foreign scientists in distant lands. When I was three I didn’t starve to death, thanks to wheat grown by foreign farmers thousands of kilometers away. And when I was eleven I wasn’t obliterated in a nuclear war, thanks to agreements signed by foreign leaders on the other side of the planet. If you think we should go back to some pre-liberal golden age, please name the year in which humankind was in better shape than in the early 21st century. Was it 1918? 1718? 1218? Nevertheless, people all over the world are now losing faith in the liberal order. Nationalist and religious views that privilege one human group over all others are back in vogue. Governments are increasingly restricting the flow of ideas, goods, money and people. Walls are popping up everywhere, both on the ground and in cyberspace. Immigration is out, tariffs are in. If the liberal order is collapsing, what new kind of global order might replace it? So far, those who challenge the liberal order do so mainly on a national level. They have many ideas about how to advance the interests of their particular country, but they don’t have a viable vision for how the world as a whole should function. For example, Russian nationalism can be a reasonable guide for running the affairs of Russia, but Russian nationalism has no plan for the rest of humanity. Unless, of course, nationalism morphs into imperialism, and calls for one nation to conquer and rule the entire world. A century ago, several nationalist movements indeed harboured such imperialist fantasies. Today’s nationalists, whether in Russia, Turkey, Italy or China, so far refrain from advocating global conquest. In place of violently establishing a global empire, some nationalists such as Steve Bannon, Viktor Orban, the Northern League in Italy and the British Brexiteers dream about a peaceful “Nationalist International”. They argue that all nations today face the same enemies. The bogeymen of globalism, multiculturalism and immigration are threatening to destroy the traditions and identities of all nations. Therefore nationalists across the world should make common cause in opposing these global forces. Hungarians, Italians, Turks and Israelis should build walls, erect fences and slow down the movement of people, goods, money and ideas. The world will then be divided into distinct nation-states, each with its own sacred identity and traditions. Based on mutual respect for these differing identities, all nation-states could cooperate and trade peacefully with one another. Hungary will be Hungarian, Turkey will be Turkish, Israel will be Israeli, and everyone will know who they are and what is their proper place in the world. It will be a world without immigration, without universal values, without multiculturalism, and without a global elite—but with peaceful international relations and some trade. In a word, the “Nationalist International” envisions the world as a network of walled-but-friendly fortresses. Many people would think this is quite a reasonable vision. Why isn’t it a viable alternative to the liberal order? Two things should be noted about it. First, it is still a comparatively liberal vision. It assumes that no human group is superior to all others, that no nation should dominate its peers, and that international cooperation is better than conflict. In fact, liberalism and nationalism were originally closely aligned with one another. The 19th century liberal nationalists, such as Giuseppe Garibaldi and Giuseppe Mazzini in Italy, and Adam Mickiewicz in Poland, dreamt about precisely such an international liberal order of peacefully-coexisting nations. The second thing to note about this vision of friendly fortresses is that it has been tried—and it failed spectacularly. All attempts to divide the world into clear-cut nations have so far resulted in war and genocide. When the heirs of Garibaldi, Mazzini and Mickiewicz managed to overthrow the multi-ethnic Habsburg Empire, it proved impossible to find a clear line dividing Italians from Slovenes or Poles from Ukrainians. This had set the stage for the second world war. The key problem with the network of fortresses is that each national fortress wants a bit more land, security and prosperity for itself at the expense of the neighbors, and without the help of universal values and global organisations, rival fortresses cannot agree on any common rules. Walled fortresses are seldom friendly. But if you happen to live inside a particularly strong fortress, such as America or Russia, why should you care? Some nationalists indeed adopt a more extreme isolationist position. They don’t believe in either a global empire or in a global network of fortresses. Instead, they deny the necessity of any global order whatsoever. “Our fortress should just raise the drawbridges,” they say, “and the rest of the world can go to hell. We should refuse entry to foreign people, foreign ideas and foreign goods, and as long as our walls are stout and the guards are loyal, who cares what happens to the foreigners?” Such extreme isolationism, however, is completely divorced from economic realities. Without a global trade network, all existing national economies will collapse—including that of North Korea. Many countries will not be able even to feed themselves without imports, and prices of almost all products will skyrocket. The made-in-China shirt I am wearing cost me about $5. If it had been produced by Israeli workers from Israeli-grown cotton using Israeli-made machines powered by non-existing Israeli oil, it may well have cost ten times as much. Nationalist leaders from Donald Trump to Vladimir Putin may therefore heap abuse on the global trade network, but none thinks seriously of taking their country completely out of that network. And we cannot have a global trade network without some global order that sets the rules of the game. Even more importantly, whether people like it or not, humankind today faces three common problems that make a mockery of all national borders, and that can only be solved through global cooperation. These are nuclear war, climate change and technological disruption. You cannot build a wall against nuclear winter or against global warming, and no nation can regulate artificial intelligence (AI) or bioengineering single-handedly. It won’t be enough if only the European Union forbids producing killer robots or only America bans genetically-engineering human babies. Due to the immense potential of such disruptive technologies, if even one country decides to pursue these high-risk high-gain paths, other countries will be forced to follow its dangerous lead for fear of being left behind. An AI arms race or a biotechnological arms race almost guarantees the worst outcome. Whoever wins the arms race, the loser will likely be humanity itself. For in an arms race, all regulations will collapse. Consider, for example, conducting genetic-engineering experiments on human babies. Every country will say: “We don’t want to conduct such experiments—we are the good guys. But how do we know our rivals are not doing it? We cannot afford to remain behind. So we must do it before them.” Similarly, consider developing autonomous-weapon systems, that can decide for themselves whether to shoot and kill people. Again, every country will say: “This is a very dangerous technology, and it should be regulated carefully. But we don’t trust our rivals to regulate it, so we must develop it first”. The only thing that can prevent such destructive arms races is greater trust between countries. This is not an impossible mission. If today the Germans promise the French: “Trust us, we aren’t developing killer robots in a secret laboratory under the Bavarian Alps,” the French are likely to believe the Germans, despite the terrible history of these two countries. We need to build such trust globally. We need to reach a point when Americans and Chinese can trust one another like the French and Germans. Similarly, we need to create a global safety-net to protect humans against the economic shocks that AI is likely to cause. Automation will create immense new wealth in high-tech hubs such as Silicon Valley, while the worst effects will be felt in developing countries whose economies depend on cheap manual labor. There will be more jobs to software engineers in California, but fewer jobs to Mexican factory workers and truck drivers. We now have a global economy, but politics is still very national. Unless we find solutions on a global level to the disruptions caused by AI, entire countries might collapse, and the resulting chaos, violence and waves of immigration will destabilise the entire world. This is the proper perspective to look at recent developments such as Brexit. In itself, Brexit isn’t necessarily a bad idea. But is this what Britain and the EU should be dealing with right now? How does Brexit help prevent nuclear war? How does Brexit help prevent climate change? How does Brexit help regulate artificial intelligence and bioengineering? Instead of helping, Brexit makes it harder to solve all of these problems. Every minute that Britain and the EU spend on Brexit is one less minute they spend on preventing climate change and on regulating AI. In order to survive and flourish in the 21st century, humankind needs effective global cooperation, and so far the only viable blueprint for such cooperation is offered by liberalism. Nevertheless, governments all over the world are undermining the foundations of the liberal order, and the world is turning into a network of fortresses. The first to feel the impact are the weakest members of humanity, who find themselves without any fortress willing to protect them: refugees, illegal migrants, persecuted minorities. But if the walls keep rising, eventually the whole of humankind will feel the squeeze.

## Case

### Framing

#### 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.

#### 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.

#### Apocalyptic images challenge dominant power structures – they contest the implausibility of inequitable structures producing catastrophe and generate imagination of futures of social justice outside of current narratives

Jessica Hurley 17, Assistant Professor in the Humanities at the University of Chicago, “Impossible Futures: Fictions of Risk in the Longue Durée”, Duke University Press, <https://read.dukeupress.edu/american-literature/article/89/4/761/132823/Impossible-Futures-Fictions-of-Risk-in-the-Longue>

* Squo power structures (i.e. what the K criticizes) paint themselves as stable/inevitable to project their power and maintain dominance
* Questioning that stability thru extinction narratives questions squo world orders bc it calls into ques the idea of squo world stability which allows us to envision alternative worlds/future i.e. one where it fails and causes extinction
* Justifies extinction focus and preventing extinction in the name of changing those squo structures

If contemporary ecocriticism has a shared premise about environmental risk it is that genre is the key to both perceiving and, possibly, correcting ecological crisis. Frederick Buell’s 2003 From Apocalypse to Way of Life: Environmental Crisis in the American Century has established one of the most central oppositions of this paradigm. As his title suggests, Buell tells the story of a discourse that began in the apocalyptic mode in the 1960s and 70s, when discussions of “the immanent end of nature” most commonly took the form of “prophecy, revelation, climax, and extermination” before turning away from apocalypse when the prophesied ends failed to arrive (112, 78). Buell offers his suggestion for the appropriate literary mode for life lived within a crisis that is both unceasing and inescapable: new voices, “if wise enough….will abandon apocalypse for a sadder realism that looks closely at social and environmental changes in process and recognizes crisis as a place where people dwell” (202-3). In a world of threat, Buell demands a realism that might help us see risks more clearly and aid our survival.¶ Buell’s argument has become a broadly held view in contemporary risk theory and ecocriticism, overlapping fields in the social sciences and humanities that address the foundational question of second modernity: “how do you live when you are at such risk?” (Woodward 2009, 205).1 Such an assertion, however, assumes both that realism is a neutral descriptive practice and that apocalypse is not something that is happening now in places that we might not see, or cannot hear. This essay argues for the continuing importance of apocalyptic narrative forms in representations of environmental risk to disrupt conservative realisms that maintain the statusquo. Taking the ecological disaster of nuclear waste as my case study, I examine two fictional treatments of nuclear waste dumps that create different temporal structures within which the colonial history of the United States plays out. The first, a set of Department of Energy documents that use statistical modeling and fictional description to predict a set of realistic futures for the site of the Waste Isolation Pilot Plant in New Mexico (1991), creates a present that is fully knowable and a future that is fully predictable. Such an approach, I suggest, perpetuates the state logics of implausibility that have long undergirded settler colonialism in the United States. In contrast, Leslie Marmon Silko’s contemporaneous novel Almanac of the Dead (1991) uses its apocalyptic form to deconstruct the claims to verisimilitude that undergird state realism, transforming nuclear waste into a prophecy of the end of the United States rather than a means for imagining its continuation. In Almanac of the Dead, the presence of nuclear waste introjects a deep-time perspective into contemporary America, transforming the present into a speculative space where environmental catastrophe produces not only unevenly distributed damage but also revolutionary forms of social justice that insist on a truth that probability modeling cannot contain: that the future will be unimaginably different from the present, while the present, too, might yet be utterly different from the real that we think we know.¶ Nuclear waste is rarely treated in ecocriticism or risk theory, for several reasons: it is too manmade to be ecological; its catastrophes are ongoing, intentionally produced situations rather than sudden disasters; and it does not support the narrative that subtends ecocritical accounts of risk perception in which the nuclear threat gives rise to an awareness of other kinds of threat before reaching the end of its relevance at the end of the Cold War.2 In what follows, I argue that the failure of nuclear waste to fit into the critical frames created by ecocriticism and risk theory to date offers an opportunity to expand those frames and overcome some of their limitations, especially the impulse towards a paranoid, totalizing realism that Peter van Wyck (2005) has described as central to ecocriticism in the risk society. Nuclear waste has durational forms that dwarf the human. It therefore dwells less in the economy of risk as it is currently conceptualized and more in the blown-out realm of deep time. Inhabiting the temporal scale that has recently been christened the Anthropocene, the geological era defined by the impact of human activities on the world’s geology and climate, nuclear waste unsettles any attempt at realist description, unveiling the limits of human imagination at every turn.3 By analyzing risk society through a heuristic of nuclear waste, this essay offers a critique of nuclear colonialism and environmental racism. At the same time, it shows how the apocalyptic mode in deep time allows narratives of environmental harm and danger to move beyond the paranoid logic of risk. In the world of deep time, all that might come to pass will come to pass, sooner or later. The endless maybes of risk become certainties. The impossibilities of our own deaths and the deaths of everything else will come. But so too will other impossibilities: talking macaws and alien visitors; the end of the colonial occupation of North America, perhaps, or a sudden human determination to let the world live. The end of capitalism may yet become more thinkable than the end of the world. Just wait long enough. Stranger things will happen.¶

#### Presumption –

#### 1] Allies – using debate as a site of liberatory advocacy is bad cuz I’m forced to negate them which makes ally building impossible -- using debate as a mode of advocacy ensures the failure of their radical project – competition means debaters ally themselves with individuals who vote for them and alienate those who are positioned with the burden of rejoinder and forced to negate – at worst you vote negative on presumption because they don’t use debate as a stepping stone for their advocacy outside the space and don’t have a net benefit to affirming the 1ac.

#### 2] Spill over – the aff assumes that its advocacy of a certain affect is sufficient to result in the liberation BUT they are missing a robust internal link to solving oppression inside OR outside the round – they’ve proposed a better eway to understand disability but no way this can spill up to politics and no way to effectuate their method other than “everyone thinks different”

#### 3] none of their cards even vaguely talk about a spill over effect which means there’s a disconnect between their solvency and their advocacy

#### We’re impact turning any attempt to use the ballot to increase accesibility ---

#### 1] It forces the judge into an inappropriate role---if their argument is voting aff makes debate more accessible, voting neg requires the judge determing that debate should NOT be more accessible, and that they don’t deserve to move on, which entails a violent rejection of them, their identity, and accessibility--- tasking the judge with determining whether someone’s identity should be accepted is incredibly violent

**2] It’s a palliative --- giving Houston Memorial a W on tab does nothing to make debate better, and viewing ballots as currency for social movements is terminally unsustainable because losses are inevitable**

### Advantage

#### Only private sector solves it

Diakovska & Aliieva 20 [Halyna Diakovska and Olga Aliieva, Ph.D.s in Philosophy, Associate Professors, Donbass State Pedagogical University, “Consequentialism and Commercial Space Exploration,” 2020, *Philosophy and Cosmology*, Vol. 24, pp. 5-24, https://doi.org/10.29202/phil-cosm/24/1, EA]

The experience of the USA showed that leadership in space exploration, which is maintained solely through public funding, could be erroneous. Since 1984, the share of public funding has gradually decreased in space telecommunications, commercial space transportation, remote sensing, etc., while the share of participation of non-state enterprises has increased rapidly. A legal and regulatory framework has been modified to stimulate space commercialization. The stages of space law development are discussed in the research of Valentyn Halunko (Halunko, 2019), Larysa Soroka (Soroka & Kurkova, 2019), etc. Larysa Soroka and Kseniia Kurkova explored the specifics of the legal regulation of the use and development of artificial intelligence for the space area (Soroka & Kurkova, 2019).

As a result of changing the legal framework and attracting private investors to the space market, the US did not lose its leadership in space exploration, but rather secured it. Private investment along with government funding have significantly reduced the risk of business projects in the space industry. The quality and effectiveness of space exploration programs have increased.

In 2018, Springer published an eloquent book The Rise of Private Actors in the Space Sector. Alessandra Vernile, the author of the book, explores a broad set of topics that reveal the role of private actors in space exploration (Vernile, 2018). The book covers the following topics: “Innovative Public Procurement and Support Schemes,” “New Target Markets for Private Actors,” etc. In the “Selected Success Stories,” Vernile provides examples of successful private actors in space exploration (Vernile, 2018).

The current level of competition, which has developed on the space market, allows us to state the following fact. Private space companies have been able to compete with entire states in launching spacecraft, transporting cargo to orbital stations, and exploring space objects. The issue of mining on space objects, the creation of space settlements and the intensive development of the space tourism market are on the agenda.

In the 21st century, the creation of non-governmental commercial organizations specializing in the field of commercial space exploration, is regarded as an ordinary activity. They are established as parts of the universities around projects funded by private investors. For example, Astropreneurship & Space Industry Club based on the MIT community (Astropreneurship, 2019).

Large-scale research in the field of commercial space exploration, as well as the practical results achieved, led to the formation of a new paradigm called “New Space” ecosystem. The articles of Deganit Paikowsky’s (Paikowsky, 2017), Clelia Iacomino (Iacomino & Ciccarelli, 2018) et al. reveal its key meanings and the opportunities it offers in the space sector. The “New Space” ecosystem is a new vision for commercial space exploration. It is the formation of a cosmic worldview, in which the near space with all the wealth of its resources and capabilities, becomes a part of the global economy and the sustainable development of the society. The “New Space” ecosystem offers the following ways for commercial space exploration (Iacomino & Ciccarelli, 2018):

1. Innovative public procurement and support schemes, which significantly expand the role of commercial actors in space exploration.

2. Attracting new entrants in the space sector. First of all, these are companies working in the domain of Information and communications technology, artificial intelligence, etc. that are expanding their research in space markets. They offer innovative business models and new solutions to space commercialization.

3. Innovative industrial approaches based on new processes, methods, and industrial organization for the development and production of space systems or launchers.

4. Disruptive market solutions, which significantly reduce commercial space exploration prices, increase labor productivity, provide new types of services, etc.

5. Substantial private investment from different sources and involving different funding mechanisms. For instance, these are private fortunes, venture capital firms, business angels, private equity companies, or banks, etc.

6. Involvement of an increasing number of space-faring nations investing in the acquisition of turnkey space capabilities or even in the development of a domestic space industrial base. This expands the space markets and makes it more competitive.

The analysis of the research and advances in commercial space exploration allows us to draw the following conclusions:

1. In fact, the space market has already been created. It is currently undergoing continuous development that will integrate the resources and capabilities of the near space into the global economy over the next decade.

2. A new paradigm, denoted by the term “New Space” ecosystem, is at the heart of the created space market. The “New Space” ecosystem is a step towards the formation of cosmic thinking, in which outer space, with its resources and capabilities, is considered as a sphere of human activities.

3. Space market regulates space law, which is constantly evolving. The space law develops within the bounds of international law. In essence, the space market is integrated into the international legal field and is governed by its laws.

#### Massive spillover effects, solves resources and ex risks

Green 21 [Brian Patrick Green, director of technology ethics at the Markkula Center for Applied Ethics, Santa Clara University, “Space Ethics,” 2021, Rowman, pp. 4-5, EA]

In favor of going into space are such basics as gaining scientific knowledge and developing beneficial new technologies, both of which space exploration and use have already begun to accomplish with dramatic and sometimes unexpected effects for humankind. Scientific advancements include astronomical and cosmological knowledge from various orbiting experiments and telescopes that have let us gain unprecedented understanding about our universe. But space activities have also contributed to a great deal of scientific knowledge about our Earth, including measurements of environmental status, habitat conversion and destruction, detailed knowledge of anthropogenic climate change, and much about Earth’s chemistry and geology. We have also learned a great deal about our local planets, for example, that a runaway “greenhouse effect” in the atmosphere of Venus makes the surface scorchingly hot, while too little greenhouse effect on Mars leaves the surface quite cold. There have also been significant contributions made to medical science, especially concerning the behavior of the human body when subjected to radiation, microgravity, nutritional restrictions, and so on.

On the technological side, everything with American global positioning system (GPS), Russian Glonass, or other global navigation systems—from smartphones to military vehicles—relies on a network of satellites above us, placed there by rocketry and painstakingly tracked with instruments developed for the task. So many technologies have been pioneered by space exploration and use that it is hard to list them all, but some of the more important ones include weather satellites (which are not only convenient but also allow preparation for and evacuation from severe weather), communication satellites, solar photovoltaic (PV) cells, advances in electronics and computers, advances in materials science, and so on.

Space is also an important location for the contention of national interests in a geopolitical and military sense. As the ultimate “high ground” in battle, space allows certain asset classes such as spy satellites to exist in a position unassailable by many or most opponents. While permanent weapons stations and weapons of mass destruction are banned from space by the United Nations Outer Space Treaty (OST), 6 that has not stopped the development of weapons that are impermanent (such as missiles, missile interceptors, and antisatellite weapons) or the research and development of possible space-based weapons platforms, such as were envisioned by U.S. president Ronald Reagan’s Strategic Defense Initiative, nicknamed “Star Wars.” While military and political interests may ultimately seem to be a less noble reason to explore and use space, relative power, safety, and security certainly are very human interests and are valuable to those who feel they are being protected by them.

Space activities are also a key way of promoting international cooperation and global awareness. While the international competition of the “space race” fueled one nation all the way to the Moon, shortly afterward, the Apollo-Soyuz program announced a thawing of this competition and commenced a period of cooperation between the United States of America and the Union of Soviet Socialist Republics. Currently the International Space Station continues this cross-national cooperation in space, with five space agencies (representing Canada, the European Space Agency nations, Japan, Russia, and the United States) participating. In addition to cooperation in space exploration itself, the perspective given from space has itself helped to produce some feelings of unity on Earth, with the famous “Blue Marble” and “Earthrise” pictures showing Earth’s oneness and scientific discoveries supported by space science, such as those related to climate change, helping to promote international cooperation to address these problems.

Gaining access to new critical resources may be another reason to go into space. Earth is a finite planet, and certain elements on Earth are very rare in the planetary crust, particularly platinum group metals that are very dense and siderophilic (iron-loving) and so have tended to sink toward the core over the natural history of the planet. However, asteroids and other objects in space (for example, planets, comets, and moons) can sometimes have these elements in abundance and in more available locations, making them potentially excellent sources for these valuable materials. Now-defunct asteroid-mining startup Planetary Resources once estimated that one “platinum-rich 500 meter wide asteroid contains . . . 1.5 times the known world-reserves of platinum group metals (ruthenium, rhodium, palladium, osmium, iridium, and platinum).” 7 In addition to returning elements to a resource-hungry Earth, further exploration and development of space will require access to resources that are not purely sourced from Earth. In particular, it will be necessary to gain access to water, which is relatively rare in the inner solar system and which would be far too costly to transport in any significant amounts from the Earth’s surface.

Another reason that humans may want to explore space would be to create a “backup Earth” to hedge against global catastrophic and existential risks (risks that may cause widespread disaster or human extinction, respectively) on our home planet. 8 Earth has always been a dangerous place for humans, with asteroid impacts, supervolcanic eruptions, pandemic disease, and other natural hazards threatening civilization. Now, in addition to these natural threats, human-made hazards such as nuclear weapons, climate change, biotechnology, nanotechnology, and artificial intelligence may threaten not only the viability of technological civilization but perhaps the survival of human life itself. A serious global-scale catastrophe could set back civilization many decades or centuries, and the worst disasters could cause human extinction. In one scenario, in which 100 percent of humanity dies, all of human effort for all of history would be for nothing. However, were the same global catastrophe to happen to Earth, yet humans were a multiplanetary species with just one self-sustaining settlement off-Earth, it would not result in the end of human civilization or human extinction. Instead while the same unimaginable fate would befall the Earth (certainly no mere triviality, with perhaps the deaths of 99.999 percent of all humans and possibly the destruction of the ecosphere and everything in it), at least all of human and planetory history would not be for nothing. Human life and culture would go on elsewhere, as well as other Earth species. This is a dire fate, but less terrible than the first.

#### Space colonization solves otherwise inevitable extinction.

Zarkadakis 19 [George; December 26; Ph.D. in Artificial Intelligence; George Zardakis, “Abandoning the metropolis: space colonisation as the new imperative,” <https://georgezarkadakis.com/2019/12/26/abandoning-the-metropolis-space-colonisation-as-the-new-imperative/>]

Space colonization is not only the subject of fiction but of serious science too. The late physicist Stephen Hawking argued that unless colonies were established in space the human race would become extinct. There are several natural phenomena beyond our control that could spell our obliteration. Over a long enough period of time our planet is vulnerable to catastrophic meteorite strikes, or getting exposed to the deadly radiation of a nearby supernova explosion. As our Sun burns its fuel it will start to expand and, in a few million years, will scorch Earth. We can also self-destruct by waging nuclear war, or by tilting our planet’s climate towards a runaway greenhouse effect. Space colonization is therefore the ultimate insurance policy of long-term human survival[4].

#### Independently brings immeasurable expected value

Baum 16 – Executive Director of the Global Catastrophic Risk Institute [Seth D. Baum, “The Ethics of Outer Space: A Consequentialist Perspective,” 2016, Springer, pp. 115-116, EA]

Space colonization is notable because it may be able to bring utterly immense increases in intrinsic value. Early colonies might start small, given that other planets and moons have inhospitable environments. However, it may be possible to build large indoor colonies or create more hospitable outdoor environments (i.e., terraforming). Even just on other planets and moons in the Solar System, space colonies could multiply the total area available for human habitation. And there are many more planets around other stars, as ongoing research on exoplanets is now learning. One recent study estimates 22 % of Sun-like stars have Earth-like exoplanets (Petigura et al. 2013), implying billions to tens of billions of potentially habitable planets across the galaxy.

Opportunities at any given star may also be quite a bit greater than those available only on planets. Earth only receives about one two-billionth of the Sun’s radiation. To collect all the Sun’s radiation, humanity would need a Dyson swarm (named after Dyson 1960), which is a series of structures that surrounds a star, collecting its radiation to power a civilization. A Dyson swarm around the Sun could potentially enable a civilization a billion times larger than is possible on Earth. Likewise, Dyson swarms around one billion stars would bring humanity approximately 1018 (one billion–billion) times more energy per unit time.

Space colonies could also increase the amount of time available for human civilization. Earth will remain habitable for a few billion more years (O’Malley-James et al. 2014). Stars will continue shining for about 1014 more years (Adams 2008). That gives us an additional 105 times more energy, for a total of 1023 times more energy than is available on Earth. After the stars fade, other energy sources may be available. And even if our current universe eventually becomes uninhabitable, it may be possible to move to other universes (Kaku 2005). The physics here is speculative, but it cannot be ruled out, and hence there is a nonzero chance of a literally infinite opportunity for space colonization (Baum 2010a).

Whether the opportunity is infinite or merely, say, 1023 times larger than what can be done on Earth, the opportunity is clearly immense. As long as space colonization is an improvement (Sect. 8.3.1), then it would seem that the consequentialist should prioritize space colonization. The sooner space colonization begins, the more of its immense opportunity can be gained. Indeed, Ćirković (2002) estimates 5 × 1046 human lifetimes are lost for every century in which space colonization is delayed.

There can also be large value for space colonization under ecocentric intrinsic value. It is sometimes argued that Earth would be better off without humans. For example, the Voluntary Human Extinction Movement states that “Phasing out the human race by voluntarily ceasing to breed will allow Earth’s biosphere to return to good health” (http://vhemt.org, accessed 25 October 2015). However, this makes sense only if extraterrestrial locations are not intrinsically valued. Otherwise, exterminating humanity ruins the opportunity for humans to bring flourishing ecosystems into outer space. Terraforming other planets or bringing ecosystems into Dyson swarms could bring immense amounts of ecosystem flourishing.

#### Outer Space is considered anything that sits above the Earth’s atmosphere

Betz 21 [(Eric Betz, Science & tech writer for @Discovermag, @Astronomymag and others), “The Kármán Line: Where does space begin?”, Astronomy, https://astronomy.com/news/2021/03/the-krmn-line-where-does-space-begin, March 5, 2021] SS

These days, spacecraft are venturing into the final frontier at a record pace. And a deluge of paying space tourists should soon follow. But to earn their astronaut wings, high-flying civilians will have to make it past the so-called Kármán line. This boundary sits some 62 miles (100 kilometers) above Earth's surface, and it's generally accepted as the place where Earth ends and outer space begins.