

I negate the resolution, resolved: the appropriation of outer space by private entities is unjust. My value is justice and my value criterion is utilitarianism, maximizing the greatest good for the greatest number of people.

Default to a util – Maximizing aggregate utility for the general population allows for policies that align with each actor's preference for equal material outcomes.

Allen 17 (Daneille Allen, Director of the Edmond J. Safra Center for Ethics at Harvard University and professor in Harvard's Department of Government and Graduate School of Education, political theorist who has published broadly in democratic theory, political sociology, and the history of political thought, "Political Equality and Empowering Economies-- Toward a New Political Economy" Page 2 – 7 http://henryfarrell.net/wp/wp-content/uploads/2017/04/Allen_equality.pdf, Rose)

We were of course surprised not just by Brexit and Trump but also by the recession of 2008. We have therefore been living in a state of intellectual surprise for almost a decade. Why is it that we have been so blind-sided? The answer lies, I suggest, in the dominant liberal policy-making paradigms. The dominant liberal policy paradigm, emerging from places like Harvard's Kennedy School of Government and operating in Washington think-tanks and policy making-spaces, fuses two things: utilitarian economic welfarism and Rawlsian welfarism. Let me explain. **On the utilitarian model the goal of policy is to maximize happiness or, better, utility, as the economists label it, for society. In its crudest forms, the effort to maximize aggregate utility relies on cost-benefit analyses, linked to preferences typically cast in terms of material goods.** Much modeling of utility maximization in relation to preferences has abstracted away from the contextual, social, psychological, and cultural particularities of individual economic actors. **The pursuit of utilitarian welfare maximization has typically focused on maximizing aggregate growth—in terms of income and wealth—and on using redistributive policies to spread the benefit of that growth.** John Rawls is a philosopher who in 1971 published an important book called Theory of Justice; and one of his main goals was to overturn utilitarianism. He sought to prioritize the right over the good, establishing as the purpose of political order the protection of a framework of right, not the pursuit of any particular good, even utility or happiness. Yet even as, philosophically, he sought to overturn utilitarianism, in many ways Rawlsianism has reinforced its practical applications. **In the Rawlsian framework, the goal of a just society is to do two things. The first goal is to protect a set of basic liberties. Those basic liberties include things like the right of association, the right to free expression, and the right to participate politically. The second goal is to pursue social and economic structures, within the constraint of protecting those rights, that are to the benefit of the least well of in society ("the difference principle") and that secure fair equal opportunity throughout the society. Rawls' innovative and influential difference principle has anchored the major part of the reception of his work and led to a dominant focus, in philosophical discussions of justice, on the economic questions of distributive justice.** These questions have gotten far more attention than his discussion of basic rights. Indeed, in the policy world, Rawlsianism has turned into a basic focus on redistributive taxation as the starting point for building a policy framework. Without intending to, **Rawls reinforced the utilitarian paradigm precisely by hiving off consideration of basic rights from his treatment, via the difference principle, of social and economic spheres. He provided support for the utilitarian focus on growth, so long as it was tethered to redistribution. In both utilitarian welfarism and Rawlsian welfarism, as expressed in the policy world, the core question for justice is one of material distribution. This is recognizable. When someone invokes the concept of "social justice," the first thing that comes to mind tends to be matters of economic distribution and welfarist social rights.** Similarly, when a speaker invokes the concept of inequality, the relevant kind of inequality the speaker has in mind is almost invariably economic inequality. That's what scholars and the general public know how to talk about, thanks to the intellectual support provided by policy paradigms coming out of utilitarian welfarism, on the one hand, and Rawlsian welfarism, on the other. **Two features of this fused utilitarian-Rawlsian policy paradigm merit attention. The first is that both the utilitarian paradigm and the Rawlsian paradigm are universalizing. That is, they both abstract away from the contextual specifics of any given society to develop their overarching policy guidelines (utility maximization, on the one hand; and the difference principle, on the other).** For instance, in Theory of Justice, Rawls seeks the definition of the right by asking us to imagine stepping behind "a veil of ignorance," where we no longer know anything about our own social situation; from that perspective in the imagination, **we are to try to identify the principles that would constitute a just society, one that we will consider just regardless of whether we turn out to be one of the just society's wealthier or poorer, male or female, black or white citizens and so forth.** The principles of justice are to be devised without taking into account any underlying demographic features of a society. Moreover, **they are understood to apply universally, to any social context.** In the context of utilitarianism, the move to abstract away from social particularity is less a matter of the intentional design of the theory and more a necessary consequence of its mathematization. In principle, **utility is a concept that can embrace not only a given actors preferences for material outcomes but also his or her values and norms.** But the project of "maximizing" utility requires that we convert preferences into something arithmetic, and so financial interests are conventionally used as a proxy for utility, thus flattening the particularities of preference that may in fact give meaning and shape to the life of any particular agent. As in the Rawlsian case, the move to treat material gain, money, as a proxy for utility permits universalization. Financial stakes can be translated into a currency and compared across countries and contexts without reference to the underlying demographic facts or situations on the ground in any given country. In other words, one of the things both of these intellectual paradigms do is turn our attention away from the underlying demographic and institutional arrangements of a society. **Our minds are trained away from questions such as: Who has power and on account of what sorts of institutional structures and according to what sorts of allocations of resources and opportunities?** We lose the habit of analyzing the demographic and political specificity of any given society to the degree that we embrace and reinforce the habits of using utilitarian and/or Rawlsian welfarism. To give you a concrete example of the kind of abstraction I am trying to pinpoint, think about how the World Bank historically operated throughout the late 20th century. A set of boilerplate requirements for economic liberalization were applied to developing economies as conditions for receiving loans from the bank. The fact the stability of these welfarist policy paradigms has

taught us to overlook underlying social and political phenomena flows, I think, from a small philosophical mistake made in the early 19th century, and characterizing most variants of liberalism ever since. The mistake was to draw a distinction between two halves of that set of basic rights protected by liberalism. I introduced the concept of basic rights in describing Rawls' Theory of Justice, and provided as examples freedom of association, freedom of expression, and the right to participate in politics. With these three examples, I was limning the full spectrum of basic rights, including both halves as distinguished in the early 19th century. What does this mean exactly? An early 19th century French thinker named Benjamin Constant was the first to divide basic rights, basic human rights, into two categories. He called them the rights of the ancients and the rights of the moderns. The rights of the ancients comprised rights to participate in politics, in shaping the collective life of a society. We now call these positive liberties. The rights of the moderns, in contrast, comprise a right to property and the right to be left alone to take your property, which you have a right to, and to engage in commercial transactions in pursuit of your own wellbeing as you see fit. We call these negative liberties. The rights of the ancients were political rights, a right to be a part of a society that was working together to steer itself through collective decision making. The rights of the moderns, for Constant, were about private autonomy, having the right to steer your own life, and being more or less left alone by any collective decision-making, to the maximum degree possible. That distinction has worked its way into the philosophical tradition, and was extended by Isaiah Berlin in the early 20th century (who introduced the terms negative and positive liberties). Rawls, in Theory of Justice, argues that he's putting the two sets of rights back together again and that we need to protect the whole set of basic rights. In fact, however, the political rights become sacrifice-able in his argument, in various technical ways that I won't go into here (but do detail in Allen, "Difference without Domination"). Over the whole arc of Theory of Justice, we end up primarily focusing our thinking about politics on the conjunction of our private rights (the right to autonomy, property, association, expression, and so forth) with the economic questions associated with those rights-- the wealth associated with property and the need for redistribution that comes from the unequal flow of the gains of productivity across a population. In other words, when you lose sight of the political rights and focus primarily on the private rights or negative liberties, you can easily come to focus exclusively on economic questions and lose sight of political questions. That is what I see as having happened in the policy paradigms that dominated U.S. policy-making in the late 20th century. Another part of the story about the development of a truncated focus on economic questions— without reference to underlying political questions—relates to the transition over the course of the 20th century from the influence of law on public policy to the influence of economics. Sociologist Elizabeth Popp Berman (2014) has written well about the variety of factors— including new capacities for computation—that drove that change, and much more could be said about this transition. But the transition from law to economics also underscores the point I'm making. Legal thinking is fundamentally about the institutions of specific societies and about the consequences of particularities of those institutions for specific societies. Even sub-disciplines like comparative law that compare the legal systems in different places must begin by seeing the specificity of the legal institutions in each place under comparison. When law dominated the policy-making universe, universalizing policy approaches that abstracted from demographic and social specificity, were not broadly available. The abstracting, universalizing features of the fused utilitarian/Rawlsian welfarism that dominated policy making of the late 20th century seem to me to have produced the blindspots to society, politics, and political rights, that left us surprised not only by 2008 but also by Brexit and Trump.

My first contention is: **Private Space Sector Helps Econ**

Private Space Sector Helps Econ

The economy is fragile now, Covid has made it sensitive – even a small setback is devastating. Cohen 12-2.

Patricia Cohen [Cornell University, Princeton University BA, MPA. Editor and Reporter at Washington Post, Rolling Stone Magazine, New York Newsday]. 12-2-2021. "Omicron Could Knock a Fragile Economic Recovery Off Track". New York Times. <https://www.nytimes.com/2021/12/02/business/economy/omicron-economy.html> // msj AD

The forecasting firm has sketched out three scenarios, including one that predicts no discernible effect on economic growth and one severe enough to slash next year's in half. It will take several weeks before there is more clarity, Oxford concluded. The **current round of restrictions has already reduced travel and dampened consumer confidence. A virulent, vaccine-resistant strain could send the economy into a tailspin again,** while a mild one could leave health care systems unburdened and allow the recovery to get back on track. As a report released Wednesday from the Organization for Economic Cooperation and Development showed, although growth has been uneven, the world economy this year bounced back more quickly and strongly than had been anticipated. The report, compiled largely before the latest coronavirus news, nevertheless warned that growth was projected to slow: in the eurozone, to 4.3 percent next year from 5.2 percent in 2021; and in the United States, to 3.7 percent in 2022 from 5.6 percent. The organization characterized its outlook as "cautiously optimistic." But it reiterated how much economic fortunes are inextricably tied to the coronavirus: "The economic policy priority is to get people vaccinated," the report concluded. Indeed, **Omicron's threat to the recovery is just the latest in a series of zigzags that the world economy has endured** since the coronavirus began its march across continents last year. Hopes that an ebbing pandemic would permit daily life and commerce to return to normal have been repeatedly frustrated by the virus. **Even before this latest variant was discovered, a fourth wave of infections transformed Europe into a Covid hot spot** and prompted new restrictions like lockdowns in the Netherlands and Austria. During earlier outbreaks, trillions in government assistance helped quickly resuscitate the struggling U.S. and European economies. It also brought some unexpected side effects. Combined with pent-up demand, that support helped **produce a shortage of labor and materials and rising inflation.** Given how much debt was racked up in the past 18 months, such aid is unlikely to recur even with a sharp downturn — and neither are wholesale closures. Vaccines

provide some protection, and many people say they are unwilling to go back into hibernation. People and business alike have shifted into a wait-and-see mode. “A lot of things do seem like they are on hold, like labor market or overall consumption decisions,” said Nick Bunker, director of economic research for the job site Indeed. How that will affect unemployment levels and inflation rates is unclear. Jerome H. Powell, the Federal Reserve chair, indicated on Tuesday that concern about stubborn inflation was growing. The O.E.C.D. also warned that **inflation could be higher and last longer than originally anticipated. Omicron’s appearance just adds to the uncertainty**, Laurence Boone, the organization’s chief economist, said in an interview. “If it’s something we can cope with, like the virus we have so far, then it may **prolong disruptions of the supply chain, and inflation could take longer to sort out**,” she said. But if the new variant causes wider shutdowns and plunging confidence, she added, it could reduce the spending binge and dampen rising prices. In recent days, governments have reacted with a confusing hodgepodge of stern warnings, travel bans, mask mandates and testing rules that further cloud the economic outlook. That patchwork response combined with people’s varying tolerance for risk means that, at least in the short term, the virus’s latest swerves will have a vastly different effect depending on where you are and what you do. In France, Luna Park, an annual one-month amusement fair held in the southern city of Nice and slated to open this weekend, was called off after the government suddenly requisitioned the massive warehouse where roller coasters, shooting galleries and merry-go-rounds were being set up in order to convert the space to an emergency vaccination center. “Today I find myself trying to save my company, and I’m not sure that I can,” said Serge Paillon, park’s owner. He feared he would face huge losses, including 500,000 euros (about \$566,000) he had already invested in the event, as well as refunds for tickets that had been on sale for several months. Mr. Paillon furloughed 20 employees. Another 200 festival workers who were coming from around the country to manage the 60 games and rides were told to stay home. **“For a year and a half, it was already a disaster,”** Mr. Paillon said. **“And now it’s starting again.”**

The aff decimates the economy. 2 warrants:

First, the aff destroys the ability of private entities to access economic resources from space. Weinzierl and Sarang 21.

Matt Weinzierl [Joseph and Jacqueline Elbling Professor of Business Administration, Research Associate at the National Bureau of Economic Research] and Mehak Sarang [Research Associate at HBS | MIT Space Exploration Initiative]. “The Commercial Space Age Is Here” Harvard Business Review. 12 February 2021. <<https://hbr.org/2021/02/the-commercial-space-age-is-here>> [AD]

There’s no shortage of hype surrounding the commercial space industry. But while tech leaders promise us moon bases and settlements on Mars, the **space economy has** thus far **remained distinctly local** — at least in a cosmic sense. **Last year**, however, we **crossed an important threshold**: For the first time in human history, humans accessed space via a vehicle built and owned not by any government, but by a private corporation with its sights set on affordable space settlement. It was the first **significant step towards building an economy both in space and for space**. The implications — for business, policy, and society at large — are hard to overstate. In 2019, 95% of the estimated **\$366 billion in revenue earned in the space sector** was from the space-for-earth economy: that is, goods or services produced in space for use on earth. The space-for-earth economy includes telecommunications and internet infrastructure, earth observation capabilities, national security satellites, and more. This **economy is booming**, and though research shows that it faces the challenges of overcrowding and monopolization that tend to arise whenever companies compete for a scarce natural resource, projections for its future are optimistic. Decreasing costs for launch and space hardware in general have enticed new entrants into this market, and companies in a variety of industries have already begun leveraging satellite technology and access to space to drive innovation and efficiency in their earthbound products and services. In contrast, the space-for-space economy — that is, goods and services produced in space for use in space, such as **mining the Moon or asteroids for material** with which to construct in-space habitats or supply refueling depots — has **struggled to get off the ground**. As far back as the 1970s, research commissioned by NASA predicted the rise of a space-based economy that would supply the demands of hundreds, thousands, even millions of humans living in space, dwarfing the space-for-earth economy (and, eventually, the entire terrestrial economy as well). The realization of such a vision would change how all of us do business, live our lives, and govern our societies — but to date, we’ve never even had more than 13 people in space at one time, leaving that dream as little more than science fiction. Today, however, there is reason to think that **we may finally be reaching the first stages of a true space-for-space economy**. SpaceX’s recent achievements (in cooperation with NASA), as well as upcoming efforts by Boeing, Blue Origin, and Virgin Galactic to put people in space sustainably and at scale, mark the opening of a new chapter of spaceflight led by private firms. These firms have both the intention and capability to bring private citizens to space as passengers, tourists, and — eventually — settlers, opening the door for businesses to start meeting the demand those people create over the next several decades with an array of space-for-space goods and services. In our recent research, we examined how the model of centralized, government-directed human space activity born in the 1960s has, over the last two decades, made way for a new model, in which public initiatives in space increasingly share the stage with private priorities. Centralized, government-led space programs will inevitably focus on space-for-earth activities that are in the public interest, such as national security, basic science, and national pride. This is only natural, as expenditures for these programs must be justified by demonstrating benefits for citizens — and the citizens these governments represent are (nearly) all on earth. In contrast to governments, the private sector is eager to put people in space to pursue their own personal interests, not the state’s — and then supply the demand they create. This is the vision driving SpaceX, which in its first twenty years has entirely upended the rocket launch industry, securing 60% of the global commercial launch market and building ever-larger spacecraft designed to ferry passengers not just to the International Space Station (ISS), but also to its own promised settlement on Mars. Today, the space-for-space market is limited to supplying the people who are already in space: that is, the handful of astronauts employed by NASA and other government programs. While SpaceX has grand visions of supporting large numbers of private space travelers, their current space-for-space activities have all been in response to demand from government customers (i.e., NASA). But as decreasing launch costs enable companies like SpaceX to leverage economies of scale and put more people into space, growing private

sector demand (that is, tourists and settlers, rather than government employees) could turn these proof-of-concept initiatives into a sustainable, large-scale industry. This model — of selling to NASA with the hopes of eventually creating and expanding into a larger private market — is exemplified by SpaceX, but the company is by no means the only player taking this approach. For instance, while SpaceX is focused on space-for-space transportation, another key component of this burgeoning industry will be manufacturing. Made In Space, Inc. has been at the forefront of manufacturing “in space, for space” since 2014, when it 3D-printed a wrench onboard the ISS. Today, the company is exploring other products, such as high-quality fiber-optic cable, that terrestrial customers may be willing to pay to have manufactured in zero-gravity. But the company also recently received a \$74 million contract to 3D-print large metal beams in space for use on NASA spacecraft, and future private sector spacecraft will certainly have similar manufacturing needs which Made In Space hopes to be well-positioned to fulfill. Just as SpaceX has begun by supplying NASA but hopes to eventually serve a much larger, private-sector market, Made In Space’s current work with NASA could be the first step along a path towards supporting a variety of private-sector manufacturing applications for which the costs of manufacturing on earth and transporting into space would be prohibitive. Another major area of space-for-space investment is in building and operating space infrastructure such as habitats, laboratories, and factories. Axiom Space, a current leader in this field, recently announced that it would be flying the “first fully private commercial mission to space” in 2022 onboard SpaceX’s Crew Dragon Capsule. Axiom was also awarded a contract for exclusive access to a module of the ISS, facilitating its plans to develop modules for commercial activity on the station (and eventually, beyond it). This infrastructure is likely to spur investment in a wide array of complementary services to supply the demand of the people living and working within it. For example, in February 2020, Maxar Technologies was awarded a \$142 million contract from NASA to develop a robotic construction tool that would be assembled in space for use on low-Earth orbit spacecraft. Private sector spacecraft or settlements will no doubt have need for a variety of similar construction and repair tools. And of course, the private sector isn’t just about industrial products. Creature comforts also promise to be an area of rapid growth, as companies endeavor to support the human side of life in the harsh environment of space. In 2015, for example, Argotec and Lavazza collaborated to build an espresso machine that could function in the zero-gravity environment of the ISS, delivering a bit of everyday luxury to the crew. To be sure, people have dreamt of using the vacuum and weightlessness of space to source or make things that cannot be made on earth for half a century, and time and again the business case has failed to pan out. Skepticism is natural. Those failures, however, have been in space-for-earth applications. For example, two startups of the 2010s, Planetary Resources, Inc. and Deep Space Industries, recognized the potential of space mining early on. For both companies, however, the lack of a space-for-space economy meant that their near-term survival depended on selling mined material — precious metals or rare elements — to earthbound customers. When it became clear that demand was insufficient to justify the high costs, funding dried up, and both companies pivoted to other ventures. These were failures of space-for-earth business models — but the demand for in-space mining of raw building material, metals, and water will be enormous once humans are living in space (and are therefore far cheaper to supply). In other words, when people are living and working in space, we are likely to look

back on these early asteroid mining companies less as failures and more as simply ahead of their time. The **opportunity presented by the space-for-space economy is huge** — but it could easily be missed. **To seize this moment**, policymakers must provide regulatory and **institutional frameworks** that will **enable the** risk-taking and **innovation necessary for a** decentralized, **private-sector-driven space economy**. There are three specific policy areas we believe will be especially important.

Second, a growing private space sector opens more jobs. Paur 12.

Jason Paur [Journalist at WIRED]. “Private Space Industry Races to Fill Job Openings ” WIRED. 27 February 2012.
<https://www.wired.com/2012/02/private-space-races-to-fill-job-openings/> [AD]

THE BURGEONING PRIVATE **space industry continues to grow and based on hiring needs, there is more growth on the horizon**. Three of the **leaders representing both commercial orbital and sub-orbital missions** have busy human resource departments trying fill dozens of openings. Scaled Composites, the company designing, building and testing Virgin Galactic’s SpaceShipTwo even **produced a recruiting video trying to lure engineers to the Mojave Desert**. Another southern California company, **SpaceX has pages of hiring needs** as the company prepares to begin a busy launch schedule over the next several years. And **industry veteran Orbital continues to add plenty of engineers to its ranks every month**. SpaceX recently announced more deals to launch satellites using its Falcon 9 rocket. The Hawthorne, California based company had to reschedule its first planned flight to the International Space Station which was suppose to happen earlier this month, but has more than 40 launches on its schedule for the next several years. All of the activity is reflected on the company’s hiring page where dozens of positions are listed ranging from a few sales, HR and fiance positions, to dozens of engineer openings. Founded by Elon Musk, SpaceX may soon follow some of the entrepreneur’s other companies with an IPO. Musk started SpaceX in 2002 after selling PayPal to Ebay. He told Bloomberg there is a good chance SpaceX could go public next year. North of SpaceX headquarters in the Los Angeles basin, Mojave based Scaled Composites and its partner The Spaceship Company are also working hard to both build spaceships and hire the engineers needed to design and build the hardware. Scaled Composites is expected to begin powered test flights of SpaceShipTwo later this year. The sub-orbital spacecraft will be built for Virgin Galactic just a few blocks away from Scaled at the Mojave Air & Space Port by The Spaceship Company. Scaled Composites released a video this month (below) highlighting the company’s long history of creative designs (aircraft, not videos). In an effort to try and fill some of the vacancies, **Virgin Galactic and The Spaceship Company** are heading to the aerospace hotspot of Wichita, Kansas next month **trying to attract talented engineers** from some of the traditional aviation companies interested in a change of scenery. Both SpaceX and Scaled Composites will be teaming up together on Paul Allen’s Stratolaunch project that will combine a SpaceX Dragon rocket with what will be the world’s largest airplane as the launch platform. We assume this means even more engineers needed in Mojave.

Employment and jobs are necessary for a good economy. Lister 13.

Jonathan Lister [VP, Global Sales Solutions & Canada Country Manager at LinkedIn, University of Toronto - Rotman School of Management]. “How Does Hiring Additional Employees Affect the Economy?” CHRON. March 2013.
<https://smallbusiness.chron.com/hiring-additional-employees-affect-economy-31964.html> [AD]

Employment and **unemployment** are the **driving forces behind economic** growth and **stagnation**. On a national scale, unemployment rates affect consumer confidence in a variety of ways, including the desire to make purchases. As a small business owner, you can affect your local economy by hiring additional workers as long as your hiring is in response to consumer reaction to your company's products and services. New **employment opportunities** provide chances for previously unemployed or under-employed workers to increase take home pay and better their meet financial obligations. Increased employee earnings **leads to a higher rate of consumer spending**, which **benefits other businesses** who depend on consumer sales to stay open and pay vendors. Hiring additional employees for your small business can achieve these affects on a small scale and increase the money circulating in the marketplace. This **leads to a healthier** overall local **economy** and allows more businesses to thrive. **When** a **high level of unemployment exists** locally or nationally, **economic growth suffers**. Consumers save more money and devote less to spending outside of the bare minimums such as food, shelter and servicing debt. **Hiring** additional **employees** for your small business **stimulates economic growth** on a small scale as a byproduct of localized increases in consumer spending. The more money consumers spend on goods and services, the more available capital your company and others in the area have to develop larger product lines and service offerings.

Economic collapse causes nuclear war - deterrence collapses, trade tensions, diversionary theory, and use it or lose it pressures

Tønnesson 15 [(Stein, Research Professor, Peace Research Institute Oslo; Leader of East Asia Peace program, Uppsala University) "Deterrence, interdependence and Sino-US peace," International Area Studies Review, Vol. 18, No. 3, p. 297-311, 2015] SJD1

Several recent works on China and Sino-US relations have made substantial contributions to the current understanding of how and under what circumstances a combination of nuclear deterrence and economic interdependence may reduce the risk of war between major powers. At least four conclusions can be drawn from the review above: first, those who say that interdependence may both inhibit and drive conflict are right.

Interdependence raises the cost of conflict for all sides but asymmetrical or unbalanced dependencies and negative trade expectations may generate tensions leading to trade wars among inter-dependent states that in turn increase the risk of military conflict (Copeland, 2015: 1, 14, 437; Roach, 2014). The risk may increase if one of the interdependent countries is governed by an inward-looking socio-economic coalition (Solingen, 2015); second, the risk of war between China and the US should not just be analysed bilaterally but include their allies and partners. Third party countries could drag China or the US into confrontation; third, in this context it is of some comfort that the three main economic powers in Northeast Asia (China, Japan and South Korea) are all deeply integrated economically through production networks within a global system of trade and finance (Ravenhill, 2014; Yoshimatsu, 2014: 576); and fourth, decisions for war and peace are taken by very few people, who act on the basis of their future expectations. International relations theory must be supplemented by foreign policy analysis in order to assess the value attributed by national decision-makers to economic development and their assessments of risks and opportunities. If leaders on either side of the Atlantic begin to seriously fear or anticipate their own nation's decline then they may blame this on external dependence, appeal to anti-foreign sentiments, contemplate the use of force to gain respect or credibility, adopt protectionist policies, and ultimately refuse to be deterred by either nuclear arms or prospects of socioeconomic calamities. Such a dangerous shift could happen abruptly, i.e. under the instigation of actions by a third party – or against a third party. Yet as long as there is both nuclear deterrence and interdependence, the tensions in East Asia are unlikely to escalate to war. As Chan (2013) says, all states in the region are aware that they cannot count on support from either China or the US if they make provocative moves. The greatest risk is not that a territorial dispute leads to war under present circumstances but that changes in the world economy alter those circumstances in ways that render inter-state peace more precarious. If China and the US fail to rebalance their financial and trading relations (Roach, 2014) then a trade war could result, interrupting transnational production networks, provoking social distress, and exacerbating nationalist emotions. This could have unforeseen consequences in the field of security, with nuclear deterrence remaining the only factor to protect the world from Armageddon, and unreliably so. Deterrence could lose its credibility: one of the two great powers might gamble that the other yield in a cyber-war or conventional limited war, or third party countries might engage in conflict with each other, with a view to obliging Washington or Beijing to intervene.

Nuclear war causes extinction. Starr 15.

[Steven, Senior Scientist for Physicians for Social Responsibility (www.psr.org) and Director of the Clinical Laboratory Science Program at the University of Missouri. Starr has published in the Bulletin of the Atomic Scientists and the Strategic Arms Reduction (STAR) website of the Moscow Institute of Physics and Technology] "Nuclear War: An Unrecognized Mass Extinction Event Waiting To Happen." Ratical. March 2015. <https://ratical.org/radiation/NuclearExtinction/StevenStarr022815.html> TG

A war fought with 21st century strategic **nuclear weapons** would be more than just a great catastrophe in human history. If we allow it to happen, such a **war would be a mass extinction** event that ends human history. There is a profound difference between extinction and "an unprecedented disaster," or even "the end of civilization," because even after such an immense catastrophe, human life would go on. But extinction, by definition, is an event of utter finality, and a nuclear war that could cause human extinction should really be considered as the ultimate criminal act. It certainly would be the crime to end all crimes. The world's leading climatologists now tell us that nuclear war threatens our continued existence as a species. Their studies predict that a large nuclear war, especially one fought with strategic nuclear weapons, would create a post-war environment in which for many years it would be too cold and dark to even grow food. Their findings make it clear that not only humans, but most large animals and many other forms of complex life would likely vanish forever in a nuclear darkness of our own making. **The environmental consequences of nuclear war would attack the ecological support systems of life at every level. Radioactive fallout produced not only by nuclear bombs, but also by the destruction of nuclear power plants and their spent fuel pools, would poison the biosphere.** Millions of tons of **smoke would act to destroy Earth's protective ozone layer and block most sunlight from reaching Earth's surface, creating Ice Age weather conditions that would last for decades.** Yet the political and military leaders who control nuclear weapons strictly avoid any direct public discussion of the consequences of nuclear war. They do so by arguing that nuclear weapons are not intended to be used, but only to deter. Remarkably, the leaders of the Nuclear Weapon States have chosen to ignore the authoritative, long-standing scientific research done by the climatologists, research that predicts virtually any nuclear war, fought with even a fraction of the operational and deployed nuclear arsenals, will leave the Earth essentially uninhabitable.

My second contention is: **Mining Rare Earth Minerals**

Mining Rare Earth Minerals

Asteroid Mining has attracted the private sector, stony iron asteroids have Rare Earth Minerals. Ellery et al. 18.

Alex Ellery et al. [Carleton University · Department of Mechanical and Aerospace Engineering BSc (Hons), MSc, PhD]. "Towards In-Situ Manufacture of Magnetic Devices from Rare Earth Materials Mined from Asteroids" Conference Paper. June 2018. <https://robotics.estec.esa.int/i-SAIRAS/isairas2018/Papers/Session%2010c/1_iSAIRAS_Ellery_2018_final-11-40-Ellery-Alex.pdf> [AD]

Asteroid mining is of **great interest for industrial development** of the space environment, and indeed, **has attracted private sector investment** such as **Deep Space Industries** and **Planetary Resources**. Encouragingly, the **US Space Resources Exploration & Utilisation Act (2015) recognises property claims for material extracted from asteroids**. However, the current obsession with water resources is neglecting other valuable asteroid materials – the golden apples - which have direct applications in bootstrapping an asteroid-based infrastructure. Human involvement will require an inordinate mass of infrastructure including that required for life support. Hence, any prospective asteroid exploitation missions will be entirely robotic. Whereas the Moon requires a Δv of 6.3 km/s to land on its surface from LEO, a Δv of 4-6 km/s (nominally 5.5 km/s) is required to reach a near-earth object (NEO); furthermore, for a sample return trip to Earth, lofting to an Earth return trajectory requires a Δv of 3 km/s from the Moon but a Δv of only 1-2 km/s from an NEO [1]. Much **interest in asteroid mining has been directed towards the mining of platinum group metals (PG)**. The two **most promising asteroid types** for PGM recovery **are LL ordinary chondrites** comprised of 1- 5% Fe-Ni metal including 50-220 ppm PGM **and Mtype asteroids comprised almost entirely of Fe-Ni metal** with 100-300 ppm PGM [2,3]. Despite Pt being a widely used catalyst and desirable for its preciousness, we suggest rare earth metals might be more appropriate target for asteroid mining. Both PGM and rare earth metals plus cobalt, magnesium, niobium, tantalum and tungsten are considered to be critical materials for terrestrial applications. Rare earth metals in particular are of great functional utility, the demand for which on Earth exceeds supply, a situation that is projected to worsen over time. Rare earth elements comprise 15 lanthanides (cerium, dysprosium, erbium, europium, gadolinium, holmium, lanthanum, lutetium, neodymium,

praseodymium, promethium, samarium, terbium, thulium and ytterbium) and scandium and yttrium. The most useful rare earth metals include cerium, promethium, scandium, neodymium, dysprosium and praseodymium. In meteoritic material, certain elements are preferentially concentrated [4]: Co, W, Sn and PGM are concentrated in meteoritic nickeliron; lanthanides (rare earth metals), U and Th are concentrated in phosphates and diopside (MgCaSi₂O₆ pyroxene); and Cs is concentrated in plagioclase. However, it is important to note that rare earth elements in meteorites are very low in abundance <0.6% (Table 1). Nevertheless, it appears that **stony-iron asteroids** are **the most appropriate sources of rare earths**.

Need more rare earth minerals to combat climate change & global warming. Calma 21.

Justine Calma [science reporter at The Verge covering the environment and climate change]. “New climate goals are going to need a lot more minerals” The Verge. 5 May 2021. <<https://www.theverge.com/2021/5/5/22421081/critical-minerals-climate-change-goals-clean-energy>> [AD]

Wind and solar power generation are also mineral-hungry industries. **Wind turbines need rare earth minerals** for magnets, while solar panels are made with copper, silicon, and silver. An increase in renewable energy is also spurring the need to modernize electrical grids, which can't be done without more copper and aluminum. **Existing supply chains for these minerals are already vulnerable**, the IEA notes. Mining for certain minerals tends to be concentrated in a few places — sometimes in just one country. About seventy percent of the world's cobalt came from the Democratic Republic of Congo in 2019, while some 60 percent of rare earth minerals were mined in China. Relying on a single source for these minerals means that the **whole world could be affected by otherwise localized disasters like flooding, drought, or conflict**. It can also **breed human rights, labor, and environmental abuses**. Major tech companies and Tesla have already faced a lawsuit over children killed while mining cobalt in the DRC. Leaders will need to grapple with these problems as they work to transition their economies to clean energy. Designing technologies that minimize the use of these minerals could help alleviate some of the pressure on supply chains, according to the IEA. So could more recycling of EV batteries, solar panels, and wind turbines. Even with that kind of progress, the **IEA expects a shortfall unless new mineral deposits are tapped**. Production of new critical minerals isn't ramping up fast enough because investors aren't convinced that world leaders are fully committed to their climate goals, according to Birol. “If they get from the governments unmistakable signals that clean energy technologies are the technologies of tomorrow, then I believe this investment will flow,” he says. Until then, **limited supplies of critical minerals** will **loom large over any global action on climate change**.

Global Warming causes extinction. Klein 14.

Naomi Klein [award-winning journalist, syndicated columnist, former Miliband Fellow at the London School of Economics, member of the board of directors of 350.org]. *This Changes Everything: Capitalism vs. the Climate*, pp. 12-14. September 14.

In a 2012 report, the World Bank laid out the gamble implied by that target. **“As global warming approaches and exceeds 2-degrees Celsius, there is a risk of triggering nonlinear tipping elements. Examples include** the disintegration of the West Antarctic ice sheet leading to more rapid sea-level rise, or **large-scale Amazon dieback drastically affecting ecosystems, rivers, agriculture, energy production, and livelihoods**. This would further add to 21st-century global warming and impact entire continents.” In other words, once we allow temperatures to climb past a certain point, where the mercury stops is not in our control.¶ But the bigger problem—and the reason Copenhagen caused such great despair—is that because governments did not agree to binding targets, they are free to pretty much ignore their commitments. Which is precisely what is happening. Indeed, emissions are rising so rapidly that unless something radical changes within our economic structure, 2 degrees now looks like a utopian dream. And it's not just environmentalists who are raising the alarm. The World Bank also warned when it released its report that **“we're on track to a 4-C warmer world** [by century's end] **marked by extreme heat waves, declining global food stocks, loss of ecosystems and biodiversity, and life-threatening sea level rise**.” And the report cautioned that, **“there is also no certainty that adaptation to a 4-C world is possible**.” Kevin Anderson, former director (now deputy director) of the Tyndall Centre for Climate Change, which has quickly established itself as one of the U.K.'s premier climate research institutions, is even blunter; he says **4 degrees Celsius warming—7.2 degrees Fahrenheit—is “incompatible with an organized, equitable, and civilized global community**.”¶ We don't know exactly what a 4 degree Celsius world would look like, but even the best-case scenario is likely to be calamitous. **Four degrees of warming could raise global sea levels by 1 or possibly even 2 meters by 2100** (and would lock in at least a few additional meters over future centuries). This would drown some island nations such as the Maldives and Tuvalu, and inundate many coastal areas from Ecuador and Brazil to the Netherlands to much of California and the northeastern United States as well as huge swaths of South and Southeast Asia. Major cities likely in jeopardy include Boston, New York, greater Los Angeles, Vancouver, London, Mumbai, Hong Kong, and Shanghai.¶ Meanwhile, **brutal heat waves that can kill tens of**

thousands of people, even in wealthy countries, **would become entirely unremarkable summer events on every continent but Antarctica**. **The heat would also cause staple crops to suffer dramatic yield losses across the globe** (it is possible that Indian wheat and U.S. could plummet by as much as 60 percent), this at a time **when demand will be surging due to population growth and a growing demand for meat**. And since crops will be facing not just heat stress but also extreme events such as wide-ranging droughts, flooding, or pest outbreaks, the **losses could easily turn out to be more severe than the models have predicted**. **When you add ruinous hurricanes, raging wildfires, fisheries collapses, widespread disruptions to water supplies, extinctions, and globe-trotting diseases to the mix, it indeed becomes difficult to imagine that a peaceful, ordered society could be sustained** (that is, where such a thing exists in the first place).¶ And keep in mind that these are the optimistic scenarios in which warming is more or less stabilized at 4 degrees Celsius and does not trigger tipping points beyond which runaway warming would occur. Based on the latest modeling, it is becoming safer to assume that **4 degrees could bring about a number of extremely dangerous feedback loops**—an Arctic that is regularly ice-free in September, for instance, or, according to one recent study, **global vegetation that is too saturated to act as a reliable “sink”**, leading to more carbon being emitted rather than stored. Once this happens, any hope of predicting impacts pretty much goes out the window. And this process may be starting sooner than anyone predicted. In May 2014, NASA and the University of California, Irvine scientists revealed that glacier melt in a section of West Antarctica roughly the size of France now “appears unstoppable.” This likely spells down for the entire West Antarctic ice sheet, which according to lead study author Eric Rignot “comes with a sea level rise between three and five metres. Such an event will displace millions of people worldwide.” The disintegration, however, could unfold over centuries and there is still time for emission reductions to slow down the process and prevent the worst. ¶ Much more frightening than any of this is the fact that **plenty of mainstream analysts think that** on our current emissions trajectory, **we are headed for even more than 4 degrees of warming**. In 2011, the usually staid International Energy Agency (IEA) issued a report predicting that **we are actually on track for 6 degrees Celsius**—10.8 degrees Fahrenheit—of warming. And as the IEA’s chief economist put it: “Everybody, even the school children, knows that **this will have catastrophic implications for all of us**.” (The evidence indicates that **6 degrees of warming is likely to set in motion several major tipping points**—not only slower ones such as the aforementioned breakdown of the West Antarctic ice sheet, but possibly more abrupt ones, **like massive releases of methane from Arctic permafrost**.) The accounting giant PricewaterhouseCoopers also published a report warning businesses that we are headed for “4-C, or even 6-C” of warming.¶ These various projections are the equivalent of every alarm in your house going off simultaneously. And then every alarm on your street going off as well, one by one by one. They mean, quite simply, that **climate change has become an existential crisis for the human species**. The only historical precedent for a crisis of this depth and scale was the Cold War fear that we were headed toward nuclear holocaust, which would have made much of the planet uninhabitable. But that was (and remains) a threat; a slim possibility, should geopolitics spiral out of control. The vast majority of nuclear scientists never told us that we were almost certainly going to put our civilization in peril if we kept going about our daily lives as usual, doing exactly what we were already going, which is what climate scientists have been telling us for years. ¶ As the Ohio State University climatologist Lonnie G. Thompson, a world-renowned specialist on glacier melt, explained in 2010, **“Climatologists, like other scientists, tend to be a stolid group. We are not given to theatrical rantings** about falling skies. Most of us are far more comfortable in our laboratories or gathering data in the field than we are giving interviews to journalists or speaking before Congressional committees. When then are climatologists speaking out about the dangers of global warming? The answer is that virtually **all of us are now convinced that global warming poses a clear and present danger to civilization**.