# 1NC v Zoe

## 1---T

T General Rez

#### They affirmative may only defend the resolution as a general principle. To clarify, they may not defend a policy action.

#### 1] Unjust means –

Cambridge, [“Meaning of unjust in English” Cambridge Dictionary, [https://dictionary.cambridge.org/us/dictionary/english/unjust]](https://dictionary.cambridge.org/us/dictionary/english/unjust%5d) Recut Sachin

unjust adjective US /ʌnˈdʒʌst/ not morally right; not fair: New laws will protect employees against unjust dismissals. (Definition of unjust from the Cambridge Academic Content Dictionary © Cambridge University Press)

#### 2] Resolved, in LD, refers to a statement of value---policymaking fails without an actor.

UPitt, [University Of Pittsburgh Communications Services Webteam, copyright 2015-21, "Basic Definitions," Department of Communication , <https://www.comm.pitt.edu/basic-definitions>] Recut Sachin

Affirmative/Pro. The side that “affirms” the resolution (is “pro” the issue). For example, the affirmative side in a debate using the resolution of policy, Resolved: The United States federal government should implement a poverty reduction program for its citizens, would advocate for federal government implementation of a poverty reduction program. Argument. A statement, or claim, followed by a justification, or warrant. Justifications are responses to challenges, often linked by the word “because.” Example: The sun helps people, because the sun activates photosynthesis in plants, which produce oxygen so people can breathe. Constructive Speech. The first speeches in a debate, where the debaters “construct” their cases by presenting initial positions and arguments. Cross-examination. Question and answer sessions between debaters. Debate. A deliberative exercise characterized by formal procedures of argumentation, involving a set resolution to be debated, distinct times for debaters to speak, and a regulated order of speeches given. Evidence. Supporting materials for arguments. Standards for evidence are field-specific. Evidence can range from personal testimony, statistical evidence, research findings, to other published sources. Quotations drawn from journals, books, newspapers, and other audio-visuals sources are rather common. Negative/Con. The side that “negates” the resolution (is “con” the issue). For example, the negative side in a debate using the resolution of fact, Resolved: Global warming threatens agricultural production, would argue that global warming does not threaten agricultural production. Preparation Time. Debates often necessitate time between speeches for students to gather their thoughts and consider their opponent's arguments. This preparation is generally a set period of time and can be used at any time by either side at the conclusion of a speech. Rebuttal Speech. The last speeches in a debate, where debaters summarize arguments and draw conclusions about the debate. Resolution. A specific statement or question up for debate. Resolutions usually appear as statements of policy, fact or value. Statement of policy. Involves an actor (local, national, or global) with power to decide a course of action. For example, Resolved: The United States federal government should implement a poverty reduction program for its citizens. Statement of fact. Involves a dispute about empirical phenomenon. For example, Resolved: Global warming threatens agricultural production. Statement of value. Involves conflicting moral dilemmas. For example, Resolved: The death penalty is a justified method of punishment. Topic. A general issue to debate. Topics could be “The Civil War,” “genetic engineering,” or “Great Books.”

#### 3] “is” is a linking verb---not an action verb. Action is incoherent.

#### Vote Neg

#### 1] NSDA Rules---anything else justifies 10 hour constructive and 20 minutes of prep---constitutive of rules and procedural fairness in debate. The aff burden –

Halvorson and Koshy 20, [Dr. Seth Halvorson & Cherian Koshy, 10-28-2020, National Speech & Debate Association, <https://www.speechanddebate.org/lincoln-douglas-debate-textbook/lincoln-douglas_textbook//> Accessed: 02-23-2022] Sachin

Affirmative Case

Also called: 1AC, AC

Six minutes

The debater outlines reasons for why the resolution is valid as a general principle including a value premise, criterion, and arguments or contentions.

#### 2] Limits – Letting affs add anything to the aff explodes limits – truisms like "2+2=4” or "racism bad" suddenly become additional aff ground if you meet the floor of the rez – means even if we have ground, the aff will always win truth claims which outweigh on sheer probability. AND lets the affirmative contradict – adding “not” or replacing “unjust” with “just” suddenly becomes topical when we do away with the words in the rez.

#### 3] Ground – wrecks all neg arguments – smart affs under their interp will just add planks outside of the topic to solve DAs or wreck CP competition – planks about R&D funding solves innovation, random reforms could solve econ or warming – makes advantage CPs T. Meeting the floor of the rez is not sufficient if there is no ceiling to topical affirmatives. Allowing them to end all appropriation proves the violation to extra T---the rez is abt private appropriation not all of it.

#### 4] TVA – Move to policy. Or stay in LD and defend a phil aff.

#### T is DTD and No RVIs – The whole aff violates and its their burden to be topical---must proactively prove the aff is good since the entire debate follows it. Means T comes first---our abuse was because of theirs and it affects the largest portion of the debate.

#### Use Competing Interps – Anything else lets the judge intervene and pick whatever def is best under their bs meter leading to a proliferation of abuse.

## 2---CP

#### Plan Text: States ought to adopt a binding international agreement that bans the appropriation of outer space by private entities except for labor commercial constellations by establishing outer space as a global commons subject to regulatory delimiting and global liability.

#### Data from commercial satellites are key to preventing modern slavery---subjects people to horrific structural violence that can’t be explained by any single theory.

Beaumont 18, [Peter Beaumont, senior reporter on the Guardian's Global Development desk. He has reported extensively from conflict zones including Africa, the Balkans and the Middle East and is the author of *The Secret Life of War: Journeys Through Modern Conflict* ("Experts reach for the stars to fight slavery as satellite pictures tell all," 3-19-2018, *The Guardian*, <https://www.theguardian.com/global-development/2018/mar/19/experts-fight-slavery-satellite-pictures-south-asia-brick-belt>)] Recut Sachin

It has been used to identify suspected weapons sites, monitor troop movements, and chronicle war damage and allegations of genocide. Now, however, satellite imagery is being used to tackle one of the developing world’s most persistent problems – the scourge of modern slavery. An innovative programme involving space imaging and anti-slavery experts at the University of Nottingham has established the prevalence of sites in industries associated with slavery, including Asian brick kilns and fishing camps, in an approach they suggest may be applicable to other forms of compelled labour. In the widest application of the idea so far, the team has used commercial satellite imagery to build up the first proper estimate of the number of people working as bonded labourers in the area that runs across the clay fields of Asia through Pakistan, India and Nepal, known as the “brick belt”. The oval brick kilns – easily identifiable from space – often employ dozens of people, including whole families, lured with the promise of work and an advance on their salaries. Once at the hazardous and highly polluted camps, however, they find they are little more than unpaid slaves, prevented from leaving and subjected to rape, violence and threats. The project is the brainchild of Dr Kevin Bales, an anti-slavery researcher who has long nurtured the hope of using satellites to track modern slavery and nudge governments into action with the evidence gleaned. Bales, one of the first researchers to attempt to quantify the number of people caught up in modern slavery, already knew from examining satellite pictures that different kinds of slavery were identifiable at sites including kilns, strip mines and quarries. “The brick kilns in Pakistan I looked at, and sites like charcoal camps in Brazil, are so big – and had such unique patterns – that I realised you could see them from space,” said Bales. “I had spoken to Google but it had always been a question of money. When I moved to Nottingham two years ago, they said: ‘You now have a geospatial institute with people who have worked for the UK space agency.’ “We know the proportion of people – what we don’t know is the exact number and all of the locations.” Describing the practice of modern slavery in brick kilns, which he has researched first-hand, Bales said: “It is normally done through an offer of work. Individual migrants and migrant families are told they can live and work, and that food will be provided and they will be given a bit of an advance. “But then, once on site, they find there a couple of thugs who have complete physical control, and kids are to work in the kilns. Rape of women and girls is common.” The brick kilns project is a development of Bales’ earlier efforts to use imaging to identify fishing camps in the [Sundarbans](https://www.theguardian.com/environment/2016/mar/02/thousands-to-march-protest-coal-plant-threat-bangladeshs-sundarbans-forest) of Bangladesh, where [child slavery is common](https://www.theguardian.com/global-development/2016/dec/07/child-labour-bangladesh-factories-rampant-overseas-development-institute-study). “With the fishing camps, suddenly we were able to say to the authorities, ‘Here are five more camps to say that you have no record of.’” Doreen Boyd, one of the imaging experts involved, said: “[The brick kilns project] was proof of concept. It was relatively easy because they are so distinct. Next we want to develop the idea to map other activities using slavery, including mining and charcoal camps. “So far, we have been dictating where – for instance – the brick belt is. The next step is to flip the thinking and ask the machine to tell us exactly where the brick belt is.” Bales is more ambitious still, asking whether technologies like spectroscopic analysis of satellite images might be able to detect where informal gold mines are in countries like Ghana, by tracking the contamination of rivers with the mercury they use. Jakub Sobik of Anti-Slavery International described the tracking of industries associated with modern slavery from space as particularly useful in identifying unknown camps in places where governments were more willing to work against issues like child slavery and forced labour.

#### Commercial Satellites are critical to provide data to anti-slavery movements---allows activists to pinpoint where it happens.

Jackson 19, [Bethany Jackson, Geography PhD Candidate, the Rights Lab at the University of Nottingham, ("Slavery from Space: A Remote Sensing Approach to Ending Modern Slavery," 3-7-2019, *Delta 8.7*, <https://delta87.org/2019/03/slavery-space-remote-sensing-approach-ending-modern-slavery/>) Accessed: 2-8-2022] Sachin

The ability to monitor patterns on the surface of the Earth will only improve due to the technological innovations taking place on satellite platforms, including improvements to the spatial, spectral and temporal resolutions. Continued investigation of vulnerabilities to modern slavery will require fast responses, and AI will enable the fast processing times that we need to monitor numerous data sources and integrate them with satellite imagery to fully reveal slavery risk and vulnerability.

. In addition, the costs associated with the production and operation of spacecraft are continuing to decline with the production of “smallsats” and constellations of satellites, which are beneficial to the timescales in which data are collected. Usually these are operated by commercial providers, but these companies [regularly partner with humanitarian and human rights agencies](https://library.theengineroom.org/satellite-imagery-human-rights/) to investigate crises and abuses.

#### Condo is good proving a CP is bad doesn’t prove the plan is good, a logical policy maker can always choose not to act. Logic outweighs – it’s the basis of all rational arguments.

#### Pics Good –

#### 1] Real world – policy makers revise policies to exclude certain parts all the time

#### 2] Clash – pics focus the debate on specific parts of the aff that allows for nuanced in depth clash

## 3---DA

#### A lack of appropriation scares investors and research---spills over to broader space.

Freeland 05, [Steven Freeland, 2005, (BCom, LLB, LLM, University of New South Wales; Senior Lecturer in International Law, University of Western Sydney, Australia; and a member of the Paris-based International Institute of Space Law), “Up, Up and … Back: The Emergence of Space Tourism and Its Impact on the International Law of Outer Space.”, Chicago Journal of International Law: Vol. 6: No. 1, Article 4. 2005. JDN, <https://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=1269&context=cjil//> Accessed: 02-22-22] Recut Sachin

V. THE NEED FOR CELESTIAL PROPERTY RIGHTS? ¶ The fundamental principle of "non-appropriation" upon which the international law of outer space is based stems from the desire of the international community to ensure that outer space remains an area beyond the jurisdiction of any state(s). Similar ideals emerge from UNCLOS (in relation to the High Seas) as well as the Antarctic Treaty, 42 although in the case of the latter treaty, it was finalised after a number of claims of sovereignty had already been made by various States and therefore was structured to "postpone" rather than prejudice or renounce those previously asserted claims.43 In the case of outer space, its exploitation and use is expressed in Article I of the Outer Space Treaty to be "the province of all mankind," a term whose meaning is not entirely clear but has been interpreted by most commentators as evincing the desire to ensure that any State is free to engage in space activities without reference to any sovereign claims of other States. This freedom is reinforced by other parts of the same Article and is repeated in the Moon Agreement (which also applies to "other celestial bodies within the solar system, other than the earth")." Even though both the scope for space activities and the number of private participants have expanded significantly since these treaties were finalised, it has still been suggested that the nonappropriation principle constitutes "an absolute barrier in the realization of every kind of space activity., 4 ' The amount of capital expenditure required to research, scope, trial, and implement a new space activity is significant. To bring this activity to the point where it can represent a viable "stand alone" commercial venture takes many years and almost limitless funding. From the perspective of a private enterprise contemplating such an activity, it would quite obviously be an important element in its decision to devote resources to this activity that it is able to secure the highest degree of legal rights in order to protect its investment. Security of patent and other intellectual property rights, for example, are vital prerequisites for private enterprise research activity on the ISS, and these rights are specifically addressed by the ISS Agreement between the partners to the project and were applicable to the experiments undertaken by Mark Shuttleworth when he was onboard the ISS.46

#### Unpredictable shifts ruin Confidence---prevents growth and recovery.

Sarah Chaney Cambon 21, Reporter on The Wall Street Journal's Economics Team, BA in Business Journalism from the University of North Carolina-Chapel Hill, “Capital-Spending Surge Further Lifts Economic Recovery”, Wall Street Journal, 6/27/2021, https://www.wsj.com/articles/capital-spending-surge-further-lifts-economic-recovery-11624798800

Business investment is emerging as a powerful source of U.S. economic growth that will likely help sustain the recovery.

Companies are ramping up orders for computers, machinery and software as they grow more confident in the outlook.

Nonresidential fixed investment, a proxy for business spending, rose at a seasonally adjusted annual rate of 11.7% in the first quarter, led by growth in software and tech-equipment spending, according to the Commerce Department. Business investment also logged double-digit gains in the third and fourth quarters last year after falling during pandemic-related shutdowns. It is now higher than its pre-pandemic peak.

Orders for nondefense capital goods excluding aircraft, another measure for business investment, are near the highest levels for records tracing back to the 1990s, separate Commerce Department figures show.

“Business investment has really been an important engine powering the U.S. economic recovery,” said Robert Rosener, senior U.S. economist at Morgan Stanley. “In our outlook for the economy, it’s certainly one of the bright spots.”

Consumer spending, which accounts for about two-thirds of economic output, is driving the early stages of the recovery. Americans, flush with savings and government stimulus checks, are spending more on goods and services, which they shunned for much of the pandemic.

Robust capital investment will be key to ensuring that the recovery maintains strength after the spending boost from fiscal stimulus and business reopenings eventually fades, according to some economists.

Rising business investment helps fuel economic output. It also lifts worker productivity, or output per hour. That metric grew at a sluggish pace throughout the last economic expansion but is now showing signs of resurgence.

The recovery in business investment is shaping up to be much stronger than in the years following the 2007-09 recession. “The events especially in late ’08, early ’09 put a lot of businesses really close to the edge,” said Phil Suttle, founder of Suttle Economics. “I think a lot of them said, ‘We’ve just got to be really cautious for a long while.’”

Businesses appear to be less risk-averse now, he said.

After the financial crisis, businesses grew by adding workers, rather than investing in capital. Hiring was more attractive than capital spending because labor was abundant and relatively cheap. Now the supply of workers is tight. Companies are raising pay to lure employees. As a result, many firms have more incentive to grow by investing in capital.

Economists at Morgan Stanley predict that U.S. capital spending will rise to 116% of prerecession levels after three years. By comparison, investment took 10 years to reach those levels once the 2007-09 recession hit.

Company executives are increasingly confident in the economy’s trajectory. The Business Roundtable’s economic-outlook index—a composite of large companies’ plans for hiring and spending, as well as sales projections—increased by nine points in the second quarter to 116, just below 2018’s record high, according to a survey conducted between May 25 and June 9. In the second quarter, the share of companies planning to boost capital investment increased to 59% from 57% in the first.

“We’re seeing really strong reopening demand, and a lot of times capital investment follows that,” said Joe Song, senior U.S. economist at BofA Securities.

Mr. Song added that less uncertainty regarding trade tensions between the U.S. and China should further underpin business confidence and investment. “At the very least, businesses will understand the strategy that the Biden administration is trying to follow and will be able to plan around that,” he said.

#### Decline fuels nationalism and undermines deterrence---great power war

Lawrence H. **Summers** **17**. Secretary of the Treasury (1999-2001) and Director of the US National Economic Council (2009-2010), former president of Harvard University, where he is currently University Professor. “Will the Center Hold?” *Project Syndicate*. 12/21/2017. <https://www.project-syndicate.org/onpoint/recession-or-financial-crisis-political-fallout-by-lawrence-h--summers-2017-12?a_la=english&a_d=5a37edac78b6c709b8d260dd&a_m=&a_a=click&a_s=&a_p=%2Fsection%2Feconomics&a_li=recession-or-financial-crisis-political-fallout-by-lawrence-h--summers-2017-12&a_pa=section-commentaries&a_ps>=

There is also the question of financial institutions’ health. While major firms appear far better capitalized and far more liquid than they were prior to the crisis, market indicators of risk suggest we may not be quite as far out of the woods as many suppose. Despite apparently large increases in capital and consequent declines in leverage, it does not appear that bank stocks have become far less volatile, as financial theory would predict if capital had become abundant. Financial markets are widely cited, including by US President Donald Trump, as providing comfort in the current moment. But a relapse into **financial crisis** would likely have **catastrophic** political **consequences**, sweeping into power even more **toxic populist nationalists**. In such a scenario, the center **will not hold**. Beyond the kind of near-term risks that markets price, there is the question of an economic downturn. The good news is that sentiment is positive in most of the world. Inflation seems unlikely to accelerate out of control and force a lurch toward contractionary fiscal and monetary policies. Most forecasters regard the near-term risk of recession as low. But recessions are never predicted successfully, even six months in advance. The current expansion in the US has gone on for a long time, and the risk of policy mistakes there is very real, owing to highly problematic economic leadership in the Trump administration. I would put the annual probability of recession in the coming years at 20-25%. So the odds are better than even that the US economy will fall into recession in the next three years. The risk from a purely economic point of view is that the traditional strategy for battling recession – a reduction of 500 basis points in the federal funds rate – will be unavailable this year, given the zero lower bound on interest rates. Nor is it clear that the will or the room for fiscal expansion will exist. This means that the next recession, like the last, may well be **protracted and deep**, with **severe** global consequences. And the political capacity for a global response, like that on display at the London G-20 Summit in 2009, appears to be **absent** as well. Just compare the global visions of US President Barack Obama and UK Prime Minister Gordon Brown back then with those of Trump and Prime Minister Theresa May today. I shudder to think what a serious recession will mean for politics and policy. It is hard to imagine avoiding a resurgence of **protectionism, populism, and scapegoating**. In such a scenario, as with another financial crisis, the center will not hold. But the greatest risk in the next few years, I believe, is neither a market meltdown nor a recession. It is instead a **political doom loop** in which voters’ conclusion that government does not work effectively for them becomes a self-fulfilling prophecy. Candidates elected on platforms of resentment delegitimize the governments they lead, fueling further resentment and even more problematic new leaders. Cynicism pervades. How else can one explain how the candidacy of Roy Moore for a US Senate seat? Moore, who was twice dismissed for cause from his post on the Alabama Supreme Court, and who is credibly charged with sexually assaulting teenage girls when he was in his 30s, could enter the US Senate as many of his colleagues look the other way. If a country’s citizens lose confidence in their government’s ability to improve their lives, the government has an incentive to **rally popular support** by focusing attention on threats that only it can address. That is why in societies pervaded by anger and uncertainty about the future, the temptation to stigmatize minority groups increases. And it is why there is a tendency for officials to **magnify foreign threats**. We are seeing this phenomenon all over the world. Russian President Vladimir Putin, Turkish President Recep Tayyip Erdoğan, and Chinese President Xi Jinping have all made nationalism a central part of their governing strategy. So, too, has Trump, who has explicitly rejected the international community in favor of the idea that there is only a ceaseless struggle among nation-states for competitive advantage. When the world’s preeminent power, having upheld the idea of international community for nearly 75 years, rejects it in favor of ad hoc deal making, others have no choice but to follow suit. Countries that can no longer rely on the US feel pressure to provide for their own security. America’s adversaries inevitably will seek to **fill the voids** left behind as the US **retrenches**.

#### Reasonability on 1AR shells – 1AR theory is very aff-biased because the 2AR gets to line-by-line every 2NR standard with new answers that never get responded to– reasonability checks 2AR sandbagging by preventing really abusive 1NCs while still giving the 2N a chance.

## Case

### Top

Non-Inherent – Space is alr a glpobal commons regime. Independently proves no solvency---if the OST as a GC regime wasn’t followed, why wld ur plan?

#### China cheats---durable fiat doesn’t solve---they create new laws post-plan.

McDevitt 19, [Michael McDevitt is a Senior Fellow at CNA, a Washington DC area non-profit research and analysis company. During his 21 years at CNA he served as a Vice President responsible for strategic analyses, especially in East Asia and the Middle East. He has been involved in US security policy and strategy in the Asia-Pacific for the last 28 years, in both government policy positions and, following his retirement from the US Navy, as an analyst and commentator. He also attended the National War College and spent a year as a Chief of Naval Operations Fellow on the Strategic Study Group at the Naval War College. April 2019. <https://www.uscc.gov/sites/default/files/transcripts/April%2025%2C%202019%20Hearing%20Transcript%20%282%29.pdf>] Recut Sachin

But there one huge caveat to that statement, which is international law is fine as long as it moves their ball forward on what they hope to achieve. If it doesn't, suddenly, domestic law takes priority, and domestic law coming out of the National People's Congress can be cooked up pretty quickly. And so, they decide which law, which approach they want to use in the South China Sea or East China Sea, whichever one moves the ball most effectively.

And so, one would have to worry about — now this may be a bridge too far but — a Chinese domestic space law. In fact, one may exist. I have no idea if it does or doesn't. But it would counteract any agreements that are either in place or that could be made.

## At: Debris

### 1NC---At: Debris

#### Time frame – Kessler effect 200 years away.

Stube, 17 - PhD in law @ Johann Wolfgang Goethe University Frankfurt

Peter Stubbe, State Accountability for Space Debris: A Legal Study of Responsibility for Polluting the Space Environment and Liability for Damage Caused by Space Debris, Koninklijke Brill Publishing, ISBN 978-90-04-31407-8, p. 27-31

The prediction of possible scenarios of the future evolution of the debris p o p ulation involves many uncertainties. Long-term forecasting means the prediction of the evolution of the future debris environment in time periods of decades or even centuries. Predictions are based on models84 that work with certain assumptions, and altering these parameters significantly influences the outcomes of the predictions. Assumptions on the future space traffic and on the initial object environment are particularly critical to the results of modeling efforts.85 A well-known pattern for the evolution of the debris population is the so-called Kessler effect’, which assumes that there is a certain collision probability among space objects because many satellites operate in similar orbital regions. These collisions create fragments, and thus additional objects in the respective orbits, which in turn enhances the risk of further collisions. Consequently, the num ber of objects and collisions increases exponentially and eventually results in the formation of a self-sustaining debris belt aroundthe Earth. While it has long been assumed that such a process of collisional cascading is likely to occur only in a very long-term perspective (meaning a time 1 n of several hundred years),87 a consensus has evolved in recent years that an uncontrolled growth of the debris population in certain altitudes could become reality much sooner.88 In fact, a recent cooperative study undertaken by various space agencies in the scope of i a d c shows that the current l e o debris population is unstable, even if current mitigation measures are applied. The study concludes:

Even with a 90% implementation of the commonly-adopted mitigation measures [...] the l e o debris population is expected to increase by an average of **30% in the next 200 years.** The population growth is primarily driven by catastrophic collisions between 700 and 1000 km altitudes and such collisions are likely to occur every 5 to 9 years.89

#### Probability – 0.1% chance of a collision.

Salter 15 – Assistant Professor of Economics & Comparative Economics Research Fellow at Texas Tech University

Alexander W. Salter, Space Debris: A Law and Economics Analysis of the Orbital Commons, Mercatus Working Paper, Mercatus Center at George Mason University, 19 STAN. TECH. L. REV. 221 (2016), <https://law.stanford.edu/wp-content/uploads/2017/11/19-2-2-salter-final_0.pdf>

\*numbers replaced with English words

The probability of a collision is currently **low**. Bradley and Wein estimate that the **maximum probability** in LEO of a collision over the lifetime of a spacecraft remains **below one in one thousand**, conditional on continued compliance with NASA’s deorbiting guidelines.3 However, the possibility of a future “snowballing” effect, whereby debris collides with other objects, further congesting orbit space, remains a significant concern.4 Levin and Carroll estimate the average immediate destruction of wealth created by a collision to be approximately $30 million, with an additional $200 million in damages to all currently existing space assets from the debris created by the initial collision.5 The expected value of destroyed wealth because of collisions, currently small because of the low probability of a collision, can quickly become significant if future collisions result in runaway debris growth.

#### Non-Unique---cascading already started---doesn’t tip over to the impacts. Alt causes---careless states---China/NoKo/Iran. Even then, private entities are necessary to space. Thumps.

1AC Johnson [Durham Reads Blue], Les Johnson 13, Deputy Manager for NASA's Advanced Concepts Office at the Marshall Space Flight Center, Co-Investigator for the JAXA T-Rex Space Tether Experiment and PI of NASA's ProSEDS Experiment, Master's Degree in Physics from Vanderbilt University, Popular Science Writer, and NASA Technologist, Frequent Contributor to the Journal of the British Interplanetary Sodety and Member of the American Institute of Aeronautics and Astronautics, National Space Society, the World Future Society, and MENSA, Sky Alert!: When Satellites Fail, p. 9-12 [language modified]

Whatever the initial cause, the result may be the same. A satellite destroyed in orbit will break apart into thousands of pieces, each traveling at over 8 km/sec. This virtual shotgun blast, with pellets traveling 20 times faster than a bullet, will quickly spread out, with each pellet now following its own orbit around the Earth. With over 300,000 other pieces of junk already there, the tipping point is crossed and a runaway series of collisions begins. A few orbits later, two of the new debris pieces strike other satellites, causing them to explode into thousands more pieces of debris. The rate of collisions increases, now with more spacecraft being destroyed. Called the "Kessler Effect", after the NASA scientist who first warned of its dangers, these debris objects, now numbering in the millions, cascade around the Earth, destroying every satellite in low Earth orbit. Without an atmosphere to slow them down, thus allowing debris pieces to bum up, most debris (perhaps numbering in the millions) will remain in space for hundreds or thousands of years. Any new satellite will be threatened by destruction as soon as it enters space, effectively rendering many Earth orbits unusable. But what about us on the ground? How will this affect us? Imagine a world that suddenly loses all of its space technology. If you are like most people, then you would probably have a few fleeting thoughts about the Apollo-era missions to the Moon, perhaps a vision of the Space Shuttle launching astronauts into space for a visit to the International Space Station (ISS), or you might fondly recall the "wow" images taken by the orbiting Hubble Space Telescope. In short, you would know that things important to science would be lost, but you would likely not assume that their loss would have any impact on your daily life. Now imagine a world that suddenly loses network and cable television, accurate weather forecasts, Global Positioning System (GPS) navigation, some cellular phone networks, on-time delivery of food and medical supplies via truck and train to stores and hospitals in virtually every community in America, as well as science useful in monitoring such things as climate change and agricultural sustainability. Add to this the [disabling] ~~crippling~~ of the US military who now depend upon spy satellites, space-based communications systems, and GPS to know where their troops and supplies are located at all times and anywhere in the world. The result is a nightmarish world, **one step away** from nuclear war, economic disaster, and potential mass starvation. This is the world in which we are now perilously close to living. Space satellites now touch our lives in many ways. And, unfortunately, these satellites are extremely vulnerable to risks arising from a half-century of carelessness regarding protecting the space environment around the Earth as well as from potential adversaries such as China, North Korea, and Iran. No government policy has put us at risk. It has not been the result of a conspiracy. No, we are dependent upon them simply because they offer capabilities that are simply unavailable any other way. Individuals, corporations, and governments found ways to use the unique environment of space to provide services, make money, and better defend the country. In fact, only a few space visionaries and futurists could have foreseen where the advent of rocketry and space technology would take us a mere 50 years since those first satellites orbited the Earth. It was the slow progression of capability followed by dependence that puts us at risk. The exploration and use of space began in 1957 with the launch of Sputnik 1 by the Soviet Union. The United States soon followed with Explorer 1. Since then, the nations of the world have launched over 8,000 spacecraft. Of these, several hundred are still providing information and services to the global economy and the world's governments. Over time, nations, corporations, and individuals have grown accustomed to the services these spacecraft provide and many are dependent upon them. Commercial aviation, shipping, emergency services, vehicle fleet tracking, financial transactions, and agriculture are areas of the economy that are increasingly reliant on space. Telestar 1, launched into space in the year of my birth, 1962, relayed the world's first live transatlantic news feed and showed that space satellites can be used to relay television signals, telephone calls, and data. The modern telecommunications age was born. We've come a long way since Telstar; most television networks now distribute most, if not ali, of their programming via satellite. Cable television signals are received by local providers from satellite relays before being sent to our homes and businesses using cables. With 65% of US households relying on cable television and a growing percentage using satellite dishes to receive signals from direct-to-home satellite television providers, a large number of people would be cut off from vital information in an emergency should these satellites be destroyed. And communications satellites relay more than television signals. They serve as hosts to corporate video conferences and convey business, banking, and other commercial information to and from all areas of the planet. The first successful weather satellite was TIROS. Launched in 1960, TIROS operated for only 78 days but it served as the precursor for today's much more long-lived weather satellites, which provide continuous monitoring of weather conditions around the world. Without them, providing accurate weather forecasts for virtually any place on the globe more than a day in advance would be nearly impossible. Figure !.1 shows a satellite image of Hurricane Ivan approaching the Alabama Gulf coast in 2004. Without this type of information, evacuation warnings would have to be given more generally, resulting in needless evacuations and lost economic activity (from areas that avoid landfall) and potentially increasing loss of life in areas that may be unexpectedly hit. The formerly top-secret Corona spy satellites began operation in 1959 and provided critical information about the Soviet Union's military and industrial capabilities to a nervous West in a time of unprecedented paranoia and nuclear risk. With these satellites, US military planners were able to understand and assess the real military threat posed by the Soviet Union. They used information provided by spy satellites to help avert potential military confrontations on numerous occasions. Conversely, the Soviet Union's spy satellites were able to observe the United States and its allies, with similar results. It is nearly impossible to move an army and hide it from multiple eyes in the sky. Satellite information is critical to all aspects of US intelligence and military planning. Spy satellites are used to monitor compliance with international arms treaties and to assess the military activities of countries such as China, Russia, Iran, and North Korea. Figure 1.2 shows the capability of modem unclassified space-based imaging. The capability of the classified systems is presumed to be significantly better, providing much more detail. Losing these satellites would place global militaries on high alert and have them operating, literally, in the blind. Our military would suddenly become vulnerable in other areas as well. GPS, a network of 24-32 satellites in medium-Earth orbit, was developed to provide precise position information to the military, and it is now in common use by individuals and industry. The network, which became fully operational in 1993, allows our armed forces to know their exact locations anywhere in the world. It is used to guide bombs to their targets with unprecedented accuracy, requiring that only one bomb be used to destroy a target that would have previously required perhaps hundreds of bombs to destroy in the pre-GPS world (which, incidentally, has resulted in us reducing our stockpile of non-GPS-guided munitions dramatically). It allows soldiers to navigate in the dark or in adverse weather or sandstorms. Without GPS, our military advantage over potential adversaries would be dramatically reduced or eliminated.

## At: Corporate Colonialism

First is Defense –

1] No Link – We don’t actively increase private space---insofar as the squo hasn’t seen the impacts, you vote neg.

2] Being able to appropriate doesn’t solve the mindset of these CEOs

3] Alt Causes – Literally almost every country being capitalist.

4] No Impact to literally any of the “recreating imperialism” stuff absent a framing to evaluate things

5] Inevitable – All of their cards talk about governments and public entities partaking in colonization as well---they just didn’t highlight some of it.

On Werlhof – not specific to space.

Next is offense –

## 1NC---SpaceCol Good – Colonization

#### The 1AC treats space as a “commons” by both governments and private entities.

#### 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.

#### 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].

#### Next is private sector Key –

#### But private property is key to transform short-term goals into settlement.

Jonckheere 18 [Evarist Jonckheere, Master of Laws, Ghent University, “The Privatization of Outer Space and the Consequences for Space Law,” 2018, Master’s Thesis, https://libstore.ugent.be/fulltxt/RUG01/002/479/330/RUG01-002479330\_2018\_0001\_AC.pdf, EA]

The reality is that private enterprises are already moving in a direction that will need a similar regime. So, the big legal uncertainties concerning space property should be dealt with sooner rather than later.194 Legal certainty on an international level would greatly benefit the space industry. The existing risks of space ventures would be minimized as private companies would know what they are up against. This could give a boost to private enterprises to be more technologically innovative and entrepreneurial when it comes to outer space exploration. The prospect of gaining property rights might push them to undergo more fully realized expeditions for larger and fixed rewards. The legal regime should however ensure fairness and order between the competing space entrepreneurs.195

## 1NC---Cap Good – Climate

#### Growth forces structural changes that solve environmental damage.

Faik BILGILI ET AT. 16. \*\*PhD in Economics, The City University of New York and Istanbul University; professor of Economics, Erciyes University, Turkey. \*\* Emrah Kocak, Researcher, Evran University. \*\*Ümit Bulut, PhD in Economics, Gazi University and Professor of Economics, Ahi Evran University. “The dynamic impact of renewable energy consumption on CO2 emissions: A revisited Environmental Kuznets Curve approach.” *Renewable and Sustainable Energy Reviews* 54(Feb): 838-9. Emory Libraries.

Some seminal papers reveal that, within the process of economic growth, environmental pollution level first scales up and later scales down. This is an inverted U-shaped relationship between GDP per capita and pollution level (Grossman and Krueger [3,4], Panayotou [5], Shafik [6], Selden and Song [7]). Since this relationship resembles the relationship between GDP per capita and income inequality produced by Kuznets [8], Panayotou [5] calls it Environmental Kuznets Curve (EKC).

According to the EKC hypothesis, the level of environmental pollution initially intensifies because of economic growth, later tampers after GDP per capita reaches a threshold value (Panayotou [5], Suri and Chapman [9]; Stern [10]). Therefore, this hypothesis implies a dynamic process in which structural change occurs together with economic growth (Dinda [2]). Grossman and Krueger [3] first clarify how the EKC arises. They explore that economic growth affects environmental quality through three channels: (i) scale effect, (ii) structural effect, and (iii) technological effect. Fig. 1 presents the EKC within the periods of (i), (ii) and (iii).

According to the scale effect, given the level of technology, more resources and inputs are employed to produce more commodities at the beginning of economic growth path. Hence, more energy resources and production will induce more waste and pollutant emissions, and the level of environmental quality will get worse (Torras and Boyce [11], Dinda [2], Prieur [12]). The structural effect states that the economy will have a structural transformation, and economic growth will affect environment positively along with continuation of growth. In other words, as national production grows the structure of economy changes, and the share of less polluting economic activities increases gradually. Besides, an economy experiences a transition from capital-intensive industrial sectors to service sector and reaches technology-intensive knowledge economy (the final stage of the structural change). Due to the fact that technology-intensive sectors utilize fewer natural sources, the impact of these sectors on environmental pollution will be less. The last channel of the growth process is the technological effect channel. Since a high-income economy can allocate more resources for research and development expenditures, the new technological processes will emerge. Thus, the country will replace old and dirty technologies with new and clean technologies, and environmental quality will deepen (Borghesi [13], Copelan and Taylor [14]). Consequently, environmental pollution initially increases and later decreases as a result of scale, structural and technological effect emerging along with growth path.

Some studies of EKC hypothesis consider income elasticity of clean environment demand (Beckerman [15], Selden and Song [16], McConnel [17], Panayotou [18], Carson et al. [19], Brock and Taylor [20]). Accordingly, the share of low-income people’s expenditures for food and basic necessities is higher than that of high-income societies’ expenditures for the same type of commodities (Engel’s Law). As income level and life standards rise in conjunction with economic growth, the societies’ demand for clean environment advances. Besides, societies make often pressure on policy makers to protect the environment through new regulations. One might argue that, because of these reasons, clean environment is a luxury commodity and the demand elasticity of clean environment is higher than unity (Dinda [2]).

#### It's try or die for cap---new tech is key.

John Asafu-Adjaye 15. Associate professor of economics at the University of Queensland in Brisbane, Australia. Et al. “An Ecomodernist Manifesto”. April 2015. <https://www.ecomodernism.org/manifesto-english>

High-efficiency solar cells produced from earth-abundant materials are an exception and have the potential to provide many tens of terawatts on a few percent of the Earth’s surface. Present-day solar technologies will require substantial innovation to meet this standard and the development of cheap energy storage technologies that are capable of dealing with highly variable energy generation at large scales.

Nuclear fission today represents the only present-day zero-carbon technology with the demonstrated ability to meet most, if not all, of the energy demands of a modern economy. However, a variety of social, economic, and institutional challenges make deployment of present-day nuclear technologies at scales necessary to achieve significant climate mitigation unlikely. A new generation of nuclear technologies that are safer and cheaper will likely be necessary for nuclear energy to meet its full potential as a critical climate mitigation technology.

In the long run, next-generation solar, advanced nuclear fission, and nuclear fusion represent the most plausible pathways toward the joint goals of climate stabilization and radical decoupling of humans from nature. If the history of energy transitions is any guide, however, that transition will take time. During that transition, other energy technologies can provide important social and environmental benefits. Hydroelectric dams, for example, may be a cheap source of low-carbon power for poor nations even though their land and water footprint is relatively large. Fossil fuels with carbon capture and storage can likewise provide substantial environmental benefits over current fossil or biomass energies.

## Extra

### PIC

#### Constellations constitute appropriation---it competes.

Johnson 20, [Christopher D. Johnson, 3-5-2020, The Legal Status of MegaLEO Constellations and Concerns About Appropriation of Large Swaths of Earth Orbit, In: Pelton J. (eds) Handbook of Small Satellites. Springer Cham, <https://doi.org/10.1007/978-3-030-20707-6_95-1//> Accessed: 03-14-2022] Sachin

Conclusion

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

### Space Col

#### 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

### Neg o/w

#### Neg abuse outweighs Aff abuse – 1] Infinite prep time before round to frontline 2] 2AR judge psychology and 1st and last speech 3] Infinite perms and uplayering in the 1AR.

### DTA on 1ar

DTA on 1AR shells - They can blow up a blippy 20 second shell to 3 min of the 2AR while I have to split my time and can’t preempt 2AR spin which necessitates judge intervention and means 1AR theory is irresolvable so you shouldn’t stake the round on it