### 1 – T Actualization

#### Interp – 1ACs must demonstrate how they engage efforts to advocate the aff BEYOND scenario planning or embody methods against violence discussed outside of debate – exclusion and astetic tourism.

Shanara Reid-Brinkley 2020, “The Future is Black: Afropessimism, Fugitivity, and Radical Hope in Education”, Edited by Carl Grant, Ashley Woodson, Michael Dumas, https://books.google.com/books?id=SMHyDwAAQBAJ&pg=PR5&source=gbs\_selected\_pages&cad=2#v=onepage&q&f=false//WY

What lies in the wake" of competitive policy debate? How are Black debaters doing wake work? In the following section I take two examples from the National Debate Tournament Final Round to demonstrate wake work in competitive debate. Next, I ana-lyze the central argument in t

he final round characterizing the current clash of civilizations in debate and the ramifications of building community in debate. The final round of the 2017 National Debate Tournament was not just a com- petition, it was a referendum on the notion of a universal community and the structural exclusions and fairness issues that characterize the traditions and norms of competitive practice. Georgetown is affirmative in the debate and of fer a federal policy toward Alaska as an example of a specific proposal to combat catastrophic climate change. Based on the norms of competition, Georgetown presents a coherent affirmative argument providing an effective stasis point for fair deliberation of the climate change resolution. After the affirmative's speech Rutgers is allowed to cross-examine the speaker. Devane Murphy asks, “When is the first life saved as a result of the afffirmative]?” (2017). While Georgetown admits that a debate round cannot save lives directly, they argue that discuss- ing climate change policy is a valuable academic conversation. Rutgers then asks a series of questions about Georgetown's relationship as individuals to the people and places targeted by the federal policy they suggest: “Do you know any people in the arctic? Do you know any communities in the arctic? Can you name a family in the arctic?” (Murphy, 2017). While Georgetown answers no to these questions, they argue that a focus on debaters as individuals rather than the policy option they have presented is a distraction from the stasis point they have set for the debate. Using Afropessimism as a heuristic for engaging the resolution, debaters like Rutgers, reject any affirmation of the United States Federal Government. For these students, the federal government is always an unethical actor. In as much as the resolutional statement requires the affirmative to posit federal govern- ment action as an ethical response to public need, the vast majority of Black debaters refuse to take such a position. To combat this refusal to follow com- petitive norms, the Framework argument developed to confront the disruption of the normative form and content of policy debate competition. Framework debaters (mostly White and non-Black POCs) argue that if a team violates the norms of common practice they reject the normative stasis points for delibera-tion destroying the educational benefits of policy debate. Framework has operated as a strategic tool of capture and exclusion of Black thought in competitive debate. However, as "the holds multiply" so too does Black innovation. Rutgers' strategy in the final round took the form of the traditional Framework argument, but using Black thought to revise the content and turn it against the norms of traditional debate. Black Framework, Rutgers' strategy, argued that the affirmative must embody their politics and demonstrate how they directly engage in efforts to reduce climate change. Rutgers' argues that Georgetown is disconnected from their politics which is why they can advocate a policy that may affect the people of the Arctic while having little knowledge of those people or their lives. This kind of orientation toward policy action is dangerous, encouraging what Rutgers refers to as “ascetic tourism" by which debaters role-playing policy advocates “tour [the] trauma of various populations without ever acting to alleviate the harm” (Murphy, 2017). When Georgetown seeks further clarification of Black Framework, Rutgers' responds: "We provided an interpretation of what we think debate should look like, the same way in which when you're negative and you read my affirmative and you say we should not be able to do what we do. Very simple” (Murphy, 2017). Georgetown often runs the traditional Framework argument against Black Debate teams who fall outside their interpretation of a fair stasis point for debate about the resolution. Rutgers' turns the tables on Georgetown argu- ing that the traditional form of policy debate produces poor policy advocates and that Black Debate practice which centers embodied political practice is a superior method of training political advocates. Black Framework is an exam- ple of political theorizing from the hold. It operates from the perspective that anti-blackness is the stage upon which all political deliberation is played and then strategically identifies a tactic and an exigency for disruption. Rutgers capitalizes on the growing middle majority of judges who agree that Black Debate practice is an effective training tool for political advocacy. The use of Black Framework flips the script; it is a jarring (re)performance of the acts of exclusion that Black debaters have faced for decades. It took the form of Framework, paired with Black content, to argue that the neo-liberal norms of civil society would no longer get a free pass as the base frame for political negotiation. Rutgers turned a mirror on debate and offered a reflection of itself haunted by the specter of Black death. Arguing Black Framework was an act of bringing out the dead.

#### Violation – they have read this aff only in debate – you should be suspect of any argument about activism in debate when their neg wiki is policy and theory.

Graphical user interface, text, application, email

Description automatically generated

#### 1] Limits – there are an infinite amount of potential affs so you cherry-pick advocacies with no neg ground and I must prep all affs while they prep one which pigeonholes me to generics but there is a limited amount of ways you could actualize the aff.

#### 2] Cooption – commitment is essential to revolutionary success – turns case.

#### 1AC Beller 21 – actualization turns case

“Any would-be anticapitalist “we” runs this risk of coopting and cooptation from the get-go, particularly if it does not think about the materiality of social production from top to bottom”

“To take the internet as an autonomous technological force results in a species of platform fetishism that disavows both the histories and material conditions of its emergence, conditions that are, in short, those of screen culture and racial capitalism; this is to say that it, the internet, is the very means by which the capitalist suppression of global democracy (which is emphatically, economic democracy as well) has been accomplished and continues. If”

#### Fairness is good and prior –

#### A] debate’s a game that requires effective competition and negation, which makes their offense inevitable

#### B] fairness internal link turns clash and engagement.

#### C] Can’t weigh the aff—it’s just as likely that they’re winning it because we weren’t able to effectively prepare to defeat it.

#### D] Inescapable – the AC conforms to every norm of debate – speed, speech times, ballots – proves they value playing the game and isolating T as the one bad rule is arbitrary.

#### Accessibility – psychic violence is a prereq to being in debate

#### CI – a) brightlines are arbitrary and self-serving which doesn’t set good norms b) it collapses since weighing between brightlines rely on offense defense

#### DTD – its key to deter future abuse

#### No RVI’s- a) chilling effect – people will be too scared to read theory because RVI’s encourage baiting theory b) clash – people go all in on theory which decks substance engagement

### 2 – DA

#### Algorithmic governance as per their Beller evidence is good -- it solves crisis escalation.

Corneliu Bjola 19, Head of the Oxford Digital Diplomacy Research Group, University of Oxford, 11/10/19, “Diplomacy in the Age of Artificial Intelligence,” http://www.realinstitutoelcano.org/wps/portal/rielcano\_en/contenido?WCM\_GLOBAL\_CONTEXT=/elcano/elcano\_in/zonas\_in/ari98-2019-bjola-diplomacy-in-the-age-of-artificial-intelligence

Taking note of the fact that developments in AI are so dynamic and the implications so wide-ranging, another report prepared by a German think tank calls on Ministries of Foreign Affairs (MFAs) to immediately begin planning strategies that can respond effectively to the influence of AI in international affairs. Economic disruption, security & autonomous weapons, and democracy & ethics are the three areas they identify as priorities at the intersection of AI and foreign policy. Although they believe that transformational changes to diplomatic institutions will eventually be needed to meet the challenges ahead, they favour, in the short term, an incremental approach to AI that builds on the successes (and learns from the failures) of “cyber-foreign policy”, which, in many countries, has been already internalised in the culture of the relevant institutions, including of the MFAs.13 In the same vein, the authors of a report prepared for the Centre for a New American Security see great potential for AI in national security-related areas, including diplomacy. For example, AI can help improve communication between governments and foreign publics by lowering language barriers between countries, enhance the security of diplomatic missions via image recognition and information sorting technologies, and support international humanitarian operations by monitoring elections, assisting in peacekeeping operations, and ensuring that financial aid disbursements are not misused through anomaly detection.14

From an AI perspective, consular services could be a low-hanging fruit for AI integration in diplomacy as decisions are amenable to digitisation, the analytical contribution is reasonable relevant and the technology favours collaboration between users and the machine. Consular services rely on highly structured decisions, as they largely involve recurring and routinised operations based on clear and stable procedures, which do not need to be treated as new each time a decision has to be made (except for crisis situations, which are discussed further below). From a knowledge perspective, AI-assisted consular services may embody declarative (know-what) and procedural knowledge (know-how) to automate routinised operations and scaffold human cognition by reducing cognitive effort. This can be done by using data mining and data discovery techniques to organize the data and make it possible to identify patterns and relationships that would be difficult to observe otherwise (e.g., variation of demand for services by location, time, and audience profile).

Case study #1: AI as Digital Consul Assistant

The consulate of country X has been facing uneven demand for emergency passports, visa requests and business certifications in the past five years. The situation has led to a growing backlog, significant loss of public reputation and a tense relationship between the consulate and the MFA. An AI system trained with data from the past five years uses descriptive analytics to identify patterns in the applications and concludes that August, May and December are the most likely months to witness an increase of the demand in the three categories next year. AI predictions are confirmed for August and May but not for December. AI recalibrates its advice using updated data and the new predictions help consular officers manage requests more effectively. As the MFA confidence in the AI system grows, the digital assistant is then introduced to other consulates experiencing similar problems.

Digital platforms could also emerge as indispensable tools for managing diplomatic crises in the digital age and for good reasons. They can help embassies and MFAs make sense of the nature and gravity of the events in real-time, streamline the decision-making process, manage the public’s expectations, and facilitate crisis termination. At the same time, they need to be used with great care as factual inaccuracies, coordination gaps, mismatched disclosure level, and poor symbolic signalling could easily derail digital efforts of crisis management.15 AI systems could provide great assistance to diplomats in times of crisis by helping them make sense of what it is happening (descriptive analytics) and identify possible trends (predictive analytics). The main challenge for AI is the semi-structured nature of the decisions to be taken. While many MFAs have pre-designed plans to activate in case of a crisis, it is safe to assume that reality often defies the best crafted plans. Given the high level of uncertainty in which crisis decision-making operates and the inevitable scrutiny and demand of accountability to occur if something goes wrong, AI integration can work only if humans retain control over the process. As a recent SIPRI study pointed out, AI systems may fail spectacularly when confronted with tasks or environments that differ slightly to those they were trained for. Their algorithms are also opaque, which makes difficult for humans to explain how they work and whether they include bias that could lead to problematic –if not dangerous– behaviours.16

#### Externally, environmental sustainability – extinction.

David Victor 19, professor of international relations at the School of Global Policy and Strategy and director of the Laboratory on International Law and Regulation, Co-Chair of the Brookings Initiative on Energy and Climate, 1/10/19, “How artificial intelligence will affect the future of energy and climate,” https://www.brookings.edu/research/how-artificial-intelligence-will-affect-the-future-of-energy-and-climate/

HOW AI WILL IMPROVE CLIMATE POLICY

Since the chief protagonist in the climate change story, CO2, has a long atmospheric lifetime, there is only a sluggish relationship between changes in emissions and the accumulated concentrations; in turn, those concentrations have a sluggish impact on the climate. Even if AI were part of some massive transformation in the energy system, the built-in inertia of that energy system, along with the inertia in the climate system, virtually guarantees that the world is in for a lot of climate change. All this is grim news and means that widely discussed goals, such as stopping warming at 1.5 or 2 degrees Celsius are unlikely to be realized.

These geophysical and infrastructural realities give rise to a new policy reality: adaptation is urgent.[7] They also mean that emergency responses to extreme climate impacts—for example, solar geoengineering, might be needed as well.

Existing research shows that there is a huge difference in the impact on public welfare from scenarios where climate change affects a society that doesn’t have an adaptation plan compared with a society that takes active adaptive measures. For example, the most recent U.S. climate-impact assessment released in November 2018 demonstrates that active adaptation measures can radically reduce losses from some climate impacts—often with benefits that far exceed the costs.[8] Extreme climate change is going to be ugly and will require hard choices—such as which coastlines to protect or abandon. Without smart adaptation strategies, it will be a lot worse.

One of the central insights from the science of climate impacts is that extreme events will cause most of the damage. A world that is a bit warmer and wetter (and a bit drier in some places) is a world that societies, within reason, can probably adapt to—especially if those gradual changes are easy to anticipate. But a world that has more extreme events—put differently, climate events that have a higher variance—is a world that requires a lot more preparedness. A farming area that faces a new, significant risk of truly extreme drought for example, such as a decade-long dust bowl, will need to prepare as if that extreme event is commonplace. It will need irrigation systems, the option of planting hardier crops and other possible interventions that sit ready when the extreme events come.

Once those systems are purchased, much of the expense is borne and it makes sense to use them all the time. This has been the experience, for example, with the Thames river barrier or a similar Dutch flood barrier—these systems were designed and installed at vast expense with extreme events in mind, and now they are being used much more frequently. Climate impacts are, fundamentally, stochastic events centered around shifting medians—a warmer world, for example, is one where median temperature rises and where the whole distribution of temperatures from cold to hot shifts hotter. But the tails in that statistical distribution also probably fatten, and for some impacts, those tails get a lot fatter. Machine learning techniques will probably improve the ability to understand the shapes of those tails.

This logic of extreme events as the main drivers of climate impacts and response strategies has some big implications for how societies will plan for adaptation and how AI can help—possibly in transformative ways.

First, AI can help focus and adjust adaptation strategies. Because uncertainty is high and extreme events are paramount, policymakers, firms, and households will not know where to act nor what expense is merited. They will have a large portfolio of responses, each with an option value. Machine learning can help improve the capacity to assess those option values more rapidly. Such techniques might also make it possible to rely more heavily on market forces to weigh which options generate private and public welfare—if so, AI could help reduce one of the greatest dangers as societies develop adaptation strategies, which is that they commit vast resources to adaptation without guiding resources to their greatest value. High levels of uncertainty, along with acute private incentives that can mis-allocate resources—for example, local construction firms and organized labor might favor some kinds of adaptive responses (e.g., building sea walls and other hardened infrastructure) even when other less costly options are available—mean that adaptation needs could generate a massive call on resources and thus a massive opportunity for mischief and mis-allocation.

Second, most adaptation efforts are intrinsically local and regional affairs. As a matter of geophysics, climate change harms public welfare when general perturbations in the oceans and atmosphere get translated into specific climatological events that are manifest in specific places—specific coastlines, mountainous regions, public lands, and natural ecosystems. As a matter of public policy, the actors whose responses have the biggest leverage on local impacts are managers of local infrastructures—coastal and urban planners, developers, city managers, and the like. Politically, this is one of the reasons why, despite all the difficulties in mobilizing action to control emissions, it is likely that as communities realize what’s at stake with adaptation, they will respond. Local responses generate, for the most part, local benefits. A big challenge in all this local response, however, is that local authorities are intrinsically decentralized and usually not steeped in technical expertise. Getting the best information on climate impacts and response strategies—let alone keeping that information aligned with local circumstances and shifting odds for climate impacts—is all but impossible. AI could help lower that cost and, in effect, democratize quality climate impacts response.

### 3 – Redaction PIK

#### Text: Vote neg to redact the 1AC - the CP does the aff but doesn't say it.

#### Solves the Aff since they have no Affirmation key warrant BUT disclosing militant strategies leads to militant crackdowns and the continuation of the World Computer collectivity which turns the case.

### 4 – Telos PIK

#### We advocate for the 1AC sans their Affirmative’s telos of [affirming that the appropriation of outer space by private entities is unjust].

#### That solves the Aff – they have card zero that says appropriation being unjust is necessary OR key to solve the Aff through the World Computer – ctl-F for appropriation shows only three results, none of them highlighted or in the context of space – hold the line on 1AR solvency deficits. Affirming without a telos is necessary and sufficient to solve the Aff.

#### Ows the aff – a ] just refusing appropriation makes us satisfied with the squo leading to the same impacts they try to critique b] having an end point of our politics makes the World Computer inevitably coopt our movements

#### The Net Benefit is Incompleteness – strategies of completeness are genocidal.

- modified for problematic rhetoric

Harney and Moten 11 Stephano Harney and Fred Moten March 2021 "Refusing Completion: A Conversation" <https://www.e-flux.com/journal/116/379446/refusing-completion-a-conversation/> (Stefano Harney is the Professor of Strategic Management Education at Singapore Management University., Fred Moten is the professor of Performance Studies at New York University and has taught previously at University of California, Riverside, Duke University, Brown University, and the University of Iowa)//Elmer

FM: Maybe what we always also want to be doing is operating under the assumption that when it comes to thought, rigor and generosity are not separate from one another. That “intra-action,” to use Karen Barad’s term, is intra-active with another: that of black study and black studies. That’s where it’s at, as the Godfather would say. That’s what we’re interested in. And that’s also where we’re at in our lives, in our intellectual life together, and in our social life together as friends. It’s just that the syntax and the semantics that we have been given in order to try to understand that double intra-action is inadequate for the most part. We ask ourselves, how do we understand the relation between black study and black studies, and then we have to take two months to try to overcome the fact that “relation” ain’t the right word. In other words, the **intra-action of black study** and black studies **requires** something like what Barad calls “**experimental metaphysics**.” Or, maybe another way to put it is that what’s required are some experiments in anti-metaphysics. Maybe black study is just this continual experiment in anti-metaphysics. SH: All Incomplete is also **about the next town**, about what we heard about the next town, about **the next experiment** already going on, continually as Fred says. And so, for instance, I’m very grateful to the current generation of Guyanese feminist, activist scholars such as Kamala Kempadoo and Alissa Trotz who have made more available the work of the great Guyanese feminist activist intellectual Andaiye. We’ve been studying and teaching with Andaiye’s The Point Is to Change the World, and also with Lessons from the Damned by the Damned, the latter a collectively written book about a freedom school set up by black women in the late 1960s and early ’70s in Newark. Now, Andaiye talks about the research she did as part of Red Thread, an independent cross-racial organization of women in Guyana. She talks about how the poor and working class women who are keeping diaries on their social reproductive labor were doing research that she, Andaiye, could never do as well as them. Then, from the Damned, we hear the story of a key turning point in the freedom school. The women running the school have met some middle-class, teacher-qualified black women at a Vietnam protest and invited them back to the school. Much is gained by the encounter, but after a few weeks the women who run the school say something to the effect of, we loved them, but we had to send them away because they could not believe that we—in our position as black working-class women—were better placed to theorize this world. If we take these lessons from Andaiye and the Damned seriously, maybe we can get out of some of the metaphysical assumptions of our positions and roles. What Andaiye and the Damned are saying is that **poor people, poor black and Indian and indigenous women**, in these most vital instances **were better researchers and** better **theorists** than those of us who are traditionally and institutionally trained as such and rise through the “meritocracy.” So, we have to find some other reason for doing what we are doing—cause it is not because we are the best at it—and so we have to **find some other way**, **beyond** this **metaphysics of meritocracy we inhabit.** And from there it becomes clear that we are not the ones to sit in judgment, and this means we can **practice nothing but open admissions** and open promotion in the places where we teach, whether elementary schools, universities, or art academies. And what we would do is support the primary theorists and researchers as they come through, should they wish to come through, and should they wish to stay. And isn’t this serving the people? After all, serving the people never meant serving them breakfast. It meant being at the service of the people, because the people held what we all need, precariously, with only partial access sometimes themselves to this wealth, knowledge, and practice of how to learn about society and how to analyze it because it needs to be changed. That is why it was called a party of self-defense: to defend all this, not to imagine that the party was going to generate the wealth itself. Service becomes the answer to all the anxieties about allyship and class. And service is debt, partiality, incompleteness in action. SS: Your use of **incompleteness** reminds me in certain ways of how before you talked about **debt not as this crushing condition** **but** **as something that, in being unpayable**, **is the very principle of sociality**. So debt not as IMF-backed austerity measures, but **debt as** all those **things we owe to each other**. The way you talk about incompleteness strikes me as similar in that it’s **not incompleteness as a problem**—**like there’s something lacking in myself** which is fulfilled through another person—**but rather as a permanent state which is more of a blessing**, or something to be preserved. It’s not something that needs to be dealt with as a problem. Is that a fair reading? SH: Yes, I think that’s right. FM: Have you ever seen the film Jerry Maguire? The title character is this brutal drone of individuation whose whole life ends up depending upon his exploitation of a black football player, which he accomplishes with the help of a female assistant whom he later marries. The movie begins with Jerry Maguire being a successfully individuated man who’s complete, or thinks he is, until he gets stripped of all that. In order to find himself he’s got to attach himself in a more or less straight Hegelian mode to one who’s not quite really one, this player who shows out on and off the playing field while also modeling an authentic and loving family life, all of which reveals him never to have been the kind of free subject Jerry used to be. They call this a romantic comedy. It’s the story of the man who at the end of his personal (re)development—after having the biggest night of his life because the black football player literally endangers his own health in order to make a catch that will make him a superstar so that Jerry MaFuckingGuire can exploit him and attract other superstars who he can also exploit—finds that he can’t enjoy it without the woman who has made it all possible but whom he has exploited and demeaned and overlooked. That’s when this motherfucker breaks into a feminist consciousness-raising group in order to reclaim his wife. How does he get her back? Just by saying, “Hello,” according to her, but he gets to finish his speech by saying to her, “You complete me.” Like, he was at 87 percent and she was the final 13 percent. Now, he’s fucking complete when he gets her back. Well, [**screw**] ~~fuck~~ **completeness**. Not only that, ~~fuck~~ completeness **as a way of understanding** anything about what love actually is. What they call romantic comedy is really anti-romantic tragedy. It’s amazing that something like Jerry Maguire is offered as a representation of what it’s like to fall in love. If you’ve ever fallen you know that **the other person** or persons don’t complete you. They **incomplete you**. They fuck you the fuck up. It doesn’t leave you intact. It plays you, undermines you. It disturbs and **disrupts your individuation**. It obliterates not only the possibility of but the desire for individuation. If you think about it in those terms, incompleteness is a consummation devoutly to be wished. The entire genre of the romantic comedy is usually some white dude who’s being dragged against his will into the condition of incompleteness. When, finally, he submits to it, you know that the sequel of that movie will be all about the breakup, which follow’s the idea of individuation having had a chance to rally, which the regular miseries of monogamous heterosexuality—which Samuel R. Delany teaches us is the deepest perversion—are happy to provide. The idea of **completeness** **is ridiculous and genocidal**. **There’s** just no end **to the ways it continually seeks to destroy our shared capacity to breathe and ground**. It **predicates** **and requires** the constantly asserted revision of what Robinson calls “**the terms of order**.” It predicates and necessitates the constant **brutalization** of all the people in the world who resist those terms of order and who practice modalities of **social existence** that are not predicated on those terms of order, as Robinson shows in his beautifully radical use of ethnographic and anthropological work in The Terms of Order. We advocate for incompleteness. We think such advocacy is part of what it is “to preserve,” as he says, “the ontological totality.” To preserve the totality is to refuse its completion. That’s our ongoing ante- and anti-metaphysical experiment.

### 5 – Innovation DA

#### Space Commercialization drives Tech Innovation in the Status Quo – it provides a unique impetus.

Hampson 17 Joshua Hampson 1-25-2017 “The Future of Space Commercialization” <https://republicans-science.house.gov/sites/republicans.science.house.gov/files/documents/TheFutureofSpaceCommercializationFinal.pdf> (Security Studies Fellow at the Niskanen Center)//Elmer

The size of the space economy is far larger than many may think. In 2015 alone, the global market amounted to $323 billion. Commercial infrastructure and systems accounted for 76 percent of that 9 total, with satellite television the largest subsection at $95 billion. The global space launch market’s 10 11 share of that total came in at $6 billion dollars. It can be hard to disaggregate how space benefits 12 particular national economies, but in 2009 (the last available report), the Federal Aviation Administration (FAA) estimated that commercial space transportation and enabled industries generated $208.3 billion in economic activity in the United States alone. Space is not just about 13 satellite television and global transportation; while not commercial, GPS satellites also underpin personal navigation, such as smartphone GPS use, and timing data used for Internet coordination.14 Without that data, there could be problems for a range of Internet and cloud-based services.15 There is also room for growth. The FAA has noted that while the commercial launch sector has not grown dramatically in the last decade, there are indications that there is latent demand. This 16 demand may catalyze an increase in launches and growth of the wider space economy in the next decade. The Satellite Industry Association’s 2015 report highlighted that their section of the space economy outgrew both the American and global economies. The FAA anticipates that growth to 17 continue, with expectations that small payload launch will be a particular industry driver.18 In the future, emerging space industries may contribute even more the American economy. Space tourism and resource recovery—e.g., mining on planets, moons , and asteroids—in particular may become large parts of that industry. Of course, their viability rests on a range of factors, including costs, future regulation, international problems, and assumptions about technological development. However, there is increasing optimism in these areas of economic production. But the space economy is not just about what happens in orbit, or how that alters life on the ground. The growth of this economy can also contribute to new innovations across all walks of life. Technological Innovation Innovation is generally hard to predict; some new technologies seem to come out of nowhere and others only take off when paired with a new application. It is difficult to predict the future, but it is reasonable to expect that a growing space economy would open opportunities for technological and organizational innovation. In terms of technology, the difficult environment of outer space helps incentivize progress along the margins. Because each object launched into orbit costs a significant amount of money—at the moment between $27,000 and $43,000 per pound, though that will likely drop in the future —each 19 reduction in payload size saves money or means more can be launched. At the same time, the ability to fit more capability into a smaller satellite opens outer space to actors that previously were priced out of the market. This is one of the reasons why small, affordable satellites are increasingly pursued by companies or organizations that cannot afford to launch larger traditional satellites. These small 20 satellites also provide non-traditional launchers, such as engineering students or prototypers, the opportunity to learn about satellite production and test new technologies before working on a full-sized satellite. That expansion of developers, experimenters, and testers cannot but help increase innovation opportunities. Technological developments from outer space have been applied to terrestrial life since the earliest days of space exploration. The National Aeronautics and Space Administration (NASA) maintains a website that lists technologies that have spun off from such research projects. Lightweight 21 nanotubes, useful in protecting astronauts during space exploration, are now being tested for applications in emergency response gear and electrical insulation. The need for certainty about the resiliency of materials used in space led to the development of an analytics tool useful across a range of industries. Temper foam, the material used in memory-foam pillows, was developed for NASA for seat covers. As more companies pursue their own space goals, more innovations will likely come from the commercial sector. Outer space is not just a catalyst for technological development. Satellite constellations and their unique line-of-sight vantage point can provide new perspectives to old industries. Deploying satellites into low-Earth orbit, as Facebook wants to do, can connect large, previously-unreached swathes of 22 humanity to the Internet. Remote sensing technology could change how whole industries operate, such as crop monitoring, herd management, crisis response, and land evaluation, among others. 23 While satellites cannot provide all essential information for some of these industries, they can fill in some useful gaps and work as part of a wider system of tools. Space infrastructure, in helping to change how people connect and perceive Earth, could help spark innovations on the ground as well. These innovations, changes to global networks, and new opportunities could lead to wider economic growth.

#### Strong Innovation solves Extinction.

Matthews 18 Dylan Matthews 10-26-2018 “How to help people millions of years from now” <https://www.vox.com/future-perfect/2018/10/26/18023366/far-future-effective-altruism-existential-risk-doing-good> (Co-founder of Vox, citing Nick Beckstead @ Rutgers University)//Re-cut by Elmer

If you care about improving human lives, you should overwhelmingly care about those quadrillions of lives rather than the comparatively small number of people alive today. The 7.6 billion people now living, after all, amount to less than 0.003 percent of the population that will live in the future. It’s reasonable to suggest that those quadrillions of future people have, accordingly, hundreds of thousands of times more moral weight than those of us living here today do. That’s the basic argument behind Nick Beckstead’s 2013 Rutgers philosophy dissertation, “On the overwhelming importance of shaping the far future.” It’s a glorious mindfuck of a thesis, not least because Beckstead shows very convincingly that this is a conclusion any plausible moral view would reach. It’s not just something that weird utilitarians have to deal with. And Beckstead, to his considerable credit, walks the walk on this. He works at the Open Philanthropy Project on grants relating to the far future and runs a charitable fund for donors who want to prioritize the far future. And arguments from him and others have turned “long-termism” into a very vibrant, important strand of the effective altruism community. But what does prioritizing the far future even mean? The most literal thing it could mean is preventing human extinction, to ensure that the species persists as long as possible. For the long-term-focused effective altruists I know, that typically means identifying concrete threats to humanity’s continued existence — like unfriendly artificial intelligence, or a pandemic, or global warming/out of control geoengineering — and engaging in activities to prevent that specific eventuality. But in a set of slides he made in 2013, Beckstead makes a compelling case that while that’s certainly part of what caring about the far future entails, approaches that address specific threats to humanity (which he calls “targeted” approaches to the far future) have to complement “broad” approaches, where instead of trying to predict what’s going to kill us all, you just generally try to keep civilization running as best it can, so that it is, as a whole, well-equipped to deal with potential extinction events in the future, not just in 2030 or 2040 but in 3500 or 95000 or even 37 million. In other words, caring about the far future doesn’t mean just paying attention to low-probability risks of total annihilation; it also means acting on pressing needs now. For example: We’re going to be better prepared to prevent extinction from AI or a supervirus or global warming if society as a whole makes a lot of scientific progress. And a significant bottleneck there is that the vast majority of humanity doesn’t get high-enough-quality education to engage in scientific research, if they want to, which reduces the **odds that we have enough trained scientists to come up with the breakthroughs** we need as a civilization to survive and thrive. So maybe one of the best things we can do for the far future is to improve school systems — here and now — to harness the group economist Raj Chetty calls “lost Einsteins” (potential innovators who are thwarted by poverty and inequality in rich countries) and, more importantly, the hundreds of millions of kids in developing countries dealing with even worse education systems than those in depressed communities in the rich world. What if living ethically for the far future means living ethically now? Beckstead mentions some other broad, or very broad, ideas (these are all his descriptions): Help make computers faster so that people everywhere can work more efficiently Change intellectual property law so that technological innovation can happen more quickly Advocate for open borders so that people from poorly governed countries can move to better-governed countries and be more productive Meta-research: improve incentives and norms in academic work to better advance human knowledge Improve education Advocate for political party X to make future people have values more like political party X ”If you look at these areas (economic growth and technological progress, access to information, individual capability, social coordination, motives) a lot of everyday good works contribute,” Beckstead writes. “An implication of this is that a lot of everyday good works are good from a broad perspective, even though hardly anyone thinks explicitly in terms of far future standards.” Look at those examples again: It’s just a list of what normal altruistically motivated people, not effective altruism folks, generally do. Charities in the US love talking about the lost opportunities for innovation that poverty creates. Lots of smart people who want to make a difference become scientists, or try to work as teachers or on improving education policy, and lord knows there are plenty of people who become political party operatives out of a conviction that the moral consequences of the party’s platform are good. All of which is to say: Maybe effective altruists aren’t that special, or at least maybe we don’t have access to that many specific and weird conclusions about how best to help the world. If the far future is what matters, and generally trying to make the world work better is among the best ways to help the far future, then effective altruism just becomes plain ol’ do-goodery.

## Case

### Hedge

#### Reject 1AR theory A] 7-6 Time skew B] NO 3NR so 2ar gets to weigh however they want C] We only have two speechs to norm over it which means debates become irresolvable and the judge is forced to intervene.

#### No new 1ar theory paradigm issues- A] the 1NC has already occurred with current paradigm issues in mind so new 1ar paradigms moot any theoretical offense B] introducing them in the aff allows for them to be more rigorously tested which o/w’s on time frame since we can set higher quality norms.

### Rotb

#### The role of the ballot is to *evaluate the desirability of resolutional action under the best normative framework*. Prefer: (a) AC / NC is structurally reciprocal since both sides have access to two routes to the ballot – reciprocity is a litmus test for fairness, (b) it’s key to framework clash and phil ed is the only reason LD debate exists.

### Extinction Outweighs

#### Extinction outweighs:

#### A] Structural violence- death causes suffering because people can’t get access to resources and basic necessities

#### B] Objectivity- body count is the most objective way to calculate impacts because comparing suffering is unethical

#### C] Comes before value-to-life.

Tännsjö 11 (Torbjörn, the Kristian Claëson Professor of Practical Philosophy at Stockholm University, “Shalt Thou Sometimes Murder? On the Ethics of Killing,” <http://people.su.se/~jolso/HS-texter/shaltthou.pdf>) //BS 1-27-2018

\*\*Bracketed to avoid triggers

I suppose it is correct to say that, if Schopenhauer is right, if life is never worth living, then according to utilitarianism we should all [die] commit suicide and put an end to humanity. But this does not mean that, each of us should commit suicide. I commented on this in chapter two when I presented the idea that utilitarianism should be applied, not only to individual actions, but to collective actions as well.¶ It is a well-known fact that people rarely commit suicide. Some even claim that no one who is mentally sound commits suicide. Could that be taken as evidence for the claim that people live lives worth living? That would be rash. Many people are not utilitarians. They may avoid suicide because they believe that it is morally wrong to kill oneself. It is also a possibility that, even if people lead lives not worth living, they believe they do. And even if some may believe that their lives, up to now, have not been worth living, their future lives will be better. They may be mistaken about this. They may hold false expectations about the future.¶ From the point of view of evolutionary biology, it is natural to assume that people should rarely commit suicide. If we set old age to one side, it has poor survival value (of one’s genes) to kill oneself. So it should be expected that it is difficult for ordinary people to kill themselves. But then theories about cognitive dissonance, known from psychology, should warn us that we may come to believe that we live better lives than we do.¶ My strong belief is that most of us live lives worth living. However, I do believe that our lives are close to the point where they stop being worth living. But then it is at least not very far-fetched to think that they may be worth not living, after all. My assessment may be too optimistic.¶ Let us just for the sake of the argument assume that our lives are not worth living, and let us accept that, if this is so, we should all kill ourselves. As I noted above, this does not answer the question what we should do, each one of us. My conjecture is that we should not [die] commit suicide. The explanation is simple. If I [die] kill myself, many people will suffer. Here is a rough explanation of how this will happen: ¶ ... suicide “survivors” confront a complex array of feelings. Various forms of guilt are quite common, such as that arising from (a) the belief that one contributed to the suicidal person's anguish, or (b) the failure to recognize that anguish, or (c) the inability to prevent the suicidal act itself. Suicide also leads to rage, loneliness, and awareness of vulnerability in those left behind. Indeed, the sense that suicide is an essentially selfish act dominates many popular perceptions of suicide. ¶ The fact that all our lives lack meaning, if they do, does not mean that others will follow my example. They will go on with their lives and their false expectations — at least for a while devastated because of my suicide. But then I have an obligation, for their sake, to go on with my life. It is highly likely that, by committing suicide, I create more suffering (in their lives) than I avoid (in my life).

#### D] Mathematically outweighs.

MacAskill 14 [William, Oxford Philosopher and youngest tenured philosopher in the world, Normative Uncertainty, 2014]

The human race might go extinct from a number of causes: asteroids, supervolcanoes, runaway climate change, pandemics, nuclear war, and the development and use of dangerous new technologies such as synthetic biology, all pose risks (even if very small) to the continued survival of the human race.184 And different moral views give opposing answers to question of whether this would be a good or a bad thing. It might seem obvious that human extinction would be a very bad thing, both because of the loss of potential future lives, and because of the loss of the scientific and artistic progress that we would make in the future. But the issue is at least unclear. The continuation of the human race would be a mixed bag: inevitably, it would involve both upsides and downsides. And if one regards it as much more important to avoid bad things happening than to promote good things happening then one could plausibly regard human extinction as a good thing.For example, one might regard the prevention of bads as being in general more important that the promotion of goods, as defended historically by G. E. Moore,185 and more recently by Thomas Hurka.186 One could weight the prevention of suffering as being much more important that the promotion of happiness. Or one could weight the prevention of objective bads, such as war and genocide, as being much more important than the promotion of objective goods, such as scientific and artistic progress. If the human race continues its future will inevitably involve suffering as well as happiness, and objective bads as well as objective goods. So, if one weights the bads sufficiently heavily against the goods, or if one is sufficiently pessimistic about humanity’s ability to achieve good outcomes, then one will regard human extinction as a good thing.187 However, even if we believe in a moral view according to which human extinction would be a good thing, we still have strong reason to prevent near-term human extinction. To see this, we must note three points. First, we should note that the extinction of the human race is an extremely high stakes moral issue. Humanity could be around for a very long time: if humans survive as long as the median mammal species, we will last another two million years. On this estimate, the number of humans in existence in the The future, given that we don’t go extinct any time soon, would be 2×10^14. So if it is good to bring new people into existence, then it’s very good to prevent human extinction. Second, human extinction is by its nature an irreversible scenario. If we continue to exist, then we always have the option of letting ourselves go extinct in the future (or, perhaps more realistically, of considerably reducing population size). But if we go extinct, then we can’t magically bring ourselves back into existence at a later date. Third, we should expect ourselves to progress, morally, over the next few centuries, as we have progressed in the past. So we should expect that in a few centuries’ time we will have better evidence about how to evaluate human extinction than we currently have. Given these three factors, it would be better to prevent the near-term extinction of the human race, even if we thought that the extinction of the human race would actually be a very good thing. To make this concrete, I’ll give the following simple but illustrative model. Suppose that we have 0.8 credence that it is a bad thing to produce new people, and 0.2 certain that it’s a good thing to produce new people; and the degree to which it is good to produce new people, if it is good, is the same as the degree to which it is bad to produce new people, if it is bad. That is, I’m supposing, for simplicity, that we know that one new life has one unit of value; we just don’t know whether that unit is positive or negative. And let’s use our estimate of 2×10^14 people who would exist in the future, if we avoid near-term human extinction. Given our stipulated credences, the expected benefit of letting the human race go extinct now would be (.8-.2)×(2×10^14) = 1.2×(10^14). Suppose that, if we let the human race continue and did research for 300 years, we would know for certain whether or not additional people are of positive or negative value. If so, then with the credences above we should think it 80% likely that we will find out that it is a bad thing to produce new people, and 20% likely that we will find out that it’s a good thing to produce new people. So there’s an 80% chance of a loss of 3×(10^10) (because of the delay of letting the human race go extinct), the expected value of which is 2.4×(10^10). But there’s also a 20% chance of a gain of 2×(10^14), the expected value of which is 4×(10^13). That is, in expected value terms, the cost of waiting for a few hundred years is vanishingly small compared with the benefit of keeping one’s options open while one gains new information.

### Cap good

#### On Wijkman 17 –a] perfcon u engage in the same technocratic ideas by using models and graphs belter critiques ows premeditated murder b] Decoupling is wrong – we are recoupling – meta-analysis

Vadén et al 20

[Tere Vadén, Ville Lähde, Antti Majava, Paavo Järvensivu, Tero Toivanen, Emma Hakala. October 2020, “Decoupling for ecological sustainability: A categorisation and review of research literature”, Environmental Science & Policy, [https://www.sciencedirect.com/science/article/abs/pii/S1462901120304342?dgcid=coauthor#](https://www.sciencedirect.com/science/article/abs/pii/S1462901120304342?dgcid=coauthor)! //gbs jacobs & majeed]

“Empirical evidence for continuous absolute decoupling is rare. The only countries that have apparently achieved absolute decoupling of their material consumption from economic growth throughout longer phases are a few high-income importing economies such as Japan and the United Kingdom. Once their material consumption and intensity indicators are corrected for international trade, the success in decoupling, however, vanishes.” (2017, 661) Wood et al. (2018) is especially interesting, as it is based on the use EXIOBASE3, a global MRIO model compiled explicitly to investigate the role of international trade in relation to resource efficiency. Thus they address the problem mentioned above and by Kraussman et al. (2017), that evidence of decoupling on a national level is possibly undermined by the role of trade. Woods et al. (2018) calculate both production and consumption based indices for greenhouse gas emissions, energy use, material use, water consumption, and land use for the period of 1995–2011. To quote from their conclusion: “On a global scale, achievements in resource efficiency, which are characterized by either absolute or strong relative decoupling from GDP, have been limited. […] Material use has shown the strongest increase, from 8.3 to 11.3 tonnes/capita (+36 %), outstripping growth in GDP. We also see an equal growth of GHG emissions to emissions-relevant energy use, […]. Land and water resources, which are more directly subject to natural constraints, have increased the least, with blue water consumption rising from 190 to 200 cubic meters/capita, and the total surface area of land used for productive purposes showing a reduction of 0.3 ha/capita […] It is the only indicator that presented (small) absolute decoupling from GDP.” In sum, although the studies on the resource-economy connection by Wood et al. (2018), Kraussman et al. (2017), Steinberger et al. (2013) and Bringezu et al. (2004) report evidence of absolute decoupling on national/country level, these examples are in each case explained by specific economic and political factors, rather than by a general trend towards decoupling in the wider economic network the countries take part in. Examples of national level absolute resource decoupling, such as the absolute decoupling between land and blue water use in Sweden reported by Palm et al. (2019, 643) are encouraging (but see Venter et al. (2016)) for qualifications on results concerning evidence of decreasing land use in wealthy countries). However, the general thrust from studies like Wood et al. (2018) and Krausmann (2017) is that when trade and consumption-based indicators are taken into account the recent (post- 2000) global trend is a recoupling of material use and GDP. Notably, none of the reviewed articles presents evidence for global, economy-wide absolute decoupling, either with regard to environmental impacts or resource use. 242 5. Conclusion We found that 170 articles presented cases of relative decoupling and 97 articles cased of absolute decoupling. Out of the 97 cases of absolute decoupling, 74 articles concern impact decoupling and 23 concern absolute resource decoupling. Out of these 23 we concentrated on eleven articles that present evidence of economy-wide and at least national level absolute resource decoupling. We found that none of those articles claimed robust evidence of international and continuous absolute resource decoupling, not to speak of sufficiently fast global absolute resource decoupling. This result in no way undermines the importance of the environmentally desirable outcomes, such as national level absolute decoupling between land and blue water use, reported in the articles in the survey. However, it points out that with regard to the goal of ecological sustainability, the empirical evidence on decoupling is thin. Together the categorisation and the survey of research literature suggest that the (abstract) notion of decoupling needs qualification and precision when used in policy discussions. The notion is (empirically) so weakly founded that we agree with Antal and Van Den Bergh’s (2014, 7) conclusion: “decoupling as a main or single strategy to combine economic and environmental aims should be judged as taking a very large risk with our common future.” This also means that more attention should be given to conceptualisations of economy that do not rely on economic growth as the key route towards ecological sustainability and human wellbeing. The research literature in our review tells of the historical situation up to date, and the evidence does not suggest that decoupling towards ecological sustainability is happening at a global (or even regional) scale. The literature finds evidence of impact decoupling, especially between GHG emissions (such as COX and SOX emissions) in wealthy countries for certain periods of time, but not of economy-wide resource decoupling, least of all on the international and global scale. Quite the opposite: there is evidence of increased material intensity and re-coupling (Schandl et al. 2017, Woods et al. 2018).

#### Starlink is key to Precision Ag – key to food sustainability and increasing food supply to account for exponential population growth.

Greensight 21 3-15-2021 "Can Starlink Save the World by Connecting Farms?" <https://www.greensightag.com/logbook/can-starlink-save-the-world-by-connecting-farms/> (Data Management Consulting Firm)//Elmer

GreenSight innovates in a number of different areas, but one of the areas we are most passionate about is in agriculture. We’ve deployed our drone intelligence systems all over the world at all sorts of different facilities. One of the most challenging has been deployments at farms, and one of the biggest challenges has been connectivity. Connected farms are a requirement to feed the world, and Starlink will make that happen. Most urban and suburban households in the United States have had easy and reasonably inexpensive access to high speed internet access for 20 years. It is easy to forget that the situation is not the same for rural areas of the country. Many areas have no access to high speed, “broadband”, internet access, with some having only dialup internet access in their homes. According to the 2015 FCC broadband report, only 53% of rural households have access to high speed internet, even using low standards for “high” speed. On average farms have even less access, and that doesn’t even include high speed connectivity out in their fields. Cellular service is spotty especially on large farms in primarily agricultural areas, and legacy satellite systems provide slow upload speeds at expensive prices. Utilizing modern internet connected technologies and cloud based systems that require constant, high speed access can be a challenge at best and potentially impossible. A 2016 research study by Goldman and Sachs projected that by 2050, the world’s food production efficiency needs to increase by 50% to support our growing population. This paper backs up this conclusion with a lot of research, but the fundamental conclusion is that farming land area is unlikely to increase nor will the number of farmers. Increased global food production increases must come from productivity boosts. Researchers feel that productivity improvements from chemistry and genomics are unlikely to yield significant increases as they have in the past. They predict that the most likely area for these improvements are with precision farming techniques, notably precision planting and precision application of chemicals and water. The term “Precision Agriculture” was coined in the late 1960s and 1970s in seminal research that projected that in the future farming would be driven by data with inputs and practices varied and optimized based on weather, measurements from the field, and accurate year over year yield measurements. Since then, many tools and technologies have been developed that have made true precision agriculture more and more practical. Precision RTK GPS can guide equipment with precision better than an inch. Drones and satellite mapping of fields using remote sensing can map out health and detect problems with the crops. In field IoT sensors will stream live data (such as our partners Soil Scout). Soil genomics and analysis can analyze macro and micro nutrient content of the soil and track the genetics of the soil microbiome (like our friends at Trace Genomics). Robotic and automated farming equipment (like our partners at Monarch Tractor and Husqvarna are building) can vary applications and planting according to precomputed variable rate application maps. Despite all these breakthroughs, precision farming techniques still have a low penetration. There are many reasons for this (more than could be discussed in this article!) but one of them is inadequate connectivity. Most of these modern technologies rely on access to the internet and in many cases it just isn’t possible. For decades subsidies and programs have been rolled out to improve rural connectivity but the reality is that connecting up far flung areas is expensive, often labor intensive, and consequently from a pure business standpoint does not make sense for the connectivity providers. Even as infrastructure expands to more remote areas, there will always remain large swaths of rural america where conventional connectivity infrastructure is highly impractical. Most of GreenSight’s data processing is done in the cloud. Several gigabytes of imagery data are uploaded from our aircraft after every flight to be processed and delivered to our customers. Our custom artificial intelligence analyses the data and informs farmers to problem areas. From many remote farm fields, uploading can be a slow process. We’ve invested heavily in the portability of our systems and our upcoming next generation aircraft will be capable of onboard processing, but despite this connectivity will still be needed to make data available for farmers and other automated agriculture systems. Advanced sensing systems like ours have to be able to integrate with connected robotic sprayers, harvesters and tractors, unlocking the productivity potential of precision agriculture. Humanity needs precision agriculture, and connected data-driven systems will be a big part of that revolution. Beyond the global necessity, the economics for farmers work too! A 2018 USDA studies indicate that connecting US farmland will unlock $50B in industry revenue. We are extremely excited about Starlink and its potential to bring cost effective internet connectivity to farms and rural areas. Starlink levels the playing field for rural areas, enabling high speed connectivity everywhere. No longer will farmers have to wait for high speed wired connectivity to come to their area or install a complex mesh network on their property. IoT data can be streamed from fields as easily as it now streams from urban homes. Starlink will be a catalyzing force for chance, advancing access to precision agriculture globally and contributing to solving global food challenges.

#### Capitalism is sustainable - Tech Innovation drives dematerialization that makes Cap Sustainable AND solves warming

McAfee 19, Andrew. More from Less: The Surprising Story of How We Learned to Prosper Using Fewer Resources—and What Happens Next. Scribner, 2019. Props to DML for finding. (Cofounder and codirector of the MIT Initiative on the Digital Economy at the MIT Sloan School of Management, former professor at Harvard Business School)//Elmer

The decreases in resource use, pollution, and other exploitations of the earth cataloged in the preceding chapters are great news. But are they going to last? It could be that we're just living in a pleasant interlude between the Industrial Era and another rapacious period during which we massively increase our footprint on our planet and eventually cause a giant Malthusian crash. It could be, but I don't think so. Instead, I think we're going to take better care of our planet from now on. I'm confident that the Second Machine Age will mark the time in our history when we started to progressively and permanently tread more lightly on the earth, taking less from it and generally caring for it better, even as we humans continue to become more numerous and prosperous. The work of Paul Romer, who shared the 2018 Nobel Prize in economics, is one of the sources of this confidence. Growth Mindset Romer's largest contribution to economics was to show that **it's best not to think of new technologies as something that companies buy and bring in from the outside, but instead as something they create themselves** (the title of his most famous paper, published in 1990, is "Endogenous Technological Change"). These technologies are like designs or recipes; as Romer put it, they’re "the instructions that we follow for combining raw materials." This is close to the definitions of technology presented in chapter 7. Why do companies invent and improve technologies? Simply, to generate profits. They come up with instructions, recipes, and blueprints that will let them grow revenues or shrink costs. As we saw repeatedly in chapter 7, capitalism provides ample incentive for this kind of tech progress. So far, all this seems like a pretty standard argument for how the first two horsemen work together. Romer's brilliance was to highlight the importance of two key attributes of the technological ideas companies come up with as they pursue profits. The first is that they're nonrival, meaning that they can be used by more than one person or company at a time, and that they don't get used up. This is obviously not the case for most resources made out of atoms—I can't also use the pound of steel that you've just incorporated into the engine of a car—but it is the case for ideas and instructions. The Pythagorean theorem, a design for a steam engine, and a recipe for delicious chocolate chip cookies aren't ever going to get "used up" no matter how much they're used. The second important aspect of corporate technologies is that they're partially excludable. This means that companies can kind of prevent others from using them. They do this by keeping the technologies secret (such as the exact recipe for Coca-Cola), filing for patents and other intellectual-property protection, and so on. However, none of these measures is perfect (hence the words partially and kind of). Trade secrets leak. Patents expire, and even before they expire, they must describe the invention they're claiming and so let others study it. Partial excludability is a beautiful thing. It provides strong incentives for companies to create useful, profit-enhancing new technologies that they alone can benefit from for a time, yet it also ensures that the **new techs will eventually "spill over**"—that with time they’ll diffuse and get adopted by more and more companies, even if that's not what their originators want. Romer equated tech progress to the production by companies of nonrivalrous, partially excludable ideas and showed that these ideas cause an economy to grow. What's more, he also demonstrated that this **idea-fueled growth** doesn't have to slow down with time. It's **not constrained by** the size of the **labor** force, the amount of natural **resources**, or other such factors. Instead, economic growth is limited only by the idea-generating capacity of the people within a market. Romer called this capacity "human capital" and said at the end of his 1990 paper, "The most interesting positive implication of the model is that an economy with a larger total stock of human capital will experience faster growth." This notion, which has come to be called "increasing returns to scale," is as powerful as it is counterintuitive. Most formal models of economic growth, as well as the informal mental ones most of us walk around with, feature decreasing returns—growth slows down as the overall economy gets bigger. This makes intuitive sense; it just feels like it would be easier to experience 5 percent growth in a $1 billion economy than a $1 trillion one. But Romer showed that as long as that economy continued to add to its human capital—the overall ability of its people to come up with new technologies and put them to use—it could actually grow faster even as it grew bigger. This is because the stock of useful, nonrivalrous, nonexcludable ideas would keep growing. As Romer convincingly showed, economies run and grow on ideas. The Machinery of Prosperity Romer's ideas should leave us optimistic about the planetary benefits of digital tools—hardware, software, and networks—for three main reasons. First, countless examples show us how good these tools are at fulfilling the central role of technology, which is to provide "instructions that we follow for combining raw materials." Since raw materials cost money, profit-maximizing companies are particularly keen to find ways to use fewer of them. So they use digital tools to come up with beer cans that use less aluminum, car engines that use less steel and less gas, mapping software that removes the need for paper atlases, and so on and so on. None of this is done solely for the good of the earth—it's done for the pursuit of profit that's at the heart of capitalism—yet it benefits the planet by, as we've seen, causing us to take less from it. Digital tools are technologies for creating technologies, the most prolific and versatile ones we've ever come up with. They're machines for coming up with ideas. Lots of them. The same piece of computer-aided design software can be used to create a thinner aluminum can or a lighter and more fuel-efficient engine. A drone can be used to scan farmland to see if more irrigation is needed, or to substitute for a helicopter when filming a movie. A smartphone can be used to read the news, listen to music, and pay for things, all without consuming a single extra molecule. In the Second Machine Age, the global stock of digital tools is increasing much more quickly than ever before. It's being used in countless ways by profit-hungry companies to combine raw materials in ways that use fewer of them. In advanced economies such as America's, the cumulative impact of this combination of capitalism and tech progress is clear: **absolute dematerialization** of the economy and society, **and thus a smaller footprint on our planet**. The second way Romer's ideas about technology and growth are showing up at present is via decreased excludability. Pervasive digital tools are making it much easier for good designs and recipes to spread around the world. While this is often not what a company wants—it wants to exclude others from its great cost-saving idea— excludability is not as easy as it used to be. This isn't because of weaker patent protection, but instead because of stronger digital tools. Once one company shows what's possible, others use hardware, software, and networks to catch up to the leader. Even if they can't copy exactly because of intellectual-property restrictions, they can use digital tools to explore other means to the same end. So, many farmers learn to get higher yields while using less water and fertilizer, even though they combine these raw materials in different ways. Steve Jobs would certainly have preferred for Apple to be the only provider of smartphones after it developed the iPhone, but he couldn't maintain the monopoly no matter how many patents and lawsuits he filed. Other companies found ways to combine processors, memory, sensors, a touch screen, and software into phones that satisfied billions of customers around the world. The operating system that powers most non-Apple smartphones is Android, which is both free to use and freely modifiable. Google's parent company, Alphabet, developed and released Android without even trying to make it excludable; the explicit goal was to make it as widely imitable as possible. This is an example of the broad trend across digital industries of giving away valuable technologies for free. The Linux operating system, of which Android is a descendant, is probably the best-known example of free and open-source software, but there are many others. The online software repository GitHub maintains that it's "the largest open source community in the world" and hosts millions of projects. The Arduino community does something similar for electronic hardware, and the Instructables website contains detailed instructions for making equipment ranging from air-particle counters to machine tools, all with no intellectual-property protection. Contributors to efforts such as these have a range of motivations (Alphabet's goals with Android were far from purely altruistic—among other things, the parent of Google wanted to achieve a quantum leap in mobile phone users around the world, who would avail themselves of Google Search and services such as YouTube), but they're all part of the trend of technology without excludability, which is great news for growth. As we saw in chapter 10, smartphone use and access to the Internet are increasing quickly across the planet. This means that people no longer need to be near a decent library or school to gain knowledge and improve their abilities. Globally, people are taking advantage of the skill-building opportunities of new technologies. This is the third reason that the spread of digital tools should make us optimistic about future growth: these tools are helping human capital grow quickly. The free Duolingo app, for example, is now the world's most popular way to learn a second language. Of the nearly 15 billion Wikipedia page views during July of 2018, half were in languages other than English. Google's chief economist, Hal Varian, points out that hundreds of millions of how-to videos are viewed every day on YouTube, saying, "We never had a technology before that could educate such a broad group of people anytime on an as-needed basis for free." Romer's work leaves me hopeful because it shows that it's our ability to build human capital, rather than chop down forests, dig mines, or burn fossil fuels that drives growth and prosperity. His model of how economies grow also reinforces how well capitalism and tech progress work together, which is a central point of this book. The surest way to boost profits is to cut costs, and modern technologies, especially digital ones, offer unlimited ways to combine and recombine materials—to swap, slim, optimize, and evaporate—in cost-reducing ways. **There's no reason to expect that the two horsemen of capitalism and tech progress will stop** riding together anytime soon. Quite the contrary. Romer's insights reveal that they're likely to gallop faster and farther as economies grow. Our Brighter, Lighter Future The world still has billions of desperately poor people, but they won't remain that way. All available evidence strongly suggests that most will become much wealthier in the years and decades ahead. As they earn more and consume more, what will be the impact on the planet? The history and economics of the Industrial Era lead to pessimism on this important question. Resource use increased in lockstep with economic growth throughout the two centuries between James Watt's demonstration of his steam engine and the first Earth Day. Malthus and Jevons seemed to be right, and it was just a question of when, not if, we'd run up against the hard planetary limits to growth. But in America and other rich countries something strange, unexpected, and wonderful happened: we started getting more from less. We decoupled population and economic growth from resource consumption, pollution, and other environmental harms. Malthus's and Jevons's ideas gave way to Romer's, and the world will never be the same. This means that instead of worrying about the world's poor becoming richer, we should instead be helping them upgrade economically as much and as quickly as possible. Not only is it the morally correct thing to do, it's also the smart move for our planet. As today’s poor countries get richer, their institutions will improve and most will eventually go through what Ricardo Hausmann calls "the capitalist makeover of production." This makeover doesn't enslave people, nor does it befoul the earth. As today’s poor get richer, they'll consume more, but they'll also consume much differently from earlier generations. They won't read physical newspapers and magazines. They'll get a great deal of their power from renewables and (one hopes) nuclear because these energy sources will be the cheapest. They’ll live in cities, as we saw in chapter 12; in fact, they already are. They'll be less likely to own cars because a variety of transportation options will be only a few taps away. Most important, they'll come up with ideas that keep the growth going, and that benefit both humanity and the planet we live on. Predicting exactly how technological progress will unfold is much like predicting the weather: feasible in the short term, but impossible over a longer time. Great uncertainty and complexity prevent precise forecasts about, for example, the computing devices we’ll be using thirty years from now or the dominant types of artificial intelligence in 2050 and beyond. But even though we can't predict the weather long term, we can accurately forecast the climate. We know how much warmer and sunnier it will be on average in August than in January, for example, and we know that global average temperatures will rise as we keep adding greenhouse gases to the atmosphere. Similarly, we can predict the "climate" of future technological progress by starting from the knowledge that it will be heavily applied in the areas where it can affect capitalism the most. As we've seen over and over, tech progress supplies opportunities to trim costs (and improve performance) via dematerialization, and capitalism provides the motive to do so. As a result, the Second Enlightenment will continue as we move deeper into the twenty-first century. I'm confident that it will accelerate as digital technologies continue to improve and multiply and global competition continues to increase. We’ll see some of the most striking examples of slim, swap, evaporate, and optimize in exactly the places where the opportunities are biggest. Here are a few broad predictions, spanning humanity's biggest industries. Manufacturing. Complex parts will be made not by the techniques developed during the Industrial Era, but instead by three- dimensional printing. This is already the case for some rocket engines and other extremely expensive items. **As 3-D printing** improves and becomes cheaper, it will spread to automobile engine blocks, manifolds and other complicated arrangements of pipes, airplane struts and wings, and countless other parts. Because 3-D printing **generates virtually no waste** and doesn't require massive molds, it accelerates dematerialization.

#### Capitalist Peace Theory is True – it’s anti-Imperialist.

Mousseau 19, Michael. "The end of war: How a robust marketplace and liberal hegemony are leading to perpetual world peace." International Security 44.1 (2019): 160-196. Props to DML for finding. (Professor in the School of Politics, Security, and International Affairs at the University of Central Florida)//Elmer

Is war becoming obsolete? There is wide agreement among scholars that war has been in sharp decline since the defeat of the Axis powers in 1945, even as there is little agreement as to its cause.1 Realists reject the idea that this trend will continue, citing states' concerns with the “security dilemma”: that is, in anarchy states must assume that any state that can attack will; therefore, power equals threat, and changes in relative power result in conflict and war.2 Discussing the rise of China, Graham Allison calls this condition “Thucydides's Trap,” a reference to the ancient Greek's claim that Sparta's fear of Athens' growing power led to the Peloponnesian War.3 This article argues that there is no Thucydides Trap in international politics. Rather, the world is moving rapidly toward permanent peace, possibly in our lifetime. Drawing on economic norms theory,4 I show that what sometimes appears to be a Thucydides Trap may instead be a function of factors strictly internal to states and that these factors vary among them. In brief, leaders of states with advanced market-oriented economies have foremost interests in the principle of self-determination for all states, large and small, as the foundation for a robust global marketplace. War among these states, even making preparations for war, is not possible, because they are in a natural alliance to preserve and protect the global order. In contrast, leaders of states with weak internal markets have little interest in the global marketplace; they pursue wealth not through commerce, but through wars of expansion and demands for tribute. For these states, power equals threat, and therefore they tend to balance against the power of all states. Fearing stronger states, however, minor powers with weak internal markets tend to constrain their expansionist inclinations and, for security reasons, bandwagon with the relatively benign market-oriented powers. I argue that this liberal global hierarchy is unwittingly but systematically buttressing states' embrace of market norms and values that, if left uninterrupted, is likely to culminate in permanent world peace, perhaps even something close to harmony. My argument challenges the realist assertion that great powers are engaged in a timeless competition over global leadership, because hegemony cannot exist among great powers with weak markets; these inherently expansionist states live in constant fear and therefore normally balance against the strongest state and its allies.5 Hegemony can exist only among market-oriented powers, because only they care about global order. Yet, there can be no competition for leadership among market powers, because they always agree with the goal of their strongest member (currently the United States) to preserve and protect the global order

#### Rejection of capitalism causes massive transition wars

Harris 03. Lee, Analyst – Hoover Institution and Author of The Suicide of Reason, “The Intellectual Origins of America-Bashing”, Policy Review, January, http://www.hoover.org/publications/policyreview/3458371.html

This is the immiserization thesis of Marx. And it is central to revolutionary Marxism, since if capitalism produces no widespread misery, then it also produces no fatal internal contradiction: If everyone is getting better off through capitalism, who will dream of struggling to overthrow it? Only genuine misery on the part of the workers would be sufficient to overturn the whole apparatus of the capitalist state, simply because, as Marx insisted, the capitalist class could not be realistically expected to relinquish control of the state apparatus and, with it, the monopoly of force. In this, Marx was absolutely correct. No capitalist society has ever willingly liquidated itself, and it is utopian to think that any ever will. Therefore, in order to achieve the goal of socialism, nothing short of a complete revolution would do; and this means, in point of fact, a full-fledged civil war not just within one society, but across the globe. Without this catastrophic upheaval, capitalism would remain completely in control of the social order and all socialist schemes would be reduced to pipe dreams.

#### Extinction

Nyquist 5. J.R. renowned expert in geopolitics and international relations, WorldNetDaily contributing editor, “The Political Consequences of a Financial Crash,” February 4, www.financialsense.com/stormw...2005/0204.html

Should the United States experience a severe economic contraction during the second term of President Bush, the American people will likely support politicians who advocate further restrictions and controls on our market economy – guaranteeing its strangulation and the steady pauperization of the country. In Congress today, Sen. Edward Kennedy supports nearly all the economic dogmas listed above. It is easy to see, therefore, that the coming economic contraction, due in part to a policy of massive credit expansion, will have serious political consequences for the Republican Party (to the benefit of the Democrats). Furthermore, an economic contraction will encourage **the formation of anti-capitalist majorities and a turning away from the free market system. The danger here is not merely economic. The political left openly favors the collapse of America’s strategic position abroad. The withdrawal of the United States from the Middle East, the Far East and Europe would catastrophically impact an international system that presently allows 6 billion people to live on the earth’s surface in relative peace. Should anti-capitalist dogmas overwhelm the global market and trading system that evolved under American leadership, the planet’s economy would contract and untold millions would die of starvation. Nationalistic totalitarianism, fueled by a politics of blame, would once again bring war to Asia and Europe.** But **this time the war would be waged with mass destruction weapons** and the United States would be blamed because it is the center of global capitalism. Furthermore, **if the anti-capitalist party gains power in Washington, we can expect to see policies of appeasement and unilateral disarmament enacted. American appeasement and disarmament, in this context, would be an admission of guilt before the court of world opinion. Russia and China,** above all, **would exploit this** admission **to justify aggressive wars, invasions and mass destruction attacks**. A future financial crash, therefore, must be prevented at all costs.

#### Profit and growth are key to space colonization---extinction.

Kovic '19 [Marko; March 2019; co-founder president of the Zurich Institute of Public Affairs Research; "The future of energy," https://osf.io/preprints/socarxiv/aswz9/download]

Ideally, the mitigation of climate risks will coincide with and contribute to the development of improved or even entirely novel sources of energy that will increase the long-term chances of humankind’s survival by means of space colonization. This is not an unrealistic expectation, given that the mitigation of climate risks consists, to a large degree, of replacing fossil fuels with other, less harmful sources of energy. However, some climate change mitigation strategies might actually harm the long-term prospects of humankind.

First, it is possible that dominant climate change mitigation strategies will actively exclude any form of nuclear energy from the repertoire of climate-friendly energy sources. Existing and experimental (molten salt) fission reactors could play a significant role in replacing carbon-heavy energy sources, but pro-environmental attitudes often overlap with anti-nuclear sentiments [65]. As a result, and in combination with other problems such as large-scale market failures of existing fission reactors (one of the reasons being that generating electricity from fossil fuels is cheaper) [66], nuclear fission does not currently have significant standing as a “cleantech” contribution to climate change mitigation. From a long-term perspective, an unfavorable view of nuclear energy in the context of climate change might mean that technological progress in the areas of nuclear fission and fusion might come to a halt (for example, due to explicit bans or implicit disincentives). If such a scenario came to be, our attempts at colonizing space would almost certainly fail: There are currently no alternatives to fission and fusion, and it is highly improbable that Solar power alone could suffice for sustaining extraterrestrial habitats.

Second, there is some probability that climate change mitigation strategies will change the social order towards a degrowth philosophy. Degrowth is a vague socio-economic concept and social movement that, in general, calls for a contraction of the global and national economies by means of lower production and consumption rates, and, to some degree, to more profound changes to the “capitalist” system of economic production [67]. Degrowth or degrowth-like approaches are being actively considered as climate risk mitigation strategies [68, 69], and degrowth would almost certainly be a highly effective measure for mitigating climate change. After all, if we were to drastically reduce or even completely eliminate the (industrial) sources of greenhouse gases, the amount of greenhouse gases that are being emitted would accordingly drastically sink. From the long-term perspective of humankind’s survival, degrowth is problematic in at least two ways. First, there is a risk that the general contraction of economic activity would also slow or eliminate progress in the domain of energy, which would, in turn, reduce the probability of successful space colonization due to an absence of suitable energy sources. Second, and more fundamental: If degrowth were to become a dominant societal paradigm, it is uncertain whether the long-term survival of humankind by means of space colonization would be regarded a desirable goal. In a literal sense, establishing extraterrestrial colonies would mean growth; the size of the total human population would grow, and the area of space-time that humans occupy would grow.

In a more philosophical sense, degrowth might even be antithetical to space colonization. Even though both degrowth and space colonization have a similar moral goal – increasing wellbeing – , the ends to that goal are very different. Within degrowth philosophy, the goal is, metaphorically speaking, not to “live beyond our means”: We should strive for “ecological balance”, and such a state should increase the average wellbeing. But the frame of reference is the status quo; Earth and humankind as we know it today. Space colonization, on the other hand, operates with a much larger frame of reference: All the future generations of humans (and other sentient beings) who could enjoy wellbeing if we succeed in colonizing space – and who will categorically be denied that wellbeing if we fail to colonize space [70]. The goal of space colonization as a moral project is not to live beyond our means, but to actively redefine and expand what our means are through scientific and technological progress.