# 1AC --- Big tech --- JCCC

## 1AC --- Platforms --- v2

### 1AC --- Advantage --- Primacy

#### The United States Federal Government should substantially increase prohibitions on platform utilities by expanding the scope of its core antitrust laws to include standards against owning and competing on a platform and the acquisition of potential and/or nascent competitors

#### The plan effectively limits big tech

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The Plan [Among Warren's 48 plans](https://www.investopedia.com/elizabeth-warren-s-economic-plan-explained-4706529), is the "How we can break up Big Tech" plan. According to her, companies acquire smaller rivals and use their proprietary online marketplaces to unfairly limit competition. Her plan to fix this consists of two main parts and some goals for the future: Online Marketplaces = Platform Utilities Warren wants to pass legislation that requires **online marketplaces** run by companies with annual global revenue above $90 million to be designated as "**platform utilities." Companies with annual global revenue above $25 billion will not be allowed to own** platform **utilities and participants** on it at the same time. In other words, companies will not be able to sell services on a public marketplace they own and control. Platform utilities will have to treat all users fairly and equally. If sued and found guilty of violating the neutrality requirement, they would have to pay a fine equal to 5% of their annual revenue. **Reversing mergers** Warren will also appoint federal regulators who will reverse "**illegal**" and "**anti-competitive**" mergers. Goals Her three goals are to give people more control over how their personal data is collected, shared, and sold, help news outlets and artists keep more of the value their content generates, and ensure that no foreign power uses social media to influence U.S. elections. What the Plan Means for the FAANGs **Facebook**: Under Warren's plan, Facebook's 2012 acquisition of Instagram and 2014 acquisition of WhatsApp would be reversed, something Zuckerberg called an "existential" threat. "Facebook would face real pressure from Instagram and WhatsApp to improve the user experience and protect our privacy," says Warren's campaign website. Seventy percent of U.S. adults and 51% of U.S. teens use Facebook, according to [Pew Research](https://www.pewresearch.org/fact-tank/2019/05/16/facts-about-americans-and-facebook/). However, 70% of U.S. teens use Instagram, the platform Facebook is using to compete with the likes of Snap Inc. and TikTok. The company will be depending on Instagram to drive ad revenue in the coming years. **Amazon**: Amazon.com Inc. ([AMZN](https://www.investopedia.com/markets/quote?tvwidgetsymbol=amzn)) would **not be allowed to sell its own products** alongside third-party sellers on Amazon.com, if Warren's legislation is passed. Its privately-owned brands, like AmazonBasics, would have to be spun off or shuttered. Its mergers with Whole Foods (2017) and Zappos (2009) would also be unwound. Most of the hundreds of brands Amazon owns haven't had too much success, but Oweise Khazi, senior principal at Gartner L2, told [Retail Dive](https://www.retaildive.com/news/with-private-brands-amazon-plays-the-long-game/550790/) that Amazon is "playing the long game" and will be studying the massive amount of data it has access to. **Apple**: Apple Inc. ([AAPL](https://www.investopedia.com/markets/quote?tvwidgetsymbol=aapl)) is not among the companies mentioned on Warren's official campaign website, but the **AppStore would also qualify as a platform utility**. This means Apple would not be able to sell its own applications, like Apple Music and Apple News, on the platform. “It’s got to be one or the other,” said Warren when asked about it by [The Verge](https://www.theverge.com/2019/3/9/18257965/elizabeth-warren-break-up-apple-monopoly-antitrust). “Either they run the platform or they play in the store. They don’t get to do both at the same time.” This would come in the way Apple's Services business ambitions. Netflix: Netflix Inc. ([NFLX](https://www.investopedia.com/markets/quote?tvwidgetsymbol=nflx)) faces little regulatory risk at this point. In March 2019, BMO Capital Markets made Netflix its top technology stock instead of Amazon for this reason, according to [CNBC](https://www.cnbc.com/2019/03/15/bmo-favors-netflix-over-amazon-because-of-sen-warren.html). The debate about whether the company is a budding [monopoly](https://www.investopedia.com/terms/m/monopoly.asp) with its massive original content budget is still ongoing. Alphabet Inc. ([GOOGL](https://www.investopedia.com/markets/quote?tvwidgetsymbol=googl)): **Google’s Ad Exchange and** Google **Search are both platform utilities** under the proposed law and would **need to be spun off**. Alternatively, Google would have to stop including its own comparison shopping service, restaurant ratings etc. in search results, because it would be competing with other companies like Yelp, and separate its business from Ad Exchange. Its acquisitions of Waze, Nest and DoubleClick would also be unwound

#### Future tech is the only credible threat China will pose to U.S primacy --- The ability of the U.S to leverage private innovation is key

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In order to totally understand the need of the United States to maintain and compete for artificial intelligence (AI) supremacy over our near peer threat, China, we must first look at the Chinese Communist Party’s (CCP) militarily goals and what makes them unique in their pursuit. According to the Department of Defense’s (DOD) 2000’s Annual Report on Military and Security Developments Involving the People’s Republic of China, the People’s Liberation Army’s (PLA) **ground, air, and naval forces** were sizable but **mostly obsolete**. Their **cyber capabilities were rudimentary**, and its use of information technology was well behind the curve.1 China’s defense industry was **struggling to produce high-quality systems**. Flash forward two decades and the PLA’s objective is to become a “world-class military” by the end of 2049; this per the DOD’s Military and Security Developments Involving the People’s Republic of China, 2020. How does a country once floundering by the wayside with obsolete weaponry and technology make such dramatic leaps to be able to announce their intentions of becoming a “world-class” military by the end of 2049? In just a short 20 years, the Chinese are already surpassing us, the mightiest military in the world, in shipbuilding, land-based conventional ballistic and cruise missiles, and integrated air defense systems. Alongside conventional warfare, the CCP is investing heavily in technology innovations and has specifically mentioned **AI** as a **paramount part of their National Defense Strategy**. Why is AI so important? What is AI? AI can be thought of as the ability of an artificial agent to achieve goals in a “wide range of environments.”2 What China is interested in is more in line with the deep learning aspect of AI. Deep learning, now popularly associated with artificial intelligence, is a technique that harnesses neural networks to train algorithms to do specified tasks, such as image recognition.3 With this deep learning, there are many military applications such as automating military equipment to perform a task(s) while learning better strategies to simply taking more and more of the human element out while the AI makes decisions based on the algorithms that are input into the system(s). While focusing on how it will benefit China economically and socially, they will also be utilizing technology, specifically AI to improve their military efforts; no real line between them in the Chinese construct. Although China is not yet up to par with the rest of the—primarily Western—world, they are putting significant capital in its progress. A perfect example of how serious China is in investing in AI is the AI startup SenseTime. In a four-year span, it went from an academic project to becoming the world’s most valuable artificial intelligence company with a current valuation of $4.5 billion. SenseTime is now the largest algorithm provider in China, as well as the fifth largest AI platform. Along with other tech titans, SenseTime is working with the Chinese government on Made in China 2025, an initiative to make the country economically autonomous.4 Made in China 2025 states the strategic goals of turning China to a major manufacturing power. By 2020, their goal was to consolidate manufacturing power and increase manufacturing digitalization. By 2035, Chinese manufacturing will reach an intermediate level among manufacturing powers. By 2049, China’s manufacturing sector status will become more consolidated, and China will become the leader among the world’s manufacturing powers.5 In order to accomplish this, the Chinese are relying on technology innovations from AI companies such as SenseTime. This brings us to the why and how China is able to rely on civilian innovation as much as it does for not only the social and economic benefits but also the direct alignment of military goals. ”Military-Civil Fusion, or MCF, is an aggressive, national strategy of the CCP. Its goal is to enable the PRC to develop the most technologically advanced military in the world… Under MCF, the CCP is systematically reorganizing the Chinese science and technology enterprise to ensure that new innovations simultaneously advance economic and military development.”6 As a national strategy, military-civil fusion traces roots to the Maoist idea of “people’s warfare,” which prescribed a “whole-of-society” approach to military mobilization, and builds on industrial policy to drive military modernization.7 While civilian companies, such as SenseTime and Ali-Baba, are working to improve the social and economic functions of China; they are also directly in line with the CCP to improve the innovations and the capabilities of the PLA. Unlike the United States, there is no clear line or delineation between the government and its civilian counterparts. The partnership goes both ways; not only do the civilian entities in China share technology and AI algorithms with the government but the CCP ensures that there is plenty of capital invested in the civilian sector, primarily to the companies and entities that have a direct role in achieving the ambitious plans of the CCP. When searching for MCF, the number one topic that comes up time and time again is that of AI. Chinese firms and research institutes are advancing uses of AI that could undermine US **economic leadership and provide an asymmetrical advantage in warfare**. Chinese military strategists see AI as a breakout technology that could enable China to rapidly modernize its military, surpassing overall US capabilities and developing tactics that specifically target US vulnerabilities.8 The CCP is rapidly growing its arsenal, whether it be conventional warfare items or aggressively investing in technology and innovations. Although the PRC does not have the technology and the assets, the engineers, or the capabilities that we have right now, they are **pumping all the resources they can** to ensure that they reach their end state of being a player that everyone has to recognize on an equal playing field. What can a country such as the United States do when we have moral obligations that the CCP does not have, nor institutes? Having a gray area between the civilian sector and the military gives them a clear advantage as there is no such thing as a separation of government and the civilian sector. Our government has some leeway in pushing tax dollars towards certain functions that will improve our overall social and economic structure but crossing the line of government versus private sector is still a clear boundary that most will not cross. We have a democracy as to where our government can change greatly every two to four years, whereas the Chinese have a government that is setup to exist generationally and even past that. Our greatest asset of Democracy might also be the reason that the CCP and the PLA can gain on us in the future, possibly. **The greatest advantage that the United States has over China is our free market system.** **We enable companies to compete** for monetary advantage and with only little government interference/oversight unlike China, which consistently monitors all businesses and citizens. In 2019, privately held AI companies attracted nearly $40 billion in disclosed equity investment—defined as venture capital, private equity, and mergers and acquisitions—across more than 3,100 discrete transactions. US companies attracted most of this investment: $25.2 billion in disclosed value (64 percent of the global total) across 1,412 transactions.9 What does this tell us? Well, China has not attracted the investment that most think; if $25.2 billion or 64 percent of the global total is still coming from the United States, then maybe the competition is not as close as most think it is. Our military depends greatly on our private companies coming up with usable applications for civilian purposes and then the military legally purchases or contracts the item for military use. We do not stifle civilian innovation; we tend to reuse the items in different manners but depend on that civilian innovation for the next greatest thing in technology. Nothing is owed to the United States government and the civilian companies can negotiate the value of their AI product. Although China is focusing more internally on their own startups, their AI narrative, and it seems to not be at the level that our AI innovation is, we must continue to proceed with caution. As soon as we let down our guard, China may surpass us and could possibly one day become the world’s AI leader.

#### Two Internal links ---

#### First---Integration---Big tech is integrating with China --- That undermines Tech development and makes it a zero-sum game

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The claim that big American tech companies are somehow an alternative to Chinese dominance—or, in the more extreme form, that they are competing with China on behalf of the United States—is largely backwards. In fact, many big American tech companies are operating in China, working with Chinese companies, and seeking to expand. Because markets and the state are intertwined in China, interactions with Chinese companies and investments in China are likely to pass along operational and technological developments to the Chinese government and military, including in ways that advance its emerging surveillance state—and accelerate its ability to spread its model of digital authoritarianism around the world. In short, big tech companies that operate in China are likely assisting the rise of China, not acting as a hedge against it. Rather than competing with China, many big tech companies are integrating with China or attempting to deepen their integration with China. Google has announced an AI center in Beijing,8 and it is exploring a partnership with Tencent that involves using the Chinese tech giant’s cloud service as an alternative to Google Cloud.9 In 2018, the company also proposed Project Dragonfly, which would have created a search engine that would be in compliance with Chinese censorship regulations behind the Great Firewall.10 That endeavor created controversy within the firm and criticism from human rights groups.11 Other companies also operate in China or are seeking to do so. Microsoft is expanding data centers in China and has built an operating system, “Windows 10 China Government Edition,” for the Chinese government.12 After Alibaba, Amazon provides the largest cloud service in China, and its Amazon Web Services division works with local companies and is expanding its data centers.13 Apple, of course, famously designs its phones in California but makes them in China.14 In 2017, Apple announced a partnership with a Chinese firm with close ties to the government and a year later moved its Chinese iCloud and iCloud encryption services to China.15 Notably, Facebook isn’t operating in China—but not for lack of trying. The company has repeatedly attempted to gain access but has been blocked by government officials.16 Merely operating in China might not seem like it undermines the claim of U.S.-Chinese competition. After all, it might be that American companies are seeking to steal market share from Chinese companies in China. Global dominance requires, unsurprisingly, dominance around the globe, including in the world’s biggest markets. The problem is that, according to scholars, U.S. government officials, and even American business associations, any U.S. company that is developing AI in China, making significant technological investments in China, or simply operating in China is likely supporting the Chinese government and military. Chinese companies are often state-run, partly owned by the state, or have informal ties to state and Communist Party officials, as scholars have documented.17 Formal and informal ties allow the government to have influence over many companies, and they create an incentive for companies to comply with party preferences preemptively even without formal government pressure.18 Cooperation and partnerships with these companies therefore mean cooperation with state-directed aims. “No major Chinese company,” Senator Mark Warner has noted, “is independent of the Chinese government and Communist Party.”19 An official at the U.S. Chamber of Commerce goes even further, arguing that American firms going to China have “to please the Chinese government and the Communist Party.”20 Moreover, because artificial intelligence is a dual-use technology, ostensibly commercial innovations can also have military implications. China’s stated doctrine of “civil-military fusion” thus virtually guarantees that companies are indirectly assisting the military if they are working with Chinese entities.21 Under that doctrine, “any technologies held by the private or academic sectors—whether imported or developed in-house—must be shared with the Chinese military.”22 When combined with the corporate-state relationship in China, this means the technological innovations in the private sector are likely being shared with the government for military purposes. As former defense secretary Ash Carter has noted, “If you’re working in China, you don’t know whether you’re working on a project for the military or not.”23 The fact that Chinese companies and the state are intertwined means that American companies working in China are potentially helping accelerate the adoption of digital authoritarianism within China and its spread abroad. In general, the development of artificial intelligence “offers a plausible way for big, economically advanced countries to make their citizens rich while maintaining control over them.”24 Big data, combined with AI, enables governments and big tech companies not only to predict but also to shape what individuals will do. Politically, this means that governments will have the power to preempt dissenters to a far greater degree than authoritarian regimes of the past.25 Economically, it means that centralized economic planning might find greater success than in the past, because governments and companies can shape the behavior of individuals.26 And over time, behavioral changes shape beliefs, potentially building support for the regime itself.27 These dynamics suggest that the new “digital authoritarianism” may have greater staying power than its low-tech precursors.28 At home, China has long been concerned about domestic disharmony and has pursued a policy of “social management” to achieve “holistic” security—not just national security but party organization and the management of the social order.29 The Chinese State Council sees AI as “irreplaceable” in ensuring social harmony in the future.30 China has taken steps to develop a “social credit system,” in which individuals are assessed in every interaction to determine their trustworthiness, their compliance with laws and social norms, and the degree to which their social networks are also compliant. Chinese tech companies have reportedly agreed to share data with the government in support of this project.31 Local governments and tech companies are cooperating to develop “credit cities,” the local counterpart to a full-on national system.32 Chinese companies are also already exporting surveillance technologies abroad, including biometric censors and facial recognition software.33 Given that many big American tech companies are operating in China or seeking to do so and that engagement with Chinese entities likely means information is transferred to the government, the idea that big American tech companies are helping the United States vis-à-vis China in some kind of Cold War-style technology arms race makes little sense. It is just as likely, if not much more so, that firms operating in China are directly or indirectly furthering China’s emergent domestic surveillance capabilities, its military use of those technologies, and its spread of digital authoritarianism abroad as well.34 How Big Tech’s Entanglements Threaten American Power and Values In addition to benefiting Chinese power, big tech’s integration with China threatens the United States by creating leverage over the United States, and it could, in the future, undermine the American ecosystem of free speech and expression. This could happen in multiple ways: Integration opens the United States to espionage and surveillance, creates economic leverage over the United States, and preemptively forces companies to adhere to the standards of Chinese censors, thereby restricting speech and expression particularly on issues related to democracy. Most obviously, integration with China raises concerns about espionage and surveillance. For example, Pentagon officials have been concerned that if the Chinese company Huawei operates 5G systems among American allies, the United States will have to restrict intelligence sharing along such systems; if those systems have surveillance capacities or backdoors, information across the system could be captured by the Chinese government.35 Federal regulators have also flagged a Chinese company’s acquisition of the dating app Grindr, which has a great deal of personal information that could be used to pressure or blackmail users.36 More broadly, economic interdependence can be used as leverage for political purposes. Scholars refer to this by a variety of terms, including “geoeconomics,”37 “reverse entanglement,”38 and “weaponized interdependence.”39 But the tactics are similar regardless of the label— and China utilizes them frequently. To retaliate against South Korea’s adoption of a U.S. missile defense system, China blocked tourism to the country.40 And it blocked imports from Norway after dissident Liu Xiaobo was awarded the Nobel Peace Prize.41 Interdependence in the economy generally, and in the technology sector specifically, thus bring significant risks to the United States in an era of great power competition. The more integrated the economies of two countries, the more likely it is that a foreign country will have leverage over the United States. The use of boycotts is one example. But raising tariffs to start a trade war could devastate sectors of the economy, and interrupting a supply chain for essential parts and components (whether consumer, commercial, or military) could have significant consequences, particularly in a crisis. Integration also means that corporations are contorting their operations outside of China in order to comply with the preferences of Chinese censors. The most prominent concern is self-censorship—companies and other actors that change their messages, artistic choices, or statements for fear of offending Chinese censors. For example, the general manager of the Houston Rockets basketball team tweeted support for the Hong Kong protestors, only to backtrack in the face of concerns about the Chinese reaction.42 The People’s Daily branded Mercedes-Benz an “enemy of the people” after the car manufacturer posted a quote from the Dalai Lama on Instagram; Mercedes later deleted the post.43 Some university researchers are concerned about self-censorship within academia on topics related to China.44 Hollywood studios are reportedly changing dialogue, scenes, and themes in movies in order to comply with Chinese censors.45 And tech companies too have taken steps toward compliance with Chinese internet regulations: Apple, for example, “removed VPNs [virtual private networks] from the Chinese version of its App Store.”46 Google’s Project Dragonfly was controversial internally with employees for the same reason. Why does it matter if corporations change their behaviors based on Chinese preferences? After all, global companies have done so for many years. McDonald’s and Coca-Cola, for example, offer different menus and beverages in different countries to respond to the tastes and preferences of consumers. The shift in corporate behavior in response to Chinese preferences differs in two ways. First, unlike the McDonald’s and Coca-Cola examples, companies aren’t just changing their products within China. They are doing so globally. That the leaders of Mercedes won’t quote the Dalai Lama and Hollywood writers are changing scripts for blockbuster films because they might offend Chinese censors means that American audiences are subject to the views of Chinese censors, as is the rest of the world. Second, the willingness of these companies to adhere to Chinese preferences calls into question whether global firms can be trusted when they seek to lobby or influence the U.S. government. In the mid-twentieth century, the maxim “what’s good for General Motors is good for America” suggested a link between corporate success and national success. That is unlikely to be the case anymore (if it ever was). Under the dominant ideology of contemporary corporate lawyers—who see shareholder profits as the sole aim of corporate managers—corporate managers are required to pursue profitable operations; American national interests are not part of the calculus.47 A global corporation that gains most of its profits from abroad might therefore have profit-based interests that do not align with American national interests. To put a fine point on it, one could imagine a company that seeks to expand its access into China lobbying the United States government in ways that are detrimental to American interests and, indeed, even serve the interests of the Chinese government. This is not to say that corporate executives or lobbyists are foreign agents deliberately pursuing such an aim—or that they think of themselves that way and would state as much to government officials. This wolf comes in sheep’s clothing: Policies will likely be justified as pursuing neutral economic principles, and many who advocate for them might not even see the broader connections. Defenders of integration often suggest that narrowly drawn regulations can address any problems that might arise from integration, though at least some defenders consider even limited restrictions on economic integration to be disastrous.48 For example, one set of think tank scholars have argued for requiring transparency in Chinese corporation ownership (that is, to identify state-owned or -invested companies) as a way to prevent Chinese influence over American corporations. 49 Another set says that U.S. policy should consider “who owns a company’s stock, how the company is governed, and whether it has sizable contracts with the Chinese military or defense industry. ... Similarly, companies with executives close to the state, through either prior employers or personal connections, warrant further scrutiny.”50 A third argues that “the United States should work with its allies and trading partners to pressure Beijing to open up the Chinese market to foreign companies, curb its preferential treatment of Chinese firms, and better protect foreign companies’ intellectual property.”51 If it is correct that the Chinese state and market are integrated, as a number of senior defense officials and scholars of the Chinese state and market have argued,52 then these policy solutions cannot meet the nature of the challenge. Transparency rules will not solve the problem of informal ties between government and private sector in China, nor do they place mandates on companies if there are formal ties. Careful investigation of the relevant relationships and ownership ties might miss important connections, ignore the fact that Chinese doctrine requires civil-military fusion, and neglect to address the incentive companies have to comply preemptively with Chinese government preferences, even absent any specific connection to the government or pressure from the government. Finally, efforts to reduce preferential treatment and protect American intellectual property run counter to the fact that the integration of state and market in China is not a bug, but a central feature of the system. How Breaking Up Big Tech Builds a More Resilient Economy and Democracy What does bigness have to do with integration? Or to put it differently, is the real problem integration with China rather than a weak antitrust and regulatory regime to govern big tech companies? The question of integration with China as a general matter is beyond the scope of this essay, but the size and dominance of American tech companies is part of the problem, and breaking up big tech should therefore be part of the solution. To see why, compare a concentrated ecosystem with a small number of big companies to a competitive ecosystem with a large number of small companies. In a concentrated ecosystem with few players, China will have far more leverage over the United States. A small number of big tech companies that are integrated with China will be more dependent on Chinese markets for consumers and profits—and, in turn, more vulnerable to pressure from the Chinese government. In contrast, in a fractured market with many players, it is much more likely that some will seek other sources for supply chains, develop domestic American capacities, or simply choose not to engage in the Chinese market—whether because of idiosyncratic preferences, competitive dynamics, product differentiation, higher costs, or other factors. It is theoretically possible that we might instead expect another outcome: A small number of tech firms making monopoly profits might not need Chinese markets and therefore would be more independent from that country’s fusion of politics and economics. Likewise, a multi-player ecosystem of smaller companies, each with razor-thin profit margins, might push all of these players to dependence on Chinese markets for consumers and profits (this is, of course, where debates over integration versus disentanglement are relevant). But theory is not reality, and this alternative hypothesis has not been borne out. In our current highly concentrated tech market, big tech companies are not forsaking Chinese markets out of a combination of morality, patriotism, and monopoly profits. They are operating in China and are desperate to integrate further. Concerns about censorship and distorted practices are also significantly reduced in a competitive ecosystem of smaller players because some companies and creative gatekeepers won’t aim to comply with Chinese government preferences. Consider the Hollywood context. Disney’s share of box office sales domestically, for example, approaches 40 percent, and the six biggest studios have 85 percent of box office sales.53 These companies produce fewer films and, because of their market power, can contractually require that those films be shown in theaters in ways that block other films.54 These companies are also increasingly integrating vertically across production and distribution: Netflix both produces shows and operates a streaming service, as does Amazon and now even Disney. The result is that smaller players are likely to face a tilted playing field because integrated behemoths can prioritize their own content over competitors and might not take chances on content that isn’t likely to maximize their viewership goals.55 If these big integrated companies comply with Chinese censors because of their ambitions in the Chinese market, then American consumers will not see content that doesn’t adhere to Chinese government preferences. In contrast, in a system with a large number of small studios, many would not have the size and scope to play to the Chinese market, let alone be dependent on the Chinese market. They also wouldn’t have the power and scale to preference their own content over competitors through vertical integration. The result would be an ecosystem in which Americans will have a range of content choices—including entertainment that might not accord with the views of foreign censors. Big tech companies are not likely immune from what is happening in Hollywood—as well as what has happened to Mercedes and other entities that seek to operate in China. Many of these companies, like Amazon and Google, seek access to Chinese markets and operate as both content producers and distributors or platforms. To the extent that they have divisions whose work is objectionable to censors in foreign countries (Amazon, of course, creates its own content; as does YouTube, which is a subsidiary of Google), they too will feel pressure to preemptively shape that content in ways that are palatable to censors. And because of their market power within the United States, U.S. consumers are likely to be left with fewer and fewer serious scalable alternatives. Finally, in a competitive ecosystem with many players, concerns about the ill effects of lobbying are mitigated as well. In a system with a few dominant players, efforts to lobby the United States government should be seen as highly questionable because of companies’ dependence on Chinese markets. A multi-player ecosystem addresses this challenge in two ways: First, many companies will not be dependent on Chinese markets. Second, in a multi-player ecosystem, differentiated companies are less likely to have shared interests and are more likely to end up on different sides of policy questions.56 This means that their lobbying efforts are less likely to cut in a single direction and thus less likely to capture government. This insight is not a new one—it is foundational to American political and constitutional thought. In Federalist 10, James Madison argued that in a political ecosystem with many groups with differentiated interests, no particular faction would be able to capture government.57 Instead, they would cancel each other out and enable policymakers to pursue the public good. Competition between interests, not the dominance of a few interests (particularly if foreign-influenced), preserves a free and democratic government.

#### Second---Innovation---Big tech destroys the DIB and suppresses innovation --- National champions is historically bunk

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BIG TECH AND THE FOUNDATIONS OF AMERICAN POWER American power is also critical in a time of great power competition. Here too, the case for protecting big tech and restricting competition in the tech sector is weak. Under conventional market theory—and economic practice—competition sparks innovation. If the United States wants to continue to be at the forefront of technological innovation, then more competition is desirable, not less. Breaking up and regulating big tech will thus improve innovation, not reduce it. America’s position in a great power rivalry also depends on its defense industrial base—the resilience and capacity of its defense sector. But a concentrated defense sector means less innovation in defense, higher prices for taxpayers to procure defense systems, and a functional redistribution of taxpayer funds from R&D or other kinds of spending to profits for defense contractors. As technology becomes more integrated with defense, the same dangers of a concentrated defense industrial base could emerge with respect to the defense technological base. Breaking up and regulating big tech, combined with R&D funding, would likely instead create a more competitive defense sector and a more innovative, more resilient, and cheaper one too. Big Tech, Competitiveness, and Innovation One of the central arguments against breaking up and regulating big tech on national security grounds is that big tech companies are essential for innovation in the tech sector and thus for American competitiveness and ultimately for national security. Historically, however, **innovation has come from** a mix of **competition** and public funding of research and development. Breaking up and regulating tech companies thus doesn’t mean ceding ground to the Chinese on technological innovation—it means creating a competitive marketplace with great innovative capacity. Whether or not they say it explicitly, those who want to protect big tech from antitrust and regulation support a national champions model. The national champions approach suggests that innovation takes place within big companies that are protected from competition and therefore have resources to spend on research and development. Some associate this approach with Joseph Schumpeter, who suggested that firms in competitive markets might be less innovative than monopolists.58 In this vein, commentators celebrate how Bell Labs was able to innovate for generations and see Google X, Facebook, and other tech companies as similarly investing in frontier research that will ultimately lead to innovative breakthroughs.59 While innovation can take place under a national champions model, innovation does not require national champions—and there are strong arguments that the **national champions approach is** limited and even **counterproductive**. First, as Tim Wu has noted, “[B]oth history and basic economics suggest we do much better trusting that fierce competition at home yields stronger industries overall.”60 This response, of course, has been commonplace in basic economics for decades and in debates on competition is linked to the views of Kenneth Arrow.61 Market competition is good for innovation because competitors have to find ways to differentiate themselves in order to survive and expand. In contrast, large protected firms get lethargic, are slow to innovate, and rest on their laurels Wu points out that we also have evidence—not just theory—to show that protecting national champions is inferior to encouraging competition. In the 1980s, Wu argues, **Japan took** the approach of protecting its **national champions** in the electronics industry. Powerhouses like NEC, Panasonic, and Toshiba had direct government support. In contrast, **the United States took the opposite** tack with IBM. The computer firm was brought under antitrust scrutiny, and the legal battle went on for more than a decade, along the way chilling Big Blue from engaging in any conduct that could even potentially run afoul of the antitrust laws. **The result**, Wu notes, **was** to create the space for a variety of hardware and software companies, **Microsoft, Lotus, and Apple** among them. **Competition led to innovation** and the creation of some of the most forward-looking companies of the era.62 Second, national champions can actually limit innovation because they have an incentive to avoid research and innovations that might jeopardize their business model or undermine their dominant position. Bell Labs, for example, has long been celebrated for its role as an “ideas factory.”63 But **Bell and AT&T** also **suppressed innovations** when they threatened its business model. Bell inventors, for example, developed recording devices in the 1930s that could have been used for answering machines. But AT&T’s management blocked their emergence for fear that they would jeopardize use of the telephone.64 An alternative approach to innovation is one that relies less on protectionism for national champions and more on market competition and on public investment in research and innovation. Competition, as noted already, can be a powerful motivator for innovation. When big tech incumbents face little competition, society forgoes the innovation benefits that come from competition. Who knows if Instagram or WhatsApp could have dethroned Facebook’s primacy and developed even more new and innovative products? Facebook’s moves to acquire those firms prevented us from ever finding out. What small businesses might emerge if they didn’t have to compete with Amazon Basics on Amazon’s Marketplace? **Unwinding mergers and separating platforms from companies that do business on the platform would help** spur competition and **lead to** innovation. Some might argue that **robotics, AI, and quantum computing** are so resource-intensive that an ecosystem of smaller companies engaged in fierce competition would mean that no company would have the resources available to invest in those next-generation technologies. There are a few responses to this argument. First, it is not clear that breaking up and regulating big tech would prevent those firms from having the considerable resources to develop the technologies of the future. Facebook would still have billions of users, even without Instagram and WhatsApp, for example. Amazon’s platform would still have enormous market power. Second, and more importantly, part of the answer is that the decision to break up and regulate tech companies should be accompanied by public investment in R&D. One of the primary arguments for the national champions view is that monopolists have the resources to be able to invest in innovation because they do not face competitive pressures.65 But any system of innovation operates against a backdrop of laws and public policy.66 The ability to capture the gains of innovation depends on intellectual property law. The possibility of winning government contracts for frontier projects that require innovation is determined by procurement policies. And, of course, an alternative to monopolist investment in R&D is public investment in R&D. These policy choices all shape the innovation ecosystem, and it is not at all obvious why society has to accept national champions instead of thinking about revising these laws and policies more broadly. Given the emphasis that proponents of national champions place on research and development, it is worth noting that historically, as Mariana Mazzucato has argued, government has been a significant driver of innovation through its research and development efforts.67 Today, one could easily imagine the government spending considerable sums of money on R&D in artificial intelligence, robotics, quantum computing, augmented and virtual reality, and other technological research. Public investment in research has a variety of benefits. First, because it is not tied to the profit motive and business model of a single company, it covers a wider range of subjects, leading potentially to innovations that would otherwise go undiscovered. Public investment extends to basic research that does not have immediate or foreseeable commercial applcations. It could also include research into areas that might challenge the incumbency and business models of existing companies. Second, and relatedly, public investment into research is less likely to be geared toward improving surveillance capacity. As long as the biggest companies have surveillance, personalized targeting, and behavioral response at the heart of their business models, research and innovation within those companies will likely be geared, in no trivial part, toward improving those activities. A digital authoritarian country might see that as a valuable public goal, but it is not at all clear why a free and democratic society should. Public-sponsored research might instead be directed toward a variety of socially beneficial uses other than continual improvement of individual monitoring and behavioral reactions. Notably, as there are more opportunities in research outside of the big tech companies, many talented people might choose to work on a wider range of problems. Third, public investment in R&D has the potential to spread the benefits of technology, innovation, and industry throughout the country. At present, much of the country’s technological and intellectual prowess is concentrated in a few regions, the most prominent being northern California, Seattle, and Boston. Geographic inequality has a variety of negative consequences—economic, social, and political.68 But, as economists Jonathan Gruber and Simon Johnson show in their book Jump-Starting America, there is no reason that public investment couldn’t spur successful economies in dozens of mid-sized cities all over the country, with spillover benefits for their regions.69 Unlike government action, technology companies have no reason to develop the capacities of all regions of the country. Amazon’s so-called competition for its second headquarters is a good example. After much public attention, the company settled on New York City and a suburb of Washington, D.C., two superstar cities. Artificial intelligence, of course, requires considerable data in order to improve precision and accuracy. One of the arguments for big tech is that such companies alone are able to collect this data and use it. But there is no reason why this has to be the case either. Consider two alternate possibilities. First, the United States could create a public data commons that would be highly regulated to protect privacy. The public data commons would include publicly available data from a variety of government sources, and qualifying businesses, local governments, or nonprofits could train their machines using this data. Any new data they collect from users could then be fed back into the data commons (de-identified), so that the data commons improves in quality and quantity of data over time.70 Second, we could imagine requiring big tech companies to make their data available in interoperable formats. If these companies effectively have a monopoly power over data, then they could be regulated as monopolies—and one condition of their continued protection as monopolies could be enabling access to the datasets. Again, there is no legal or regulatory reason why these kinds of policy options are impossible. And in either case, they would enable a larger number of players to innovate than does the status-quo, stand-pat approach to protecting big tech from competition. Big Tech and the Defense Industrial Base Concentration in the tech sector also threatens the defense industrial base due to higher costs, lower quality, less innovation, and even corruption and fraud.71 Each of these dynamics has already been a problem for America’s over-consolidated defense industrial base. As technology becomes more and more central to defense and national security, it is likely that these same dynamics will replicate themselves with big tech companies. This will become a national security threat, both directly, in terms of the quality and speed of procurement, and indirectly, by reducing innovation and functionally redirecting defense budgets from research spending to higher monopoly profits.72Conventional economic theory suggests that monopolists have the ability to increase prices and reduce quality because consumers are captive.73 When it comes to defense spending, the Government Accountability Office commented in 2019 that “competition is the cornerstone of a sound acquisition process and a critical tool for achieving the best return on investment for taxpayers.”74 At the same time, the GAO observed that “portfolio-wide cost growth has occurred in an environment where awards are often made without full and open competition.”75 Indeed, it found that 67 percent of 183 major weapons systems contracts had no competition and almost half of contracts went to a handful of firms. Of course, consolidation also means that the Defense Department is in a symbiotic relationship with these big contractors. Some startup executives wanting to sell to the government thus see the Pentagon as “a bad customer, one that is heavily skewed in favor of larger, traditional players,” and they don’t feel like they can break into the sector.76 Standard stories about political economy and capture also suggest that these firms will have outsized power over government.77 As Frank Kendall, the former head of acquisitions at the Pentagon, has said, “With size comes power, and the department’s experience with large defense contractors is that they are not hesitant to use this power for corporate advantage.”78 In the defense context, that means monopolists retain power (and profits), even if they overcharge taxpayers and risk the safety of military personnel in the field. In an important article in The American Conservative on concentration in the defense sector, researchers Matt Stoller and Lucas Kunce argue that contractors with de facto monopoly at the heart of their business models threaten national security. They write that one such contractor, TransDigm, buys up companies that supply the government with rare but essential airline parts and then hike up the prices, effectively holding the government “hostage.”79 They also point to L3, a defense contractor that had ambitions to be a “Home Depot” for the Pentagon, as its former CEO put it. L3’s de facto monopoly over certain products, according to Stoller and Kunce, means that it continues to receive lucrative government contracts, even after admitting in 2015 that it knowingly supplied defective weapons sights to U.S. forces.80 Consolidation also threatens U.S. defense capacity. The decline of competition, according to a 2019 Pentagon report, leaves the military vulnerable to “sole source suppliers, capacity shortfalls, a lack of competition, a lack of workforce skills, and unstable demand.”81 With a limited number of producers, there is less talent and knowhow available in the country if there is a need to build capacity rapidly.82 In 2018, the Defense Department released a report on vulnerable items in the military supply chain, including numerous items in which only one or two domestic companies (and, in some cases, zero domestic companies) produced the essential goods.83 How did the United States lose so much of its industrial base? The combination of consolidation and global integration is part of the story. As Stoller and Kunce argue, companies consolidated in the 1980s and 1990s while shifting emphasis from production and R&D to Wall Street-demanded profits. Globalization then allowed them to shift production overseas at a lower cost. The result was to gut America’s domestic industrial base—and, in many cases, to shift it to China, which engaged in a decades-long strategic plan to develop its own industrial base. The result, in the words of the 2018 Defense Department report, is that “China is the single or sole supplier for a number of specialty chemicals used in munitions and missiles.” In other areas too, the risks of losing access to critical resources are real. Describing the problem of limited carbon fiber sources, the same Pentagon report notes, “[a] sudden and catastrophic loss of supply would disrupt DoD missile, satellite, space launch, and other defense manufacturing programs. In many cases, there are no substitutes readily available.”84 As technology becomes more integral to the future of national security, it is hard to see how big tech will not simply go the way of the big defense contractors. Corporate mottos not to “be evil” are long gone,85 and big tech companies spend millions on conventional Washington, D.C., lobbying efforts.86 Over time, as contracts move to tech behemoths, there will no longer be competitive alternatives, and the Pentagon will likely be locked into relationships with big tech companies—just as they currently are with big defense contractors.87 Some commentators suggest that robust antitrust policies are a problem because only a small number of tech companies can contract for defense projects.88 But there is another way to look at it: The goal should be to encourage competition in the tech sector so that there are multiple contractors available. As former secretary of homeland security Michael Chertoff has said, defending the antitrust case against Qualcomm, “a single-source national champion creates an unacceptable risk to American security—artificially concentrating vulnerability in a single point. ... We need competition and multiple providers, not a potentially vulnerable technological monoculture.”89 The consequence of consolidation in tech is that taxpayers will likely see higher bills even as innovation slows due to reduced competition. Worse still, every taxpayer dollar that goes to monopoly profits—whether in the form of higher prices or fraud and corruption—is a dollar that is not going toward innovation for the future. A concentrated defense sector means not only less innovation due to the lack of competition in the sector; it means that funding that could have been available for innovation instead gets redirected via monopoly profits to the pockets of big tech executives and shareholders.

#### Chinese tech lead quickly collapses US primacy

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In the realm of defence, too, AI plays a current and future role. **Beijing aims to** build high-technology weaponry that would enable China to **leapfrog the United States’ currently superior** military **capabilities**, integrating advanced technologies like AI and big data into the PLA. AI will be incorporated into Chinese military technologies across domains, from unmanned combat aerial vehicles (UCAVs) and drone swarms to fire-and-forget modes for China’s varied missile arsenal and cyber-attacks. Importantly, the PLA aims to use AI to support intelligent operations and system-of-systems warfare.61 According to Shen Shoulin and Zhang Guoning, ‘”brain supremacy” (the ability to interfere with or damage the cognition of the enemy) **will replace earlier warfare concepts seeking military dominance over land, sea, air and more recently space and cyber domains’**.62 Once intelligence supremacy is achieved over enemies in the information space, **supremacy over other domains is rendered meaningless**, according to this approach.63 AI will also be imperative to intelligent monitoring and early-warning systems.64

#### That causes nuclear escalation

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Rather, we should think more broadly about how new technology might affect global politics, and, for this, it is helpful to turn to scholarly international relations theory. The dominant theory of the causes of war in the academy is the “bargaining model of war.” This theory identifies rapid shifts **in the balance of power as a** primary cause of conflict. International politics often presents states with conflicts that they can settle through peaceful bargaining, but **when bargaining** breaks down, war results. Shifts in the balance of power are problematic because they undermine effective bargaining. After all, why agree to a deal today if your bargaining position will be stronger tomorrow? And, a clear understanding of the military balance of power can contribute to peace. (Why start a war you are likely to lose?) But **shifts in the balance of power** muddy understandings **of** which states have the advantage. You may see where this is going. New technologies threaten to create potentially destabilizing shifts in the balance of power. For decades, stability in Europe and Asia has been supported by US military power. In recent years, however, the balance of power in Asia has begun to shift, as China has increased its military capabilities. Already, Beijing has become more assertive in the region, claiming contested territory in the South China Sea. And the results of Russia’s military modernization have been on full display in its ongoing intervention in Ukraine. Moreover, China may have the lead over the United States in emerging technologies that could be decisive for the future of military acquisitions and warfare, including 3D printing, hypersonic missiles,quantum computing, 5G wireless connectivity, **and** artificial intelligence (AI). And Russian President Vladimir Putin is building new unmanned vehicles while ominously declaring, “Whoever leads in AI will rule the world.” If China or Russia are able to incorporate new technologies into their militaries before the United States, then this could lead to the kind of rapid shift in the balance of power **that** often causes war. If Beijing believes emerging technologies provide it with a newfound, local military advantage over the United States, for example, it may be **more willing** than previously **to** initiate conflict over Taiwan. And if Putin thinks new tech has strengthened his hand, he may be more tempted to launch a Ukraine-style invasion of a NATO member. Either scenario could bring these nuclear powers into direct conflict with the United States, and once nuclear armed states are at war, there is an inherent risk of nuclear conflictthrough limited nuclear war strategies, nuclear **brinkmanship**, or simple accidentor inadvertent escalation**.** This framing of the problem leads to a different set of policy implications. The concern is not simply technologies that threaten to undermine nuclear second-strike capabilities directly, but, rather, any technologies that can result in a meaningful shift in the broader balance of power. And **the** solution **is not** to preserve **second-strike** **capabilities, but** to preserve prevailing power balances more broadly. When it comes to new technology, this means that the United States should seek **to maintain an innovation edge**. Washington should also work with other states, including its nuclear-armed rivals, to develop a new set of arms control and nonproliferation agreements and export controls to deny these newer and potentially destabilizing technologies to potentially hostile states. These are no easy tasks, but **the consequences of Washington losing the race** for technological superiority to its autocratic challengers just **might mean nuclear Armageddon.**

#### Perception of tech lead alone triggers global redline testing and proliferation

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China’s rapid progress in AI and its military application have encouraged such competition and may trigger a potential **arms race** in two ways. First, the PLA’s increasing military power facilitated by its application of AI technology has already activated a security dilemma, especially concerning China’s increasing assertiveness in territorial disputes and growing ambitions about the regional order. The PLA’s employment of AI-enabled early-warning systems and unmanned intelligent combat vehicles will **enhance** China’s awareness of Japanese and South Korean operations in disputed areas like the Senkaku Islands and enable a quick response capability. From the perspective of other countries in the region, China’s **willingness to escalate** in such scenarios will increase because its AI technology would provide it with a decisive advantage in a conflict with limited costs, despite increasing the potential of accidental escalation.66 Other countries’ have begun to pursue more defense measures, a move that reflects concern about China’s potential threat, including the development of weapon-grade AI technology. Such defensive measures suggest that tensions triggered by the security dilemma in the region will be more complicated and expand beyond an AI arms race. **Nuclear proliferation**, targeting civilian infrastructure that supports AI technology, **and** more **cyber aggression** may be seen in this context. Second, China’s success in influencing U.S. strategic calculation and military posture by military employment of AI may encourage other countries to copy its success. Other countries who see themselves as **adversaries** of the United States may be motivated to increase AI investment and attempt to install related technology to their missiles to **exercise coercion and threats.** For U.S. **allies** like Japan, the introduction of AI in early-warning, situational awareness, and intelligence processing may not only help reduce reliance on U.S. extended deterrence, but also strengthen their ability to counter regional rivals like China and North Korea. Thus, the **proliferation of AI technology**, especially those can be weaponized, poses challenges to the arms control community in the region. Given the highly dual-use nature of AI, civilian AI technology cooperation between countries may contribute to the unintentional proliferation of destructive AI systems, a situation which is similar to the dual-use dilemma of nuclear cooperation.67 On the practical level, weapon-, behavior-, or country-focused controls will face different problems ranging from how to define controlled weapons to how to verify the control measures.68 On the political level, countries' attitudes toward AI arms control are ambiguous. In 2018, China demonstrated its “desire to negotiate and conclude” a new protocol for the Convention on Certain Conventional Weapons to ban the use of autonomous lethal weapons systems.69 However, the delegation stressed that the ban should only apply to the use of such weapons, and not to their development, revealing China’s actual misgivings regarding arms control for autonomous systems.70 2. Strategic Stability and Nuclear Risk Nuclear strategic stability is understood as “a state of affairs in which countries are confident that their adversaries would not be able to undermine their nuclear deterrence capability” using nuclear, conventional, cyber or other means.71 **Given** the **dynamics of nuclear posture** of major powers in the region and the potential role of nuclear escalation in certain scenarios, **AI-enabled improvement** of the PLA’s multi-domain operation capabilities **has** both **destabilizing** and stabilizing **impacts** on strategic stability.

#### That causes hotspot escalation and extinction

Montgomery, 16 (EVAN BRADEN Montgomery, Evan Braden Montgomery is a Senior Fellow at the Center for Strategic and Budgetary Assessments. Dr.Montgomery graduated summa cum laude from Villanova University with a B.A. in Political Scienceand Sociology, and received his M.A. and Ph.D. in Foreign Affairs from the University of Virginia., 2016, accessed on 7-23-2021, Csba, "EXTENDED DETERRENCE IN THE SECOND NUCLEAR AGE ", https://csbaonline.org/uploads/documents/CSBA6183-ExtendedDeterrence\_PRINT.pdf)//Babcii

Extended deterrence can help the United States uphold the status quo in several ways. Specifically, it can **discourage revisionist powers from provoking crises** or launching wars because there is a high probability that Washington will intervene to deny their aims and punish them for acts of aggression; it can dissuade friendly nations from developing controversial military **capabilities** that might heighten local tensions or **trigger** regional **conflicts** because those nations can rely on the United States instead; and it can offer a source of leverage over security partners, one that helps the United States to discourage other courses of action that might prove destabilizing and encourage positive steps on a variety of issues. Despite its importance, extended deterrence is one of the most challenging aspects of American strategy. While persuading adversaries that the United States would retaliate for a direct attack is relatively easy, convincing them that it would retaliate for an attack against other nations is a much more difficult proposition. Furthermore, convincing allies that the United States will actually fight on their behalf—even if that means putting its own troops and territory at risk—can be even harder.4 As Thomas Schelling famously wrote, when it comes to deterrence, “The difference between the national homeland and everything ‘abroad’ is the difference between threats that are inherently credible, even if unspoken, and the threats that have to be made credible.”5 Not surprisingly, efforts to make extended deterrence credible in the eyes of adversaries and allies alike have shaped virtually every aspect of American military power. For instance, the United States has adhered to a conventional military strategy that emphasizes countering threats when and where they emerge rather than depending on local nations to prevent aggression or roll back expansion; it has fielded combined-arms forces capable of resisting distant rivals, even those with quantitative advantages in men and materiel; and it has built a global network of military bases to deploy, operate, and sustain those forces overseas.6 Finally, but equally important, it has relied on its nuclear arsenal for the purpose of extending deterrence to its allies and partners.7 Throughout the Cold War, strategic nuclear weapons provided Washington with the capacity to conduct a devastating reprisal against the Soviet Union if Moscow ever launched a nuclear strike against the U.S. homeland or the Red Army attempted to overrun Europe. At the same time, theater and battlefield nuclear weapons, many of which were permanently stationed on allied territory, could be used to blunt an offensive by numerically superior Warsaw Pact forces if NATO’s conventional units were not up to the task.8 These weapons were also used to “couple” the United States to its vulnerable frontline partners, who had doubts that Washington would truly employ its strategic nuclear forces on their behalf. By raising the prospect of early nuclear use against Soviet troops and territory, the presence of non-strategic weapons signaled a U.S. willingness to escalate in defense of its allies rather than withdrawal to North America in the face of a successful Soviet invasion.9 Over the past twenty-five years, however, many of the extended deterrence dilemmas that occupied U.S. policymakers in the past—especially the dilemmas associated with extended nuclear deterrence—ceased to be a major source of concern. With Russia in decline and China focused on sustaining its economic rise, treaty allies in Europe and Asia have been relatively safe from serious threats. Meanwhile, as the world’s sole superpower, the United States has enjoyed enormous military advantages over potential rivals and has been able to rely on its conventional forces to discourage aggression. This favorable situation appears to be changing, though, putting extended nuclear deterrence back on the agenda. For example, although the unipolar moment appeared to herald the waning of geopolitics and the end of major power security competitions, at least according to some observers, revisionist actors are once again challenging the status quo in multiple regions.10 **Russia’s invasion of Georgia, annexation of Crimea, and support for rebel groups in eastern Ukraine** all indicate that Moscow does not respect the political order of post-Cold War Europe. At the same time, **China’s conventional military buildup** has shifted the balance of power in Asia, while its “**creeping expansion” in the South China Sea** could enable Beijing to assert greater control over one of the world’s most vital waterways. And despite the recent agreement to constrain its nuclear program, **Iran continues to build offensive missile forces** and support violent extremist groups. In short, Russia’s piecemeal efforts to restore its lost continental empire, China’s military expansion in its near seas and beyond, and Iran’s willingness to both create and fill power vacuums throughout its neighborhood all suggest that “geopolitical rivalries have stormed back to center stage.”11 Compounding this trend, the world is now in the midst of what many analysts refer to as a “**second nuclear age**,” one that is arguably more complex and potentially more volatile than the bipolar U.S.–Soviet struggle that characterized the Cold War.12 Not only does the United States still need to worry about maintaining strategic stability with a nuclear peer, albeit one possessing far fewer weapons than it did in the past, but it must also manage a number of other existing and emerging challenges: the **proliferation** of nuclear weapons and delivery systems to fragile nations, the expansion of nuclear arsenals by minor powers and aspiring major powers, and the pursuit of capabilities that are lowering the barriers to nuclear use and **eroding the “firebreak**” between conventional and nuclear conflict.13

#### End of unipolarity causes global escalation --- Only unipolarity can explain post WWII peace

Michael Beckley 18. Professor of political science at Tufts. *Unrivaled: Why America Will Remain the World’s Sole Superpower*. Cornell University Press.

The story of world politics is often told as a game of thrones in which a rotating cast of great powers battles for top-dog status. According to researchers led by Graham Allison at Harvard, there have been sixteen cases in the past ﬁve hundred years when a rising power challenged a ruling power. 3 Twelve of these cases ended in carnage. One can quibble with Allison’s case selection, but the basic pattern is clear: hegemonic rivalry has sparked a catastrophic war every forty years on average for the past half millennium.

The emergence of unipolarity in 1991 has put this cycle of hegemonic competition on hold. Obviously wars and security competition still occur in today’s unipolar world—in fact, as I explain later, unipolarity has made certain types of asymmetric conﬂict more likely—but none of these conﬂicts have the global scope or generational length of a hegemonic rivalry.

To appreciate this point, just consider the Cold War—one of the four “peaceful” cases of hegemonic rivalry identiﬁed by Allison’s study. Although the two superpowers never went to war, they divided the world into rival camps, waged proxy wars that killed millions of people, and pushed each other to the brink of nuclear Armageddon. For forty-ﬁve years, World War III and human extinction were nontrivial possibilities.

Since the collapse of the Soviet Union, by contrast, the United States has not faced a hegemonic rival, and the world, though far from perfect, has been more peaceful and prosperous than ever before.

Just look at the numbers. From 1400 to 1991, the rate of war deaths worldwide hovered between 5 and 10 deaths per 100,000 people and spiked to 200 deaths per 100,000 during major wars. 4 After 1991, however, war death rates dropped to 0.5 deaths per 100,000 people and have stayed there ever since. Interstate wars have disappeared almost entirely, and the number of civil wars has declined by more than 30 percent. 5 Meanwhile, the global economy has quadrupled in size, creating more wealth between 1991 and 2018 than in all prior human history combined. 6

What explains this unprecedented outbreak of peace and prosperity? Some scholars attribute it to advances in communications technology, from the printing press to the telegraph to the Internet, which supposedly spread empathy around the globe and caused entire nations to place a higher value on human life. 7

Such explanations are appealing, because they play on our natural desire to believe in human progress, but are they convincing? Did humans suddenly become 10 to 20 times less violent and cruel in 1991? Are we orders of magnitude more noble and kind than our grandparents? Has social media made us more empathetic? Of course not, which is why the dramatic decline in warfare after 1991 is better explained by geopolitics than sociology. 8

The collapse of the Soviet Union not only ended the Cold War and related proxy ﬁghting, it also opened up large swathes of the world to democracy, international commerce, and peacekeeping forces—all of which surged after 1991 and further dampened conﬂict. 9 Faced with overwhelming U.S. economic and military might, most countries have decided to work within the American-led liberal order rather than ﬁght to overturn it. 10 As of 2018, nearly seventy countries have joined the U.S. alliance network—a Kantian community in which war is unthinkable—and even the two main challengers to this community, China and Russia, begrudgingly participate in the institutions of the liberal order (e.g., the UN, the WTO, the IMF, World Bank, and the G-20), engage in commerce with the United States and its allies, and contribute to international peacekeeping missions. 11 History may not have ended in 1991, but it clearly changed in profound ways—and mostly for the better.

#### Unipolarity solves interventions by providing the US with the freedom of action to avoid ill-advised fights. BUT retrenchment causes prolif of proxy conflicts and adventurism.

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Systemic Dimensions: The Varying Prevalence of Competitive Intervention The framework articulated above not only provides a comprehensive account of the duration effects of competitive intervention on civil wars—it also highlights a candidate explanation for the recent decline in the prevalence of intrastate conflict. Insofar as state decisions to aid combatants are consistent with competitive state policy-making, temporal variation in geopolitical competition between states should affect trends in the prevalence of competitive intervention. Variation in the prevalence of competitive intervention should in turn affect temporal trends in the prevalence of internal conflict through the duration effects described above. Consider the pervasiveness of US-Soviet competition during the Cold War. Bipolarity extended the geographic scope of concern and broadened the range of factors included in the competition between the superpowers. American and Soviet leaders worried that challenges to the existing distribution of power might raise doubts about the credibility of their alliance commitments, thereby encouraging their allies to drift toward neutrality or, worse still, switch sides (Hironaka 2005, 107–11). Because challenges to the status quo were perceived to threaten the relative balance of power and credibility, they were resisted. Yet, because any action by one superpower was perceived as an attempt to gain a geostrategic advantage, it demanded a response. The end result was a proliferation of US-Soviet competitive intervention, wherein the superpowers committed resources to opposing government and rebel forces fighting on the periphery of their spheres of influence. That many civil wars during the Cold War were superpower proxy wars is a well-rehearsed perspective, but what is missing from existing accounts is an explanation for why superpower sponsorship should be associated with longer conflicts. If foreign civil wars played such a key role in the larger Cold War struggle, why did the superpowers not do what was necessary to help their respective sides win? The theory outlined above provides an answer: challenges to the relative balance of power and credibility necessitated reflexive responses, but the impossible stakes of direct confrontation advised caution. While the superpowers were compelled to intervene, they were simultaneously—and paradoxically—compelled to do so with restraint. Superpower rivalry also had secondary duration effects. Constrained by the need to both deter and avoid direct confrontation, Washington and Moscow employed indirect strategies for projecting power. Military aid was an integral element of their competition for influence, and accordingly, money and weapons diffused not only to civil wars, but across the international system. This assistance empowered client states, providing a set of Cold War framings and superpower arms that could be used to justify and implement independent foreign policy objectives. Notably, the superpowers struggled to control their clients’ adventurism; by exploiting fears of defection to the opposing bloc, clients found ways to commandeer superpower aid for their own self-interested ends (Krause 1991). The net result was a proliferation of interventions by otherwise weak states in civil wars across the globe. In the post–Cold War period, by contrast, state clients have a harder time garnering American aid. Regional powers continue to intervene in civil wars, but they can no longer rely on the reflexive support of the USSR when conflicts of interest arise vis-à-vis US policy, nor can they threaten defection to the Soviet-bloc in the face of American sanction. In the unipolar period, the United States has greater choice in which state clients it chooses to support, enjoys greater flexibility to discipline adventurism by weaker powers, and maintains “command of the commons” to restrict flows of economic and military aid around the globe (Posen 2003). Together, these features of the unipolar system constrain foreign adventurism by lesser powers relative to the Cold War period, thereby reducing—though not eliminating—the prevalence of competitive interventions among neighboring states and regional rivals. In this way, the transition from a bipolar to unipolar system not only terminated superpower proxy warfare, but also decreased the rate of competitive intervention by lesser powers.

#### The best studies confirm our impact---err on the side of a consensus of empirical research --- our evidence assumes every skeptic.

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Consistency with influential relevant theories lends credence to the expectation that US security commitments actually can shape the strategic environment as deep engagement presupposes. But it is far from conclusive. Not all analysts endorse the theories we discussed in chapter 5. These theories make strong assumptions that states generally act rationally and focus primarily on security. Allowing misperceptions, emotions, domestic politics, desire for status, or concern for honor into the picture might alter the verdict on the strategy’s net expected effects. And to model the strategy’s expected effects we had to simplify things by selecting two mechanisms— assurance and deterrence— and examining their effects independently, thus missing potentially powerful positive interactions between them.

This chapter moves beyond theory to examine patterns of evidence. If the theoretical arguments about the security effects of deep engagement are right, what sort of evidence should we see? Two major bodies of evidence are most important: general empirical findings concerning the strategy’s key mechanisms and regionally focused research.

General Patterns of Evidence Three key questions about US security provision have received the most extensive analysis. First, do alliances such as those sustained by the United States actually deter war and increase security? Second, does such security provision actually hinder nuclear proliferation? And third, does limiting proliferation actually increase security?

Deterrence Effectiveness The determinants of deterrence success and failure have attracted scores of quantitative and case study tests. Much of the case study work yields a cautionary finding: that deterrence is much harder in practice than in theory, because standard models assume away the complexities of human psychology and domestic politics that tend to make some states hard to deter and might cause deterrence policies to backfire. 1 Many quantitative findings, mean- while, are mutually contradictory or are clearly not relevant to extended deterrence. But some relevant results receive broad support:

* Alliances generally do have a deterrent effect. In a study spanning nearly two centuries, Johnson and Leeds found “support for the hypothesis that defensive alliances deter the initiation of disputes.” They conclude that “defensive alliances lower the probability of international conflict and are thus a good policy option for states seeking to maintain peace in the world.” Sechser and Fuhrmann similarly find that formal defense pacts with nuclear states have significant deterrence benefits. 2 3
* The overall balance of military forces (including nuclear) between states does not appear to influence deterrence; the local balance of military forces in the specific theater in which deterrence is actually practiced, however, is key. 4
* Forward- deployed troops enhance the deterrent effect of alliances with overseas allies. 5
* Strong mutual interests and ties enhance deterrence. 6
* Case studies strongly ratify the theoretical expectation that it is easier to defend a given status quo than to challenge it forcefully: compellence (sometimes termed “coercion” or “coercive diplomacy”) is extremely hard.

The most important finding to emerge from this voluminous research is that alliances— especially with nuclear- armed allies like the United States— actually work in deterring conflict. This is all the more striking in view of the fact that what scholars call “selection bias” probably works against it. The United States is more inclined to offer— and protégés to seek— alliance rela- tionships in settings where the probability of military conflicts is higher than average. The fact that alliances work to deter conflict in precisely the situations where deterrence is likely to be especially hard is noteworthy.

More specifically, these findings buttress the key theoretical implication that if the United States is interested in deterring military challenges to the status quo in key regions, relying only on latent military capabilities in the US homeland is likely to be far less effective than having an overseas military posture. Similarly, they lend support to the general proposition that a forward deterrence posture is strongly appealing to a status quo power, because defending a given status quo is far cheaper than overturning it, and, once a favorable status quo is successfully overturned, restoring the status quo ante can be expected to be fearsomely costly. Recognizing the significance of these findings clearly casts doubt on the “wait on the sidelines and decide whether to intervene later” approach that is so strongly favored by retrenchment proponents.

The Causes of Nuclear Proliferation Matthew Kroenig highlights a number of reasons why US policymakers seek to limit the spread of nuclear weapons: “Fear that nuclear proliferation might deter [US leaders] from using military intervention to pursue their interests, reduce the effectiveness of their coercive diplomacy, trigger regional instability, undermine their alliance structures, dissipate their strategic attention, and set off further nuclear proliferation within their sphere of influence.” These are not the only reasons for concern about nuclear proliferation; also notable are the enhanced prospects of nuclear accidents and the greater risk of leakage of nuclear material to terrorists. 9 8

Do deep engagement’s security ties serve to contain the spread of nuclear weapons? The literature on the causes of proliferation is massive and faces challenges as great as any in international relations. With few cases to study, severe challenges in gathering evidence about inevitably secretive nuclear programs, and a large number of factors in play on both the demand and the supply sides, findings are decidedly mixed. Alliance relationships are just one piece of this complex puzzle, one that is hard to isolate from all the other factors in play. And empirical studies face the same selection bias problem just discussed: Nuclear powers are more likely to offer security guarantees to states confronting a serious threat and thus facing above- average incentives to acquire nuclear weapons. Indeed, alliance guarantees might be offered to states actively considering the nuclear option precisely in order to try to forestall that decision. Like a strong drug given only to very sick patients, alliances thus may have a powerful effect even if they sometimes fail to work as hoped. 10

Bearing these challenges in mind, the most relevant findings that emerge from this literature are:

* The most recent statistical analysis of the precise question at issue concludes that “security guarantees significantly reduce proliferation proclivity among their recipients.” In addition, states with such guarantees are less likely to export sensitive nuclear material and technology to other nonnuclear states. 12 11
* Case study research underscores that the complexity of motivations for acquiring nuclear weapons cannot be reduced to security: domestic politics, economic interests, and prestige all matter. 13
* Multiple independently conceived and executed recent case studies nonetheless reveal that security alliances help explain numerous allied decisions not to proliferate even when security is not always the main driver of leaders’ interest in a nuclear program. As Nuno Monteiro and Alexandre Debs stress, “States whose security goals are subsumed by their sponsors’ own aims have never acquired the bomb. … This finding highlights the role of U.S. security commitments in stymieing nuclear proliferation: U.S. protégés will only seek the bomb if they doubt U.S. protection of their core security goals.” 15 14
* Multiple independently conceived and executed recent case research projects further unpack the conditions that decrease the likelihood of allied proliferation, centering on the credibility of the alliance commitment. In addition, in some cases of prevention failure, the alliances allow the patron to influence the ally’s nuclear program subsequently, decreasing further proliferation risks. 17
* Security alliances lower the likelihood of proliferation cascades. To be sure, many predicted cascades did not occur. But security provision, mainly by the United States, is a key reason why. The most comprehensive statistical analysis finds that states are more likely to proliferate in response to neighbors when three conditions are met: (1) there is an intense security rivalry between the two countries; (2) the prospective proliferating state does not have a security guarantee from a nuclear- armed patron; and (3) the potential proliferator has the industrial and technical capacity to launch an indigenous nuclear program. 18 19 16

In sum, as Monteiro and Debs note, “Despite grave concerns that more states would seek a nuclear deterrent to counter U.S. power preponderance,” in fact “the spread of nuclear weapons decelerated with the end of the Cold War in 1989.” Their research, as well as that of scores of scholars using multiple methods and representing many contrasting theoretical perspectives, shows that US security guarantees and the counter- proliferation policy deep engagement allows are a big part of the reason why. 20

The Costs of Nuclear Proliferation General empirical findings thus lend support to the proposition that security alliances impede nuclear proliferation. But is this a net contributor to global security? Most practitioners and policy analysts would probably not even bring this up as a question and would automatically answer yes if it were raised. Yet a small but very prominent group of theorists within the academy reach a different answer: some of the same realist precepts that generate the theoretical prediction that retrenchment would increase demand for nuclear weapons also suggest that proliferation might increase security such that the net effect of retrenchment could be neutral. Most notably, “nuclear optimists” like Kenneth Waltz contend that deterrence essentially solves the security problem for all nuclear- armed states, largely eliminating the direct use of force among them. It follows that US retrenchment might generate an initial decrease in security followed by an increase as insecure states acquire nuclear capabilities, ultimately leaving no net effect on international security. 21

This perspective is countered by “nuclear pessimists” such as Scott Sagan. Reaching outside realism to organization theory and other bodies of social science research, they see major security downsides from new nuclear states. Copious research produced by Sagan and others casts doubt on the expectation that governments can be relied upon to create secure and controlled nuclear forces. The more nuclear states there are, the higher the probability that the organizational, psychological, and civil- military pathologies Sagan identifies will turn an episode like one of the numerous “near misses” he uncovers into actual nuclear use. As Campbell Craig warns, “One day a warning system will fail, or an official will panic, or a terrorist attack will be misconstrued, and the missiles will fly.” 22 23

#### Nuanced debates are essential to lock in the grand strategy --- Only engagement convinces the public to look past shallow indictments in favor of the benefits of primacy

**Brands 18** [Hal, Henry Kissinger Distinguished Professor at Johns Hopkins University's School of Advanced International Studies and a senior fellow at the Center for Strategic and Budgetary Assessments." American Grand Strategy in the Age of Trump." Page 21-23]

Fifth and finally, sustaining America’s post–Cold War strategy entails persuading the American public to recommit to that strategy and the investments it requires. The state of American opinion on that subject is currently ambiguous. Polling data indicates that public support for most key aspects of American internationalism has recovered somewhat from where it was in 2012–13, and is again at or near postwar averages.32 But the 2016 election cycle and its eventual outcome revealed strong support for candidates who advocated rolling back key elements of post–Cold War (and post–World War II) grand strategy, from free trade to U.S. alliances. This atmosphere reflects discontent with the failures and frustrations of U.S. grand strategy in the post–Cold War era, no doubt, yet it also reflects the fact that American strategy seems **at risk of becoming a victim of its own success**.33 By helping to foster a comparatively stable and congenial environment, American policies have made it more difficult for Americans to remember why significant investments in the global order are needed in the first place.

Today, this ambivalence is becoming increasingly problematic, for the simple reason that properly resourcing American strategy requires making politically difficult trade-offs with respect to entitlements and other ballooning domestic costs. It is also becoming problematic, of course, because even if the American public seems to support particular aspects of American grand strategy, the public has shown itself willing to elect a president who appears to care little for the successful postwar and post–Cold War tradition, even if he has, so far, maintained more aspects of that tradition as president than his campaign rhetoric might have led one to expect. In the future—and indeed, looking beyond Trump’s presidency— sustaining American grand strategy will thus require more intensive political efforts.

American leaders will need to more effectively make the case for controversial but broadly beneficial policies such as free trade, while also addressing the inevitable socioeconomic dislocations such policies cause.34 They will need to more fully articulate the underlying logic and value of alliances and other commitments whose costs are often more visible—not to say greater—than their benefits. They will need to remind Americans that their country’s leadership has not been a matter of charity; it has helped produce an international order that is exceptional in its stability, liberalism, and benefits for the United States. Not least, they will need to make the case that the costs that the country has borne in support of that order are designed to avoid the necessity of bearing vastly higher costs if the international scene returned to a more tumultuous state. After all, the success of American statecraft is often reflected in the bad things that don’t happen as well as in the good things that do. Making this point is essential to reconsolidating domestic support now and in the future—and to preserving a grand strategy that has delivered pretty good results for a quarter century.

#### Even a regional war causes nuclear winter --- guarantees extinction

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Nuclear warfare could have devastating impacts on millions of people, yet it has been suggested that regional or global nuclear conflict may be possible in the future (Toon et al., 2019). In addition to the calamitous impacts of nuclear conflict on a local level, research conducted with a range of climate models finds a global cooling in response to various conflict scenarios (Coupe et al., 2019; Malone et al., 1985; Mills et al., 2014; Pausata et al., 2016; Robock et al., 2007; Turco et al., 1983). This global cooling is driven by fires started by the nuclear weapons. These fires inject smoke into the upper troposphere, where rapid lofting can spread the sunlight-absorbing soot particles into the stratosphere (Turco et al., 1983). Recent research implies that even a small nuclear conflict may have impacts on the global climate system, affecting the state and circulation of the atmosphere (Robock et al., 2007), increasing the sea ice extent in both hemispheres (Mills et al., 2014), and reducing plant productivity and crop yields in regions far from the conflict location (Özdogan et al., ˘ 2013; Toon et al., 2019; Xia & Robock, 2013). While less studied, the potential impacts of nuclear conflict on the ocean are many. Numerous physical, chemical, and biological processes in the ocean are temperature dependent, and sunlight is a critical ingredient for photosynthesizing phytoplankton at the base of the marine food web. Using a climate model with an interactive ocean, Mills et al. (2014) evaluated the ocean physical response to a potential India/Pakistan nuclear war that lofts 5 Tg of black carbon particles into the stratosphere; they find a 0.8◦ C decrease in globally averaged sea surface temperature, with smaller temperature reductions at depth. Recently Toon et al. (2019) used an Earth system model that includes a representation for phytoplankton to evaluate the ocean biological response to nuclear conflict; they report a 5–15% decrease in phytoplankton productivity under a range of conflict scenarios. Such findings prompt further investigation into how nuclear conflict and the resulting global cooling may alter the chemical state of the ocean. Perturbations in the ocean's carbonate chemistry are of particular interest, owing to their importance for ocean acidification. Ocean acidification is an ongoing, large-scale environmental problem driven by fossil fuel emissions of carbon dioxide (CO2). Cumulatively since the preindustrial era, the ocean has absorbed 41% of the carbon emitted by human industrial activities (McKinley et al., 2017). While this ocean absorption of carbon has partially mitigated anthropogenic global warming, it has fundamentally altered the carbonate chemistry of the ocean, increasing the concentration of hydrogen ions ([H+]) while decreasing the concentration of carbonate ions ([CO2− 3 ]). Observations collected at time series sites across the global ocean find statistically significant reductions in the potential hydrogen (pH = −log([H+])) and the saturation state of the calcium carbonate mineral aragonite (Ωarag, which is proportional to [CO2− 3 ]) over the past few decades (Bates et al., 2014). These changes are a direct consequence of the ocean absorption of anthropogenic carbon; carbonate chemistry dictates that the excess carbon will react with water and CO2− 3 to decrease ocean pH and Ω (Feely et al., 2004). Both of these changes may have negative consequences for marine organisms, in particular for those that precipitate calcium carbonate shells (e.g., coccolithophores, pteropods, foraminifera, corals, molluscs, and echinoderms), as the precipitation is hindered by low pH, and because decreases in Ω favor shell dissolution (Doney et al., 2009). To date, there have been no studies of the effects of nuclear conflict on ocean acidification, though past modeling studies on the ocean's response to volcanic forcing and to proposed geoengineering schemes have intimated that ocean carbonate chemistry is highly sensitive to these types of external forcings. Using a fully coupled carbon-climate model, Frölicher et al. (2011) find that volcanic-induced cooling following the 1991 Mt. Pinatubo eruption led to immediate increases in the flux of carbon from atmosphere to ocean and consequently, increases in the total dissolved inorganic carbon (DIC) concentration in the surface ocean. Eddebbar et al. (2019) demonstrate that air-to-sea CO2 fluxes are significantly enhanced following the eruptions of Agung, El Chichón, and Pinatubo in a large ensemble of simulations with an Earth system model. Matthews et al. (2009) conduct solar radiation management climate engineering simulations with an intermediate complexity model of the coupled climate-carbon system; they find changes in ocean pH and Ωarag as a result of the anomalous cooling. Similarly, Lauvset et al. (2017) indicate that radiation management geoengineering leads to changes in North Atlantic pH in a fully coupled Earth system model, but they do not explore changes in Ωarag. While these studies are suggestive of the carbonate chemistry response to nuclear conflict, the external forcing perturbations are of a different magnitude and duration than those imposed by nuclear conflict. Further, it is difficult to mechanistically understand the ocean carbonate chemistry response to such external forcing perturbations in fully coupled models, where the terrestrial response to forcing additionally influences the atmospheric CO2 concentration. Here, we use a state-of-the art Earth system model to simulate the ocean carbonate chemistry response to a range of nuclear conflict scenarios. We decouple the ocean carbon cycle from that of the terrestrial carbon cycle via a direct prescription of the atmospheric CO2 boundary condition used for air-sea CO2 flux, that is, changes in the terrestrial biosphere have no influence on the atmospheric CO2 that the ocean sees. As we will demonstrate, we find large perturbations in ocean pH and Ωarag as a result of nuclear conflict. These perturbations have relatively long duration (order of 10 years) and are driven by decreases in temperature and subsequent increases in the ocean carbon inventory. 2. Methods We analyse output generated by the Community Earth System Model (CESM) version 1.3, a state-of-the-art coupled climate model consisting of atmosphere, ocean, land, and sea ice components (Hurrell et al., 2013). The atmosphere component of CESM in our simulations is the Whole Atmosphere Community Climate Model (WACCM; Marsh et al., 2013) with nominal 2◦ resolution, 66 vertical levels, and a model top at ∼145 km; it uses the Rapid Radiative Transfer Model for GCMs (RRTMG; Iacono et al., 2000) for the radiative transfer. The Community Aerosol and Radiation Model for Atmospheres (Bardeen et al., 2008) is coupled with WACCM to simulate the injection, lofting, advection, and removal of soot aerosols in the troposphere and stratosphere, and their subsequent impact on climate (Coupe et al., 2019; Toon et al., 2019). The ocean component of CESM is the Parallel Ocean Program version 2 (Danabasoglu et al., 2012) with nominal 1◦ resolution and 60 vertical levels. The biogeochemical ocean component of CESM is the Biogeochemical Elemental Cycling model that represents the lower trophic levels of the marine ecosystem, full carbonate system thermodynamics, air-sea CO2 fluxes, and a dynamic iron cycle (Doney et al., 2006; Moore et al., 2004, 2013; Moore & Braucher, 2008; Long et al., 2013; Lindsay et al., 2014). LOVENDUSKI ET AL. 2 of 9 Geophysical Research Letters 10.1029/2019GL086246 The ocean in the coupled CESM simulation is initialized from rest with World Ocean Circulation (WOCE) temperature and salinity (Gouretski & Koltermann, 2004). Biogeochemical tracers are initialized to observationally based climatologies where possible (Lauvset et al., 2016); where these were not available (such as dissolved iron and phytoplankton biomass), the model is initialized with fields interpolated from an existing CESM simulation. The new, fully coupled simulation was spun up for 4 years to an approximate steady state with a constant atmospheric CO2 mixing ratio of 370 ppm, representative of the mixing ratio in the year 2000. Due to the relatively short spin-up period, the globally integrated air-sea CO2 flux is not in steady state (drifting at a rate of 0.14 Pg C year−2) when the perturbation forcing is applied. We therefore present our results as anomalies from the drifting control integrations. Three control simulations of 20-year duration are generated using round-off level differences in atmospheric initial conditions. As each of these control simulations has different phasing of internal variability (e.g., El Niño-Southern Oscillation), we use the standard deviation across this ensemble to identify statistically significant perturbations due to nuclear conflict. We report on the anomalies generated from four simulations of nuclear conflict with varying amounts of soot injection: three India/Pakistan conflict scenarios that inject 5, 27, and 47 Tg of soot, respectively, and one US/Russia conflict scenario that injects 150 Tg of soot. The initial soot injection amounts are generated from plausible scenarios for nuclear conflict following advice from a number of military and policy experts; the reader is referred to Toon et al. (2019) for further details on scenario development. In each case, we prescribe that the conflict begins on 15 May of the 5th year of the first control simulation, and we integrate the model for a 15-year period following the injection. We assume that the smoke generated by mass fires from nuclear conflict is injected into the upper troposphere above the target sites (in the U. S./Russia case, smoke is spread evenly over the two nations), as in Toon et al. (2019). WACCM lofts much of this smoke higher into the stratosphere via solar heating of black carbon aerosols in the smoke, where the black carbon aerosols persist for about a decade. The resulting annual mean, post-conflict (May to the following April) anomalies in aerosol optical depth are shown in Figure 1a. These optical depth changes result in a 10–40% reduction in incoming solar energy (Toon et al., 2019). While we discuss the anomalies generated from all four of these conflict simulations, we describe two in greater detail throughout this manuscript: the U. S./Russia case, as it is the largest climate perturbation overall, and the India/Pakistan 47-Tg case, as it is the largest climate perturbation generated by a regional nuclear conflict. Ocean biogeochemistry in the version of CESM used for our simulations has been extensively validated in the literature (Brady et al., 2019; Freeman et al., 2018; Harrison et al., 2018; Krumhardt et al., 2017; Lindsay et al., 2014; Lovenduski et al., 2015, 2016; Long et al., 2013, 2016; Moore et al., 2013; McKinley et al., 2016; Negrete-García et al., 2019). Of particular note for our study, the simulated surface ocean carbonate ion concentration from a long, preindustrial control simulation of CESM compares favorably with reconstructed observations, albeit with lower interannual variance than has been measured at subtropical time series sites (Lovenduski et al., 2015). In Figure S1 in the supporting information, we illustrate the comparison between observationally based estimates of surface ocean pH and Ωarag (from GLODAPv2; Lauvset et al., 2016) and the CESM control ensemble mean. In this comparison, we note that the observational estimates have been extensively interpolated and are intended to represent year 2002 carbonate chemistry parameters, whereas CESM has been integrated under an atmospheric CO2 mixing ratio that corresponds to year 2000 forcing. We find high correspondence between the spatial patterns of modeled and observed pH and Ωarag, giving us confidence that CESM is capable of representing the mean state of these two variables. 3. Results Globally averaged surface ocean pH increases in response to each of the nuclear conflicts, where the magnitude of the pH anomaly scales with the amount of soot injected (Figure 1b). In each case, the pH anomaly exceeds the interannual standard deviation of pH in the control ensemble mean (gray shading in Figure 1b). We observe the largest increases in surface ocean pH in response to the U. S./Russia 150-Tg case; here the globally averaged surface ocean pH anomaly exceeds 0.05, corresponding to a ∼10% decrease in the global mean hydrogen ion concentration. Under each scenario, the pH anomaly peaks 2–4 years after the conflict and persists for ∼10 years. With the exception of the high-latitude oceans, the pH increase following the nuclear conflict is pervasive across the surface ocean (Figures 2a– 2c). In the 47-Tg India/Pakistan scenario, we observe local pH anomalies exceeding 0.06 units on average in years 2–5 post conflict (Figure 2c); the anomalies are largest in the North Atlantic, North Pacific, and Equatorial Pacific. These large, abrupt changes in surface ocean pH may have important consequences for calcifying organisms, as shell precipitation can be affected by the ambient hydrogen ion concentration in seawater (Kroeker et al., 2013). Since the beginning of the industrial revolution, global ocean pH has dropped by an estimated 0.1 units (Ciais & Sabine, 2013). The anomalies in pH generated by our simulations exceed 50% of this historical change and occur over a much shorter time period. Whether and how organisms respond to the initial and rapid alleviation of low pH, followed by an immediate return to the current pH state in the global ocean, is as yet unknown (see, e.g., Haigh et al., 2015). In contrast to our results for pH, we observe decreases in surface ocean Ωarag following nuclear conflict (Figure 1c), which should tend to inhibit the maintenance of shells and skeletons in calcified organisms. While minimal changes in Ωarag are simulated for the 5-Tg India/Pakistan case, the other three cases produce large decreases in saturation state, on the order of 0.1 to 0.3 units (Figure 1c). In each of these three cases, the anomalies exceed the interannual standard deviation of Ωarag in the control ensemble mean (gray shading in Figure 1c). The peak response in these three cases occurs 3–5 years post conflict, a year or so later than the pH response. While for pH the globally averaged anomaly is negligibly small, 10-years post conflict; anomalies in globally averaged Ωarag persist beyond our 15-year simulation time frame for all conflict scenarios. The decreases in aragonite saturation state span the tropics and subtropics, with the exception of the central and eastern Equatorial Pacific region (Figures 2d– 2f). Local decreases in saturation state exceed 0.5 units in the western North Atlantic and western North Pacific under the 47-Tg India/Pakistan scenario (Figure 2f). Importantly, the simulated decreases in saturation state are highly pronounced in regions that host diverse coral reef ecosystems (for instance, the western and southwestern Pacific and the Caribbean), and like pH, the changes in saturation state occur fairly rapidly. Projections from climate models suggest that coral reef ecosystems across the world will experience aragonite saturation state declines from their preindustrial value of 3.5 to 3.0 by the end of the century (Ricke et al., 2013); alarmingly, our simulations project similar Ωarag declines over a 3- to 5-year period, which then persist for years after the initial forcing dissipates. The opposite-signed anomalies in pH and Ωarag induced by nuclear conflict seem puzzling at first, as for "typical" anthropogenic ocean acidification scenarios, both of these variables simultaneously decrease. Why would nuclear conflict cause opposing responses in pH and saturation state? To understand these opposing responses, we need to consider the carbonate chemistry system in seawater and its sensitivity to changing temperature. Gaseous CO2 reacts with seawater to form carbonic acid (H2CO3), which then dissociates to form H+ and bicarbonate (HCO− 3 ). The hydrogen ion then reacts with CO2− 3 to form additional HCO− 3 , CO2 + H2O− ↽−−−−−−⇀−H2CO3. (1) H2CO3− ↽−−−−−−⇀−H+ + HCO− 3 . (2) H+ + CO2− 3 − ↽−−−−−−⇀−HCO− 3 . (3) The equilibrium constants for these reactions (typically expressed as K0, K1, and K2, respectively; Sarmiento & Gruber, 2006) are sensitive to changes in temperature, for example, the cooling induced by nuclear conflict. We need to also consider the dissolution reaction for mineral calcium carbonate (CaCO3) in seawater, CaCO3(s)− ↽−−−−−−⇀−Ca2+ sat + CO2− 3,sat, (4) where [Ca2+]sat and [CO2− 3 ]sat are the concentrations of dissolved calcium and carbonate in equilibrium with mineral CaCO3, and the solubility product (Ksp) for this reaction is also sensitive to temperature (Sarmiento & Gruber, 2006). Further, the saturation state for a calcium carbonate mineral in seawater (here: aragonite), can be expressed as Ωarag = [Ca2+][CO2− 3 ] Ksp , (5) where both [CO2− 3 ] and Ksp are affected by changes in temperature (Ca2+ is highly abundant in seawater, and thus changes in temperature do not affect its concentration enough to matter for CaCO3 dissolution; Emerson & Hedges, 2008; Sarmiento & Gruber, 2006). Thus, we can decompose the anomalies in pH and Ωarag into the component driven by temperature-induced changes in the carbonate chemistry equilibrium constants (K0, K1, K2, and Ksp) and the component driven by all other changes to the carbonate chemistry system, such as changes in the DIC concentration, the alkalinity, or the salinity. We approximate the temperature sensitivity of the equilibrium constants using a program developed for CO2 system calculations (CO2SYS; van Heuven et al., 2011) via finite difference approximation. The component driven by all other changes to the carbonate system is computed as the residual of the other two terms. The pH response to nuclear conflict is the sum of two opposing drivers: an increase in pH driven by a decrease in sea surface temperature that alters the carbonate chemistry equilibrium constants and a decrease in pH driven by an increase in the DIC concentration of the upper ocean. Figure 1b illustrates the temporal evolution of the components of the global pH anomalies from the India/Pakistan 47-Tg simulation driven by changes in the equilibrium constants versus all other changes in the carbonate chemistry system. The equilibrium constant-driven pH anomaly is positive, peaking 2–3 years after the conflict, whereas the “other” component of the pH anomaly is negative, peaking 3–5 years after the conflict. The resulting total pH anomaly is positive, indicating that it is more strongly influenced by changes in the equilibrium constants than other changes. In the India/Pakistan 47-Tg case, globally averaged temperature reaches a minimum 2 to 3-years post conflict; the model initially produces 3.5◦C–4◦C anomalies at the surface that rewarm toward pre-conflict values for the duration of the simulation (Figure 3a). In contrast, surface ocean salinity-normalized DIC anomalies peak 3 to 5-years post conflict (Figure 3b), mainly as a result of the enhanced solubility of CO2 in colder seawater. While decreasing biological export production also contributes to increased DIC in the surface ocean, this signal is small relative to the change driven by enhanced air-to-sea CO2 flux (e.g., Figure S2). The delay in DIC relative to temperature anomalies is a result of the long (order months to years) timescale for CO2 to fully equilibrate with the surface mixed layer (Emerson & Hedges, 2008). The cold, high DIC surface anomalies slowly propagate into the global ocean thermocline; we observe 1◦ C and 10 mmol m−3 anomalies in temperature and DIC, respectively, at a depth of 300 m that persist beyond the length of our simulation (Figure 3). As there are no significant anomalies in global mean alkalinity or salinity post conflict (not shown), we conclude that the DIC perturbation drives the “other” component of the pH anomalies. We find similar behavior for these components in the other conflict scenarios (not shown). The negative Ωarag anomalies post conflict are driven by a combination of lower temperatures and higher DIC concentrations. Colder surface temperatures tend to increase Ksp, while higher surface DIC concentrations tend to decrease [CO2− 3 ], resulting in lower Ωarag values post conflict. Figure 1c illustrates that the DIC (other) component dominates the total Ωarag anomaly for the India/Pakistan 47-Tg simulation. As for pH, the equilibrium constant component peaks earlier than the other component; this is due to the timing of the temperature and DIC perturbations (Figure 3). The spatial patterns of the post-conflict surface pH and Ωarag anomalies in the India/Pakistan 47-Tg scenario (Figures 2c and 2f) result from perturbations in local surface ocean temperature and DIC (Figure S3). Negative temperature anomalies and positive DIC anomalies are pervasive in the tropics and extratropics, with the exception of the eastern Equatorial Pacific, where a large and long-lasting El Niño-like event develops following the conflict (Coupe, et al., manuscript in review). This strong reduction in the equatorial trade winds greatly weakens upwelling in the cold tongue region, producing near-zero surface temperature anomalies and a reduction in vertical DIC supply here (Figure S3). In the Southern Ocean, temperature and DIC are not much affected by the nuclear conflict, likely a result of enhanced upwelling of warm water from the subsurface (Harrison, et al., manuscript in preparation). Taken together, the aforementioned changes in temperature and DIC lead to increases in pH and decreases in Ωarag over most of the ocean surface (Figure S4). The changes in surface ocean pH that we simulate for nuclear conflict resemble the simulated response of pH to volcanic eruptions, but are an order of magnitude larger. Figure S5 illustrates the anomaly in surface ocean pH in the first year following the eruptions of Agung, El Chichón, and Mt. Pinatubo, as estimated by the CESM Large Ensemble (Kay et al., 2015), which uses the same physical and biogeochemical ocean components as in our nuclear conflict simulations. The ensemble mean isolates the evolution of the Earth system under historical external forcing, including the aerosol loading following volcanic eruptions (Eddebbar et al., 2019), and averages across the various representations of internal variability (Deser et al., 2012; we note that ensembles are not necessary for the nuclear conflict scenarios since the much larger magnitude of forcing provides a higher signal-to-noise ratio). The anomaly in the ensemble mean shown here thus cleanly captures the response of surface ocean pH to volcanic eruptions. Here we show the anomaly in preindustrial pH (pH anomalies in equilibrium with preindustrial atmospheric CO2, which is computed simultaneously with contemporary pH at model run time), as the contemporary pH anomalies include also the response to increasing atmospheric CO2 from one year to the next. The similarity in the spatial patterns of volcanically induced pH anomalies and those produced under nuclear conflict is striking (cf. Figures S5 and 2c), suggesting that volcanic forcing produces similar temperature, DIC, and thus pH anomalies (including the El Niño-like response to volcanic forcing in the eastern Equatorial Pacific, described in Eddebbar et al., 2019). However, the eruption-driven pH anomaly is both smaller (an order of magnitude) and of shorter duration (∼2 years) than in the India/Pakistan 47-Tg simulation. Unfortunately, a similar analysis of volcanic Ωarag anomalies in the CESM Large Ensemble was not possible as preindustrial [CO2− 3 ] was not saved to disk. 4. Conclusions and Discussion We report on the surface ocean pH and Ωarag anomalies generated from four simulations of nuclear conflict using the CESM with full ocean carbonate system thermodynamics. Globally averaged surface ocean pH increases in response to each conflict, with the largest increases in the North Atlantic, North Pacific, and Equatorial Pacific Ocean. The pH anomalies persist for 10 years post conflict and are primarily driven by changes in the carbonate chemistry equilibrium constants as a result of decreases in sea surface temperature. In contrast, CESM simulates globally averaged decreases in surface ocean Ωarag in response to nuclear conflict, with the largest decreases in the tropics and subtropics. The Ωarag anomalies persist beyond the length of our 15-year simulations and are driven by a combination of changes in the carbonate chemistry equilibrium constants and the solubility-driven increases in DIC. We further demonstrate that the surface pH anomalies induced by nuclear conflict resemble those induced by volcanic eruptions in the same modeling system. The simulated changes in global and regional pH and Ωarag as a result of nuclear conflict are large and abrupt. In the most extreme forcing scenario (U. S./Russia 150 Tg), over a period of ∼5 years, global surface ocean pH increases by 0.06 units, and Ωarag decreases by 0.3 units. To put these numbers into perspective, this simulated rate of change of pH is 10 times larger than the rate of change we have observed over the past two decades as a result of ocean acidification (−0.0018 year−1; Lauvset et al., 2015). Worryingly, surface ocean Ωarag decreases more than six times faster than has been observed in the open ocean over the past three decades (−0.0095 year−1 at the Bermuda Atlantic time series; Bates et al., 2014). While the cooling associated with nuclear conflict rapidly and briefly alleviates the decline in pH associated with ocean acidification, the increase in solubility causes the ocean to absorb ∼11 Pg of excess carbon in a 10-year period, leading to a rapid drop in Ωarag. Whether and how calcifying organisms might respond to such rapid and opposing changes in pH and Ωarag is as yet unknown. In order to measure organism response to ocean acidification, a majority of laboratory studies perform CO2 bubbling perturbation experiments, which simultaneously decrease the pH and Ωarag in the surrounding seawater solution (Pörtner et al., 2014). This simultaneous change in two carbonate chemistry parameters challenges our ability to isolate the organism response to changes in pH or changes in Ωarag alone. A recent laboratory sensitivity study of marine bivalve larvae used chemical manipulation experiments to decouple these two parameters; they found that larval shell development and growth were negatively impacted by decreasing Ω and unaffected by changes in pH (Waldbusser et al., 2014). If these sensitivities are sustained in other organisms, we might conclude that calcifying organisms would be severely affected by nuclear conflict. Our findings shed light on the ocean biogeochemical response to other forms of extreme external forcing, such as volcanic eruptions (Eddebbar et al., 2019; Frölicher et al., 2011) and solar radiation management climate engineering (Lauvset et al., 2017; Matthews et al., 2009). They may further inform the study and understanding of the role of ocean acidification in marine extinction following the Chicxulub impact event (Henehan et al., 2019). Importantly, our results suggest that even a regional nuclear conflict can have an impact on global ocean acidification, adding to the list of the many, far-reaching consequences of nuclear conflict for global society.

#### Existential risks come first – cognitive bias goes our way

GPP 17 (Global Priorities Project, Future of Humanity Institute at the University of Oxford, Ministry for Foreign Affairs of Finland, “Existential Risk: Diplomacy and Governance,” Global Priorities Project, 2017, <https://www.fhi.ox.ac.uk/wp-content/uploads/Existential-Risks-2017-01-23.pdf> edited

1.2. THE ETHICS OF EXISTENTIAL RISK In his book Reasons and Persons, Oxford philosopher Derek Parfit advanced an influential argument about the importance of avoiding extinction: I believe that if we destroy mankind, as we now can, this outcome will be much worse than most people think. Compare three outcomes: (1) Peace. (2) A nuclear war that kills 99% of the world’s existing population. (3) A nuclear war that kills 100%. (2) would be worse than (1), and (3) would be worse than (2). Which is the greater of these two differences? Most people believe that the greater difference is between (1) and (2). I believe that the difference between (2) and (3) is very much greater. ... The Earth will remain habitable for at least another billion years. Civilization began only a few thousand years ago. If we do not destroy [hu]mankind, these few thousand years may be only a tiny fraction of the whole of civilized human history. The difference between (2) and (3) may thus be the difference between this tiny fraction and all of the rest of this history. If we compare this possible history to a day, what has occurred so far is only a fraction of a second.65 In this argument, it seems that Parfit is assuming that the survivors of a nuclear war that kills 99% of the population would eventually be able to recover civilisation without long-term effect. As we have seen, this may not be a safe assumption – but for the purposes of this thought experiment, the point stands. What makes existential catastrophes especially bad is that they would “destroy the future,” as another Oxford philosopher, Nick Bostrom, puts it.66 This future could potentially be extremely long and full of flourishing, and would therefore have extremely large value. In standard risk analysis, when working out how to respond to risk, we work out the expected value of risk reduction, by weighing the probability that an action will prevent an adverse event against the severity of the event. Because the value of preventing existential catastrophe is so vast, even a tiny probability of prevention has huge expected value.67 Of course, there is persisting reasonable disagreement about ethics and there are a number of ways one might resist this conclusion.68 Therefore, it would be unjustified to be overconfident in Parfit and Bostrom’s argument. In some areas, government policy does give significant weight to future generations. For example, in assessing the risks of nuclear waste storage, governments have considered timeframes of thousands, hundreds of thousands, and even a million years.69 Justifications for this policy usually appeal to principles of intergenerational equity according to which future generations ought to get as much protection as current generations.70 Similarly, widely accepted norms of sustainable development require development that meets the needs of the current generation without compromising the ability of future generations to meet their own needs.71 However, when it comes to existential risk, it would seem that we fail to live up to principles of intergenerational equity. Existential catastrophe would not only give future generations less than the current generations; it would give them nothing. Indeed, reducing existential risk plausibly has a quite low cost for us in comparison with the huge expected value it has for future generations. In spite of this, relatively little is done to reduce existential risk. Unless we give up on norms of intergenerational equity, they give us a strong case for significantly increasing our efforts to reduce existential risks. 1.3. WHY EXISTENTIAL RISKS MAY BE SYSTEMATICALLY UNDERINVESTED IN, AND THE ROLE OF THE INTERNATIONAL COMMUNITY In spite of the importance of existential risk reduction, it probably receives less attention than is warranted. As a result, concerted international cooperation is required if we are to receive adequate protection from existential risks. 1.3.1. Why existential risks are likely to be underinvested in There are several reasons why existential risk reduction is likely to be underinvested in. Firstly, it is a global public good. Economic theory predicts that such goods tend to be underprovided. The benefits of existential risk reduction are widely and indivisibly dispersed around the globe from the countries responsible for taking action. Consequently, a country which reduces existential risk gains only a small portion of the benefits but bears the full brunt of the costs. Countries thus have strong incentives to free ride, receiving the benefits of risk reduction without contributing. As a result, too few do what is in the common interest. Secondly, as already suggested above, existential risk reduction is an intergenerational public good: most of the benefits are enjoyed by future generations who have no say in the political process. For these goods, the problem is temporal free riding: the current generation enjoys the benefits of inaction while future generations bear the costs. Thirdly, many existential risks, such as machine superintelligence, engineered pandemics, and solar geoengineering, pose an unprecedented and uncertain future threat. Consequently, it is hard to develop a satisfactory governance regime for them: there are few existing governance instruments which can be applied to these risks, and it is unclear what shape new instruments should take. In this way, our position with regard to these emerging risks is comparable to the one we faced when nuclear weapons first became available. Cognitive biases also lead people to underestimate existential risks. Since there have not been any catastrophes of this magnitude, these risks are not salient to politicians and the public.72 This is an example of the misapplication of the availability heuristic, a mental shortcut which assumes that something is important only if it can be readily recalled. Another cognitive bias affecting perceptions of existential risk is scope neglect. In a seminal 1992 study, three groups were asked how much they would be willing to pay to save 2,000, 20,000 or 200,000 birds from drowning in uncovered oil ponds. The groups answered $80, $78, and $88, respectively.73 In this case, the size of the benefits had little effect on the scale of the preferred response. People become numbed to the effect of saving lives when the numbers get too large. 74 Scope neglect is a particularly acute problem for existential risk because the numbers at stake are so large. Due to scope neglect, decision-makers are prone to treat existential risks in a similar way to problems which are less severe by many orders of magnitude. A wide range of other cognitive biases are likely to affect the evaluation of existential risks.75

#### The plantext is neither a starting point nor endpoint of our method --- Demands of the digital age means policy debate is the only solution --- In depth studies and scenario analysis are critical to effective antitrust enforcement

O’Keeffe, 17 (Siún O’Keeffe, Strategy advisor, Netherlands Authority for Consumers and Markets., Nov 2017, accessed on 9-14-2021, Sci-hub, "Use and Importance of Market Studies in Modern Competition Enforcement", https://sci-hub.se/https://doi.org/10.1093/jeclap/lpx081)//babcii

Market studies too, can ultimately lead to swifter problem-solving. They allow us to examine a complicated market and establish how it works. This can prove **invaluable to assessments of whether or not particular activities are harmful**. Take the Online Hotel Booking Monitor that was published by EU competition authorities in February 2017. The Monitor examined empirical evidence that showed that many hotels were unaware of the legality or otherwise of the clauses controlling their prices. Also, it revealed no evidence of increased competition in markets where both wide and narrow across platform parity clauses were prohibited, in comparison to markets where only the wide APPA was stopped (through commitments). It is an example of crossborder number-crunching cooperation between 11 member states, including ACM, and the European Commission (in a sector in which authorities are often criticised for a lack of cooperation). ACM recently conducted an online video streaming study, with a focus on online video advertising. The study showed the intricate working of a swiftly moving multi-sided market. Online video platforms compete heavily for consumer attention. This battle primarily takes places in the fields of video-content and new service provision. The study suggested that none of the online video platforms currently has a dominant position in online advertising (it did not further explore content issues). The **large, international platforms** such as YouTube and Facebook face competition on these markets, at present, from each other and from smaller competitors. Online advertisements can be placed in a number of ways. In addition, there are many different companies that sell advertising space and place advertisements. Advertisers are able to choose the type of advertisement, and choose with whom they wish to do business, and they take advantage of these opportunities. There is also sufficient competition between the companies that facilitate the trade of advertising space. Personal data-sets are becoming more and more important in online advertising. However, the study suggested that the large data-sets of established platforms are not an insurmountable barrier for being able to enter this particular market. This study reveals a dynamic market where one player has a certain degree of market power, and **explores scenarios showing potential problems** that could arise. In-depth knowledge of how a market works allows the authority to intervene more quickly in the future, if necessary with interim measures, when a problem does arise. It allows us to combine ‘thinking fast’, with ‘thinking slow’, and it helps to waylay knee-jerk legislative reactions. Interim measures and quick interventions can be invaluable to prevent situations of harm arising. However, they do not replace empirical studies and thorough investigation based on the examination of facts and data. In the digital age, despite all the pressures, there is also a need to heed William Henry Davies’ advice to take the ‘time to stand and stare’ not in the pursuit of leisure, but rather in the pursuit of fact-based decision-making.

#### Specifically true of big tech and antitrust --- Civic monopolization means an informed public is key --- Legal engagement is essential to provide cover for political action

**Moore, 16** (Martin Moore, Moore is director of the Centre for the Study of Media Communication and Power in the Policy Institute at King’s College London. He has twenty years experience working across the UK media, in the commercial sector, the third sector and in academia. Prior to King’s he was founding director of the Media Standards Trust., Apr 2016, accessed on 9-14-2021, Kcl.ac, "Tech Giants and Civic Power", https://www.kcl.ac.uk/policy-institute/assets/cmcp/tech-giants-and-civic-power.pdf)//Babcii

The digital world is currently out of joint. A small number of tech companies are very large, dominant and growing. They have not just commercial influence, but an impact on our privacy, our freedom of expression, our security, and – as this study has shown – on our civic society. Even if they mean to have a positive and constructive societal impact – as they make clear they do – they are too big and have too great an influence to escape the attention of governments, democratic and non-democratic. Governments have already responded, and more will. Most of these government responses are destined to fail. They are destined to fail for three reasons: they have not yet adequately defined the problem they are trying to solve; they are using tools that are not suited to dealing with these organisations and the services they provide; and they do not have a vision of where they would like digital society to end up. On the first, the problem, this is generally defined narrowly in terms of privacy, security, and economics. Debates on privacy centre on the collection and use of personal data by the tech giants. Those on security focus on the extent to which governments should or should not have access to that personal data. Economic questions relate chiefly to tax and the degree to which the tech giants may be unfairly promoting their own services over those of their competitors. The antitrust case launched by the European Commission against Google in April 2015, for example, centres on the extent to which Google was, or was not, using its position as an intermediary to promote its own shopping service over those of its competitors. The Commission claimed that Google had ‘abused its dominant position in the markets for general internet search services in the European Economic Area (EEA) by systematically favouring its own comparison shopping product in its general search results pages.’330 The Commission may, or may not, be able to show the tech giant biased its results to its own service, but it will much harder to demonstrate how this this hurt the end user, particularly given that the service is provided free at the point of use. This is why, as this study has shown**, the problem also needs to be framed in civic terms**. It needs to be recognized that these organisations and their services are starting to play significant civic roles in democratic society, and that, in playing these roles, **they are gaining political and social power**. Democratic societies may decide, in some cases, that this is a fair trade given the benefits - though there has been precious little discussion to date as to the terms of trade and the advantages and disadvantages of reliance. In other cases, societies may decide the risks outweigh the benefits. They then need to figure out how to respond. Working out how to respond will not be straightforward. The tools currently available to democratic governments – including legislation, regulation and taxation – are not well suited to dealing with the issues raised by the tech giants. These organisations are very large and transnational, often work to a different economic model to other corporations, and work in a communications environment that is fundamentally different from their predecessors. Until we better understand and communicate the dilemmas they raise, and until the public become concerned about the potential – or actual – threats they represent, it will be difficult to respond effectively. In the nineteenth and early twentieth century, antitrust law was applied more successfully once the problem of ‘bigness’ – that the law was introduced to address – **was more carefully investigated and exposed**. In January 1903, for example, the first of Ida **Tarbell’s** ‘muckraking’ investigations of John D. Rockefeller’s Standard Oil was published in McClure’s magazine. In this, and her following articles, Tarbell detailed how the rise to dominance of Standard Oil ‘was aided at every stage by discriminatory railroad rates and illegal tactics – bribery, fraud, criminal underselling and intimidation.’331 Such was the popular response to Tarbell’s investigations that she was lauded as the ‘Joan of Arc among moderns’ and ‘one of the most commanding figures in American letters.’332 Her **exposure of Standard Oil’s history and practices** **helped** Theodore Roosevelt **steer** his **bills against trusts through Congress** – on rail rebates, on the expedition of antitrust action, and on the establishment of a Department of Commerce with a Bureau of Corporations that had powers to investigate trusts. Eight years later, the US Supreme Court ruled that Standard Oil had abused its dominant position and should be broken up. It was **the combination of the investigation, the exposure, and the public response that enabled political action to be taken.** There has, as yet, been no twenty first century equivalent of Ida Tarbell’s investigations into the tech giants. Democratic societies also need a much clearer vision of where they would like to end up. What would a progressive digital future look like? How should plurality and diversity be defined in an age of information abundance? Should the digital civic landscape be devolved or centralized? These democratic objectives will need to include the needs of the citizen as well as the consumer, and of civic society as well as the security state. Such a vision ought to be led by the public, and has to take account of the state of the digital environment over twenty-five years after the advent of the web. The vision is unlikely to include over reliance on a small cadre of transnational tech companies, but may well include the convenience and efficiency that comes from using one provider for certain services like general search. Without greater clarity on the potential consequences of digital dominance, and a clearer vision of where democratic societies would like to end up, **there is a risk that they jeopardize the** tremendous civic benefits of **digital technology, and fail to build a digital ecosystem** that enables civic participation while protecting citizen’s rights. Without devising progressive responses democratic societies will be left with two alternatives, neither of which is attractive. They can take a laissez-faire approach, accepting that the digital environment will be dominated by a handful of tech giants, and that the most effective way of affecting their behaviour is through persuasion and collaboration. Or, they can react regressively to digital developments, banning services, imposing punishments and even prosecuting organisations and employees who run the tech companies’ tools. Democratic societies do not yet understand the phenomenon of the tech giants, what the phenomenon means in civic terms, what benefits it brings to governance, and the dangers inherent in it. Only once they understand the phenomenon better, and understand where it can help **and where it can damage civic society, will they be in a position to work out how best to respond.**

#### History proves the correlation between legal engagement and effective regulation --- Past tech monopolies prove the process of the 1AC effectively garners concessions from monopolies that solve even absent antitrust

Carlsson and Swartz, 21 (Philipp Carlsson-Szlezak and Paul Swartz, Carlsson-Szlezak is a managing director and partner in BCG’s New York office and global chief economist of BCG. Paul Swartz is a director and senior economist at the BCG Henderson Institute, based in BCG’s New York office., 8-18-2021, accessed on 9-14-2021, Fortune, "Popular outrage, not economics, will determine the fate of Big Tech", <https://fortune.com/2021/08/18/big-tech-breakup-antitrust-popular-outrage-facebook-google-standard-oil-microsoft/>)//Babcii

The power of the biggest tech companies has grown too ubiquitous to ignore—their dominance can be felt in the stock indexes, in segments of the labor market, and in the oversight (or lack thereof) of public discourse, to name just a few areas of influence. Little surprise, then, that [the political script](https://fortune.com/2021/06/24/house-panel-big-tech-facebook-google/) appears to be at a turning point: Regulatory agencies, now [staffed with vocal critics of the industry](https://fortune.com/2021/06/30/ftc-chair-lina-khan-populist-antitrust-movement-what-can-she-do-federal-trade-commission/), are accelerating the pursuit, with [Facebook](https://fortune.com/company/facebook) and [Google](https://fortune.com/company/alphabet) squarely [in the crosshairs](https://fortune.com/2021/01/04/facebook-antitrust-lawsuit-ftc-entrepreneurs-innovation/) of antitrust litigation. Yet predicting Big Tech’s comeuppance could be a losing bet. The path from corporate power to regulatory backlash is neither linear nor predominantly about economics. What’s overlooked in today’s debate is the catalyzing power of popular outrage. The presence of such anger has reliably aligned political will and driven regulatory pushback in the past—and its absence has slowed or prevented such pushback. To see why the political economy of outrage will likely shape [Big Tech’s regulatory fate](https://fortune.com/tag/big-tech/), a brief tour of U.S. history is a good starting point. The legacy of Ida Tarbell The Sherman Act and the dismemberment of Standard Oil in 1911 are often invoked today to highlight regulatory risk and power. However, a more interesting question is why the Sherman Act, passed in 1890, sat idle for nearly 20 years, even as politicians watched Standard Oil’s growing abuse of its market power. What changed? What forced Teddy Roosevelt’s hand wasn’t economic benchmarks such as peaking market share or high prices. It was Ida Tarbell, a star of the emerging field of muckraker journalism, who was on a mission of personal revenge to expose the Rockefeller empire. Her [History of the Standard Oil Company](https://energyhistory.yale.edu/library-item/ida-m-tarbell-history-standard-oil-company-1904) (1904) was a bestseller, serialized in McClure’s Magazine to great effect, and successfully galvanized public opinion against the Rockefellers and their monopoly. Growing up, Tarbell had witnessed Standard Oil bullying her father to sell his oil business—when he refused, the family had to mortgage their home. As such, the birth of U.S. antitrust action captures enduring political-economy dynamics: Standard Oil had enormous political **clout** and averted regulatory action for years. Yet, a groundswell of popular anger was sufficient to align political incentives to apply the law to Standard Oil. It would be a **mistake to see Tarbell’s victory as a case of idiosyncratic history**. On the contrary, the force of public outrage—surprisingly often channeled via the vehicle of literature—plays out again and again in the 20th century. Consider the emergence of the Food and Drug Administration, for example. Upton Sinclair, a contemporary of Tarbell’s, published The Jungle a little after Tarbell’s History. Despite being a work of fiction, The Jungle spawned massive popular backlash against the disgusting conditions in the meat processing plants of Chicago—the reading remains revolting to this day. The public reaction to Sinclair’s story, initially published in 1905, pushed President Roosevelt to sign the Pure **F**ood and **D**rug **A**ct, which passed by an overwhelming bipartisan majority of 63 to 4 in the Senate in 1906 and founded what is now the FDA. There are many other examples of popular resentment driving regulatory action: The financial Panic of 1907 helped create the Federal Reserve; Rachel Carson’s Silent Spring contributed to the swaying of another Republican President, Richard Nixon, to create the **E**nvironmental **P**rotection **A**gency; the Great Financial Crisis of 2008 led to the Consumer Financial Protection Bureau—and so on. Without outrage, regulators meander While the historical examples above draw straight lines from anger to regulatory shock, it is true that some of the biggest antitrust cases in U.S. regulatory history meandered for decades—antitrust cases against **AT&T,** [**IBM**](https://fortune.com/company/ibm)**, and** later [**Microsoft**](https://fortune.com/company/microsoft) come to mind. Here, too, popular backlash—or the lack of it—played a critical role in shaping their regulatory fates. Yes, AT&T was broken up—in 1982. But its conflict with antitrust regulators had begun all the way back in 1913. Over the years, the company bounced around from being viewed as a good monopoly to being a state-sanctioned monopoly (recall you had to rent your phone from Ma Bell—but couldn’t own it). After a meandering 70-year regulatory pursuit, AT&T lost its case and agreed to break up on Jan. 8, 1982. By contrast, on that same day in 1982, a 30-year–long regulatory pursuit of IBM was dropped. Yet **despite avoiding a breakup**, the cumulative **impact on IBM was** arguably more **significant** than that on AT&T. IBM had been pushed into unbundling hardware and software, which successfully **opened space for new software** behemoths—leaving IBM strategically on the back foot. Popular anger did not underpin the regulatory pursuits of Ma Bell and Big Blue. They did not inspire indignation, perhaps because expensive long-distance calls and clunky computers did not spark emotion—or perhaps because their stories lacked their Tarbell or Sinclair. That did not prevent regulatory action, but that action played out on the battlefield of technocratic concern, which translated into a long-winded **regulatory dance and yielded outcomes** far preferable to Standard Oil’s fate. Microsoft, which moved into the space that IBM’s curtailment had opened, remains an interesting case in the context of outrage and regulation. For there was—some—outrage. It’s easy to forget how loathed in some quarters the firm and Bill Gates were in the late 1990s, just around the time when regulatory scrutiny peaked: the bullying of Netscape, the bundling of software, Gates’ widely panned deposition performance in testimony before Congress, all drove popular dislike if not quite mass resentment. What remains mostly forgotten today is that the judge ruled, in 2000, that Microsoft should break up—delivering a fast judgment aligned with popular sentiment of recent years. Yet the outrage didn’t sustain itself through political transition and appeal. In 2001 the Justice Department said it was no longer seeking a breakup and agreed to a settlement. Is Big Tech more like Standard Oil, or IBM? While history should always be used with care, the correlation between popular backlash (or lack thereof) and sharp regulatory backlash (or lack thereof) remains compelling. In some ways, this is more surprising if we think of antitrust regulation as a field of technocratic economic analysis, and less surprising if we think of it as politicians responding to incentives—such as when the influence of corporate power is outweighed by the electoral threat of outrage.

# 2AC --- R6 --- Kansas

## Adv---Primacy

### 2AC --- AT --- Heg Bad

#### 1. Heg is sustainable --- It not even close

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It is easy to lose sight of this fact amid all the upheaval both in America and overseas. Yet the basic picture remains unambiguous. **The United States is no fallen hegemon.** America still accounted for **22 percent of global GDP** in 2016—not far off the historical average since the 1970s—and it **spent as much on defense as the next eight nations combined.** When U.S. treaty allies are factored in, America’s geopolitical coalition possessed nearly **60 percent of global GDP and military spending**, an amount that still vastly exceeds the economic and military power of all U.S. rivals put together, and that seems unimpressive only in comparison to the utterly peerless primacy of the 1990s. Washington remains at the **center of a global network made up of over thirty treaty allie**s, another thirty or so quasi-allies, and still more security and diplomatic partners, **giving it geopolitical leverage and relationships** that no competitor can approach. And **even in the age of Trump, no rival boasts anything close to America’s experience and expertise in coordinating complex military and diplomatic endeavors.** This is not to say that all is well. America’s competitors have closed the gap in some key areas; that narrowing margin is **encouraging the geopolitical tests Washington confronts today.** There are questions regarding whether the United States still has enough military might to uphold key regional balances around the world, which are inseparable from questions about how wisely the country will address its long-term fiscal dilemmas. There are even graver questions as to whether Americans and their leaders still want to use the nation’s power in the service of the postwar order. But the primary limiting factors here are political and psychological rather than material. They relate to historical amnesia, and to a reluctance to make hard choices and face hard facts, rather than any catastrophic collapse of American power. The United States still **possesses advantages that most previous leading powers can only envy; its capabilities are surely sufficient**—particularly when combined with the strengths of its allies—to mount a credible defense of the international system it has constructed. To say the U.S.-led order is endangered is a counsel of realism, but to say the situation is irretrievable is a counsel of unwarranted despair.

#### d. Pursuit of power is inevitable – consensus of research

Wolforth 9 (William C. Wohlforth – Dartmouth University International Relations Professor, January 2009, “Unipolarity, Status Competition, and Great Power War”, <https://cpb-us-e1.wpmucdn.com/sites.dartmouth.edu/dist/b/174/files/2013/04/War.pdf>, accessed 8/5/18,)

The historical record surrounding major wars is rich with evidence suggesting that positional concerns over status frustrate bargaining: expensive, protracted conflict over what appear to be minor issues; a propensity on the part of decision makers to frame issues in terms of relative rank even when doing so makes bargaining harder; decision-makers’ inability to accept feasible divisions of the matter in dispute even when failing to do so imposes high costs; demands on the part of states for observable evidence to confirm their estimate of an improved position in the hierarchy; the inability of private bargains to resolve issues; a frequently observed compulsion for the public attainment of concessions from a higher ranked state; and stubborn resistance on the part of states to which such demands are addressed even when acquiescence entails limited material cost. The literature on bargaining failure in the context of power shifts remains inconclusive, and it is premature to take any empirical pattern as necessarily probative. Indeed, Robert Powell has recently proposed that indivisibility is not a rationalistic explanation for war after all: fully rational leaders with perfect information should prefer to settle a dispute over an indivisible issue by resorting to a lottery rather than a war certain to destroy some of the goods in dispute. What might prevent such bargaining solutions is not indivisibility itself, he argues, but rather the parties’ inability to commit to abide by any agreement in the future if they expect their relative capabilities to continue to shift.[22](http://muse.jhu.edu/journals/world_politics/v061/61.1.wohlforth.html#f22) This is the credible commitment problem to which many theorists are now turning their attention. But how it relates to the information problem that until recently dominated the formal literature remains to be seen.[23](http://muse.jhu.edu/journals/world_politics/v061/61.1.wohlforth.html#f23) The larger point is that positional concerns for status may help account for the puzzle of bargaining failure. In the rational choice bargaining literature, war is puzzling because it destroys some of the benefits or flows of benefits in dispute between the bargainers, who would be better off dividing the spoils without war. Yet what happens to these models if what matters for states is less the flows of material benefits themselves than their implications for relative status? The salience of this question depends on the relative importance of positional concern for status among states. Do Great Powers Care about Status? Mainstream theories generally posit that states come to blows over an international status quo only when it has implications for their security or material well-being. The guiding assumption is that a state’s satisfaction with its place in the existing order is a function of the material costs and benefits implied by that status.[24](http://muse.jhu.edu/journals/world_politics/v061/61.1.wohlforth.html#f24) By that assumption, once a state’s status in an international order ceases to affect its material wellbeing, its relative standing will have no bearing on decisions for war or peace. But the assumption is undermined by cumulative research in disciplines ranging from neuroscience and evolutionary biology to economics, anthropology, sociology, and psychology that human beings are powerfully motivated by the desire for favorable social status comparisons. This research suggests that the preference for status is a basic disposition rather than merely a strategy for attaining other goals.[25](http://muse.jhu.edu/journals/world_politics/v061/61.1.wohlforth.html#f25) People often seek tangibles not so much because of the welfare or security they bring but because of the social status they confer. Under certain conditions, the search for status will cause people to behave in ways that directly contradict their material interest in security and/or prosperity.

#### 3. China heg fails---there’s no alternative to U.S. leadership

Lyon, 19 - senior fellow at ASPI; Rod Lyon, “Can ‘revisionists’ rule the world?," *Strategist*, 3-14-2019, https://www.aspistrategist.org.au/can-revisionists-rule-the-world/

That takes us to the separate but larger question: could Russia and China cooperate to shape a new global order in Asia, Europe and the Middle East? That’s only a portion of the globe, but an important portion. Well, Russia’s a European-centred state with a revanchist agenda focused on reversing its post–Cold War losses. That’s a big ask, though. The Soviet Union’s gone and it isn’t coming back. China, by comparison, is a rising power—and one that believes it’s entitled to a Sino-centric order in Asia, as a sort of latter-day compensation for the century of humiliation. It has both economic and growing military heft. Still, it remains an incomplete power, demonstrated most clearly by its relentless, state-organised theft of technology and intellectual property, and its large internal challenges. It’s not obvious that Russia and China could build and sustain a new global order. Yes, they’re both permanent members of the UN Security Council. But neither attracts genuine ‘followers’ in the international community. They agree on what they don’t want—US hegemony—rather than on what they do. They’re not driven by any shared ideology or common vision of what the world should look like under their leadership. Some suggest that they want to reverse the central tenet of the liberal order and make the world safe for authoritarianism, but that’s a negative, self-centred vision of the future rather than a positive ideational one. Nationalism is a rising force in both countries, but that’s as likely to repel as attract. Geopolitically, will the rising power cooperate with the declining one—except to secure its own backyard? Conversely, will Moscow see Beijing as its true strategic partner—as the Belt and Road Initiative extends Chinese influence across Russia’s soft Eurasian underbelly? Where does that leave us? Frankly, a world order that turns upon close cooperation between Russia and China seems unlikely. Each is better placed to exert regional influence than global clout. And both are better placed to play the easy role of spoilers than the difficult role of architects. A world disordered by the joint efforts of Russia and China to diminish US power and influence—accelerated by some of the US’s own actions—seems the near-term reality we’ll be living through.

## 2AC --- K --- Beller

### 2AC --- Links

#### US primacy is key to stabilize Africa and usher in strong labor defense

SCFR, 20 (SCFR, U.S. Senate Committee on Foreign Relations, November 2020, accessed on 8-9-2021, Foreign.senate, "THE UNITED STATES AND EUROPE, A Concrete Agenda for Transatlantic Cooperation on China", https://www.foreign.senate.gov/imo/media/doc/SFRC%20Majority%20China-Europe%20Report%20FINAL%20(P&G).pdf)//Babcii

INTRODUCTION At times, policymakers on both sides of the Atlantic have a tendency to view the transatlantic alliance in a narrow bilateral sense. However, the tectonic demographic, political, and economic **shifts underway across** the **African continent** mean that our **alliance needs to think more broadly**. This new reality has not escaped the attention of **malign actors** who **seek to undermine Africa’s fragile democracies, sow seeds of discord, and exploit markets** to the detriment of the African people and the national security interests of the alliance. Though the **United States and Europe** may have vastly different histories, priorities, and strategies for engagement on the African continent, it is imperative that we work in close **collaboration** with African partners **to help manage** these tectonic **shifts**, counter malign influence, and promote the growth of healthier, more stable, democratic societies that share our values and interests. AFRICA MATTERS While Asia’s growth, in both demographic and economic terms, has dominated the first part of this century, the second half will be Africa’s to claim.572 Over the next two decades, it is projected that Africa will account for nearly half of global population growth and, by mid-century, will be home to a quarter of the world’s population.”573 Sixty percent of Africa’s population is currently under the age of 25 with an overall median age of 20, which stands in stark contrast with the Organisation for Economic Cooperation and Development’s median age of 42 years.574 In 2019, six of the 10 fastest-growing economies in the world were on the continent.575 This growth is expected to be further bolstered by a young and rapidly expanding workforce, which will be larger than that of China and India by 2034576 and will surpass the rest of the world by 2050.577 It may further be driven by rapid urbanization which, if effectively managed, could deliver high concentrations of consumers and workers supporting key sectors and boosting the living standards for tens of millions of people.578 By all accounts, Africa’s potential for continued and expanding economic growth is incredible but largely dependent upon its ability to harness the power of its growing population and young workforce. Despite decades of progress in reducing poverty rates, Africa’s demographic shifts have increased the absolute number of people living in extreme poverty and placed **enormous pressure upon African governments** struggling to keep up with rising demand for social services, including for health, education and skills training, and to create jobs.579 An estimated one million Africans enter the job market each month, but many lack necessary skills and education to compete for the jobs that are available.580 **Failure to foster** inclusive **economic growth** and opportunity in Africa **will** likely **serve as a catalyst for** economic migration – a matter of particularly high consequence for EU member states. At the same time, realizing Africa’s full potential will also be dependent upon its ability to resolve **conflict and** respond to **crises** – both natural and man-made – which, left unchecked, will continue to impose a shocking humanitarian toll and undermine peace, security, and growth throughout the region. The combination of poverty, hunger, and desperation has toppled governments, left Africa’s young population more vulnerable to extremism, trafficking, and migration, given rise to exponentially increased demands for U.S. and European humanitarian assistance, and challenged the common values and interests upon which our international system was built. African nations will continue to become vital determinants of the world’s economic, political, and security developments well into this century. **It is imperative that the United States and Europe** recognize this, reinvigorate their **focus** on the continent, and understand that China is already competing against us.

#### Our threats aren’t constructed

Ravenal 9 – Distinguished Senior Fellow in Foreign Policy Studies at the Cato Institute

(Earl C., also professor emeritus of the Georgetown University School of Foreign Service, “What's Empire Got to Do with It? The Derivation of America's Foreign Policy.” Critical Review: An Interdisciplinary Journal of Politics and Society 21.1 (2009) 21-75)

The underlying notion of “the security bureaucracies . . . looking for new enemies” is a threadbare concept that has somehow taken hold across the political spectrum, from the radical left (viz. Michael Klare [1981], who refers to a “threat bank”), to the liberal center (viz. Robert H. Johnson [1997], who dismisses most alleged “threats” as “improbable dangers”), to libertarians (viz. Ted Galen Carpenter [1992], Vice President for Foreign and Defense Policy of the Cato Institute, who wrote a book entitled A Search for Enemies). What is missing from most analysts’ claims of “threat inflation,” however, is a convincing theory of why, say, the American government significantly (not merely in excusable rhetoric) might magnify and even invent threats (and, more seriously, act on such inflated threat estimates). In a few places, Eland (2004, 185) suggests that such behavior might stem from military or national security bureaucrats’ attempts to enhance their personal status and organizational budgets, or even from the influence and dominance of “the military-industrial complex”; viz.: “Maintaining the empire and retaliating for the blowback from that empire keeps what President Eisenhower called the military-industrial complex fat and happy.” Or, in the same section: In the nation’s capital, vested interests, such as the law enforcement bureaucracies . . . routinely take advantage of “crises”to satisfy parochial desires. Similarly, many corporations use crises to get pet projects— a.k.a. pork—funded by the government. And national security crises, because of people’s fears, are especially ripe opportunities to grab largesse. (Ibid., 182) Thus, “bureaucratic-politics” theory, which once made several reputa- tions (such as those of Richard Neustadt, Morton Halperin, and Graham Allison) in defense-intellectual circles, and spawned an entire sub-industry within the field of international relations,5 is put into the service of dismissing putative security threats as imaginary. So, too, can a surprisingly cognate theory, “public choice,”6 which can be considered the right-wing analog of the “bureaucratic-politics” model, and is a preferred interpretation of governmental decision- making among libertarian observers. As Eland (2004, 203) summarizes: Public-choice theory argues [that] the government itself can develop sepa- rate interests from its citizens. The government reflects the interests of powerful pressure groups and the interests of the bureaucracies and the bureaucrats in them. Although this problem occurs in both foreign and domestic policy, it may be more severe in foreign policy because citizens pay less attention to policies that affect them less directly. There is, in this statement of public-choice theory, a certain ambiguity, and a certain degree of contradiction: Bureaucrats are supposedly, at the same time, subservient to societal interest groups and autonomous from society in general. This journal has pioneered the argument that state autonomy is a likely consequence of the public’s ignorance of most areas of state activity (e.g., Somin 1998; DeCanio 2000a, 2000b, 2006, 2007; Ravenal 2000a). But state autonomy does not necessarily mean that bureaucrats substitute their own interests for those of what could be called the “national society” that they ostensibly serve. I have argued (Ravenal 2000a) that, precisely because of the public-ignorance and elite-expertise factors, and especially because the opportunities—at least for bureaucrats (a few notable post-government lobbyist cases nonwithstanding)—for lucrative self-dealing are stringently fewer in the defense and diplomatic areas of government than they are in some of the contract-dispensing and more under-the-radar-screen agencies of government, the “public-choice” imputation of self-dealing, rather than working toward the national interest (which, however may not be synonymous with the interests, perceived or expressed, of citizens!) is less likely to hold. In short, state autonomy is likely to mean, in the derivation of foreign policy, that “state elites” are using rational judgment, in insulation from self-promoting interest groups—about what strategies, forces, and weapons are required for national defense. Ironically, “public choice”—not even a species of economics, but rather a kind of political interpretation—is not even about “public” choice, since, like the bureaucratic-politics model, it repudiates the very notion that bureaucrats make truly “public” choices; rather, they are held, axiomatically, to exhibit “rent-seeking” behavior, wherein they abuse their public positions in order to amass private gains, or at least to build personal empires within their ostensibly official niches. Such sub- rational models actually explain very little of what they purport to observe. Of course, there is some truth in them, regarding the “behavior” of some people, at some times, in some circumstances, under some conditions of incentive and motivation. But the factors that they posit operate mostly as constraints on the otherwise rational optimization of objectives that, if for no other reason than the playing out of official roles, transcends merely personal or parochial imperatives. My treatment of “role” differs from that of the bureaucratic-politics theorists, whose model of the derivation of foreign policy depends heavily, and acknowledgedly, on a narrow and specific identification of the role- playing of organizationally situated individuals in a partly conflictual “pulling and hauling” process that “results in” some policy outcome. Even here, bureaucratic-politics theorists Graham Allison and Philip Zelikow (1999, 311) allow that “some players are not able to articulate [sic] the governmental politics game because their conception of their job does not legitimate such activity.” This is a crucial admission, and one that points— empirically—to the need for a broader and generic treatment of role. Roles (all theorists state) give rise to “expectations” of performance. My point is that virtually every governmental role, and especiallynational-security roles, and particularly the roles of the uniformed military, embody expectations of devotion to the “national interest”; rational- ity in the derivation of policy at every functional level; and objectivity in the treatment of parameters, especially external parameters such as “threats” and the power and capabilities of other nations. Sub-rational models (such as “public choice”) fail to take into account even a partial dedication to the “national” interest (or even the possibility that the national interest may be honestly misconceived in more paro- chial terms). In contrast, an official’s role connects the individual to the (state-level) process, and moderates the (perhaps otherwise) self-seeking impulses of the individual. Role-derived behavior tends to be formalized and codified; relatively transparent and at least peer-reviewed, so as to be consistent with expectations; surviving the particular individual and trans- mitted to successors and ancillaries; measured against a standard and thus corrigible; defined in terms of the performed function and therefore derived from the state function; and uncorrrupt, because personal cheating and even egregious aggrandizement are conspicuously discouraged. My own direct observation suggests that **defense decision-makers** attempt to **“frame”** the structure of the **problems** that they try to solve **on the basis of the** most accurate intelligence. **They** make it their business to know **where** the **threats come from**. Thus, **threats** are not “socially constructed” (even though, of course, some values are). A major reason for the rationality, and the objectivity, of the process is that much security planning is done, not in vaguely undefined circum- stances that offer scope for idiosyncratic, subjective behavior, but rather in structured and reviewed organizational frameworks. Non-rationalities (which are bad for understanding and prediction) tend to get filtered out. People are fired for presenting skewed analysis and for making bad predictions. This is **because something important is riding on the** causal analysis and the contingent **prediction.** For these reasons, “public choice” does not have the “feel” of reality to many critics who have participated in the structure of defense decision-making. In that structure, obvious, and even not-so-obvious,“**rent-seeking” would** not only be shameful; it would **present a** severe risk of career termination**.** And, as mentioned, the defense bureaucracy is hardly a productive place for truly talented rent-seekers to operatecompared to opportunities for personal profit in the commercial world. A bureaucrat’s very self-placement in these reaches of government testi- fies either to a sincere commitment to the national interest or to a lack of sufficient imagination to exploit opportunities for personal profit.

### 2AC --- Alt

#### Alt fails ---

#### 1. Growth is locked in --- a transition would have to literally remake everything

**Koch** and Büchs **19** [Max Koch, Faculty of Social Sciences, Socialhögskolan, Lund University, Milena Büchs, Sustainability Research Institute, School of Earth and Environment, University of Leeds, “Challenges for the degrowth transition: The debate about wellbeing”, Futures Volume 105, January 2019, Pages 155-165, https://www.sciencedirect.com/science/article/pii/S0016328718300715#!]

Economic growth, as an attribute of market capitalism, has structural properties – it is needed to stabilise modern societies as it provides employment, public sector provision through tax revenues, rising wages, and hence social stability (Petridis et al., 2015: 178, Rosa et al., 2017). Economic growth is organised around and shapes a range of tightly coupled structures, including institutions, norms, discourses, culture, technologies, competences, identities, etc. Historically speaking, growth is a fairly recent phenomenon which only picked up in the 19th century together with the industrialisation of Western economies. In a co-evolutionary process, a range of institutions developed which are now coupled to a growth-based capitalist economy, including the nation state, representative democracy, the rule of law and current legal, financial, labour market, education, research, and welfare systems. These are based on philosophies which emerged to justify and give meaning to these institutions, for instance on individualism, freedom, justice, sovereignty, or power. The embeddedness of the growth-based capitalistic economic system in these co-evolved institutions and ways of thinking makes it difficult to transition to a degrowth system because the change of the economic system would need to involve a parallel transformation of those coupled systems. In Luhmann’s words, the constitution of the current system “defuturises” (Luhmann, 1976: 141) the future, it reduces the “openness” of the future; “path dependency” or even “lock-in” are related expressions that capture this idea. Two examples which directly link to people’s wellbeing can illustrate this point: the relationship between welfare states and growth, and between growth and people’s mind-sets and identities.

#### 2. Their theory’s reductive, no structural systemic failure, and contingency’s best

Susen, 19—Reader in Sociology at the School of Arts and Social Sciences of City, University of London (Simon, “No escape from the technosystem?,” Philosophy & Social Criticism, October 9, 2019, dml)

A major irony of Feenberg’s book is the following contradiction: on several occasions, he criticizes, and distances himself from, technological determinism; key parts of his argument suggest, however, that he himself flirts with, if not subscribes to, technological determinism. He rightly maintains, and convincingly demonstrates, that ‘society and technology are inextricably imbricated’.240 This insight justifies the underlying assumption that there is no comprehensive study of society without a critical sociology of technology. Yet, to contend that ‘[s]ocial groups exist through the technologies that bind their members together’241 is misleading. For not all social groups are primarily defined by the technologies that enable their members to relate to, and to bond with, one another. Indeed, not all social relations, or social bonds, are based on, let alone determined by, technology.

Of course, Feenberg is right to argue that ‘technologically mediated groups influence technical design through their choices and protests’.242 Ultimately, though, the previous assertion is tautological. This becomes clear if, in the above sentence, we replace the word ‘technological(ly)’ with terms such as ‘cultural(ly)’, ‘linguistical(ly)’, ‘political(ly)’, ‘economic(ally)’, or indeed another sociological qualifier commonly used to characterize the specificity of a social relation. Hence, we may declare that ‘culturally, linguistically, politically, and economically mediated groups influence cultural, linguistic, political, and economic conventions through their choices and protests’. In saying so, we are stating the obvious. If, however, we aim to make a case for cultural, linguistic, political, or economic determinism, then this is problematic to the extent that we end up reducing the constitution of social arrangements to the product of one overriding causal set of forces (whether these be cultural, linguistic, political, economic, technological, or otherwise).

While declaring that he is a critic of technological determinism, Feenberg – in central passages of his book – gives the impression that he is one of its fiercest advocates. Feenberg’s techno-Marxist evolutionism is based on the premise that ‘progress is realized essentially through technosystem change’243 – that is, on the assumption that, effectively, human progress is reducible to technological development. Feenberg is right to stress that ‘[t]echnical progress is joined indissolubly to the democratic enlargement of access to its benefits and protection from its harms’.244 ‘Concretization’,245 understood in this way, conceives of progress as a ‘local, context-bound phenomenon uniting technical and normative dimensions’.246 We may add, however, that progress has not only technical (or technological) but also economic, cultural, and political dimensions, which contain objective, normative, and subjective facets. At times, the differentiation between these aspects is blurred, if not lost, in Feenberg’s account, given his tendency to overstate the power of technology at the expense of other crucial social forces. In other words, progress is not only ‘inextricably entangled with the technosystem’,247 but it is also indissolubly entwined with the economic, cultural, and political systems in which it unfolds and for (or against) which it exerts its objective, normative, and subjective power.

The preceding reflection takes us back to the problem of techno-reductionism:

The struggle over the technosystem began with the labor movement. Workers’ demands for health and safety on the job were public interventions into production technology.248

All struggles over social (sub)systems have not only a technological but also various other (notably economic, cultural, and political) dimensions. Demands made by particular subjects (defined by class, ethnicity, gender, age, or ability – or a combination of these sociological variables) are commonly expressed in public interventions not only into production technology, but also into economic, cultural, and political systems. In all social struggles (including class struggle), technology can be an important means to an end, but it is rarely an end in itself. Put differently, social struggles are partly – but seldom essentially, let alone exclusively – about technology.

### 2AC --- !

#### Growth is sustainable because of the shift to a knowledge economy---AND making it faster is key to outrun entropy---extinction

Gennady Shkliarevsky 18, professor of history at Bard College where he has taught since 1985, 1-5-2018, "Tax Cuts and the Problem of Economic Growth," International Policy Digest, https://intpolicydigest.org/2018/01/05/tax-cuts-and-the-problem-of-economic-growth/

Does this problem have a solution? Is it possible for humanity to break out of the current vicious circle and achieve a constant, stable, sustained, or even exponentially increasing economic progress? Production and consumption are the two most important categories in our economy and economic thinking. They constrain each other and this mutual constraint acts as a limitation on the rate of our economic growth. The typical effect of the expansion of production is the increase in supply. Supply growth results in declining prices. The decline in prices signals that the market is saturated and production must slow down. When production slows down, supply diminishes and prices begin to grow, which triggers a new expansion of production. When production expands, our wealth grows and economy appreciates. Consumption generally depreciates products and thus our wealth declines and our economy depreciates. Thus, production and consumption constrain each other and this constraint limits the rate of our economic growth. In order to solve this problem and achieve constant growth, we need to constantly rejuvenate our economy, we need to ensure a sustained supply of new products to the market and, moreover, we need to make sure that these products are needed. The main economic problem we face today is precisely in bringing novelties to the marketplace. Many business people, economists, pundits and politicians have stressed that we will have to innovate our way out of the current economic predicament. Therefore, creativity and creation are the key to solving the problem of growth. However, creativity, or what we call entrepreneurship when we talk about economy, is not a science. We cannot use it in any predictable way. It is a very uncertain and contingent factor that is fraught with many unknowns and surprises. Therefore, the problem of economic growth is reformulated into the problem of how to make innovation constant, predictable, and steady, rather than sporadic and contingent. In other words, how can we control our creativity? As has already been pointed out, consumption acts as a constraint on production. Production appreciates and consumption depreciates. The tendency of consumption to depreciate our economy is the reason for the existence of limits to rates of economic growth. As one can see, production and consumption are two most essential economic functions. They are mutually dependent, complementary and cannot exist without each other. The problem for achieving constant and sustained growth is that their vectors point in different directions: one toward appreciation and the other toward depreciation. However, do they have to be opposed to each other? There are two kinds of consumption that we know. One kind of consumption is consumption of final products. Indeed, this kind of consumption always depreciates products. You drive your new car out of the parking lot and it immediately loses value. But this form of consumption is not the only one we know. There is also a form of consumption that appreciates products, for example, consumption of raw materials or semi-finished products. Another interesting case of consumption that appreciates is the consumption of technological devices and machines. Indeed, physical use of such devices and machines depreciates them. However, they also represent certain technological knowledge. Knowledge consumption involves our mind. Mental consumption inevitably involves mediation and, therefore, construction that takes place in our mind. In other words, in order to consume something our mind has to create forms of mediation that allow us to consume this something, or, in other words, we have to produce it in our mind. Our sense organs transmit to our brain electrical signals that the brain interprets. We produce reality and production necessarily involves appreciation. Thus mental consumption involves necessarily the creation of new knowledge and hence appreciation. The above argument bears one important conclusion that consumption does not necessarily involve depreciation. Consumption can also, like production, be associated with appreciation, particularly consumption that involves mental activity that is associated with production of knowledge, or creation. We live in the era of knowledge society when knowledge is the main means of production and the principal product. The share of knowledge production by comparison with the production of consumer goods is constantly growing and already begins to outstrip the latter. Since consumption of knowledge, just like its production, is associated with appreciation, the transition to knowledge society suggests that in the modern economy both consumption and production will lead to appreciation and increase in wealth. They do not stand opposed to each other and their balance does not slow down the economy but is the source of its appreciation and constant growth. Balance in this case means that when production grows, so does consumption and both contribute to appreciation of the economy and economic growth. The constraint on the rates of growth disappears and the pace of economic growth can accelerate. The combined effect of growth that comes from production and consumption is double from what it is in our current economy. In other words, economic growth becomes exponential and limitless: as production increases, so does consumption, and more consumption leads to greater appreciation and greater wealth. This infinite and exponential economic growth is not only possible, but is, in fact, essential. Without such growth our civilization simply cannot exist. Our civilization is essentially a dissipative system that constantly generates entropy. As soon as this system ceases to create new levels and forms of organization, it begins to deplete available resources. The only way it can sustain itself indefinitely is by constantly redefining itself in ways that allow us to capture new flows of energy and resources; and where there are new flows of energy and resources, work can be performed. It is our destiny to play this catch-up game, and the only way we can play it indefinitely is by constantly creating new levels and forms of organization of reality so as to maintain the overall entropy level at zero. There is no way for our civilization to go back to less powerful levels of organization of social production, as advocated by the adepts of de-growth, or even to maintain the same level of production organization (steady-state economy). Limits to growth or de-growth are not ultimately realistic possibilities. Our civilization can only move forward. If we decide to terminate the progress of our civilization, we will embark on the path that leads only to its eventual disintegration and disappearance—an option that even supporters of limits to growth or de-growth do not want to entertain.

#### Its too late to *cut emissions* – try or die for growth. Only innovation can sequester carbon. Capitalism is key to innovation.

Emily Holden, Guardian US, ‘18, "Could carbon-capture technology be a silver bullet to stop climate change?," Guardian, https://www.theguardian.com/environment/2018/oct/17/carbon-capture-technology-climate-change-solutions

People have done too much damage to the climate to avoid catastrophe just by halting the burning of fossil fuels. They now will have to re-engineer the world, according to scientists with the UN’s Intergovernmental Panel on Climate Change. The livability of the planet will thus depend largely on tools that are now available only on a small scale and currently still expensive.

This carbon capture machine, by Healthy Climate Alliance in partnership with Blue Planet, can pull carbon dioxide from the air and store it in construction materials.

The key, Fiekowsky said, is not the technology itself. It’s having a meaningful goal: restoring the climate, “because it means maybe we’re not doomed”.

The UN’s recent report – which says it will require unprecedented action within the next 12 years to keep temperatures from climbing beyond a current 1C increase to a 1.5C increase – does not inspire optimism in many carbon removal experts.

While it’s technically feasible to slow fossil fuel use fast enough and capture enough greenhouse gases to limit warming, the world is not on track to do so.

California plans to show the world how to meet the Paris climate target

Scaling up carbon capture technology is possible but will be difficult, said Kurt Waltzer, managing director for the Clean Air Task Force.

“We are absolutely going to have to have a significant amount of carbon removal, there’s no question about it,” Waltzer said. “The level will probably depend on how quickly we can get to a zero-carbon world, but it is going to be enormous.”

Most of the work has previously centered around sequestering carbon from power plants, which is different than drawing it from the air.

James Mulligan, carbon removal expert at World Resources Institute, said direct-air carbon capture technologies are “unproven at the scale that we’ll need them”. A decade ago, they were viewed as “impossibly expensive”, he said. Now, some are touting a cost of $100 to $200 per ton of carbon.

“That’s still expensive,” Mulligan said. “But halting climate change isn’t going to be free.”

Reforestation and new agricultural practices could also trap carbon and help slow warming. But direct removal will still be necessary.

With direct-air capture, the most obvious option is to store carbon underground. But technologies that create a sellable product will help reduce costs. Three of the biggest direct-air carbon removal companies – Carbon Engineering, Climeworks and Global Thermostat – are all working to store CO2 in something useable.

#### Warming isn’t existential

Sebastian **Farquhar 17** leads the Global Priorities Project (GPP) at the Centre for Effective Altruism, et al., 2017, “Existential Risk: Diplomacy and Governance,” https://www.fhi.ox.ac.uk/wp-content/uploads/Existential-Risks-2017-01-23.pdf

The most likely levels of global warming are very unlikely to cause human extinction.15 The existential risks of climate change instead stem from tail risk climate change – the low probability of extreme levels of warming – and interaction with other sources of risk. It is impossible to say with confidence at what point global warming would become severe enough to pose an existential threat. Research has suggested that warming of 11-12°C would render most of the planet uninhabitable,16 and would completely devastate agriculture.17 This would pose an extreme threat to human civilisation as we know it.18 Warming of around 7°C or more could potentially produce conflict and instability on such a scale that the indirect effects could be an existential risk, although it is extremely uncertain how likely such scenarios are.19 Moreover, the timescales over which such changes might happen could mean that humanity is able to adapt enough to avoid extinction in even very extreme scenarios. The probability of these levels of warming depends on eventual greenhouse gas concentrations. According to some experts, unless strong action is taken soon by major emitters, it is likely that we will pursue a medium-high emissions pathway.20 If we do, the chance of extreme warming is highly uncertain but appears non-negligible. Current concentrations of greenhouse gases are higher than they have been for hundreds of thousands of years,21 which means that there are significant unknown unknowns about how the climate system will respond. Particularly concerning is the risk of positive feedback loops, such as the release of vast amounts of methane from melting of the arctic permafrost, which would cause rapid and disastrous warming.22 The economists Gernot Wagner and Martin Weitzman have used IPCC figures (which do not include modelling of feedback loops such as those from melting permafrost) to estimate that if we continue to pursue a medium-high emissions pathway, the probability of eventual warming of 6°C is around 10%,23 and of 10°C is around 3%.24 These estimates are of course highly uncertain. It is likely that the world will take action against climate change once it begins to impose large costs on human society, long before there is warming of 10°C. Unfortunately, there is significant inertia in the climate system: there is a 25 to 50 year lag between CO2 emissions and eventual warming,25 and it is expected that 40% of the peak concentration of CO2 will remain in the atmosphere 1,000 years after the peak is reached.26 Consequently, it is impossible to reduce temperatures quickly by reducing CO2 emissions. If the world does start to face costly warming, the international community will therefore face strong incentives to find other ways to reduce global temperatures.

#### Growth is sustainable AND solves super volcanoes, and space col

hÉigeartaigh 17 – Professor @ Cambridge, PhD in Genomics from Trinity College Dublin (Sean, “Technological Wild Cards: Existential Risk and a Changing Humanity”, <https://www.bbvaopenmind.com/en/articles/technological-wild-cards-existential-risk-and-a-changing-humanity/>, Accessed 3-7-2019)

Technological progress now offers us a vision of a remarkable future. The advances that have brought us onto an unsustainable pathway have also raised the quality of life dramatically for many, and have unlocked scientific directions that can lead us to a safer, cleaner, more sustainable world. With the right developments and applications of technology, in concert with advances in social, democratic, and distributional processes globally, progress can be made on all of the challenges discussed here. Advances in renewable energy and related technologies, and more efficient energy use—advances that are likely to be accelerated by progress in technologies such as artificial intelligence—can bring us to a point of zero-carbon emissions. New manufacturing capabilities provided by synthetic biology may provide cleaner ways of producing products and degrading waste. A greater scientific understanding of our natural world and the ecosystem services on which we rely will aid us in plotting a trajectory whereby critical environmental systems are maintained while allowing human flourishing. Even advances in education and women’s rights globally, which will play a role in achieving a stable global population, can be aided specifically by the information, coordination, and education tools that technology provides, and more generally by growing prosperity in the relevant parts of the world. There are catastrophic and existential risks that we will simply not be able to overcome without advances in science and technology. These include possible pandemic outbreaks, whether natural or engineered. The early identification of incoming asteroids, and approaches to shift their path, is a topic of active research at NASA and elsewhere. While currently there are no known techniques to prevent or mitigate a supervolcanic eruption, this may not be the case with the tools at our disposal a century from now. And in the longer run, a civilization that has spread permanently beyond the earth, enabled by advances in spaceflight, manufacturing, robotics, and terraforming, is one that is much more likely to endure. However, the breathtaking power of the tools we are developing is not to be taken lightly. We have been very lucky to muddle through the advent of nuclear weapons without a global catastrophe. And within this century, it is realistic to expect that we will be able to rewrite much of biology to our purposes, intervene deliberately and in a large-scale way in the workings of our global climate, and even develop agents with intelligence that is fundamentally alien to ours, and may vastly surpass our own in some or even most domains—a development that would have uniquely unpredictable consequences.

#### Space col solves extinction

Britt, 1 -- Senior Science Writer (Robert Roy, Space.com, “The Top 3 Reasons to Colonize Space” http://www.space.com/missionlaunches/colonize\_why\_011008-4.html)

It's no secret. Sooner or later, Earth's bell will be rung. A giant asteroid or comet will slam into the planet, as has happened many times before, and a deadly dark cloud will envelop the globe, killing much of whatever might have survived the initial impact. "We live on a small planet covered with the bones of extinct species, proving that such catastrophes do occur routinely," says J. Richard Gott, III, a professor of astrophysics at Princeton and author of "Time Travel in Einstein's Universe." Gott cites the presumably hardy Tyrannosaurus rex, which lasted a mere 2.5 million years and was the victim of an asteroid attack, as an example of what can happen if you don't plan ahead. But space rocks may not be the only threat. Epidemics, climatological or ecological catastrophes or even man-made disasters could do our species in, Gott says. And so, he argues, we need a life insurance policy to guarantee the survival of the human race. "Spreading out into space gives us more chances," he says. And the time is now: History instructs that technological hay should be made while the economic sun shines. "There is a danger we will end the human space program at some point, leaving us stranded on the Earth," Gott warns. "History shows that expensive technological projects are often abandoned after awhile. For example, the Ancient Egyptians quit building pyramids. So we should be colonizing space now while we have the chance.">

#### Super volcanoes cause extinction

Dye, 12 (Lee Dye, Vice President of Franchise Support and Training Team Logic IT, 6-6-2012, accessed on 8-27-2021, ABC News, "This Is the Way the World Ends? Volcanoes Could Darken World", <https://abcnews.go.com/Technology/end-world-super-volcanoes-form-quickly-destructive-asteroid/story?id=16508702>)//Babcii

[Super-volcanoes](http://abcnews.go.com/Technology/slideshow/volcano-viewing-world-13238734) have probably caused more extinctions than asteroids. But until now it has been thought that these giant volcanoes took thousands of years to form -- and would remain trapped beneath the earth's crust for thousands more years -- before having much effect on the planet. But new research indicates these catastrophic eruptions, possibly thousands of times more powerful than the 1980 eruption of Mount St. Helens, may happen only a few hundred years after the volcanoes form. In other words, they may have a very "short fuse," according to researchers at Vanderbilt University. Such an event could make thermonuclear war or global warming seem trivial,

spewing untold tons of ash into the atmosphere to block sunlight. The result would be many years of frigid temperatures, wiping out millions of species. A super-volcano that erupted 250 million years ago is now believed to have created the greatest mass extinction the world has ever seen, wiping out up to 95 percent of all plant and animal species. Some renegade scientists believe it was a volcano, not an asteroid, that killed off the dinosaurs 65 million years ago.

### 2AC --- Xtra

#### The ontology of technology isn’t static---its influenced by social/political change

Paul Rekret 19, Associate Professor of Politics at Richmond University, “Seeing Like a Cyborg? The Innocence of Posthuman Knowledge,” Chapter 6 in *Digital Objects, Digital Subjects: Interdisciplinary Perspectives on Capitalism, Labour and Politics in the Age of Big Data* Edited by David Chandler and Christian Fuchs, 2019, https://library.oapen.org/bitstream/handle/20.500.12657/25880/1004203.pdf?sequence=1

Despite the undeniably heterogeneous and complex research programmes that Haraway and Latour developed from these basic insights, our concern here is with the widespread adoption of the claim that we inhabit an age of hybridity. The view that the subject has been eroded in the current epoch is an ontological contention that increasingly shapes an expansive theoretical paradigm and is, moreover, often taken as self-evident. But it is worth remarking that this is an odd claim – at least where it implies a relation between ontology and history – for it insinuates that, in general, while existence itself is defined by hybridity, this only becomes self-evident in an epoch where technological change makes its manifestation undeniable. To twist a well-known phrase, history here becomes the midwife of ontology, where the hybrid entities that emerge from bioand enhancement technologies bear the weight of actualising the ontological assertion that the human never was an integral, autonomous being exercising control over itself or its surroundings in the first place. Yet such a claim so often denotes a move that seeks to rescue technological advancements – which are often the product of destructive capitalist compulsions, if not explicitly militarist impulses – for progressive theoretical ends. It follows that it falls upon the theorist’s ontological speculations to salvage and reimagine the technological for emancipatory purposes, a task which can only be accomplished where the deeper truths about existence which these processes harbour can be discerned. It is in this way that the posthumanist can be said to collapse ontological speculation into ethico-political argument, since it is the affirmation of hybridity and concordant critique of anthropocentrism that acts as the starting point for ethical and political thought in this context (Rekret 2016). Besides producing a peculiar oscillation between history and ontology, the critique of anthropocentrism can sometimes effect a sort of theoretical narcissism which places the theorist at the endpoint of an eschatology wherein the true nature of existence is only discernible from the historical instant at which they find themselves.