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### Plan

#### The United States federal government should substantially increase antitrust prohibitions on standard essential patent holders that engage in anticompetitive licensing practices.

### Advantage - Innovation

#### The advantage is innovation

#### SEP holders refuse to license their patents on fair, reasonable, and non-discriminatory (FRAND) terms– that kills innovation and locks SMEs out of emerging tech markets

* Note – Refusal to license and rate hikes are encompassed in the concept of patent hold-up

FTC 18 [Federal Trade Commission, Signed by ACT, Auto Alliance, CCIA, HTIA, NRF, SIIA Organizations. “Standards, Licensing, and Innovation: A Response to DOJ AAG’s Comments on Antitrust Law and Standard-Setting”. 08/2018. https://www.ftc.gov/system/files/documents/public\_comments/2018/08/ftc-2018-0055-d-0031-155033.pdf]

2. Standardization Gives Rise to Patent Hold-Up

As the Antitrust Division, other federal agencies, and U.S. courts have long recognized, patent hold-up creates risks to competition.17 Characterizing hold-up as a “unilateral” problem that antitrust law should not be concerned about ignores that the power to hold up arises from concerted multilateral action by participants, often competitors, in a standard-setting organization agreeing on specific technologies to use in the industry. Standardization forecloses alternatives that would otherwise compete in the marketplace, and the FRAND commitment is intended to be a constraint on market power that standardization can create. Efforts by patentees to evade promises they made to license on FRAND terms comprise the abuse of monopoly power that the FRAND commitment is intended to limit. 18 Such unearned monopoly power derives not necessarily from the patentee’s “superior skill, foresight, and industry,” 19 but may derive instead from the fact that it is impossible to design around SEPs while maintaining compliance with the standard, creating a “lock-in” effect.20

Before the adoption of a standard, alternative technological solutions generally exist to provide a particular functionality for which the standard-setting process seeks a uniform, market-wide solution.21 Companies with patents that may cover these alternative solutions compete vigorously for inclusion of their preferred technologies into each standard. Once a standard is set, ex ante competition ceases. Patents that cover the chosen technology become essential because they must be used to comply with the standard. And once a standard achieves commercial acceptance, compliance with the standard becomes a matter of commercial necessity, as failing to comply with the standard would render a product incompatible with other companies’ products. This creates a “lock-in” effect, whereby companies that make or use standard compliant products must use the SEPs that are incorporated into the standards that they implement.22 The degree of lock-in reflects what may be the prohibitive costs of switching away from the standardized technology.

Incorporation of a patent into a standard therefore changes the balance of power between patent holders and prospective licensees dramatically, as the Ninth Circuit explained in Microsoft Corp. v. Motorola, Inc.:

[O]nce a standard becomes widely adopted, SEP holders obtain substantial leverage over new product developers, who have little choice but to incorporate SEP technologies into their products. Using that standard-development leverage, the SEP holders are in a position to demand more for a license than the patented technology, had it not been adopted by the SSO, would be worth. The tactic of withholding a license unless and until a manufacturer agrees to pay an unduly high royalty rate for an SEP is referred to as “hold-up.”23

The SEP holder’s strengthened bargaining position after adoption of a standard is directly attributable to the elimination of alternatives to the SEP resulting from the adoption of a standard. Because license negotiations typically do not take place until after a standard has been adopted, when the SEP holder is no longer competing to have its technology included in the standard, the prospective licensee is “at the patentee’s mercy.”24 Prospective licensees therefore may be willing to pay a much higher royalty for use of the patented technology than they would have been willing to pay ex ante, when the SEP holder faced competition from other technologies. Further, while large corporations familiar with SEP licensing may be able to absorb the cost of an unreasonable license or seek redress in court at significant cost to their own innovative efforts, the same opportunities may not be available to small and medium enterprises. These innovators may be forced to abandon business plans in standard-dependent markets entirely.

As a result, the Antitrust Division has recognized that, unless constrained, a SEP holder can exploit its unearned market power to obtain unfair licensing terms, including access to a licensee’s patents at unreasonable prices or supra-competitive royalties that are significantly higher than the SEP holder could have obtained before its patent was incorporated into the standard.

#### SMEs are the biggest internal link to emerging tech innovation

Corl 19 [Eric, Business News Expert, Entreprenuer, Founder and CEO of IdeaBuyer. “How Startups Drive the Economy”. 3/14/19. https://medium.com/@ericcorl/how-startups-drive-the-economy-69b73cfbae1]

According to a 2016 report from the Kauffman Foundation, transformation startups have been launched at a faster rate in recent years but still has a way to go.

These “high” growth firms make up just 15% of all companies. But they contribute an estimate of 50% of total jobs created. These young companies comparably invest more in research and development (R&D) than older ones.

The focus of this article is on Transformational startups.

The Big Small Impacts

Startups may be small. But they create ripples in the economy that change people’s way of living.

Here are the ways startups disrupt the economy and forces it to evolve, taking technology one -or several steps- higher.

1. Advance Technology

Older companies or incumbents are more likely to invest in R&D on existing technologies and incremental innovation. While startups are more focused on new technologies and cutting-edge innovation.

Free from a multilayered corporate bureaucracy, startups are more agile and able to build an idea into a product and improve it upon consumer demand with faster decision-making communications. Its high stakes deeply motivate its employees to do whatever it takes to succeed.

Giant companies like Google and Microsoft often acquire startups and use their size and distribution channels to improve the innovation and boost its sales.

However, a member of Harvard’s Labor and Worklife Program, Vivek Wadhwa argues that “when technology’s top guns join these companies, they seem to make a smaller impact than those that don’t get hired.” He then advised that startups must be armed with seed financing in order for the economy get more technological innovation.

2. Open New Markets

Startups create new markets or completely transform old markets by introducing products that change the world. Giants today like Apple, Facebook and Google were once small but ambitious startups.

New technologies often create new opportunities that startups take advantage of. Startups then create a massive value over mature businesses, inspiring competition and disrupting the economy to evolve.

However, not all startups succeed. According to James Surowiecki of MIT Technology Review, the reason behind this is the increased power of established incumbents. Though incumbents have been toppled before, the American industry has grown more concentrated over the last 30 years.

3. Boost Production of Goods and Services

According to Bryan Ritchie and Nick Swisher of IDEA Center, startups disproportionately have higher technology. This drives up production of goods and services.

In a 2017 report by the Center for Economic Studies at the US Census Bureau, they have found that firms that have a high growth output are disproportionately young and “makes disproportionate contributions to output and productivity growth.”

In another paper published on 2011 by Small Business Administration, startups were discovered to generate more revenue with the same number of capital inputs than older companies.

4. Increase Employment

Startups create jobs. These “high-growth” firms are companies that add jobs at a rate of 25 plus percent.

Wadhwa states, “Without startups, there would be no net job growth in the US economy. From 1977 to 2005, existing companies were net job destroyers, losing 1 million net jobs per year. New businesses in their first year added an average of 3 million jobs annually.”

In a 2017 report by the Progressive Policy Institute, the private sector job growth is significantly higher where the startup activity is high. In contrast, regions with few startup activity experience less than half the job growth.

5. Direct Local Impacts

Startups also have a direct change on the cities where they are located such as how Microsoft has transformed Redmond and Google has changed Mountain View California. They bring in wealth and a large inflow of graduates and experienced professionals from other locations who are looking for job opportunities.

Startups are a Driving Economic Force

Startups are engines of growth. To avoid economic stagnation, methods must be sought to foster competition and assist transformational entrepreneurs.

While it is important to get support in a federal level, the effort must be focused in a local level. Cities need to foster programs that encourage entrepreneurship. It is absolutely critical for growth at a local and national level and legislative and political motives can no longer take entrepreneurs into account as an after-thought.

Removing barriers. Facilitating connections. Empowering startups. These are just the few ways for civic leaders to give a better edge to entrepreneurs.

Over the years, I’ve gotten more and more involved in advocating for other entrepreneurs and I’ve been introduced to some great organizations. For one, the SBE Council (http://www.SBECouncil.org) is doing a wonderful job on the federal level advocating for entrepreneurs and small businesses to make sure our voices are heard. Please follow them and support them online.

The Small Business Administration is also doing great work with their main street leaders program to connect local businesses to Washington, DC. If you have a business, they want to hear your voice.

Remember, startups are the driving force behind our economy — we must advocate for the entrepreneurs behind them and continue to foster innovation.

#### Winning the commercial tech innovation race solidifies military overmatch BUT the lead is razor-thin now

Molling 18 [Christian, research director of DGAP, German Council on Foreign Relations. “Defense Innovation and the Future of Transatlantic Strategic Superiority: A German Perspective”. 3/23/18. https://www.gmfus.org/news/defense-innovation-and-future-transatlantic-strategic-superiority-german-perspective]

Technological superiority is key for the West’s military power. But the reality of how to maintain this superiority is changing. Instead of innovation in defense technology coming predominately from national programs linked to the military, innovation is now increasingly generated by the private sector and takes place around the globe. The competition of commercial companies for their consumers has also led to shorter innovation cycles, especially in the area of information technology, and to a geographical diversification of centers of innovation — with new hubs especially in Asia. The ability of non-Western actors to increasingly incorporate civilian innovation into defense applications has led, among other things, to the perception of a growing erosion of conventional deterrence and defense capabilities in relation to rising powers and new actors of international security.

#### Applying antitrust to FRAND violations including refusals to deal solves collapsed innovation and market competition

Greene 19 [Kyle, J.D. Candidate Columbia Law. Columbia Business Law Review Writer and Honors intern @SEC. “Standard Essential Patents and Antitrust Law”. November 2019. https://journals.library.columbia.edu/index.php/CBLR/article/view/5120/2370]

III.ANTITRUST LIABILITY: WHEN SEP HOLDERS REFUSE TO DEAL

A.Reasons for a Presumption of Antitrust Liability

The affirmative case for a presumption of antitrust liability when a SEP holder refuses to deal with a prospective standard implementer in violation of its FRAND commitments proceeds, from the above discussion, as follows: (1) the standard setting process is of vital importance for many industries and technologies, but confers incredible and abusable power to SEP holders,141(2) despite Trinko, the Supreme Court has not ruled out either the essential facilities doctrine or an intent-based inquiry for a Sherman Act Section 2 refusal to deal case,142and (3) the leading circuit court decisions that consider refusals to deal by patent holders in general do not offer policy or legal objections which support an argument against presuming antitrust liability when the patent holder owns a standard essential patent.143As a result, a refusal to deal by an SEP holder is dangerously anticompetitive conduct that is—on its face—exactly the sort of conduct which has been, and should be, condemned by the antitrust laws.

Standards are crucial to the modern economy. But the factors that make standards valuable, even necessary, in so many industries are the same factors that lead to SEP holders occupying a dangerous position from the perspective of the antitrust laws: standards help coordinate disparate technologies and products from many firms into a consolidated, cohesive set. This enables interoperability, access, and the accumulation of massive network effects.144Given those valuable network effects, SEP holders who engage with the process of standards development and make FRAND commitments become ex post gatekeepers—regardless of their ex ante position in the market—to the implementation of standards and thereby control access to the entire market. If an SEP holder then violates its FRAND commitments by refusing to deal, the SEP holder has exhibited all of the markers of a Section 2 case that results in liability.

First, the SEP holder has acquired control over access to an essential facility (the relevant standard) and then denied competitors access to that facility (by refusing to license a patent necessary to fulfill the standard).145Although the same refusal to license its patent might have been acceptable if the SEP holder was not part of the SSO and the patent was not part of the standard, the market power and bargaining position of the patent holder is fundamentally altered when a patent becomes standard essential. This is reminiscent of Associated Press, except here the coordinating organization attempted to prevent the abuse of the SEP holder’s position by securing FRAND commitments from them.146It is therefore the deviant behavior of the SEP holder, not the SSO itself, that is to blame for the anticompetitive harm.

Second, the salient facts of a refusal to deal by an SEP holder are closely analogous to those of Aspen Skiing. The defendant monopolist was found liable in Aspen Skiing for two primary reasons: it had terminated a prior course of voluntary dealing and it had sacrificed short-run profits in order to harm a competitor.148Although an SEP holder may not have previously dealt with any given prospective standard implementer, the SEP holder’s participation in the SSO and its FRAND commitments constitute a prior course of dealing with allfellow participants and implementers of the standard. The subsequent violation of contractual FRAND commitments is a clear termination of that course of dealing. Additionally, licensing an SEP at a reasonable rate is, in isolation,obviously profitable for an SEP holder in the short-run (compared to an alternative world where the SEP holder earns no licensing revenue). The failure to profitably license at a reasonable rate raises, as it did in Aspen Skiing, a strong inference that the goal of the refusal to deal is anticompetitive.149Even if the conduct in Aspen Skiingis at the outer edge of Section 2 liability, it still falls within the boundaries of Section 2 liability. A FRAND-violating refusal to deal by an SEP holder, resembling the important features of Aspen Skiingas closely as it does, must also fall within that boundary.150

Finally, the burden of an inquiry into the intent of the SEP holder should be exactly reversed from what it was when the circuit courts considered refusals to license intellectual property more broadly. In those circuit court cases, the business justifications of the rights holders were treated as presumptively valid and defensible in light of the point of the intellectual property laws. Rather than appearing to be anticompetitive on its face, a refusal to deal seemed well within the ambit of reasonable, legislatively-permitted behavior by a firm holding valuable patents or copyrights. But the inclusion of a patent in a standard is transformative for a firm, and the firm becomes something much more than just another intellectual property rights holder. At that point, the subsequent violation of FRAND commitments is actually anticompetitive on its face: it loudly proclaims that the SEP holder has recognized its power in the market and decided to turn that power toward damaging the competitive process that it had previously contracted to protect and promote. PATENTS1119The presumption of antitrust liability for a SEP holder suggests that it should be presumed to not have a valid business justification when refusing to deal. The SEP holder would have the burden of rebutting this presumption before the court and substantiating a legitimate, procompetitive business justification for the refusal to deal.

B.Contrary Considerations

The strongest counterargument against presumptive antitrust liability for SEP holders who violate their FRAND commitments with a refusal to deal—and against any version of the essential facilities doctrine—is based in the fear that this approach to competition policy would lead to reduced investment and innovation.152The general form of the argument is that forcing firms to deal with competitors might increase competition in the short-run, but in the long-run it will reduce the incentive to innovate153because innovative firms will know that they will not be able to fully capitalize on a successful investment.154This concern is particularly strong in the realm of intellectual property. After all, these rights were specifically developed to give innovators and creators the ability to exclude others from copying and devaluing their work.155This increases the value of intellectual property to the owner and, in turn, encourages the creation of more intellectual property. Without the power to exclude competitors, a patent holder would have very little reason to take the risks and make the investments needed in order to develop a new idea or technology.

However, arguments of this form are often true at the extreme but not necessarily correct at the margin.156The complete lack of protection for intellectual property rights would be devastating for creators and inventors and would drastically reduce the incentives to innovate. But this does not mean that reducing the protections for intellectual property will always reduce the incentives for innovation to a greater degree than it will have positive, structural effects on the market.157To the contrary, this Note argues that antitrust liability will have positive, structural effects on the market which benefit competition and innovation more than the reduced incentives will harm competition and innovation. Still, this debate is fertile ground for further discussion, inquiry, and empirical research. Another possible objection to antitrust liability—this time on statutory rather than policy grounds—is that the Patent Act158created immunity for unilateral refusals to license patents.159The Federal Circuit adopted a version of this approach in CSU v. Xerox. The court based its decision, in part, on an inference that, “[t]he patentee’s right to exclude is further supported by [S]ection 271(d) of the Patent Act.”160But this view is not widely held by academics,161other courts,162or the DOJ or FTC.163A full examination of the Patent Act is outside the scope of this Note, but the idea that § 271(d) created broad antitrust immunity for intellectual property owners is a relatively fringe view.

Finally, it could be argued that the Supreme Court has recently expressed a reluctance to endorse either the essential facilities doctrine or the logic of Aspen Skiing. So, a new presumption of antitrust liability grounded in their fruitful combination is extremely unlikely in the near term. This argument is probably correct. But the question of what the law affords and what should be done with that affordance is separate from the question of what a particular court is likely to do. Presumptive antitrust liability for SEP holders may be wise today, unlikely tomorrow, and a reality the day after.

IV.CONCLUSION

This Note does not argue that an SEP holder should be prevented from benefiting when its patents lend value to a standard; this Note argues that an SEP holder should be prevented from benefiting when it attempts to abuse its position as a gatekeeper to a vital, collaborative standard. A presumption of antitrust liability for an SEP holder who refuses to deal in violation of its FRAND commitments accomplishes this balance. In some dynamic markets, the returns to innovation and the cycle of creative destruction are enough to ensure competition and progress.164But in standards-driven markets that derive their value from the coordinated creation of networks, the antitrust laws are an important bulwark of continued competition and growth.165They should be used accordingly. 164See Katz & Shelanski, supra note 156,at 5 (“Creative destruction means that a firm’s acquisition of possession of market power may be fleeting and that firms must protect such power through ongoing innovation efforts. Under constant pressure from actual and potential innovators, the incumbent firm itself produces better products on better terms for consumers....”). 165See Lao, supra note 22,at 562 (“Combined with a closed network system, network effects can, therefore, effectively create or reinforce existing entry barriers, insulate the monopolist from competition, and lock consumers into the existing technology.”).

#### Faltering emerging tech leadership causes nuclear war over Taiwan and NATO members.

Kroenig & Gopalaswamy 18, \*Associate Professor of Government and Foreign Service at Georgetown University and Deputy Director for Strategy in the Scowcroft Center for Strategy and Security at the Atlantic Council. \*\*Director of the South Asia Center at the Atlantic Council. He holds a PhD in mechanical engineering with a specialization in numerical acoustics from Trinity College, Dublin. (Matthew & Bharath, 11-12-2018, "Will disruptive technology cause nuclear war?", *Bulletin of the Atomic Scientists*, https://thebulletin.org/2018/11/will-disruptive-technology-cause-nuclear-war/)

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 conflict through limited nuclear war strategies, nuclear brinkmanship, or simple accident or 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.

#### US-China nuclear war causes nuclear winter---guarantees extinction

Nicole S. Lovenduski et al. 20. PhD, Department of Atmospheric and Oceanic Sciences, University of Colorado, Boulder; Cheryl S. Harrison, PhD, Institute of Arctic and Alpine Research; Holly Olivarez, Environmental Studies Program, University of Colorado; Charles G. Bardeen, PhD, Atmospheric Chemistry Observations and Modeling Laboratory, National Center for Atmospheric Research; 6 , Owen B. Toon, PhD, Laboratory for Atmospheric and Space Physics; Joshua Coupe, PhD Department of Environmental Sciences at Rutgers; Alan Robock, PhD, Department of Environmental Sciences at Rutgers; Tyler Rohr, Water Power Technologies Office, Department of Energy, and Samantha Stevenson; Bren School of Environmental Science and Management. “The Potential Impact of Nuclear Conflict on Ocean Acidification”. Geophysical Research Letters. 47, e2019GL086246. https://doi.org/10. 1029/2019GL086246

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.

#### Failure to stop China allows them to establish a global dystopian surveillance state. Only Western democracies have self-correcting protections to safeguard citizens from over-stretch

Charlie Campbell 19. East Asia Correspondent for TIME. "The Entire System Is Designed to Suppress Us': What the Chinese Surveillance State Means for the Rest of the World." Time. 11-21-2019. https://time.com/5735411/china-surveillance-privacy-issues/

Still, the risks are considerable. As Western democracies enact safeguards to protect citizens from the rampant harvesting of data by government and corporations, China is exporting its AI-powered surveillance technology to authoritarian governments around the world. Chinese firms are providing high-tech surveillance tools to at least 18 nations from Venezuela to Zimbabwe, according to a 2018 report by Freedom House. China is a battleground where the modern surveillance state has reached a nadir, prompting censure from governments and institutions around the globe, but it is also where rebellion against its overreach is being most ferociously fought.

“Today’s economic business models all encourage people to share data,” says Lokman Tsui, a privacy expert at the Chinese University of Hong Kong. In China, he adds, we are seeing “what happens when the state goes after that data to exploit and weaponize it.”

Some 1,500 miles northwest of where Mrs. Chen recovered her purse, surveillance in China’s restive region of Xinjiang has helped put an estimated 1 million people into “re-education centers” akin to concentration camps, according to the U.N. Many were arrested, tried and convicted by computer algorithm based on data harvested by the cameras that stud every 20 steps in some parts.

In the name of fighting terrorism, members of predominantly Muslim ethnic groups—mostly Uighurs but also Kazakhs, Uzbeks and Kyrgyz—are forced to surrender biometric data like photos, fingerprints, DNA, blood and voice samples. Police are armed with a smartphone app that then automatically flags certain behaviors, according to reverse engineering by the advocacy group Human Rights Watch. Those who grow a beard, leave their house via a back door or visit the mosque often are red-flagged by the system and interrogated.

Sarsenbek Akaruli, 45, a veterinarian and trader from the Xinjiang city of Ili, was arrested on Nov. 2, 2017, and remains in a detention camp after police found the banned messaging app WhatsApp on his cell phone, according to his wife Gulnur Kosdaulet. A citizen of neighboring Kazakhstan, she has traveled to Xinjiang four times to search for him but found even friends in the ruling Chinese Communist Party (CCP) reluctant to help. “Nobody wanted to risk being recorded on security cameras talking to me in case they ended up in the camps themselves,” she tells TIME.

Surveillance governs all aspects of camp life. Bakitali Nur, 47, a fruit and vegetable exporter in the Xinjiang town of Khorgos, was arrested after authorities became suspicious of his frequent business trips abroad. The father of three says he spent a year in a single room with seven other inmates, all clad in blue jumpsuits, forced to sit still on plastic stools for 17 hours straight as four HikVision cameras recorded every move. “Anyone caught talking or moving was forced into stress positions for hours at a time,” he says.

Bakitali was released only after he developed a chronic illness. But his surveillance hell continued over five months of virtual house arrest, which is common for former detainees. He was forbidden from traveling outside his village without permission, and a CCTV camera was installed opposite his home. Every time he approached the front door, a policeman would call to ask where he was going. He had to report to the local government office every day to undergo “political education” and write a self-criticism detailing his previous day’s activities. Unable to travel for work, former detainees like Bakitali are often obliged to toil at government factories for wages as miserly as 35¢ per day, according to former workers interviewed by TIME. “The entire system is designed to suppress us,” Bakitali says in Almaty, Kazakhstan, where he escaped in May.

The result is dystopian. When every aspect of life is under constant scrutiny, it’s not just “bad” behavior that must be avoided. Muslims in Xinjiang are under constant pressure to act in a manner that the CCP would approve. While posting controversial material online is clearly reckless, not using social media at all could also be considered suspicious, so Muslims share glowing news about the country and party as a means of defense. Homes and businesses now feel obliged to display a photograph of China’s President Xi Jinping in a manner redolent of North Koreans’ public displays for founder Kim Il Sung. Asked why he had a picture of Xi in his taxi, one Uighur driver replied nervously, “It’s the law.”

Besides the surveillance cameras, people are required to register their ID numbers for activities as mundane as renting a karaoke booth. Muslims are forced from buses to have their IDs checked while ethnic Han Chinese passengers wait in their seats. At intersections, drivers are ushered from their vehicles by armed police and through Tera-Snap “revolving body detector” equipment. In the southern Xinjiang oasis town of Hotan, a facial–recognition booth is even installed at the local produce market. When a system struggled to compute the face of this Western TIME reporter, the impatient Han women queuing behind berated the operator, “Hurry up, he’s not a Uighur, let him through.”

China strenuously denies human-rights abuses in Xinjiang, justifying its surveillance leviathan as battling the “three evils” of “separatism, terrorism and extremism.” But the situation has been described as a “horrific campaign of repression” by the U.S. and condemned by the U.N. Washington has also started sanctioning companies like HikVision whose facial–recognition technology is ubiquitous across the Alaska-size region. But Western aversion to surveillance is much broader and stems in no small part from abuses like the Facebook/Cambridge Analytica scandal, in which the “scraped” personal information of up to 87 million people was acquired by the political consultancy to swing elections around the world.

China is also rolling out Big Data and surveillance to inculcate “positive” behavior in its citizens via a Social Credit system. In China’s eastern coastal city of Rongcheng, home to 670,000 people, every person is automatically given 1,000 points. Fighting with neighbors will cost you 5 points; fail to clean up after your dog and you lose 10. Donating blood gains 5. Fall below a certain threshold and it’s impossible to get a loan or book high-speed train tickets. Some Chinese see the benefit. High school teacher Zhu Junfang, 42, enjoys perks such as discounted heating bills and improved health care after a series of good works. “Because of the Social Credit system, vehicles politely let pedestrians cross the street, and during a recent blizzard people volunteered to clear the snow to earn extra points,” she says.

Such intrusive government is anathema to most in the West, where aversion to surveillance is much broader and more visceral. Whether it’s our Internet browser history, selfies uploaded to social media, data scavenged from fitness trackers or smart-home devices possibly recording the most intimate bedroom conversations, we are all living in what’s been dubbed a “surveillance economy.” In her book The Age of Surveillance Capitalism, Shoshana Zuboff describes this as “human experience [broken down into data] as free raw material for commercial practices of extraction, prediction, and sales.”

When it comes to facial recognition, resistance is intense given the huge potential for indiscriminate data harvesting. The E.U. is reviewing regulations to give its citizens explicit rights over use of their facial-recognition data. While tech giants Microsoft and Amazon have already deployed the technology, they are also calling for clear legal parameters to govern its use. Other than privacy, there are equality issues too. According to a study by MIT Media Lab, facial-recognition software correctly identified white men 99% to 100% of the time, but that dipped as low as 65% for women of color. Civil-liberties groups are especially uneasy since facial recognition, despite its widespread use by American police, is rarely cited as evidence in subsequent court filings. In May, San Francisco became the first major U.S. city to block police from using facial–recognition software.

Even in China, where civil liberties have long been sacrificed for what the CCP deems the greater good, privacy concerns are bubbling up. On Oct. 28, a professor in eastern China sued Hangzhou Safari Park for “violating consumer privacy law by compulsorily collecting visitors’ individual characteristics,” after the park announced its intention to adopt facial–recognition entry gates. In Chongqing, a move to install surveillance cameras in 15,000 licensed taxicabs has met a backlash from drivers. “Now I can’t cuddle my girlfriend off duty or curse my bosses,” one driver grumbles to TIME.

Russia’s election meddling around the world highlights the risks of commercially harvested data being repurposed for nefarious goals. It’s a message taken to heart in Hong Kong, where millions have protested over the past five months to push for more democracy. These demonstrators have found themselves in the crosshairs after being identified via CCTV cameras or social media. Employees for state airline Cathay Pacific have been fired and others investigated based on evidence reportedly gleaned via online posts and private messaging apps.

This has led demonstrators to adopt intricate tactics to evade Big Brother’s all-seeing eye. Clad in helmets, face masks and reflective goggles, they prepare for confrontations with the police with military precision. A vanguard clutch umbrellas aloft to shield their activities from prying eyes, before a second wave advances to attack overhead cameras with tape, spray paint and buzz saws. From behind, a covering fire of laser pointers attempts to disrupt the recordings of security officers’ body-mounted cameras.

Fending off the cameras is just one response. When Matthew, 22, who used only his first name for his own safety, heads to the front lines, he always leaves his regular cell phone at home and takes a burner. Aside from swapping SIM cards, he rarely reuses handsets multiple times since each has a unique International Mobile Equipment Identity digital serial number that he says police can trace. He also switches among different VPNs—software to mask a user’s location—and pays for protest–related purchases with cash or untraceable top-up credit cards. Voice calls are made only as a last resort, he says. “Once I had no choice but to make a call, but I threw away my SIM immediately afterward.”

The Hong Kong government denies its smart cameras and lampposts use facial-recognition technology. But “it really comes down to whether you trust institutions,” says privacy expert Tsui. For Matthew, the risks are real and stark: “We are fighting to stop Hong Kong becoming another Xinjiang.”

Ultimately, even protesters’ forensic safeguards may not be enough as technology advances. In his Beijing headquarters, Huang Yongzhen, CEO of AI firm Watrix, shows off his latest gait-recognition software, which can identify people from 50 meters away by analyzing thousands of metrics about their walk—even with faces covered or backs to the camera. It’s already been rolled out by security services across China, he says, though he’s ambivalent about privacy concerns. “From our perspective, we just provide the technology,” he says. “As for how it’s used, like all high tech, it may be a double-edged sword.”

Little wonder a backlash against AI-powered surveillance is gathering pace. In the U.S., legislation was introduced in Congress in July that would prohibit the use of facial recognition in public housing. Japanese scientists have produced special glasses designed to fool the technology. Public campaigns have railed against commercial uses—from Ticket-master using facial recognition for concert tickets to JetBlue for boarding passes. In May, Democratic Congresswoman Alexandria Ocasio–Cortez linked the technology to “a global rise in authoritarianism and fascism.”

#### Global tech arms race is inevitable but new innovation is crucial to deterrence and power-projection to beat revisionism – sidetracking the debate with binary ethical concerns causes extinction

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The greatest danger for the United States is the erosion of conventional deterrence. If leaders in Beijing or Moscow think that they might win a war against the United States, they will run greater risks and press their advantage. They will take actions that steadily undermine the United States’ commitments to its allies by casting doubt on whether Washington would really send its military to defend the Baltics, the Philippines, Taiwan, or even Japan or South Korea. They will try to get their way through any means necessary, from coercive diplomacy and economic extortion to meddling in the domestic affairs of other countries. And they will steadily harden their spheres of influence, turning them into areas ever more hospitable to authoritarian ideology, surveillance states, and crony capitalism. In other words, they will try, as the military strategist Sun-tzu recommended, to “win without fighting.”

THE FUTURE IS HERE

The United States is still betting that by incrementally upgrading its traditional military systems, it can remain dominant for decades to come. This approach might buy time, but it will not allow the U.S. military to regain superiority over its rivals. Doubling down on the status quo is exactly what Washington’s competitors want it to do: if the U.S. government spends more money in the same ways and on the same things, it will simply build more targets for its competitors while bankrupting itself.

It’s time to think differently, and U.S. defense planners should start by adopting more realistic assumptions. They should assume that U.S. forces will fight in highly contested environments against technologically advanced opponents, that they will be unlikely to avoid detection in any domain, and that they will lose large numbers of military systems in combat. Washington must also banish the idea that the goal of military modernization is simply to replace the military platforms it has relied on for decades, such as fighter jets and aircraft carriers, with better versions of the same things. It must focus instead on how to buy systems that can be combined into networks or kill chains to achieve particular military outcomes, such as air superiority or control of the seas.

Finally, the old belief that software merely supports hardware must be inverted: future militaries will be distinguished by the quality of their software, especially their artificial intelligence.

What would a military built on those assumptions look like? First, it would have large quantities of smaller systems: swarms of intelligent machines that distribute sensing, movement, shooting, and communications away from vulnerable single points of failure and out to the edges of vast, dispersed networks. Such an approach would impose costs on competitors, as they would no longer be able to concentrate on a few big targets and would instead need to target many things over larger spaces.

Second, those systems would be cheap and expendable, which would make it easier to endure large-scale losses in combat. If it takes the United States’ competitors more time and money to destroy U.S. systems than it does for the United States to replace those systems, the United States will win over time.

Finally, these systems would be unmanned and autonomous to the extent that is ethically acceptable. Keeping humans alive, safe, and comfortable inside machines is expensive—and no one wants to pay the ultimate price of lost human life. Autonomous systems are cheaper to field and cheaper to lose. They can also free humans from doing work that machines can do better, such as processing raw sensor data or allocating tasks among military systems. Liberating people from such work will prove crucial for managing the volume and velocity of the modern battlefield, but also for enabling people to focus more energy on making moral decisions about the intended outcomes of warfare. In this way, greater autonomy can not only enhance military effectiveness; it can also allow more humans to pay more attention to the ethics of war than ever before.

Building this kind of military is not only desirable; it is becoming technologically feasible. The U.S. military already has a number of programs in development aimed at just such a future force, from low-cost autonomous aircraft to unmanned underwater vehicles that could compose an artificially intelligent network of systems that is more resilient and capable than traditional military programs. For now, none of these systems is as capable as legacy programs such as the F-35 Joint Strike Fighter or the Virginia-class submarine, but they also carry a small fraction of the costs. The goal should be not to buy more individual platforms but to buy faster kill chains. The money currently invested in one legacy system could buy dozens of autonomous systems that add up to a superior capability.

The purpose of this kind of military—one that relies heavily on swarms of thousands of small, low-cost, autonomous systems that can dominate all domains—would not be to provoke war. It would be to deter it, by demonstrating that the United States can destroy any force its competitors put onto the battlefield in any domain, replenish its combat losses faster and cheaper than they can, and sustain a fight until it wins by attrition. The purpose of preparing for war will remain to never have to fight one.

A FAILURE OF IMAGINATION

Military modernization of this kind will not happen all at once. Autonomous systems may rely on legacy systems, including aircraft carriers, for some time to come. But even this will require significant changes to how traditional systems are configured and operated. Some leaders in Congress and the executive branch want to embrace these changes, which is encouraging. But if this transition fails—and the odds of that are unsettlingly high—it will likely fail for reasons other than the ethical opposition that is the focus of current debates, which seeks to “ban killer robots” or ensure that commercial technology companies do nothing to benefit the U.S. military.

There are serious ethical concerns. The military use of advanced technologies such as artificial intelligence requires sober debate, but that debate should not be reduced to a binary decision between human and machine control. If framed clearly, many of the technological and moral questions facing policymakers can be answered within the confines of existing law and practice. For example, the legal concept of “areas of active hostilities,” in which the threshold for using violence is reduced in limited geographic areas, could provide useful answers to the moral dilemmas posed by lethal autonomous weapons.

The real challenge facing policymakers is how to imbue intelligent machines with human intent, and that is not a new problem. And although this new technology will present ethical dilemmas, it will also help resolve them. Autonomous systems will enable humans to spend less time on menial problems and more time on moral ones. Intelligent machines will likely become more capable of differentiating between, say, tanks and other vehicles, than a scared 19-year-old is. Americans will naturally be apprehensive about trusting machines to perform what have traditionally been human tasks. But the greater danger right now is that Americans will move too slowly and not be trusting enough, especially as China and Russia are proceeding with fewer ethical concerns than the United States. Unless Washington is willing to unilaterally cede that advantage to its rivals, it cannot allow itself to become paralyzed [stalled] by the wrong questions.

#### Collapse of unipolarity causes extinction via transition wars. The structure of the international system explains conflict.

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.

#### China is revisionist and offensive specifically in emerging tech– the only coherent response is carefully managed great power competition that prevents global wars – dovish responses greenlight escalation

Cooper & Brands 19 [Hal Brands is the Henry A. Kissinger Distinguished Professor of Global Affairs at the Johns Hopkins School of Advanced International Studies, a senior fellow at the Center for Strategic and Budgetary Assessments. Zack Cooper is a research fellow at the American Enterprise Institute, an associate at Armitage International, and an adjunct assistant professor at Georgetown University. "After the Responsible Stakeholder, What? Debating America’s China Strategy." Texas National Security Review. Volume 2, Issue 2. February. https://tnsr.org/2019/02/after-the-responsible-stakeholder-what-debating-americas-china-strategy-2/]

The responsible-stakeholder paradigm offered a coherent “theory of victory”: It identified a desired outcome and employed all elements of American power to bring about that outcome. Over time, the strategy produced greater Sino-American cooperation on a range of issues, from counter-piracy to climate change. It is increasingly clear, however, that the responsible-stakeholder strategy failed. Two of its core assumptions now appear misplaced: the idea that China’s intentions would become more benign over time, and the belief that Washington had the power to keep Chinese ambitions in check until that shift occurred.

What happened instead was that, as China rose, the Chinese Communist Party became more willing to use its newfound power in coercive and disruptive ways.3 Confounding Western hopes that China would liberalize, the Chinese Communist Party embraced more repressive policies, especially after Xi Jinping became general secretary in 2012. Meanwhile, Beijing sought to control the Indo-Pacific region by coercing its neighbors, undermining U.S. alliances, practicing mercantilist policies, steadily increasing its presence and influence in the South China Sea, and modernizing its military.

In the Indo-Pacific and beyond, moreover, China has engaged in a range of behaviors that challenge American interests: supporting authoritarian regimes, engaging in widespread corruption, pursuing predatory trade practices and major geo-economic projects meant to project Chinese influence further afield, seeking to stifle international criticism of its human rights abuses, practicing massive intellectual property theft, and striving for technological dominance in critical emerging fields such as artificial intelligence. Recently, China’s confidence has been on display, with Xi stating in 2018 that “no one is in a position to dictate to the Chinese people,” after declaring in 2017 that China is ready to “take center stage in the world.”4 Rather than becoming a responsible stakeholder in a U.S.-led system, China appears increasingly determined to compete with Washington for primacy in the Indo-Pacific and beyond.

These more assertive policies have been made possible by China’s surprisingly rapid growth. Between 1990 and 2016, China’s constant-dollar gross domestic product increased roughly twelve-fold and its military spending grew tenfold.5 The People’s Liberation Army rapidly developed the tools — anti-ship missiles, quiet submarines, advanced fighter aircraft, and integrated air defenses — needed to contest American supremacy in the Western Pacific and give China greater ability to shape events in its region and beyond. Surging national wealth also led to an explosion of Chinese trade, lending, and investment abroad, which enabled far more ambitious geo-economic statecraft. All told, this expansion of Chinese national power is unprecedented in modern history. It has dramatically narrowed the gap between China and the United States and made it far more difficult for Washington to shape Beijing’s behavior.

No strategy can survive the invalidation of its central premises: By the end of the Obama presidency, the responsible-stakeholder concept was living on borrowed time. The Trump administration drove the final stake through the concept in its 2017 National Security Strategy. The document slammed Beijing for attempting to “shape a world antithetical to U.S. values and interests” and declared the failure of China’s “integration into the post-war international order.”6

In particular, China’s behavior increasingly threatens three enduring U.S. interests. First, the United States seeks to maintain a favorable balance of power in the Indo-Pacific region and to deter a military conflict — over Taiwan, Korea, or maritime Asia — that could undermine the regional order and cost American or allied lives. Second, U.S. leaders have an interest in ensuring an open international economy conducive to American prosperity and competitiveness. Third, the United States seeks to preserve an international environment in which democracy, human rights, and the rule of law can flourish, and it seeks to strengthen — where possible — the prevalence of those practices abroad. As Chinese power has grown and Chinese behavior has become more assertive, U.S. policymakers have come to see all three of these interests as being imperiled.

#### No offense - the era of liberalist interventionism is over in favor of realism

Posner 9/3 [Eric, professor at the University of Chicago Law School. “America's Return to Realism”. 9/3/21. https://www.project-syndicate.org/commentary/america-return-to-foreign-policy-realism-by-eric-posner-2021-09]

CHICAGO – US President Joe Biden’s speech defending the withdrawal from Afghanistan announced a decisive break with a tradition of foreign-policy idealism that began with Woodrow Wilson and reached its apex in the 1990s. While that tradition has often been called “liberal internationalism,” it also was the dominant view on the right by the end of the Cold War. The United States, according to liberal internationalists, should use military force as well as its economic power to compel other countries to embrace liberal democracy and uphold human rights.

Both in conception and in practice, American idealism rejected the Westphalian international system, in which states are forbidden to intervene in others’ internal affairs, and peace results from maintaining a balance of power. Wilson sought to replace this system with universal principles of justice, administered by international institutions. During World War II, Franklin D. Roosevelt revived these ideals in the Atlantic Charter of 1941, which declared self-determination, democracy, and human rights to be war goals.

But during the Cold War, the US pursued a resolutely “realist” foreign policy that focused on national interest and propped up or tolerated dictatorships as long as they opposed the Soviet Union. The two rivals had little use for international institutions or universal ideals except for propaganda purposes, instead using regional arrangements to knit together their allies. It was Europe that, in the 1970s, tried to advance human rights and assume a position of moral leadership to distinguish itself from the goliaths to its east and west.

America’s commitment to human rights began at a moment of weakness. In the wake of the military and moral disaster of Vietnam, President Jimmy Carter and the US Congress sought to infuse American foreign policy with a moral center and reached for the language of human rights. President Ronald Reagan saw human rights as a convenient rhetorical cudgel for clobbering the Soviet Union. But both presidents continued to support dictatorships that served US security interests, and neither used military force to advance humanitarian ideals. The era of US-led humanitarian intervention would have to await the end of the Cold War.

The rhetoric outstripped the reality, but reality did change. As the sole global hegemon, the US embarked on a large number of wars, big and small, involving a confusing mélange of hard-nosed security interests and idealistic rhetoric. In Panama, Somalia, Yugoslavia (twice), Iraq (twice), Libya, Afghanistan, and elsewhere, the US launched military interventions on both national-security and humanitarian grounds.

The nonintervention in the Rwandan genocide of 1994 may have been the most consequential (non)event of this period, because it was reinterpreted with the benefit of hindsight as a missed opportunity to use military force to save hundreds of thousands of lives. The debacle was used to justify the wars in Afghanistan and Iraq, and to urge US military intervention in Sudan in the early 2000s, which President George W. Bush’s administration wisely resisted, despite mass killings that amounted to another genocide.

All of this led to an extraordinary burst of interest in international law and legal institutions. Multiple international tribunals were created, leading to the establishment of a permanent International Criminal Court. Human rights treaties and institutions were revived and strengthened. Principles of humanitarian intervention were advanced, including the now-forgotten “responsibility to protect.” Every Western university nowadays has a human rights center of some sort that is a testament to the idealism of that era.

It was already clear that President Donald Trump repudiated this tradition of humanitarian or quasi-humanitarian military intervention, but Biden’s forceful renunciation of it is somewhat surprising. In his speech, he repeatedly emphasized the importance of identifying and defending America’s “vital national interest.” The word “national” is key, and Biden wasn’t subtle:

“If we had been attacked on September 11, 2001, from Yemen instead of Afghanistan, would we have ever gone to war in Afghanistan? Even though the Taliban controlled Afghanistan in the year 2001? I believe the honest answer is no. That’s because we had no vital interest in Afghanistan other than to prevent an attack on America’s homeland and our friends. And that’s true today.”

America had no vital interest in introducing democracy to Afghanistan, in helping women escape a medieval theological regime, in educating children, or in helping to prevent another civil war. His decision to withdraw from Afghanistan was

“about ending an era of major military operations to remake other countries. We saw a mission of counterterrorism in Afghanistan, getting the terrorists to stop the attacks, morph into a counterinsurgency, nation-building, trying to create a democratic, cohesive, and united Afghanistan. Something that has never been done over many centuries of Afghan’s [sic] history. Moving on from that mindset and those kind of large-scale troop deployments will make us stronger and more effective and safer at home.”

Biden also did say that human rights will remain “the center of our foreign policy,” and that economic tools and moral suasion can be used to advance them. This claim is in tension with his declaration that “vital national interests” should determine military intervention. Why wouldn’t vital national interests determine nonmilitary forms of intervention as well? Clearly, the role of human rights and other moral ideals in US foreign policy has been downgraded. The only question is whether the rhetoric will be toned town to match the new reality.

Of course, it was never very clear that US governments were actually motivated by humanitarian considerations. Critics often found more nefarious motives. Future historians may well argue that US foreign policy in the 1990s and 2000s was simply advancing a very ambitious vision of the national interest: America required all countries to adopt American ideals and institutions so that none would want to act against America. Or they might say that, like any empire, the US lacked the patience and wisdom to maintain a consistent stance in its treatment of its peripheries.

In any case, idealism is not actually so idealistic when a country has enough power, and the only thing that is clear now is that America doesn’t. Resistance to its post-Cold War nation-building goals took the form of international terrorism. China and Russia did not obediently embrace democracy. And much of the rest of the world has reverted to various forms of nationalism and authoritarianism.

#### That must outweigh – moral uncertainty demands we preserve the conditions for life, even a tiny risk outweighs, and future gains in quality of life ensure it’s a prior question

Wealth, life expectancy, energy use, poverty, democracy, literacy, education,

Nuke war is 1 million times more likely than expected and 500 trillion times worse than any existing impact

Todd 17 [Ben has a 1st from Oxford in Physics and Philosophy, has published in Climate Physics, once kick-boxed for Oxford, and speaks Chinese, badly. "The case for reducing extinction risk." https://80000hours.org/articles/extinction-risk/]

In this new age, what should be our biggest priority as a civilisation? Improving technology? Helping the poor? Changing the political system? Here’s a suggestion that’s not so often discussed: our first priority should be to survive. So long as civilisation continues to exist, we’ll have the chance to solve all our other problems, and have a far better future. But if we go extinct, that’s it. Why isn’t this priority more discussed? Here’s one reason: many people don’t yet appreciate the change in situation, and so don’t think our future is at risk. Social science researcher Spencer Greenberg surveyed Americans on their estimate of the chances of human extinction within 50 years. The results found that many think the chances are extremely low, with over 30% guessing they’re under one in ten million.2 We used to think the risks were extremely low as well, but when we looked into it, we changed our minds. As we’ll see, researchers who study these issues think the risks are over one thousand times higher, and are probably increasing. These concerns have started a new movement working to safeguard civilisation, which has been joined by Stephen Hawking, Elon Musk, and new institutes founded by researchers at Cambridge, MIT, Oxford, and elsewhere. In the rest of this article, we cover the greatest risks to civilisation, including some that might be bigger than nuclear war and climate change. We then make the case that reducing these risks could be the most important thing you do with your life, and explain exactly what you can do to help. If you would like to use your career to work on these issues, we can also give one-on-one support. How likely are you to be killed by an asteroid? An overview of naturally occurring extinction risks An overview of naturally occurring extinction risks A one in ten million chance of extinction in the next 50 years — what many people think the risk is — must be an underestimate. Naturally occurring extinction risks can be estimated pretty accurately from history, and are much higher. If Earth was hit by a 1km-wide asteroid, there’s a chance that civilisation would be destroyed. By looking at the historical record, and tracking the objects in the sky, astronomers can estimate the risk of an asteroid this size hitting Earth as about 1 in 5000 per century.3 That’s higher than most people’s chances of being in a plane crash (about one in five million per flight), and already about 1000-times higher than the one in ten million risk that some people estimated.4 Some argue that although a 1km-sized object would be a disaster, it wouldn’t be enough to cause extinction, so this is a high estimate of the risk. But on the other hand, there are other naturally occurring risks, such as supervolcanoes.5 All this said, natural risks are still quite small in absolute terms. An upcoming paper by Dr. Toby Ord estimated that if we sum all the natural risks together, they’re very unlikely to add up to more than a 1 in 300 chance of extinction per century.6 Unfortunately, as we’ll now show, the natural risks are dwarfed by the human-caused ones. And this is why the risk of extinction has become an especially urgent issue. A history of progress, leading to the start of the most dangerous epoch in human history If you look at history over millennia, the basic message is that for a long-time almost everyone was poor, and then in the 18th century, that changed.7

Chart, line chart

Description automatically generated

This was caused by the industrial revolution — perhaps the most important event in history. It wasn’t just wealth that grew. The following chart shows that over the long-term, life expectancy, energy use and democracy have all grown rapidly, while the percentage living in poverty has dramatically decreased.8

Timeline

Description automatically generated

Literacy and education levels have also dramatically increased:

Chart

Description automatically generated

People also seem to become happier as they get wealthier. In The Better Angels of Our Nature, Steven Pinker argues that violence is going down.9 Individual freedom has increased, while racism, sexism and homophobia have decreased. Many people think the world is getting worse,10 and it’s true that modern civilisation does some terrible things, such as factory farming. But as you can see in the data, many important measures of progress have improved dramatically. More to the point, no matter what you think has happened in the past, if we look forward, improving technology, political organisation and freedom gives our descendants the potential to solve our current problems, and have vastly better lives.11 It is possible to end poverty, prevent climate change, alleviate suffering, and more. But also notice the purple line on the second chart: war-making capacity. It’s based on estimates of global military power by the historian Ian Morris, and it has also increased dramatically. Here’s the issue: improving technology holds the possibility of enormous gains, but also enormous risks. Each time we discover a new technology, most of the time it yields huge benefits. But there’s also a chance we discover a technology with more destructive power than we have the ability to wisely use. And so, although the present generation lives in the most prosperous period in human history, it’s plausibly also the most dangerous. The first destructive technology of this kind was nuclear weapons. Nuclear weapons: a history of near-misses Today we all have North Korea’s nuclear programme on our minds, but current events are just one chapter in a long saga of near misses. We came near to nuclear war several times during the Cuban Missile crisis alone.12 In one incident, the Americans resolved that if one of their spy planes were shot down, they would immediately invade Cuba without a further War Council meeting. The next day, a spy plane was shot down. JFK called the council anyway, and decided against invading. An invasion of Cuba might well have triggered nuclear war; it later emerged that Castro was in favour of nuclear retaliation even if “it would’ve led to the complete annihilation of Cuba”. Some of the launch commanders in Cuba also had independent authority to target American forces with tactical nuclear weapons in the event of an invasion. In another incident, a Russian nuclear submarine was trying to smuggle materials into Cuba when they were discovered by the American fleet. The fleet began to drop dummy depth charges to force the submarine to surface. The Russian captain thought they were real depth charges and that, while out of radio communication, the third world war had started. He ordered a nuclear strike on the American fleet with one of their nuclear torpedoes. Fortunately, he needed the approval of other senior officers. One, Vasili Arkhipov, disagreed, preventing war. Putting all these events together, JFK later estimated that the chances of nuclear war were “between one in three and even”.13 There have been plenty of other close calls with Russia, even after the Cold War, as listed on this nice Wikipedia page. And those are just the ones we know about. Nuclear experts today are just as concerned about tensions between India and Pakistan, which both possess nuclear weapons, as North Korea.14 The key problem is that several countries maintain large nuclear arsenals that are ready to be deployed in minutes. This means that a false alarm or accident can rapidly escalate into a full-blown nuclear war, especially in times of tense foreign relations. Would a nuclear war end civilisation? It was initially thought that a nuclear blast might be so hot that it would ignite the atmosphere and make the Earth uninhabitable. Scientists estimated this was sufficiently unlikely that the weapons could be “safely” tested, and we now know this won’t happen. In the 1980s, the concern was that ash from burning buildings would plunge the Earth into a long-term winter that would make it impossible to grow crops for decades.15 Modern climate models suggest that a nuclear winter severe enough to kill everyone is very unlikely, though it’s hard to be confident due to model uncertainty.16 Even a “mild” nuclear winter, however, could still cause mass starvation.17 For this and other reasons, a nuclear war would be extremely destabilising, and it’s unclear whether civilisation could recover. How likely is a nuclear war to permanently end civilisation? It’s very hard to estimate, but it seems hard to conclude that the chance of a civilisation-ending nuclear war in the next century isn’t over 0.3%. That would mean the risks from nuclear weapons are greater than all the natural risks put together. (Read more about nuclear risks.) This is why the 1950s marked the start of a new age for humanity. For the first time in history, it became possible for a small number of decision-makers to wreak havoc on the whole world. We now pose the greatest threat to our own survival — that makes today the most dangerous point in human history. And nuclear weapons aren’t the only way we could end civilisation. How big is the risk of run-away climate change? In 2015, President Obama said in his State of the Union address that:18 “No challenge  poses a greater threat to future generations than climate change” Climate change is certainly a major risk to civilisation. The graph below shows estimates of climate sensitivity. Climate sensitivity is how much warming to expect in the long-term if CO2 concentrations double, which is roughly what’s expected within the century. The most likely outcome is 2-4 degrees of warming, which would be bad, but survivable. However, these estimates give a 10% chance of warming over 6 degrees, and perhaps a 1% chance of warming of 9 degrees. That would render large fractions of the Earth functionally uninhabitable, requiring at least a massive reorganisation of society. It would also probably increase conflict, and make us more vulnerable to other risks. (If you’re sceptical of climate models, then you should increase your uncertainty, which makes the situation more worrying.) So, it seems like the chance of a massive climate disaster created by CO2 is perhaps similar to the chance of a nuclear war. Researchers who study these issues think nuclear war seems more likely to result in outright extinction, due to the possibility of nuclear winter, which is why we think nuclear weapons pose an even greater risk than climate change. That said, climate change is certainly a major problem, which should raise our estimate of the risks even higher. (Read more about run-away climate change.) What new technologies might be as dangerous as nuclear weapons? The invention of nuclear weapons led to the anti-nuclear movement just a decade later in the 1960s, and the environmentalist movement soon adopted the cause of fighting climate change. What’s less appreciated is that new technologies will present further catastrophic risks. This is why we need a movement that is concerned with safeguarding civilisation in general. Predicting the future of technology is difficult, but because we only have one civilisation, we need to try our best. Here are some candidates for the next technology that’s as dangerous as nuclear weapons. In 1918-1919, over 3% of the world’s population died of the Spanish Flu.19 If such a pandemic arose today, it might be even harder to contain due to rapid global transport. What’s more concerning, though, is that it may soon be possible to genetically engineer a virus that’s as contagious as the Spanish Flu, but also deadlier, and which could spread for years undetected. That would be a weapon with the destructive power of nuclear weapons, but far harder to prevent from being used. Nuclear weapons require huge factories and rare materials to make, which makes them relatively easy to control. Designer viruses might be possible to create in a lab with a couple of biology PhDs. In fact, in 2006, The Guardian was able to order segments of the extinct smallpox virus by mail order.20 Some terrorist groups have expressed interest in using indiscriminate weapons like these. (Read more about pandemic risks.) Another new technology with huge potential power is artificial intelligence. The reason that humans are in charge and not chimps is purely a matter of intelligence. Our large and powerful brains give us incredible control of the world, despite the fact that we are so much physically weaker than chimpanzees. So then what would happen if one day we created something much more intelligent than ourselves? In 2017, 350 researchers who have published peer-reviewed research into artificial intelligence at top conferences were polled about when they believe that we will develop computers with human-level intelligence: that is, a machine that is capable of carrying out all work tasks better than humans. The median estimate was that there is a 50% chance we will develop high-level machine intelligence in 45 years, and 75% by the end of the century.21 These probabilities are hard to estimate, and the researchers gave very different figures depending on precisely how you ask the question.22 Nevertheless, it seems there is at least a reasonable chance that some kind of transformative machine intelligence is invented in the next century. Moreover, greater uncertainty means means that it might come sooner than people think rather than later. What risks might this development pose? The original pioneers in computing, like Alan Turing and Marvin Minsky, raised concerns about the risks of powerful computer systems,23 and these risks are still around today. We’re not talking about computers “turning evil”. Rather, one concern is that a powerful AI system could be used by one group to gain control of the world, or otherwise be mis-used. If the USSR had developed nuclear weapons 10 years before the USA, the USSR might have become the dominant global power. Powerful computer technology might pose similar risks. Another concern is that deploying the system could have unintended consequences, since it would be difficult to predict what something smarter than us would do. A sufficiently powerful system might also be difficult to control, and so be hard to reverse once implemented. These concerns have been documented by Oxford Professor Nick Bostrom in Superintelligence and by AI pioneer Stuart Russell. Most experts think that better AI will be a hugely positive development, but they also agree there are risks. In the survey we just mentioned, AI experts estimated that the development of high-level machine intelligence has a 10% chance of a “bad outcome” and a 5% chance of an “extremely bad” outcome, such as human extinction.21 And we should probably expect this group to be positively biased, since, after all, they make their living from the technology. Putting the estimates together, if there’s a 75% chance that high-level machine intelligence is developed in the next century, then this means that the chance of a major AI disaster is 5% of 75%, which is about 4%. (Read more about risks from artificial intelligence.) People have raised concern about other new technologies, such as other forms of geo-engineering and atomic manufacturing, but they seem significantly less imminent, so are widely seen as less dangerous than the other technologies we’ve covered. You can see a longer list of extinction risks here. What’s probably more concerning is the risks we haven’t thought of yet. If you had asked people in 1900 what the greatest risks to civilisation were, they probably wouldn’t have suggested nuclear weapons, genetic engineering or artificial intelligence, since none of these were yet invented. It’s possible we’re in the same situation looking forward to the next century. Future “unknown unknowns” might pose a greater risk than the risks we know today. Each time we discover a new technology, it’s a little like betting against a single number on a roulette wheel. Most of the time we win, and the technology is overall good. But each time there’s also a small chance the technology gives us more destructive power than we can handle, and we lose everything. If we add everything together, what’s the total risk? Many experts who study these issues estimate that the total chance of human extinction in the next century is between 1 and 20%. For instance, an informal poll in 2008 at a conference on catastrophic risks found they believe it’s pretty likely we’ll face a catastrophe that kills over a billion people, and estimate a 19% chance of extinction before 2100.24

|  |  |  |
| --- | --- | --- |
| Risk | At least 1 billion T dead | Human  extinction T |
| Number killed by molecular nanotech weapons. | 10% | 5% |
| Total killed by superintelligent Al. | 5% | 5% |
| Total killed in all wars (including civil wars). | 30% | 4% |
| Number killed in the single biggest engineered pandemic. | 10% | 2% |
| Total killed in all nuclear wars. | 10% | 1% |
| Number killed in the single biggest nanotech accident. | 1% | 0.5% |
| Number killed in the single biggest natural pandemic. | 5% | 0.05% |
| Total killed in all acts of nuclear terrorism. | 1% | 0.03% |
| Overall risk of extinction prior to 2100 | n/a | 19% |

Dr. Toby Ord, who is writing a book on this topic, puts the risk in the next century at 1 in 6 — the roll of a dice. These figures are about one million times higher than what people normally think. What should we make of these estimates? Presumably, the researchers only work on these issues because they think they’re so important, so we should expect their estimates to be high (“selection bias”). But does that mean we can dismiss their concerns entirely? Given this, what’s our personal best guess? It’s very hard to say, but we find it hard to confidently ignore the risks. Overall, we think the risk is likely over 3%. Why helping to safeguard the future could be the most important thing you can do with your life How much should we prioritise working to reduce these risks compared to other issues, like global poverty, ending cancer or political change? At 80,000 Hours, we do research to help people find careers with positive social impact. As part of this, we try to find the most urgent problems in the world to work on. We evaluate different global problems using our problem framework, which compares problems in terms of: Scale – how many are affected by the problem Neglectedness -how many people are working on it already Solvability – how easy it is to make progress If you apply this framework, we think that safeguarding the future comes out as the world’s biggest priority. And so, if you want to have a big positive impact with your career, this is the top area to focus on. In the next few sections, we’ll evaluate this issue on scale, neglectedness and solvability, drawing heavily on Existential Risk Prevention as a Global Priority by Nick Bostrom and unpublished work by Toby Ord, as well as our own research. First, let’s start with the scale of the issue. We’ve argued there’s likely over a 3% chance of extinction in the next century. How big an issue is this? One figure we can look at is how many people might die in such a catastrophe. The population of the Earth in the middle of the century will be about 10 billion, so a 3% chance of everyone dying means the expected number of deaths is about 300 million. This is probably more deaths than we can expect over the next century due to the diseases of poverty, like malaria.25 Many of the risks we’ve covered could also cause a “medium” catastrophe rather than one that ends civilisation, and this is presumably significantly more likely. The survey we covered earlier suggested over a 10% chance of a catastrophe that kills over 1 billion people in the next century, which would be at least another 100 million deaths in expectation, along with far more suffering among those who survive. So, even if we only focus on the impact on the present generation, these catastrophic risks are one of the most serious issues facing humanity. But this is a huge underestimate of the scale of the problem, because if civilisation ends, then we give up our entire future too. Most people want to leave a better world for their grandchildren, and most also think we should have some concern for future generations more broadly. There could be many more people having great lives in the future than there are people alive today, and we should have some concern for their interests. There’s a possibility the human civilization could last for millions of years, so when we consider the impact of the risks on future generations, the stakes are millions of times higher – for good or evil. As Carl Sagan wrote on the costs of nuclear war in Foreign Affairs: A nuclear war imperils all of our descendants, for as long as there will be humans. Even if the population remains static, with an average lifetime of the order of 100 years, over a typical time period for the biological evolution of a successful species (roughly ten million years), we are talking about some 500 trillion people yet to come. By this criterion, the stakes are one million times greater for extinction than for the more modest nuclear wars that kill “only” hundreds of millions of people. There are many other possible measures of the potential loss–including culture and science, the evolutionary history of the planet, and the significance of the lives of all of our ancestors who contributed to the future of their descendants. Extinction is the undoing of the human enterprise. We’re glad the Romans didn’t let humanity go extinct, since it means that all of modern civilisation has been able to exist. We think we owe a similar responsibility to the people who will come after us, assuming (as we believe) that they are likely to lead fulfilling lives. It would be reckless and unjust to endanger their existence just to make ourselves better off in the short-term. It’s not just that there might be more people in the future. As Sagan also pointed out, no matter what you think is of value, there is potentially a lot more of it in the future. Future civilisation could create a world without need or want, and make mindblowing intellectual and artistic achievements. We could build a far more just and virtuous society. And there’s no in-principle reason why civilisation couldn’t reach other planets, of which there are some 100 billion in our galaxy.26 If we let civilisation end, then none of this can ever happen. We’re unsure whether this great future will really happen, but that’s all the more reason to keep civilisation going so we have a chance to find out. Failing to pass on the torch to the next generation might be the worst thing we could ever do. So, a couple of percent risk that civilisation ends seems likely to be the biggest issue facing the world today. What’s also striking is just how neglected these risks are. Why these risks are some of the most neglected global issues Here is how much money per year goes into some important causes:27 As you can see, we spend a vast amount of resources on R&D to develop even more powerful technology. We also expend a lot in a (possibly misguided) attempt to improve our lives by buying luxury goods. Far less is spent mitigating catastrophic risks from climate change. Welfare spending in the US alone dwarfs global spending on climate change. But climate change still receives enormous amounts of money compared to some of these other risks we’ve covered. We roughly estimate that the prevention of extreme global pandemics receives under 300 times less, even though the size of the risk seems about the same. Research to avoid accidents from AI systems is the most neglected of all, perhaps receiving 100-times fewer resources again, at around only $10m per year. You’d find a similar picture if you looked at the number of people working on these risks rather than money spent, but it’s easier to get figures for money. If we look at scientific attention instead, we see a similar picture of neglect (though, some of the individual risks receive significant attention, such as climate change): Our impression is that if you look at political attention, you’d find a similar picture to the funding figures. An overwhelming amount of political attention goes on concrete issues that help the present generation in the short-term, since that’s what gets votes. Catastrophic risks are far more neglected. Then, among the catastrophic risks, climate change gets the most attention, while issues like pandemics and AI are the most neglected. This neglect in resources, scientific study and political attention is exactly what you’d expect to happen from the underlying economics, and are why the area presents an opportunity for people who want to make the world a better place. First, these risks aren’t the responsibility of any single nation. Suppose the US invested heavily to prevent climate change. This benefits everyone in the world, but only about 5% of the world’s population lives in the US, so US citizens would only receive 5% of the benefits of this spending. This means the US will dramatically underinvest in these efforts compared to how much they’re worth to the world. And the same is true of every other country. This could be solved if we could all coordinate — if every nation agreed to contribute its fair share to reducing climate change, then all nations would benefit by avoiding its worst effects. Unfortunately, from the perspective of each individual nation, it’s better if every other country reduces their emissions, while leaving their own economy unhampered. So, there’s an incentive for each nation to defect from climate agreements, and this is why so little progress gets made (it’s a prisoner’s dilemma). And in fact, this dramatically understates the problem. The greatest beneficiaries of efforts to reduce catastrophic risks are future generations. They have no way to stand up for their interests, whether economically or politically. If future generations could vote in our elections, then they’d vote overwhelmingly in favour of safer policies. Likewise, if future generations could send money back in time, they’d be willing to pay us huge amounts of money to reduce these risks. (Technically, reducing these risks creates a trans-generational, global public good, which should make them among the most neglected ways to do good.) Our current system does a poor job of protecting future generations. We know people who have spoken to top government officials in the UK, and many want to do something about these risks, but they say the pressures of the news and election cycle make it hard to focus on them. In most countries, there is no government agency that naturally has mitigation of these risks in its remit. This is a depressing situation, but it’s also an opportunity. For people who do want to make the world a better place, this lack of attention means there are lots high-impact ways to help. What can be done about these risks? We’ve covered the scale and neglectedness of these issues, but what about the third element of our framework, solvability? It’s less certain that we can make progress on these issues than more conventional areas like global health. It’s much easier to measure our impact on health (at least in the short-run) and we have decades of evidence on what works. This means working to reduce catastrophic risks looks worse on solvability. However, there is still much we can do, and given the huge scale and neglectedness of these risks, they still seem like the most urgent issues. We’ll sketch out some ways to reduce these risks, divided into three broad categories: 1. Targeted efforts to reduce specific risks One approach is to address each risk directly. There are many concrete proposals for dealing with each, such as the following: Many experts agree that better disease surveillance would reduce the risk of pandemics. This could involve improved technology or better collection and aggregation of existing data, to help us spot new pandemics faster. And the faster you can spot a new pandemic, the easier it is to manage. There are many ways to reduce climate change, such as helping to develop better solar panels, or introducing a carbon tax. With AI, we can do research into the “control problem” within computer science, to reduce the chance of unintended damage from powerful AI systems. A recent paper, Concrete problems in AI safety, outlines some specific topics, but only about 20 people work full-time on similar research today. In nuclear security, many experts think that the deterrence benefits of nuclear weapons could be maintained with far smaller stockpiles. But, lower stockpiles would also reduce the risks of accidents, as well as the chance that a nuclear war, if it occurred, would end civilisation. We go into more depth on what you can do to tackle each risk within our problem profiles: AI safety Pandemic prevention Nuclear security Run-away climate change We don’t focus on naturally caused risks in this section, because they’re much less likely and we’re already doing a lot to deal with some of them. Improved wealth and technology makes us more resilient to natural risks, and a huge amount of effort already goes into getting more of these. 2. Broad efforts to reduce risks Rather than try to reduce each risk individually, we can try to make civilisation generally better at managing them. The “broad” efforts help to reduce all the threats at once, even those we haven’t thought of yet. For instance, there are key decision-makers, often in government, who will need to manage these risks as they arise. If we could improve the decision-making ability of these people and institutions, then it would help to make society in general more resilient, and solve many other problems. Recent research has uncovered lots of ways to improve decision-making, but most of it hasn’t yet been implemented. At the same time, few people are working on the issue. We go into more depth in our write-up of improving institutional decision-making. Another example is that we could try to make it easier for civilisation to rebound from a catastrophe. The Global Seed Vault is a frozen vault in the Arctic, which contains the seeds of many important crop varieties, reducing the chance we lose an important species. Melting water recently entered the tunnel leading to the vault due, ironically, to climate change, so could probably use more funding. There are lots of other projects like this we could do to preserve knowledge. Similarly, we could create better disaster shelters, which would reduce the chance of extinction from pandemics, nuclear winter and asteroids (though not AI), while also increasing the chance of a recovery after a disaster. Right now, these measures don’t seem as effective as reducing the risks in the first place, but they still help. A more neglected, and perhaps much cheaper option is to create alternative food sources, such as those that be produced without light, and could be quickly scaled up in a prolonged winter. Since broad efforts help even if we’re not sure about the details of the risks, they’re more attractive the more uncertain you are. As you get closer to the risks, you should gradually reallocate resources from broad to targeted efforts (read more). We expect there are many more promising broad interventions, but it’s an area where little research has been done. For instance, another approach could involve improving international coordination. Since these risks are caused by humanity, they can be prevented by humanity, but what stops us is the difficulty of coordination. For instance, Russia doesn’t want to disarm because it would put it at a disadvantage compared to the US, and vice versa, even though both countries would be better off if there were no possibility of nuclear war. However, it might be possible to improve our ability to coordinate as a civilisation, such as by improving foreign relations or developing better international institutions. We’re keen to see more research into these kinds of proposals. Mainstream efforts to do good like improving education and international development can also help to make society more resilient and wise, and so also contribute to reducing catastrophic risks. For instance, a better educated population would probably elect more enlightened leaders (cough). Richer countries are better able to prevent pandemics — it’s no accident that Ebola took hold in some of the poorest parts of West Africa. But, we don’t see education and health as the best areas to focus on for two reasons. First, these areas are far less neglected than the more unconventional approaches we’ve covered. In fact, improving education is perhaps the most popular cause for people who want to do good, and in the US alone, receives 800 billion dollars of government funding, and another trillion dollars of private funding. Second, these approaches have much more diffuse effects on reducing these risks — you’d have to improve education on a very large scale to have any noticeable effect. We prefer to focus on more targeted and neglected solutions. 3. Learning more and building capacity We’re highly uncertain about which risks are biggest, what is best to do about them, and whether our whole picture of global priorities might be totally wrong. This means that another key goal is to learn more about all of these issues. We can learn more by simply trying to reduce these risks and seeing what progress can be made. However, we think the most neglected and important way to learn more right now is to do “global priorities research”. This is a combination of economics and moral philosophy, which aims to answer high-level questions about the most important issues for humanity. There are only a handful of researchers working full-time on these issues. Another way to handle uncertainty is to build up resources that can be deployed in the future when you have more information. One way of doing this is to earn and save money. You can also invest in your career capital, especially your transferable skills and influential connections, so that you can achieve more in the future. However, we think that a potentially better approach than either of these is to build a high-quality community that’s focused on reducing these risks, whatever they turn out to be. The reason this can be better is that it’s possible to grow the capacity of a community faster than you can grow your individual wealth or career capital. For instance, if you spent a year doing targeted one-on-one outreach, it’s not out of the question to find one other person with relevant expertise to join you. This would be an annual return to the cause of about 100%. Right now, we are focused on building the effective altruism community, which contains many people who want to reduce these risks. Moreover, the recent rate of growth, and studies of specific efforts to grow the community, suggest that high rates of return are possible. However, we expect that other community building efforts will also be valuable. It would be great to see a community of scientists trying to promote a culture of safety in academia. It would be great to see a community of policymakers who want to try to reduce these risks, and make government have more concern for future generations. Given how few people actively work on reducing these risks, we expect that there’s a lot that could be done to build a movement around them. In total, how effective is it to reduce these risks? Considering all the approaches to reducing these risks, and how few resources are devoted to some of them, it seems like substantial progress is possible. In fact, even if we only consider the impact of these risks on the present generation (ignoring any benefits to future generations), they’re plausibly the top priority. Here are some very rough and simplified figures to show how this could be possible. It seems plausible to us that $100 billion spent on reducing extinction risk could reduce it by over 1% over the next century. A one percentage point reduction in the risk would be expected to save about 100 million lives among the present generation (1% of about 10 billion people alive today). This would mean the investment would save lives for only $1000 per person. Greg Lewis has made a more detailed estimate, arriving at a mean of $9200 per life saved in the present generation.28 There are also more estimates in the thread. We think Greg is likely too conservative, because he assumes the risk of extinction is only 1% over the next century, when our estimate is that it’s several times higher. We also think the next billion dollars spent on reducing extinction risk could cause a larger reduction in the risk than Greg assumes (note that this is only true if the billion were spent on the most neglected issues like AI safety and biorisk, rather than climate change which already receives hundreds of billions of dollars of investment). We wouldn’t be surprised if the cost per present lives saved for the next one billion dollars invested in reducing extinction risk were under $100. GiveWell’s top recommended charity, Against Malaria Foundation (AMF), is often presented as one of the best ways to help the present generation and saves lives for around $7500 (2017 figures).29 So these estimates would put extinction risk reduction as better or in the same ballpark cost-effectiveness as AMF for saving lives in the present generation — a charity that was specifically selected for being outstanding on that dimension. Likewise, we think that if 10,000 talented young people focused their careers on these risks, they could achieve something like a 1% reduction in the risks. That would mean that each person would save 1000 lives over their careers in the present generation, which is probably better than what they could save by earning to give and donating to The Against Malaria Foundation.30 In one sense, these are unfair comparisons, because GiveWell’s estimate is far more solid and well-researched, whereas our estimate is more of an informed guess. There may also be better ways to help the present generation than AMF (e.g. policy advocacy). However, we’ve also dramatically understated the benefits of reducing extinction risks. The main reason to safeguard civilisation is not to benefit the present generation, but to benefit future generations. We ignored them in this estimate. If we also consider future generations, then the effectiveness of reducing extinction risks is orders of magnitude higher, and it’s hard to imagine a more urgent priority right now. Now you can either read some responses to these arguments, or skip ahead to practical ways to contribute. Who shouldn’t prioritise safeguarding the future? The arguments presented rest on some assumptions that not everyone will accept. Here we present some of the better responses to these arguments. You need to focus more on your friends and family We’re only talking about what the priority should be if you are trying to help people in general, treating everyone’s interests as equal (what philosophers sometimes call “impartial altruism”). Most people care about helping others to some degree: if you can help a stranger with little cost, that’s a good thing to do. People also care about making their own lives go well, and looking after their friends and family, and we’re the same. How to balance these priorities is a difficult question. If you’re in the fortunate position to be able to contribute to helping the world, then we think safeguarding the future should be where to focus. We list concrete ways to get involved in the next section. Otherwise, you might need to focus on your personal life right now, contributing on the side, or in the future. You think the risks are much lower than we’ve argued We don’t have robust estimates of many of the human-caused risks, so you could try to make your own estimates and conclude that they’re much lower than we’ve made out. If they were sufficiently low, then reducing them would cease to be the top priority. We don’t find this plausible for the reasons covered. If you consider all the potential risks, it seems hard to be confident they’re under 1% over the century, and even a 1% risk probably warrants much more action than we currently see. You think there’s almost nothing more we can do about the risks We rate these risks as less “solvable” than issues like global health, so expect progress to be harder per dollar. That said, we think their scale and neglectedness more than makes up for this, and so they end up more effective in expectation. Many people think effective altruism is about only supporting “proven” interventions, but that’s a myth. It’s worth taking interventions that only have a small chance of paying off, if the upside is high enough. The leading funder in the community now advocates an approach of “hits-based giving”. However, if you were much more pessimistic about the chances of progress than us, then it might be better to work on more conventional issues, such as global health. Personally, we might switch to a different issue if there were two orders of magnitude more resources invested in reducing these risks. But that’s a long way off from today. A related response is that we’re already taking the best interventions to reduce these risks. This would mean that the risks don’t warrant a change in practical priorities. For instance, we mentioned earlier that education probably helps to reduce the risks. If you thought education was the best response (perhaps because you’re very uncertain which risks will be most urgent), then because we already invest a huge amount in education, you might think the situation is already handled. We don’t find this plausible because, as listed, there are lots of untaken opportunities to reduce these risks that seem more targeted and neglected. Another example like this is that economists sometimes claim that we should just focus on economic growth, since that will put us in the best possible position to handle the risks in the future. We don’t find this plausible because some types of economic growth increase the risks (e.g. the discovery of new weapons), so it’s unclear that economic growth is a top way to reduce the risks. Instead, we’d at least focus on differential technological development, or the other more targeted efforts listed above. You think there’s a better way of helping the future Although reducing these risks is worth it for the present generation, much of their importance comes from their long-term effects — once civilisation ends, we give up the entire future. You might think there are other actions the present generation could take that would have very long-term effects, and these could be similarly important to reducing the risk of extinction. In particular, we might be able to improve the quality of the future by preventing our civilization from getting locked into bad outcomes permanently. This is going to get a bit sci-fi, but bear with us. One possibility that has been floated is that new technology, like extreme surveillance or psychological conditioning, could make it possible to create a totalitarian government that could never be ended. This would be the 1984 and Brave New World scenario respectively. If this government were bad, then civilisation might have a fate worse than extinction by causing us to suffer for millennia. Others have raised the concern that the development of advanced AI systems could cause terrible harm if it is done irresponsibly, perhaps because there is a conflict between several groups raising to develop the technology. In particular, if at some point in the future, developing these systems involves the creation of sentient digital minds, their wellbeing could become incredibly important. Risks of a future that contains an astronomical amount of suffering have been called “s-risks”.31 If there is something we can do today to prevent an s-risk from happening (for instance, through targeted research in technical AI safety and AI governance), it could be even more important. Another area to look is major technological transitions. We’ve mentioned the dangers of genetic engineering and artificial intelligence in this piece, but these technologies could also create a second industrial revolution and do a huge amount of good once deployed. There might be things we can do to increase the likelihood of a good transition, rather than decrease the risk of a bad transition. This has been called trying to increase “existential hope” rather than decrease “existential risk”.32 We agree that there might be other ways that we can have very long-term effects, and these might be more pressing than reducing the risk of extinction. However, most of these proposals are not yet as well worked out, and we’re not sure about what to do about them. The main practical upshot of considering these other ways to impact the future, is that we think it’s even more important to positively manage the transition to new transformative technologies, like AI. It also makes us keener to see more global priorities research looking into these issues. Overall, we still think it makes sense to first focus on reducing extinction risks, and then after that, we can turn our attention to other ways to help the future. One way to help the future we don’t think is a contender is speeding it up. Some people who want to help the future focus on bringing about technological progress, like developing new vaccines, and it’s true that these create long-term benefits. However, we think what most matters from a long-term perspective is where we end up, rather than how fast we get there. Discovering a new vaccine probably means we get it earlier, rather than making it happen at all. Moreover, since technology is also the cause of many of these risks, it’s not clear how much speeding it up helps in the short-term. Speeding up progress is also far less neglected, since it benefits the present generation too. As we covered, over 1 trillion dollars is spent each year on R&D to develop new technology. So, speed-ups are both less important and less neglected. To read more about other ways of helping future generations, see Chapter 3 of On the Overwhelming Importance of Shaping the Far Future by Dr. Nick Beckstead You’re confident the future will be short or bad If you think it’s virtually guaranteed that civilisation won’t last a long time, then the value of reducing these risks is significantly reduced (though perhaps still worth taking to help the present generation). We agree there’s a significant chance civilisation ends soon (which is why this issue is so important), but we also think there’s a large enough chance that it could last a very long time, which makes the future worth fighting for. Similarly, if you think it’s likely the future will be more bad than good, then the value of reducing these risks goes down (or if we have much more obligation to reduce suffering than increase wellbeing). We don’t think this is likely, however, because people want the future to be good, so we’ll try to make it more good than bad. We also think that there has been significant moral progress over the last few centuries (due to the trends noted earlier), and we’re optimistic this will continue. See more discussion in footnote 11.11 What’s more, even if you’re not sure how good the future will be, or suspect it will be bad in ways we may be able to prevent in the future, you may want civilisation to survive and keep its options open. People in the future will have much more time to study whether it’s desirable for civilisation to expand, stay the same size, or shrink. If you think there’s a good chance we will be able to act on those moral concerns, that’s a good reason to leave any final decisions to the wisdom of future generations. Overall, we’re highly uncertain about these big-picture questions, but that generally makes us more concerned to avoid making any irreversible commitments.33 Beyond that, you should likely put your attention into ways to decrease the chance that the future will be bad, such as avoiding s-risks. You’re confident we have much stronger moral obligations to help the present generation If you think we have much stronger obligations to the present generation than future generations (such as person-affecting views of ethics), then the importance of reducing these risks would go down. Personally, we don’t think these views are particularly compelling. That said, we’ve argued that even if you ignore future generations, these risks seem worth addressing. The efforts suggested could still save the lives of the present generation relatively cheaply, and they could avoid lots of suffering from medium-sized disasters. What’s more, if you’re uncertain about whether we have moral obligations to future generations, then you should again try to keep your options open, and that means safeguarding civilisation. Nevertheless, if you combined the view that we don’t have large obligations to future generations with the position that the risks are also relatively unsolvable, or that there is no useful research to be done, then another way to help present generations could come out on top. This might mean working on global health, mental health or speeding up technology. Alternatively, you might think there’s another moral issue that’s more important, such as factory farming. What can you do to help? Some areas to focus on Our best evidence suggests that we’re the only intelligent life in the observable universe.34 Might we be the generation that extinguishes this life, and leaves the universe barren for the rest of eternity? Let’s see how you can help avoid that.

#### Anticipating nuclear extinction breeds empathy and entangled care. Distancing ourselves from considering extinction reifies detached elitism.

Offord, 17—Faculty of Humanities, School of Humanities Research and Graduate Studies, Bentley Campus (Baden, “BEYOND OUR NUCLEAR ENTANGLEMENT,” Angelaki, 22:3, 17-25, dml) [ableist language modifications denoted by brackets]

You are steered towards overwhelming and inexplicable pain when you consider the nuclear entanglement that the species Homo sapiens finds itself in. This is because the fact of living in the nuclear age presents an existential, aesthetic, ethical and psychological challenge that defines human consciousness. Although an immanent threat and ever-present danger to the very existence of the human species, living with the possibility of nuclear war has infiltrated the matrix of modernity so profoundly as to paralyse [shut down] our mind-set to respond adequately. We have chosen to ignore the facts at the heart of the nuclear program with its dangerous algorithm; we have chosen to live with the capacity and possibility of a collective, pervasive and even planetary-scale suicide; and the techno-industrial-national powers that claim there is “no immediate danger” ad infinitum.8

This has led to one of the key logics of modernity's insanity. As Harari writes: “Nuclear weapons have turned war between superpowers into a mad act of collective suicide, and therefore forced the most powerful nations on earth to find alternative and peaceful ways to resolve conflicts.”9 This is the nuclear algorithm at work, a methodology of madness. In revisiting Jacques Derrida in “No Apocalypse, Not Now (Full Speed Ahead, Seven Missiles, Seven Missives),”10 who described nuclear war as a “non-event,” it is clear that the pathology of the “non-event” remains as active as ever even in the time of Donald Trump and Kim Jong-un with their stichomythic nuclear posturing.

The question of our times is whether we have an equal or more compelling capacity and willingness to end this impoverished but ever-present logic of pain and uncertainty. How not simply to bring about disarmament, but to go beyond this politically charged, as well as mythological and psychological nuclear algorithm? How to find love amidst the nuclear entanglement; the antidote to this entanglement? Is it possible to end the pathology of power that exists with nuclear capacity? Sadly, the last lines of Nitin Sawhney's “Broken Skin” underscore this entanglement:

Just 5 miles from India's nuclear test site

Children play in the shade of the village water tank

Here in the Rajasthan desert people say

They're proud their country showed their nuclear capability.11

As an activist scholar working in the fields of human rights and cultural studies, responding to the nuclear algorithm is an imperative. Your politics, ethics and scholarship are indivisible in this cause. An acute sense of care for the world, informed by pacifist and non-violent, de-colonialist approaches to knowledge and practice, pervades your concern. You are aware that there are other ways of knowing than those you are familiar and credentialed with. You are aware that you are complicit in the prisons that you choose to live inside,12 and that there is no such thing as an innocent bystander. You use your scholarship to shake up the world from its paralysis, abjection and amnesia; to unsettle the epistemic and structural violence that is ubiquitous to neoliberalism and its machinery; to create dialogic and learning spaces for the work of critical human rights and critical justice to take place. All this, and to enable an ethics of intervention through understanding what is at the very heart of the critical human rights impulse, creating a “dialogue for being, because I am not without the other.”13

Furthermore, as a critical human rights advocate living in a nuclear armed world, your challenge is to reconceptualise the human community as Ashis Nandy has argued, to see how we can learn to co-exist with others in conviviality and also learn to co-survive with the non-human, even to flourish. A dialogue for being requires a leap into a human rights frame that includes a deep ecological dimension, where the planet itself is inherently involved as a participant in its future. This requires scholarship that “thinks like a mountain.”14 A critical human rights approach understands that it cannot be simply human-centric. It requires a nuanced and arresting clarity to present perspectives on co-existence and co-survival that are from human and non-human viewpoints.15

Ultimately, you realise that your struggle is not confined to declarations, treaties, legislation, and law, though they have their role. It must go further to produce “creative intellectual exchange that might release new ethical energies for mutually assured survival.”16 Taking an anti-nuclear stance and enabling a post-nuclear activism demands a revolution within the field of human rights work. Recognising the entanglement of nuclearism with the Anthropocene, for one thing, requires a profound shift in focus from the human-centric to a more-than-human co-survival. It also requires a fundamental shift in understanding our human culture, in which the very epistemic and rational acts of sundering from co-survival with the planet and environment takes place. In the end, you realise, as Raimon Panikkar has articulated, “it is not realistic to toil for peace if we do not proceed to a disarmament of the bellicose culture in which we live.”17 Or, as Geshe Lhakdor suggests, there must be “inner disarmament for external disarmament.”18 In this sense, it is within the cultural arena, our human society, where the entanglement of subjective meaning making, nature and politics occurs, that we need to disarm.

It is 1982, and you are reading Jonathan Schell's The Fate of the Earth on a Sydney bus. Sleeping has not been easy over the past few nights as you reluctantly but compulsively read about the consequences of nuclear war. For some critics, Schell's account is high polemic, but for you it is more like Rabindranath Tagore: it expresses the suffering we make for ourselves. What you find noteworthy is that although Schell's scenario of widespread destruction of the planet through nuclear weaponry, of immeasurable harm to the bio-sphere through radiation, is powerfully laid out, the horror and scale of nuclear obliteration also seems surreal and far away as the bus makes its way through the suburban streets.

A few years later, you read a statement from an interview with Paul Tibbets, the pilot of “Enola Gay,” the plane that bombed Hiroshima. He says, “The morality of dropping that bomb was not my business.”19 This abstraction from moral responsibility – the denial of the implications on human life and the consequences of engagement through the machinery of war – together with the sweeping amnesia that came afterwards from thinking about the bombing of Hiroshima, are what make you become an environmental and human rights activist. You realise that what makes the nuclear algorithm work involves a politically engineered and deeply embedded insecurity-based recipe to elide the nuclear threat from everyday life. The spectre of nuclear obliteration, like the idea of human rights, can appear abstract and distant, not our everyday business. You realise that within this recipe is the creation of a moral tyranny of distance, an abnegation of myself with the other. One of modernity's greatest and earliest achievements was the mediation of the self with the world. How this became a project assisted and shaped through the military-industrial-technological-capitalist complex is fraught and hard to untangle. But as a critical human rights scholar you have come to see through that complex, and you put energies into challenging that tyranny of distance, to activate a politics, ethics and scholarship that recognises the other as integral to yourself. Ultimately, even, to see that the other is also within.20

#### Only constructive policy debates nurture information literacy necessary for every model of politics – the process of sifting through evidence and subjecting positions to researched scrutiny is essential to managing emerging crises and information overload

Leek 16 [Danielle R. Leek, professor of communications at Grand Valley State University, “Policy debate pedagogy: a complementary strategy for civic and political engagement through service-learning,” Communication Education, 65:4, 399-405]

Through policy debate, students can develop information literacy and learn how to make critical arguments of fact. This experience is politically empowering for students who will also build confidence for political engagement. Information literacy While there are many definitions of information literacy, the term generally is understood to mean that a student is “able to recognize when information is needed , and have the ability to locate, evaluate, and use effectively the information needed” for problem- solving and decision-making (Spitzer, Eisenberg, & Lowe, 1998, p. 19). Information exists in a variety of forms, in visual data, computer graphics, sound-recordings, film, and photographs. Information is also constructed and disseminated through a wide range of sources and mediums. Therefore, “information literacy” functions as a blanket term which covers a wide range of more specific literacies. Critiques of service-learning’s knowl- edge-building power, such as those articulated by Eby (1998) and Colby (2008), are chal- lenging both the emphasis the pedagogy places on information gained through experience and the limited scope of political information students are exposed to in the process. Policy debate can augment a student’s civic and political learning by fostering extended information literacies. Snider and Schnurer (2002) identify policy debate as an especially research intensive form of oral discussion which requires extensive time and commitment to learn the dimensions of a topic. Understanding policy issues calls for contemplating a range of materials, from traditional news media publications to court proceedings, research data, and institutional propaganda. Moreover, the nature of policy debate, which involves public presentation of arguments on two competing sides of a question, motivates students to go beyond basic information to achieve a more advanced level of expertise and credibility on a topic (Dybvig & Iverson, n.d.). This type of work differs from traditional research projects where students gather only the materials needed to support their argument while neglecting contrary evidence. Instead, the “debate research process encourages a kind of holistic approach, where students need to pay attention to the critics of their argument because they will have to respond to those attacks” (Snider & Schnurer, 2002, p. 32). In today’s attention economy, cultivating a sensibility for well- rounded information gathering can also aid students in recognizing when and how the knowledge produced in their social environments can be effectively translated to specific contexts. The “cultural shift in the production of data” which has followed the emergence of Web 2.0 technologies means that all students are likely “prosumers”—that is, they consume, produce, and coproduce information online all at the same time (Scoble, 2011). Coupling service- learning with policy debate calls on students to apply information across registers of public engagement, including their own service efforts and their own public argumentation, in and outside of their debates. Information is used in the service experience, which in turn, informs the use of information in debates, where students then produce new information through their argumentation. The process is what Bruce (2008) refers to “informed learning,” or “using information in order to learn.” When individuals move from learning how to gather materials for a task to a cognitive awareness and understanding of how the information-seeking process shapes their learning, they are engaged in informed learning. Through this process, students can come to recognize that information management and credibility is deeply disciplinary and historically con- textual (Bruce & Hughes, 2010). This understanding, combined with practical experience in locating information, is a critical missing element in contemporary political engage- ment. Over 20 years ago, Graber (1994) argued that one of the biggest obstacles to political engagement was not apathy, but a gap between the way news media presents information during elections, and the type of information voters need and will listen to during electoral campaigns. The challenge extends beyond elections into policy-making, especially as younger generations continue to revise their notions of citizenship away from institutional politics towards more social forms of activism (Bennett, Wells, & Freelon, 2011). For stu- dents to effectively practice more expressive forms of citizenship they need experience managing the breadth of information available about issues they care about. As past research indicates a strong correlation between service-learning experience and the motiv- ation and desire for post-graduation service, it seems likely that students who debate about policy issues related to service areas will continue their informed learning practices after they have left the classroom (Soria & Thomas-Card, 2014). Arguing facts In addition to building information literacies, students who combine policy debate with service-learning can practice “politically relevant skills,” which will help them have confidence for political engagement in the future. As Colby (2008) explains, this confidence should be tempered by tolerance for difference and differing opinions. On the surface, debating about institutional politics might seem counterintuitive to this goal. Politicians and the press have a credibility problem among college-aged students, and this leaves younger generations less inclined to feel obligated to the state or to look to traditional modes of policy- making for social change (Bennett et al., 2011; Manning & Edwards, 2014). This lack of faith in government and media outlets also makes political argument more difficult (Klumpp, 2006). Whereas these institutions once served as authoritative and trustworthy sources of information, the credibility of legislators and journalists has decreased over the last 40 years or so. Today, politicians and pundits are viewed as political actors interested in spectacle, power, and profit rather than truth-seeking or the common good. While some political controversies are rooted in competing values, Klumpp (2006) explains that arguments about policy are more often based in fact. Indeed, when engaged in public arguments over questions of policy, people tend to “invoke the authority of facts to support their positions.” Likewise, “the governmental sphere has developed elaborate legal and deliberative processes in recognition of the power of facts as the basis for a decision.” Yet, while shared values are often quickly agreed upon, differences over fact are more difficult to resolve. Without credible institutions of authority that can disseminate facts, public deliberation requires more time, information-gathering, evaluation, and reasoning. The Bush administration’s decision to take military action in Iraq, for example, was presumably based on the “fact” that Saddam Hussein had acquired weapons of mass destruction. This has now become a classic example of poor policy-making grounded in faulty factual evidence. This shortcoming is precisely why policy debate is a valuable complement to service- learning activities. Not only can students use their developing literacies to better understand social problems, they can also learn to access a broader range of knowledge sources, thereby mitigating the absence of fact-finding from traditional institutions. Fur- thermore, policy advocacy gives students experience testing the reasoning underlying claims of fact. Issues of source credibility, analogic comparisons, and data analysis are three examples of the type of critical thinking skills that students may need to apply in order to engage a question of policy (Allen, Berkowitz, Hunt, & Louden, 1999). While the effect may be to undermine government action in some instances, in others students will gain a better understanding of when and where institutional activities can work to make change. As students gain knowledge about the relationship between institutional structures and the communities they serve, they grow confidence in their ability to engage in future conversations about policy issues. Zwarensteyn’s (2012) research high- lights these sorts of effects in high school students who engage in competitive policy debate. Zwarensteyn theorizes that even minimal increases in technical knowledge about politics can translate to significant increases in a student’s sense of self-efficacy. Many students start off feeling very insecure when it comes to their mastery of insti- tutional politics; policy debate helps overcome that insecurity. Moreover, because training in policy debate encourages students to address issues as arguments rather than partisan positions, it encourages them to engage policy-making without the hostility and incivility that often characterizes today’s political scene. Indeed, it is precisely that perceived hostility and incivility that prompts many young people to avoid politics in the first place. I do not mean to imply that students who debate about their service-learning experi- ences will draw homogenous conclusions about policies. Quite the contrary. Students who engage in service-learning still bring their personal visions and history to bear on their debates. As a result, students will often have very different opinions after engaging in a shared debate experience. More importantly, the practice of debating should operate to particularize students’ knowledge of community partners and clients, working against the destructive generalizations and power dynamics that can result when students feel privileged to serve less fortunate “others.” For civic and political engagement through service-learning to be meaningful and productive, it must do more to challenge students’ concepts of the homogenous “we” who helps “them.” Seligman (2013) argues that this civic spirit can be cultivated through the core pedagogical principle of a “shared practice,” which emphasizes the application of knowledge to purpose (p. 60). Policy debate achieves this outcome by calling on students to consider and reconsider their understanding of themselves, institutions, community, and policy every time the question “should” may arise. As Seligman writes: ... the orientation of thought to purpose (having an explanation rest at a place, a purpose) is of extreme importance. We must recognize that the orientation of thought to purpose is to recognize moving from providing a knowledge of, to providing a knowledge for. This means that in the context of encountering difference it is not sufficient to learn about (have an idea of) the other, rather it means to have ideas for certain joint purposes—for a set of “to-does.” A purpose becomes the goal towards which our explanations should be oriented. (p. 61) Put another way, policy debate challenges students “to maintain a sense of doubt and to carry on a systematic and protracted inquiry” in the process of service-learning itself (Seligman, 2013, p. 60). This is precisely the type of complex, ongoing, reflective inquiry that John Dewey had in mind. Political engagement through policy debate This essay began with a discussion of the growing attention to civic engagement programs in higher education. The national trend is to accomplish higher levels of student civic responsibility during and after their time in college through service-learning experiences tied to curricular learning objectives. A challenge for service-learning scholars and teachers is to recognize a distinction between civic activities that are accomplished by helping others and political activities that require engagement with the collective institutional structures and processes that govern social life. Both are necessary for democracy to thrive. Policy debate pedagogy can help service-learning educators accomplish these dual objectives. To call policy debate a pedagogy rather than just a style of debate is purposeful. A pedagogy is a praxis for cultivating learning in others. The pedagogy of service-learning helps students to know and engage social conditions through physical engagement with their environments and communities. Policy debate pedagogy leads students to know and engage these same social conditions while also challenging them to apply their knowledge for the purpose of political advocacy. These pedagogies are natural compliments for cul- tivating student learning. Therefore, future studies should explore how well service-learn- ing combined with policy debate can resolve concerns that policy debate alone does not go far enough to invest students with political agency (Mitchell, 1998). The present analysis suggests the potential for such an outcome is likely. Moreover, research is clear that the civic effects of service-learning as an instructional method are improved simply by increasing the amount of time spent on in-class discus- sion about the service work students do (Levesque-Bristol, Knapp, & Fisher, 2010). Policy debates related to students’ service can accomplish this goal and more. Policy debates can also facilitate the political learning students need to build their political efficacy and capacity for political engagement. Through informed learning about the political process—especially in the context of service practice—students develop literacies that will extend beyond the classroom. Using this knowledge in reasoned public argument about policy challenges invites students to move beyond cynical disengagement towards a productive recognition of their own potential voice in the political world. Policy debate pedagogy brings unique elements to the process of political learning. By emphasizing the conditional and dynamic nature of political arguments and processes, debates can work to relieve students of the misconception that there is a single “right answer” for questions about policy-making and politics, especially during election time. The communication perspective on policy debates also highlights students’ collective involvement in the ever-changing field of political terms, symbols, and meanings that constitute interpretations of our social world. In fact, the historical roots of the term “communication” seem to demand that speech and debate educators call for such emphasis on political learning. “To make common,” the Latin interpretation of communicare, situ- ates our discipline as the heart of public political affairs (Peters, 1999). Connecting policy debate to service-learning helps highlight the common purpose of these approaches in efforts to promote civic engagement in higher education.

#### Foreign policy experts are good – take in more information and clash to create self-correcting outcomes

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* Any offense they win is solved by doubling down and committing to status quo foreign policy – rejecting foreign policy expertise makes everything worse so any offense they win against primacy is offense against the alt because expertise solves and rejection makes it worse
* Turns interventions – they’re politically toxic which discourages them, but lack of expertise makes them more common
* Answers general foreign policy Ks --- american foreign policy is not monolithic or closed off to alternative perspectives --- your perspective is just wrong
* Assume the K is wrong because a century of foreign policy expertise has concluded the LIO is best

Blob theorists view the establishment as a club of like-minded elite insiders who control everything, take care of one another, and brush off challenges to conventional wisdom. In reality, the United States actually has a healthy marketplace of foreign policy ideas. Discussion over American foreign policy is loud, contentious, diverse, and generally pragmatic—and as a result, the nation gets the opportunity to learn from its mistakes, build on its successes, and improve its performance over time.

In both absolute and relative terms, the expert community dealing with foreign policy and national security in the United States is remarkably large and heterogeneous. Inside government, cadres of professionals make vast amounts of technocratic knowledge and institutional memory available to policymakers. Every department and agency with an international role has distinctive regional or functional expertise it can bring to bear. This in-house knowledge is complemented by an even larger and more diverse network of experts in the many hundreds of think tanks and contract research institutions that surround the government and offer views ranging from right to left, hawk to dove, free trader to protectionist, technocratic to ideological. Pick any policy issue and you can put together a lively debate with ease. Should the United States engage with China or contain it? Negotiate with Iran or squeeze it? Withdraw from the Middle East or redouble its efforts? Reasoned arguments on all sides are widely available, in any form you want—all supplied from within the supposedly monolithic establishment.

Moreover, unlike such communities in other leading powers, the American foreign policy establishment is connected to society rather than cut off from it, because the top several layers of U.S. national security bureaucracies are staffed by political appointees rather than civil servants. The Blob comprises government officials, outside experts, and many people who go back and forth between the two. Insiders know how government works and what is practical. Outsiders think independently. And in-and-outers bridge the gaps. Other countries simply do not have comparably large, diverse, permeable, expert communities that encourage vigorous debate over national policy—which is why, say, the caliber of U.S. debate about nuclear policy is more nuanced and better informed than in other nuclear powers, and which is why other countries would love to have such a Blob of their own.

The American foreign policy establishment, finally, is generally more pragmatic than ideological. It values prudence and security over novelty and creativity. It knows that thinking outside the box may be useful in testing policy assumptions, but the box is usually there for a reason, and so reflexively embracing the far-out option is dangerous. Its members have made many mistakes, individually and collectively, but several features of the system enforce accountability over time. Foreign policy failures, for example, are politically toxic and often spur positive change. The monumental intelligence failures that allowed the September 11 attacks to happen were followed by policy and institutional reforms that have helped prevent other mass-casualty terrorist attacks on U.S. targets for almost two decades. Early misjudgments in the Iraq war led to the adoption of a new counterinsurgency strategy that restored stability, at least for a while. The international economic imbalances and financial procedures that led to the 2008 global financial crisis were addressed by policies that contributed to a decade-long recovery.

Taken together, these virtues reinforce one another and help the United States tackle the countless national and global challenges that confront a superpower. Blob critics claim there are no meaningful arguments over U.S. foreign policy. But this is just not true. Intense disputes over the Korean War, the Vietnam War, détente and arms control, the opening to China, and policies in Central America and the Middle East were followed by battles over the Gulf War, NATO expansion, military interventions in Haiti, Somalia, and the Balkans, and the wars in Afghanistan and Iraq—not to mention heated arguments over positions toward China, Iran, North Korea, Russia, and other issues today. It is true that beneath all this controversy lies a relatively stable consensus on the value of power, alliances, and constructive global engagement. Most members of the establishment believe that global problems usually improve when the United States engages responsibly and worsen when the United States retreats. Yet that reflects not some nefarious groupthink but the wisdom of professional crowds, arrived at through painful trial and error over more than a century.

WHAT MIGHT HAVE BEEN

If the Blob is not a cabal, neither is its record one of dismal failure. Critics argue that the United States entered the 1990s in a position of great power and prestige and squandered that legacy through misguided wars and interventions, geopolitical hubris, and the aggressive pursuit of a global liberal order at the expense of the nation’s economic and security interests. But the story they tell doesn’t match what actually happened. American grand strategy did not change radically after the Cold War, because it was developed not just as a response to the Soviet challenge but to the foreign policy disasters of the 1930s and 1940s. After World War II, U.S. officials decided to maintain the nation’s primacy, thwart dangerous aggressors, and build a secure, prosperous international order in which the United States could thrive. After the Cold War, they decided to keep this strategy going, even in the absence of an immediate peer competitor.

From George H. W. Bush to Barack Obama, post–Cold War presidents worked hard to further the efforts their predecessors started, shaping an environment conducive to American interests and ideas. They promoted free trade and globalization, maintained and even expanded the country’s global network of alliances and military bases, policed the global commons, and tried to stabilize regional conflicts and promote human rights. Unchecked by great-power rivals, Washington did become more willing to use military force in the periphery on behalf of national ideals. But even then, it hardly ran amok in search of monsters to destroy, abstaining from interventions in Rwanda, the African Great Lakes, Sudan, the Caucasus, Ukraine, Myanmar, and other potential cases. The basic outlines of recent American strategy would be recognizable to officials stretching back generations, because its goal has remained constant: fostering a world guided by American leadership, rooted in American values, and protected by American power.

## 2AC

### Case

#### Heg decline triggers US lash-out

**Beckley 12** [“China’s Century Why America’s Edge Will Endure” research fellow in the International Security Program at Harvard Kennedy School’s Belfer Center for Science and International Affairs He will become an assistant professor of political science at Tufts University in the fall of 2012, http://belfercenter.ksg.harvard.edu/files/Chinas\_Century.pdf]

One danger is that declinism could prompt **trade conflicts** and immigration restrictions. The results of this study suggest that the United States beneªts immensely from the free ºow of goods, services, and people around the globe; this is what allows American corporations to specialize in high-value activities, exploit innovations created elsewhere, and lure the brightest minds to the United States, all while reducing the price of goods for U.S. consumers. Characterizing China’s export expansion as a loss for the United States is not just bad economics; it blazes a trail for jingoistic and protectionist policies. It would be tragically ironic if Americans reacted to false prophecies of decline by cutting themselves off from a potentially vital source of American power.

Another danger is that declinism may impair foreign policy decisionmaking. If top government officials come to believe that China is overtaking the United States, they are likely to react in one of two ways, both of which are potentially disastrous.

The first is that policymakers may imagine the United States faces a closing “window of opportunity” and should take action “while it still enjoys preponderance and not wait until the diffusion of power has already made international politics more competitive and unpredictable.”158 This belief may spurpositive action, but it also invites parochial thinking, reckless behavior, and **preventive war**.159 As Robert Gilpin and others have shown, “[H]egemonic struggles have most frequently been triggered by fears of ultimate decline and the perceived erosion of power.”160 By fanning such fears, declinists may inadvertently promote the type of violent overreaction that they seek to prevent.

#### Studying existential risk is key to disaster management – you’re biased to deflate the risk with cherry picked examples BUT the negative effects of fear and insecurity are massively exaggerated – Masco is the worst account of security politics

Zimmerman 15 [Vera. MA in Political Science from George Mason University, BA in Global Affairs from George Mason University; BA in Translation between English, Russian, Ukrainian from Mariupol State University, Research Analyst at the Hudson Institute, “Book Review: The Theater of Operations: National Security Affect from the Cold War to the War on Terror. By Joseph Masco (Durham and London: Duke University Press, 2014)”, 5-23, https://verair.wordpress.com/2015/05/23/the-theater-of-operations-national-security-affect-from-the-cold-war-to-the-war-on-terror-by-joseph-masco-durham-and-london-duke-university-press-2014/]

In the aftermath of the 9/11 attacks, the United States prompted a global debate about nuclear terrorism to justify the invasion of Iraq, provoking much disapproval around the world, yet criticism at home about the country’s unilateral actions—unsuitable for a Western liberal democracy—did not seem to be as vociferous. In his latest book The Theatre of Operations, Professor of Anthropology, Joseph P. Masco, explains this acquiescence by the American society as a result of the well-designed population reprogramming based on fear of a nuclear catastrophe at home. This allowed for the rearrangement of the social contract, society’s docile obedience, and the expansion of national security apparatus to a planetary scale. The book portrays the state and a society as two organisms of one nervous system, both overreacting to fear of the imagined nuclear existential threat. What strikes the reader is the revelation that the United States has already practiced emotional management of its society during the Cold War. The strategic surprise attack on 9/11 triggered the return to a Schmittian state with friend-enemy distinctions, obsessed with anticipation, prevention, and proliferation of “present, contingent, projected, imagined terror” (194). The book contains five chapters written in protest against the amplification of national security threats, emotional manipulation of citizens, enlargement of security apparatus, and too much secrecy—the elements that enabled the counterterror state and created a global theater of operations. Masco shows that fear of an existential threat is a powerful emotion able to make officials overreact in their policies and convince people to sacrifice their civil liberties in the name of defense. The author does not believe that the 9/11 attacks and the receipt of a few anthrax letters were necessarily an existential threat to the U.S. national security but only served as a pretext to justify expanded defense, population management, and projection of power globally. As he puts it: “The amplification of threat has been one of the key attributes of this new system, which relies on an affective atmosphere of imminent danger to unlock new forms of governmental agency.” He makes a strong case that the American liberal democracy turned into a counterterror state which “thrives on a proliferating insecurity, using vulnerability and imaginative creativity, scenarios, fears, nightmares as its raison d’etre” (197). It “promises a world without terror via the constant production and response” of terror (156). Throughout the book, Masco maintains that the created counterterror state based on the secrecy/threat matrix is incompatible with democratic governance. Statements such as these are found all through the book with a notable lack of competing explanations to his argument. While only briefly recognizing the existence of the real threats, Masco’s critical interpretations of the government’s actions seem over confident and biased. In chapter one, “Survival Is Your Business: Engineering Ruins and Affect in Nuclear America,” Masco argues that the fear of existential nuclear devastation is embedded in every day American culture. The lively depiction of existential disasters (equated to the effects from nuclear explosions) found in recent Hollywood blockbusters of the 1990s like Armageddon and Deep Impact is reminiscent of a 1950s civil defense documentary spectacle Cue for Survival on the effects of a post-nuclear explosion in American city. The films demonstrate how the fear of the anticipated, imaginary nuclear devastation not only built a nuclear state as a response but produced a culture of nuclear fear that enabled the present counterterror state. To mobilize the American society after 9/11, the government only had to attach the image of WMD to a terrorist. More recent evidence that highlighted the strong impact of nuclear imagery in American culture was the perception and presentation of hurricane Katrina. In chapter two “Bad Weather: On Planetary Crisis,” Masco shows a strong link between nuclear war and ecological crisis in American culture. Instead of viewing Katrina as a result of climate change, the destruction was understood by America’s leadership, media, and citizens only in terms of nuclear catastrophe and was linguistically equated to an atomic explosion in Hiroshima. In “Sensitive but Unclassified: Secrecy and the Counterterror State”, Masco argues that excessive secrecy, which enabled the counterterror regime, has become nothing more than “a means to power” and is incompatible with democracy. Resorting to claims based on secrecy, the executive power asserts superior knowledge which not only helps manipulate threats but avoids legal persecution. Masco interprets the reclassification of the declassified documents that occurred after 9/11 as “the government’s refusal to admit its responsibility for the creation of boundless, endless nuclear and counterterror state.” In chapter four, “Biosecurity Noir: WMDs in a World without Borders,” Masco singles out concrete evidence of the amplification of the invisible biothreat triggered by the receipt of a few anthrax letters in 2001 to support his argument about the made-up ambiguous link to WMD. The author highlights that by proliferating ~~visions~~ [depictions] of catastrophic danger, biosecurity created a militarized response of global preemption in the name of domestic defense. Masco argues his case well and sharply, providing compelling evidence, but his interpretations of evidence at times seems exaggerated and biased. Though Masco does not deny the existence of the real threats, his recognition of them is too brief, while consideration of an alternative view is rather weak. He acknowledges that terrorist violence is not fictitious but insists that for the most part the United States inflated threats and politically exploited potential danger to declare and maintain the state of emergency. Such focus on the amplification of threats seems to suggest that for the most part the threats are not that real. Masco suggests that the link between terrorists and WMD is mainly inflated. Yet there is a real global concern about 2,000 tons of highly-radioactive nuclear materials being stored in poorly secured civilian locations around the world. The book never mentions the threat of a dirty bomb, which today is viewed as a more likely occurrence than an atomic bomb explosion. The IAEA cites a hundred reported thefts of nuclear materials on average each year. There is a good chance terrorists can get their hands on enough nuclear materials to produce a dirty bomb. The United States meets these challenges with increased international cooperation. Masco’s main argument that “the US is no longer constrained by territorial limits” is exaggerated. The only two cases cited when the United States appeared unconstrained were the invasion of Iraq. Though the invasion of Iraq was opposed by some U.S. allies (France, Germany, and New Zealand), it was still a combined force coalition from the U.S., the UK, Australia, and Poland. The United States does not have an unrestricted reach as Masco wants to depict. It is constrained by sovereignty and territorial integrity of other stable states. The unstable nuclear regimes in North Korea and Iran present that existential nuclear threat to the U.S. described by Masco, but the United States is in no rush to invade these countries. According to the anticipatory and preemptive logic Masco prescribes to the United States, it could have already invaded those states to prevent the disaster. Another limitation of his argument is that he paints the nuclear and counterterror states as consistent through all the presidencies, thus, drawing all administrations under a common denominator. Under Obama, the counterterror state became a liberal democracy again. The ‘unrestrained’ theater of operation has shrunk by ending the presence in Iraq and withdrawing from Afghanistan, even though our presence there could have been extended based on the preemption logic. Obama recognized the faults of the Bush administration in acting unilaterally, scaled back stability operations, and emphasized sharing the costs and responsibilities of global leadership. The emergence of the real ISIL threat undermines the book’s core argument of threat amplification, the U.S. preemption logic of response, and unconstrained global reach. The U.S.-led global effort against ISIL amounts to more than 50 nations, which shows the unified nature of the fight. Masco asserts that U.S. superpower depends on the ability of the state to monopolize a discourse of danger, but he doesn’t discuss how the United States succeeded in doing that. Masco could have developed his argument by tracing how the United States was able to use its soft power to mobilize like-minded states to agree with U.S. hegemony on WOT. It will be interesting to trace the U.S. internalization of fear and terror. He could have examined how allies responded to U.S. domestic mobilization of its population and whether other states imitated U.S. emotional management projects to mobilize their own populations. This would boost his argument that the U.S. was able to project its power on the global scale. In *Theatre of Operations*, Masco makes a compelling argument about the creation of the unrestrained theater of operations via domestication of fear and terror carried over from the Cold War days. His anthropological study reveals the extent to which a democracy is willing to use fear to assure the core principle of the social contract, defined by Hobbes as the exchange of public obedience for collective security. A democracy that chooses to be preoccupied with security risks to forgo core democratic values resulting in the lack of transparency, restriction of free flow of information, and negligence of non-military threats—no less threatening than nuclear terrorism. Making criticism of U.S. actions the main focus of the book, however, Masco’s interpretations are not properly balanced and sometimes appear biased. Still, reading Masco’s insight of the purpose of U.S. actions in the post-9/11 context offers opportunities to think critically about the effects of 9/11 emotional reprogramming of society and state of emergencies in U.S. history.

#### Human extinction is bad because it involves non-consensual pain and premature death – you have a moral obligation to reject their relativistic interpretation of violence

Finneron-Burns 16 [Elizabeth Professor of Political Science at Western University, Dec 2016. Canadian Journal of Philosophy “What’s wrong with human extinction?” https://www.tandfonline.com/doi/full/10.1080/00455091.2016.1278150?scroll=top&needAccess=true]

Thinking about the ways in which human extinction might come about brings to the fore two more reasons it might be wrong. It could, for example, occur if all humans (or at least the critical number needed to be unable to replenish the population, leading to eventual extinction) underwent a sterilization procedure. Or perhaps it could come about due to anthropogenic climate change or a massive asteroid hitting the Earth and wiping out the species in the same way it did the dinosaurs millions of years ago. Each of these scenarios would involve significant physical and/or non-physical harms to existing people and their interests. Physically, people might suffer premature and possibly also painful deaths, for example. It is not hard to imagine examples in which the process of extinction could cause premature death. A nuclear winter that killed everyone or even just every woman under the age of 50 is a clear example of such a case. Obviously, some types of premature death themselves cannot be reasons to reject a principle. Every person dies eventually, sometimes earlier than the standard expected lifespan due to accidents or causes like spontaneously occurring incurable cancers. A cause such as disease is not a moral agent and therefore it cannot be wrong if it unavoidably kills a person prematurely. Scanlon says that the fact that a principle would reduce a person’s well-being gives that person a reason to reject the principle: ‘components of well-being figure prominently as grounds for reasonable rejection’ (Scanlon 1998, 214). However, it is not settled yet whether premature death is a setback to well-being. Some philosophers hold that death is a harm to the person who dies, whilst others argue that it is not. I will argue, however, that regardless of who is correct in that debate, being caused to die prematurely can be reason to reject a principle when it fails to show respect to the person as a rational agent. Scanlon says that recognizing others as rational beings with interests involves seeing reason to preserve life and prevent death: ‘appreciating the value of human life is primarily a matter of seeing human lives as something to be respected, where this involves seeing reasons not to destroy them, reasons to protect them, and reasons to want them to go well’ (Scanlon 1998, 104). The ‘respect for life’ in this case is a respect for the person living, not respect for human life in the abstract. This means that we can sometimes fail to protect human life without acting wrongfully if we still respect the person living. Scanlon gives the example of a person who faces a life of unending and extreme pain such that she wishes to end it by committing suicide. Scanlon does not think that the suicidal person shows a lack of respect for her own life by seeking to end it because the person whose life it is has no reason to want it to go on. This is important to note because it emphasizes the fact that the respect for human life is person-affecting. It is not wrong to murder because of the impersonal disvalue of death in general, but because taking someone’s life without their permission shows disrespect to that person. This supports its inclusion as a reason in the contractualist formula, regardless of what side ends up winning the ‘is death a harm?’ debate because even if death turns out not to harm the person who died, ending their life without their consent shows disrespect to that person. A person who could reject a principle permitting another to cause his or her premature death presumably does not wish to die at that time, or in that man- ner. Thus, if they are killed without their consent, their interests have not been taken into account, and they have a reason to reject the principle that allowed their premature death.8 This is as true in the case of death due to extinction as it is for death due to murder. However, physical pain may also be caused to existing people without killing them, but still resulting in human extinction. Imagine, for example, surgically removing everyone’s reproductive organs in order to prevent the creation of any future people. Another example could be a nuclear bomb that did not kill anyone, but did painfully render them infertile through illness or injury. These would be cases in which physical pain (through surgery or bombs) was inflicted on existing people and the extinction came about as a result of the painful incident rather than through death. Furthermore, one could imagine a situation in which a bomb (for example) killed enough people to cause extinction, but some people remained alive, but in terrible pain from injuries. It seems uncontroversial that the infliction of physical pain could be a reason to reject a principle. Although Scanlon says that an impact on well-being is not the only reason to reject principles, it plays a significant role, and indeed, most principles are likely to be rejected due to a negative impact on a person’s well-being, physical or otherwise. It may be queried here whether it is actually the involuntariness of the pain that is grounds for reasonable rejection rather than the physical pain itself because not all pain that a person suffers is involuntary. One can imagine acts that can cause physical pain that are not rejectable — base jumping or life-saving or improving surgery, for example. On the other hand, pushing someone off a cliff or cutting him with a scalpel against his will are clearly rejectable acts. The difference between the two cases is that in the former, the person having the pain inflicted has consented to that pain or risk of pain. My view is that they cannot be separated in these cases and it is involuntary physical pain that is the grounds for reasonable rejection. Thus, the fact that a principle would allow unwanted physical harm gives a person who would be subjected to that harm a reason to reject the principle. Of course the mere fact that a principle causes involuntary physical harm or premature death is not sufficient to declare that the principle is rejectable — there might be countervailing reasons. In the case of extinction, what coun- tervailing reasons might be offered in favour of the involuntary physical pain/ death-inducing harm? One such reason that might be offered is that humans are a harm to the natural environment and that the world might be a better place if there were no humans in it. It could be that humans might rightfully be considered an all-things-considered hindrance to the world rather than a ben- efit to it given the fact that we have been largely responsible for the extinction of many species, pollution and, most recently, climate change which have all negatively affected the natural environment in ways we are only just beginning to understand. Thus, the fact that human extinction would improve the natural environment (or at least prevent it from degrading further), is a countervailing reason in favour of extinction to be weighed against the reasons held by humans who would experience physical pain or premature death. However, the good of the environment as described above is by definition not a personal reason. Just like the loss of rational life and civilization, therefore, it cannot be a reason on its own when determining what is wrong and countervail the strong personal reasons to avoid pain/death that is held by the people who would suffer from it.9 Every person existing at the time of the extinction would have a reason to reject that principle on the grounds of the physical pain they are being forced to endure against their will that could not be countervailed by impersonal con- siderations such as the negative impact humans may have on the earth. Therefore, a principle that permitted extinction to be accomplished in a way that caused involuntary physical pain or premature death could quite clearly be rejectable by existing people with no relevant countervailing reasons. This means that human extinction that came about in this way would be wrong.

### Procedural

#### No God

Stenger 7 [Victor Stenger, American particle physicist, philosopher, author, and religious skeptic. Following a career as a research scientist in the field of particle physics, Stenger was associated with New Atheism and he authored popular science books. “Scientist provides evidence that God does not exist.” 1/30/7, https://www.eurekalert.org/news-releases/476457]

Books on God and science, religion, and nonbelief have enjoyed unprecedented popularity in recent months—a trend Time magazine called an "atheist literary wave"—demonstrating the interest of American readers in intelligent debate on these topics.

The God Delusion by evolutionary biologist Richard Dawkins is number nine on the New York Times Best Seller List dated February 4, 2007; Sam Harris's atheistic response to critics, Letter to a Christian Nation, sits at twenty-six. In interviews, both men have directed readers to an additional work that continues the "new atheism" trend: God: The Failed Hypothesis (Prometheus Books, January 30, 2007.)

In God: The Failed Hypothesis, physicist Victor Stenger argues that science has advanced sufficiently to make a definitive statement on the existence or nonexistence of the traditional Judeo-Christian-Islamic God. He invites readers to put their minds—and the scientific method—to work to test this claim.

After evaluating all the scientific evidence—the studies done by reputable institutions on the power of prayer; the writings of philosophers who have puzzled over the problem of God and of good and evil; the efforts of biblical scholars to prove the accuracy of holy scriptures; and the work of biologists, geologists, and astronomers looking for clues to a creator on Earth and in the cosmos—Stenger concludes that beyond a reasonable doubt the universe and life appear exactly as we might expect if there were no God. He convincingly shows that not only is there no evidence for the existence of God, but scientific observations actually point to his nonexistence.

### K

#### Their theory is holistically wrong, totalizing, and politically dangerous – the alt’s retreat into abstraction and symbolic interruptions only consolidates the worst parts of neoliberalism – prefer contingent solutions to violence

Goodfield 20 [Eric Lee Goodfield is Assistant Professor at the American University of Beirut, Civilization Studies Program and Department of Political Studies & Public Administration. Cultural Politics an International Journal · July 2020. "POSTMODERN PAPER TIGER.” https://www.researchgate.net/publication/342664224\_Postmodern\_Paper\_Tiger\_Lyotard\_Baudrillard\_and\_the\_Contemporary\_Politics\_of\_Poststructuralist\_Subversion]

In the midst of the cynical tide washing over Baudrillard’s thought, a problem for its sweeping claims arises from within. Despite the implosion of history, of universals, of meaning, and despite our postmodern apparatus of simulation and technological networks that seek to inhibit all change through control, the specter of change continues to loom. All of our attempts at circumscribing the past and future, of interring them in the present, do not necessarily foreclose on change. Indeed, diremption and “Hegelian history” are still possible beyond the hyperrealization and simulacra of the present. Despite his ontology of the structure of the society of simulacra, Baudrillard (1994: 9) confesses that there is no certainty that history will not reappear and again overtake us from behind our bulwarks of technological mastery, from “behind their futuristic technologies, behind their stores of information and inside the beehive networks of communication where time is at last wiped out by pure circulation, will perhaps never reawaken. But they do not know that.” The mechanisms, then, of postmodern hubris and control may be the seeds of its undoing. This then amounts to a kind of hidden shadow hovering over Baudrillard’s thoughts on the end of history and the event. Herein, Baudrillard’s thought on the collapse of history on the postmodern clock quietly launches two problematic claims. First, the claim that postmodern instrumentality and simulation have overtaken the event in perpetuity: eventually, the event may overtake them, and this is in line with his antihumanism. At the same time, his surrender to the inevitably destructive simulative capacities of postmodernity seems out of balance with his trampling on modern and Enlightenment forms of universality and truth—read humanism—that he dismisses as crushed hopes. To this extent he seems to dismiss the modern epoch past with the benefit of retrospection, all the while monumentalizing the power and capacities of the postmodern as seemingly unsurpassable. Only quietly and at the margins does he recognize the equal possibility that the unbound hubris of postmodern presentism and simulation, as well, may succumb to the time and events it seeks to command.

A second instructive problem of normative gesture arises for Baudrillard’s poststructuralist narrative. He describes and outlines an ontology of knowledge and power in his sketch of postmodernity. Here, within the epistemological boundaries of the postmodern condition, there is no access to the real where the “Perfect Crime no longer involves God, but Reality, and it is not a symbolic murder but an extermination” (Baudrillard 2000: 59). The perfect crime was the termination of the connection to or possibility of real historical chance, experience, or awareness and its supplantation by the virtual and the simulative. Baudrillard writes, “The corps(e) of the Real—if there is any—has not been recovered, is nowhere to be found” (48). Yet on this account, Baudrillard seems to cede too much to the postmodern and its critical perspectives: “We must no longer assume any principle of truth, of causality, or any discursive norm. Instead, we must grant both the poetic singularity of events and the radical uncertainty of events” (48). In this he shuns liberation or even progress and instead takes a poststructuralist stand, again, in linguistic creativity: “Truth no longer affords a solution. But perhaps we can aim at a poetic resolution of the world, of the kind promised by history or by language” (48). Despite the omnipresence and hegemony of digital communications, language itself, Baudrillard suggests, provides its own ground for resistance. Language and the rift of meaning, that gap between the representable and the real, amounts to an inevitable limitation on the simulative capacity for control and the derailment of history. Baudrillard here puts his poststructuralist hopes in the elusive nature of meaning insofar as no symbolic representation ever manages to surpass its subject: the real will always stand in juxtaposition to our attempts to subdue, reproduce, and replace it. In the seemingly hopeless condition of the end of history, Baudrillard argues that we take a stand in linguistic awareness, doubling, and the linguistic uncanny that he terms pataphysics. This response is based on the marginal hope that a few may revel in the contradictions that linguistic resistance and autonomy may offer as a means of finding refuge in the all-pervading condition of postmodernity.

Far from contending with the underlying causes of postmodernity, then, Baudrillard succumbs to its underlying assumptions—historical contingency, limitless pluralism, and discursive relativism—prior to carving out his position of resistance. History and reality themselves are ultimately illusory here, and this relies on a grand metaphysical speculation that asserts knowledge both historical and material (Baudrillard 1994: vi, 6, 70–77). That is, Baudrillard’s circumscription of the conditions of our ignorance suggests a kind of privileged access to formal totality, all the while lamenting its impenetrable content. In his mystification of our current historical plight, in which “it would seem that something has escaped us” at the “event horizon . . . beyond which nothing makes sense and nothing at all may be discovered,” we are reduced to compounding our political loss and disenchantment in the ironic and cynical resistance of pataphysics (Baudrillard 2000: 79–80). An impractical skepticism means that we have no levers with which to act but remain cynically vigilant of what we see before us: “Facing a world that is unintelligible and problematic . . . we must make that world even more unintelligible, even more enigmatic” (83). With Kellner (1989: 163), I am suggesting, then, that pataphysics endorses “a hyperconformity that will allow objects to follow their own laws and impulses, and sweep the subjects blindly along,” ultimately stripping them of any power to define and defend resistance as an end in itself and consummating alienation and the triumph of the object.

Yet against the claim of the complicity of Baudrillard’s pataphysical thought with liberal capitalist alienation and its historical finality, David Teh and Rex Butler have sought to make the inverse case for pataphysics in Baudrillard’s oeuvre, one they each hold must be made on his poetic terms. These authors argue that the seeming indifference to the iron cage of modern dislocation in Baudrillard is part and parcel of his poststructuralist response and attempt to surmount the problem through the irony of reversibility and impermanence. Pataphysics here is held up as a kind of rebellion against the real and the realist that simultaneously defies the association with political fatalism and stoicism that Kellner (1989: 164) charges it with. Teh (2006), through Butler, charges that the nihilism and nothingness at the core of Baudrillard’s pataphysical logic is “a philosophical position in favour of what is unknowable and reversible at the heart of the world, . . . opposed in every sense to the order of equivalence imposed by capitalism, with its imperative of predictability, its irreversible, linear accumulations of value and history.” In response, I argue that the charge of colluding with liberal capitalism, pressed against poststructuralist thought generally, and thinkers like Baudrillard in particular (as detailed above), is political and not merely philosophical or theoretical. That is, it is to recognize the substantial compatibilities with capitalism built into linguistically driven political theory. It is, as well, to acknowledge a reluctance to criticize existent liberal and neoliberal practices—read capitalist—as “principal sources of human disempowerment and mechanisms of social domination” that are effectively endorsed by the rejection of the possibility of their structural analysis and a recalcitrance against imagining viable alternatives (Susen 2015: 257). Ultimately, then, the charge against pataphysical resistance is one that is as much of a presentism that conflates the end of history with the emergence of global neoliberalism as it is of the theoretical aloofness of Baudrillard’s pataphysics. The latter charge challenges his radical pataphysical contingence and ambivalence about political fate as a categorically flawed, if not oxymoronic, conception that effectively paralyzes political thought and practice beyond the world in which it finds itself.9

As a response to the crises of postmodern time and agency, pataphysics encloses actors within the confines of existing civil society. It limits their actions to idiosyncratic gestures of symbolic rebellion, denying meaningful resistance to the very sources of postmodern power and domination that Baudrillard has painstakingly fleshed out. Though he laments that contemporary capitalist society “is a market economy with no social force to battle against it, no competitive force to drive it on, . . . to propel it into the future,” his own pataphysical solution to the problem of resistance and “competition” brought on by capitalist hegemony is equally one of paralysis insofar as exclusion of the possibility of collective resistance—or any collectivity whatsoever—signals a termination of politics itself (Baudrillard 1994: 35–36). While pataphysics enacts antagonism to the political signifier of capitalist power—liberalism—it ultimately reproduces the parameters of liberal visions of civil society insofar as the latter’s emphasis on private right and diversity remains unchallenged and, in Western democracies, the sole domain for pataphysical expression and association beyond the state. Tellingly, Baudrillard explicitly embraces “liberty” as “a critical form” that “confronts the subject with his own alienation and its overcoming” (35–36), the very basis of his own ambivalent response (pataphysics) to the failed humanisms of communism and classical liberalism.

Given this entanglement with liberal thought and practice, pataphysics does very little to mitigate the conditions that sustain their hegemonic efficacies. This is so despite its deployment as a paradoxical short-circuiting of voluntary conformity with capitalism and its ideological cover story of liberalism, one that he considers “a vaccine against all radical temptations” (34). In comparison with Lyotard’s paralogical theory, as discussed above, which actively and passively reinforces the liberal tenets of agonism, difference, and autonomy, Baudrillard’s pataphysical vision of political agency formally mirrors the structural parameters of civil society, advances a dichotomy of public and private, and extends as far as an individualist atomism that celebrates the impossibility of consensus. In this sense his rebellion becomes one of resignation, resignification, and imagination that is more presentist hermitage than heretical to the terms of the capitalist contemporaneity he seems to be at odds with and seeking solace from.

Gane’s (2015: 10) comment that Baudrillard’s pataphysics was “simply not radical enough to deal with the ruthless radicalism of neoliberalization” enjoins us to question: is the legacy of the poststructuralist discursive and cultural breaks with Marx’s materialist project not somehow an important part of poststructuralism’s critical lapse on capitalist postmodernity? On this point, Choat (2010: 64) argues for a continuity in that “for both Marx and the poststructuralists, the aim . . . is to develop the possibilities immanent to capitalism.” However, as the case I have presented above attests, the versions of discursive resistance that former Marxist cum poststructuralists such as Lyotard and Baudrillard erect in no way present a real threat to the limitations that liberal capitalism places in the way of such development. If one of Marx’s primary goals is to conceive of the historical possibility of the overcoming of capitalism, and liberalism with it, it is hard to see how discursively driven poststructuralist thought is not embroiled, often despite itself, in the opposing project. That is, and against Choat, it is difficult to square the poststructuralist deferral to the matrices of linguistic discursivism with Marx’s dialectical materialist commitment to revolution. Choat’s own engagement with Marx reinforces my concern with the ways in which poststructuralists approach Marx and his historical materialism primarily as a discursive event “attentive to the irresolvable problems in his work” (159). In this way, Choat comments, “It is this ‘event-Marx’ which post-structuralism tries to liberate” (159). Yet Marx himself points us in another direction: that of engaging in the critical and constructive work of emancipation from the historical morass of capitalist toil and exploitation. Thus not toward Marx the elusive signifier but, rather, Marx’s, and our own, referential horizon of human historical development.

#### Empiricism is the only way to understand the world---proves the K doesn’t turn the case

Stephen Walt, 2005. “The Relationship Between Theory and Policy in International Relations.” *Annual Review of Political Science* 8: 23-48. Emory Libraries.

First and most obviously, a good theory should be logically consistent and empirically valid, because a logical explanation that is consistent with the available evidence is more likely to provide an accurate guide to the causal connections that shape events.

Second, a good theory is complete; it does not leave us wondering about the causal relationships at work (Van Evera 1997). For example, a theory stating that “national leaders go to war when the expected utility of doing so outweighs the expected utility of all alternative choices” (Bueno de Mesquita & Lalman 1992) may be logically impeccable, but it does not tell us when leaders will reach this judgment. Similarly, a theory is unsatisfying when it identifies an important causal factor but not the factor(s) most responsible for determining outcomes. To say that “human nature causes war,” or even that “oxygen causes war,” is true in the sense that war as we know it cannot occur in the absence of these elements. But such information does not help us understand what we want to know, namely, when is war more or less likely? Completeness also implies that the theory has no “debilitating gaps,” such as an omitted variable that either makes its predictions unacceptably imprecise or leads to biased inferences about other factors (Nincic & Lepgold 2000, p. 28).

A third desideratum is explanatory power. A theory’s explanatory power is its ability to account for phenomena that would otherwise seem mystifying. Theories are especially valuable when they illuminate a diverse array of behavior that previously seemed unrelated and perplexing, and they are most useful when they make apparently odd or surprising events seem comprehensible (Rapaport 1972). In physics, it seems contrary to common sense to think that light would be bent by gravity. Yet Einstein’s theory of relativity explains why this is so. In economics, it might seem counterintuitive to think that nations would be richer if they abolished barriers to trade and did not try to hoard specie (as mercantilist doctrines prescribed). The Smith/Ricardo theory of free trade tells us why, but it took several centuries before the argument was widely accepted (Irwin 1996). In international politics, it seems odd to believe that a country would be safer if it were unable to threaten its opponent’s nuclear forces, but deterrence theory explains why mutual vulnerability may be preferable to either side having a large capacity to threaten the other side’s forces (Wohlstetter 1957, Schelling 1960, Glaser 1990, Jervis 1990). This is what we mean by a powerful theory: Once we understand it, previously unconnected or baffling phenomena make sense.

Fourth, at the risk of stating the obvious, we prefer theories that explain an important phenomenon (i.e., something that is likely to affect the fates of many people). Individual scholars may disagree about the relative importance of different issues, but a theory that deals with a problem of some magnitude is likely to garner greater attention and/or respect than a theory that successfully addresses a puzzle of little intrinsic interest. Thus, a compelling yet flawed explanation for great power war or genocide is likely to command a larger place in the field than an impeccable theory that explains the musical characteristics of national anthems.

Fifth, a theory is more useful when it is prescriptively rich, i.e., when it yields useful recommendations (Van Evera 1997). For this reason, George advises scholars to “include in their research designs variables over which policymakers have some leverage” (George 2000, p. xiv; also Glaser & Strauss 1967, Stein 2000). Yet a theory that does not include manipulable variables may still be useful to policy makers. For example, a theory that explained why a given policy objective was impossible might be very useful if it convinced a policy maker not to pursue such an elusive goal. Similarly, a theory that accurately forecast the risk of war might provide a useful warning to policy makers even if the variables in the theory were not subject to manipulation.

Finally, theories are more valuable when they are stated clearly. Ceteris paribus, a theory that is hard to understand is less useful simply because it takes more time for potential users to master it. Although academics often like to be obscure (because incomprehensibility can both make scholarship seem more profound and make it harder to tell when a particular argument is wrong), opacity impedes scientific progress and is not a virtue in theoreticalwork. An obscure and impenetrable theory is also less likely to influence busy policy makers.

#### Neurological, racial bias is flexible and determined by coalitional habit forming in the brain---orienting groups around institutional change best breaks down bias. This is offense because their theory rejects these solutions.

Cikara and Van Bavel 15. (Mina Cikara is an Assistant Professor of Psychology and Director of the Intergroup Neuroscience Lab at Harvard University. Her research examines the conditions under which groups and individuals are denied social value, agency, and empathy. Jay Van Bavel is an Assistant Professor of Psychology and Director of the Social Perception and Evaluation Laboratory at New York University. The Flexibility of Racial Bias: Research suggests that racism is not hard wired, offering hope on one of America’s enduring problems. June 2, 2015. <https://www.scientificamerican.com/article/the-flexibility-of-racial-bias/>)

The city of Baltimore was rocked by protests and riots over the death of Freddie Gray, a 25-year-old African American man who died in police custody. Tragically, Gray’s death was only one of a recent in a series of racially-charged, often violent, incidents. On April 4th, Walter Scott was fatally shot by a police officer after fleeing from a routine traffic stop. On March 8th, Sigma Alpha Epsilon fraternity members were caught on camera gleefully chanting, “There Will Never Be A N\*\*\*\*\* In SAE.” On March 1st, a homeless Black man was shot in broad daylight by a Los Angeles police officer. And these are not isolated incidents, of course. **Institutional and systemic racism reinforce discrimination in countless situations, including hiring, sentencing, housing, and even mortgage lending**. It would be easy **to see in all this powerful evidence that racism is a permanent fixture in America’s social fabric and** even, perhaps, **an** inevitable aspect of human nature. Indeed, the mere act of labeling others according to their age, gender, or race is a reflexive habit of the human mind. Social categories, like race, impact our thinking quickly, often outside of our awareness. **Extensive research has found that these implicit racial biases—negative thoughts and feelings about people from other races—are automatic, pervasive, and difficult to suppress**. Neuroscientists have also explored racial prejudice by exposing people to images of faces while scanning their brains in fMRI machines. **Early studies found that when people viewed faces of another race, the amount of activity in the amygdala—a small brain structure associated with experiencing emotions, including fear—was associated with individual differences on implicit measures of racial bias**. This work has led many to conclude that racial biases might be part of a primitive—and possibly hard-wired—neural fear response to racial out-groups. **There is little question that** categories such as **race**, gender, and age **play a major role in shaping the biases and stereotypes that people bring to bear in their judgments of others**. However, **research has shown that how people categorize** themselves **may be just as fundamental to understanding prejudice as how they categorize others**. When people categorize themselves as part of a group, their self-concept shifts from the individual (“I”) to the collective level (“us”). People form groups rapidly and favor members of their own group even when groups are formed on arbitrary grounds, such as the simple flip of a coin. These **findings highlight the remarkable ease with which humans form coalitions**. Recent research confirms **that** coalition**-based** preferences trump race**-based** preferences. For example, **both Democrats and Republicans favor the resumes of those affiliated with their political** party **much** more than **they favor those who share** their race. These **coalition-based preferences remain powerful even in the absence of the animosity present in electoral politics**. Our **research has shown that the simple act of placing people on a** mixed-race team **can** diminish **their** automatic racial bias. In a series of experiments, **White participants who were randomly placed on a mixed-race team—the Tigers or Lions—showed little evidence of implicit racial bias**. **Merely belonging to a mixed-race team trigged positive automatic associations with all of the members of their own group, irrespective of race**. **Being a part of one of these seemingly trivial mixed-race groups produced similar effects on brain activity—the** amygdala responded **to** team **membership** rather than race. Taken together, **these studies indicate that momentary changes in group membership can override the influence of race on the way we see, think about, and feel toward people who are different from ourselves**. Although these coalition-based distinctions might be the most basic building block of bias, they say little about the other factors that cause group conflict. Why do some groups get ignored while others get attacked? Whenever we encounter a new person or group we are motivated to answer two questions as quickly as possible: “is this person a friend or foe?” and “are they capable of enacting their intentions toward me?” In other words, once we have determined that someone is a member of an out-group, we need to determine what kind? The nature of the relations between groups—are we cooperative, competitive, or neither?—and their relative status—do you have access to resources?—largely determine the course of intergroup interactions. Groups that are seen as competitive with one’s interests, and capable of enacting their nasty intentions, are much more likely to be targets of hostility than more benevolent (e.g., elderly) or powerless (e.g., homeless) groups. This is one reason why sports rivalries have such psychological potency. For instance, fans of the Boston Red Sox are more likely to feel pleasure, and exhibit reward-related neural responses, at the misfortunes of the archrival New York Yankees than other baseball teams (and vice versa)—especially in the midst of a tight playoff race. (How much fans take pleasure in the misfortunes of their rivals is also linked to how likely they would be to harm fans from the other team.) **Just as a particular person’s group membership can be flexible, so too are the relations between groups. Groups that have previously had cordial relations may become rivals (and vice versa)**. Indeed, psychological and biological responses **to out-group members** can change, depending on whether or not that out-group is perceived as threatening. For example, people exhibit greater pleasure—they smile—in response to the misfortunes of stereotypically competitive groups (e.g., investment bankers); however, this malicious pleasure is reduced when you provide participants with counter-stereotypic information (e.g., “investment bankers are working with small companies to help them weather the economic downturn). Competition between “us” and “them” can even distort our judgments of distance, making threatening out-groups seem much closer than they really are. These distorted perceptions can serve to amplify intergroup discrimination: the more different and distant “they” are, the easier it is to disrespect and harm them. Thus, not **all out-groups are treated the same: some elicit indifference whereas others become targets of antipathy. Stereotypically threatening groups are especially likely to be targeted with violence, but those** stereotypes can be tempered **with** other info**rmation.** **If perceptions of intergroup relations can be changed, individuals may overcome hostility toward perceived foes and become more responsive to one another’s grievances.** **The** flexible nature **of both group membership and intergroup relations offers reason to be** cautiously optimistic **about the potential for greater cooperation among groups in conflict** (be they black versus white or citizens versus police). One strategy is to bring multiple groups together around a common goal. For example, during the fiercely contested 2008 Democratic presidential primary process, Hillary Clinton and Barack Obama supporters gave more money to strangers who supported the same primary candidate (compared to the rival candidate). Two months later, after the Democratic National Convention, the supporters of both candidates coalesced around the party nominee—Barack Obama—and this bias disappeared. In fact, merely **creating a sense of** cohesion **between two competitive groups can increase empathy for the suffering of our rivals**. **These** sorts of **strategies** can help **reduce aggression toward hostile out-groups, which is** critical for creating more opportunities for constructive dialogue addressing greater social injustices. Of course, instilling a sense of common identity and cooperation is extremely difficult in entrenched intergroup conflicts, but when it happens, the benefits are obvious. Consider how the community leaders in New York City and Ferguson responded differently to protests against police brutality—in NYC political leaders expressed grief and concern over police brutality and moved quickly to make policy changes in policing, whereas the leaders and police in Ferguson responded with high-tech military vehicles and riot gear. In the first case, multiple groups came together with a common goal—to increase the safety of everyone in the community; in the latter case, the actions of the police likely reinforced the “us” and “them” distinctions. Tragically, these types of conflicts continue to roil the country. Understanding the psychology and neuroscience of social identity and intergroup relations cannot undo the effects of systemic racism and discriminatory practices; however, it can offer insights into the psychological processes responsible for escalating the tension between, for example, civilians and police officers. **Even in cases where it isn’t possible to create a common identity among groups in conflict, it may be possible to blur the boundaries between groups**. In one recent experiment, we sorted participants into groups—red versus blue team—competing for a cash prize. Half of the participants were randomly assigned to see a picture of a segregated social network of all the players, in which red dots clustered together, blue dots clustered together, and the two clusters were separated by white space. The other half of the participants saw an integrated social network in which the red and blue dots were mixed together in one large cluster. Participants who thought the two teams were interconnected with one another reported greater empathy for the out-group players compared to those who had seen the segregated network. Thus, reminding people that individuals could be connected to one another despite being from different groups may be another way to build trust and understanding among them. A mere month before Freddie Gray died in police custody, President Obama addressed the nation on the 50th anniversary of Bloody Sunday in Selma: “We do a disservice to the cause of justice by intimating that bias and discrimination are immutable, or that racial division is inherent to America. To deny…progress – our progress – would be to rob us of our own agency; our responsibility to do what we can to make America better." The president was saying that **we**, as a society, **have a responsibility to reduce prejudice and discrimination**. These recent findings from psychology and neuroscience indicate that we, as individuals, possess this capacity. Of course this capacity is not sufficient to usher in racial equality or peace. Even when the level of prejudice against particular out-groups decreases, it does not imply that the level of institutional discrimination against these or other groups will necessarily improve. **Ultimately, only** collective action **and** institutional evolution **can address systemic racism**. **The science is clear on one thing, though:** individual bias and discrimination are changeable**.** **Race-based prejudice and discrimination, in particular, are** created and reinforced by **many** social factors, **but they are** not inevitable consequences of **our** biology**.** Perhaps understanding how coalitional thinking impacts intergroup relations will make it easier for us to affect real social change going forward.

#### There is no universal, libidinal economic drive for anti-blackness. It’s socially and economically constructed. Racial habits can be unmade.

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Fanon’s vantage point upon the world is his situated experience. He is trying to understand the inner psychic life of racism, not provide an account of the structure of human existence as a whole. Racism is not, of course, an integral part of the human psyche; it is a Social construct that has a psychic impact. Any effort to comprehend social distress that accompanies racism by reference to some a priori structure—be it the Oedipal Complex or the Collective Unconscious—is doomed to failure. [END PAGE 35]

Carl Jung sought to deepen and go beyond Freud's approach by arguing that the subconscious is grounded in a universal layer of the psyche—which he called “the collective unconscious.” This refers to inherited patterns of thought that exist in all human minds, regardless of specific culture or upbringing, and which manifest themselves in dreams, fairy tales, and myths. Jung referred to these universal patterns as “archetypes.” It may seem, on a superficial reading, that Fanon is drawing from Jung, since he discusses how white people tend to unconsciously assimilate views of blacks that are based on negative stereotypes. Even the most “progressive” white tends to think of blacks a certain way (such as “emotional,” “physical,” or “aggressive”), even as they disavow any racist animus on their part. However, Fanon denies that such collective delusions are part of a psychic structure; they are not permanent features of the mind. They are habits acquired from a series of social and cultural impositions. While they constitute a kind a collective unconscious on the part of many white people, they are not grounded in any universal “archetype.” The unconscious prejudices of whites do not derive from genes or nature, nor do they derive from some form independent of culture or upbringing. Fanon contends that Jung “confuses habit with instinct.”21

Fanon objects to Jung’s “collective unconscious” for the same reason that he rejects the notion of a black ontology. His phenomenological approach brackets out ontological claims on both a social and psychological level insofar as the examination of race and racism is concerned. He writes, “Neither Freud nor Adler nor even the cosmic Jung took the black man into consideration in the course of his research.”22

This does not mean that Fanon rejects their contributions tout court. He does not deny the existence of the unconscious. He only denies that the inferiority complex of blacks operates on an unconscious level. He does not reject the Oedipal Complex. He only denies that it explains (especially in the West Indies) the proclivity of the black “slave” to mimic the values of the white “master.” And as seen from his positive remarks on Lacan's theory of the mirror stage, he does not reject the idea of psychic structure. He only denies that it can substitute for an historical understanding of the origin of [END PAGE 36] neuroses .23 Fanon adopts a socio-genetic approach to a study of the psyche because that is what is adequate for the object of his analysis.

For Fanon, it is the relationship between the socio-economic and psychological that is of critical import. He makes it clear, insofar as the subject matter of his study is concerned, that the socio-economic is first of all responsible for affective disorders: “First, economic. Then, internalization or rather epidermalization of this inferiority.”24 Fanon never misses an opportunity to remind us that racism owes its origin to specific economic relations of domination- such as slavery, colonialism, and the effort to coopt sections of the working class into serving the needs of capital. It is hard to mistake the Marxist influence here. It does not follow, however, that what comes first in the order of time has conceptual or strategic priority. The inferiority complex is originally born from economic subjugation, but it takes on a life of its own and expresses itself in terms that surpass the economic. Both sides of the problem-the socio-economic and psychological-must be combatted in tandem: “The black man must wage the struggle on two levels; whereas historically these levels are mutually dependent, any unilateral liberation is flawed, and the worst mistake would be to believe their mutual dependence automatic.”25

On these grounds he argues that the problem of racism cannot be solved on a psychological level. It is not an “individual” problem; it is a social one. But neither can it be solved on a social level that ores the psychological. It is small wonder that although his name never appears in the book, Fanon was enamored of the work of Wilhelm Reich. This important Freudian-Marxist would no doubt feel affinity with Fanon's comment, “Genuine disalienation will have been achieved only when things, in the most materialist sense, have resumed their rightful place.”27

#### Tech is good and inevitable – you’re biased toward pessimism which disproves their links, BUT rejecting engagement makes it worse

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Many are understandably pessimistic about platforms and technology. This year has been a tough one, from Cambridge Analytica and Russian trolls to the implementation of GDPR and data breaches galore.

Those who think about the world, about the problems that we see every day, and about their own place in it, will quickly realize the immense frailty of humankind. Fear and worry makes sense. We are flawed, each one of us. And technology only seems to exacerbate those problems.

But life is getting better. Poverty continues nose-diving; adult literacy is at an all-time high; people around the world are living longer, living in democracies, and are better educated than at any other time in history. Meanwhile, the digital revolution has resulted in a glut of informational abundance, helping to correct the informational asymmetries that have long plagued humankind. The problem we now face is not how to address informational constraints, but how to provide the means for people to sort through and make sense of this abundant trove of data. These macro trends don’t make headlines. Psychologists know that people love to read negative articles. Our brains are wired for pessimism.

In the shadow of a year of bad news, it helpful to remember that Facebook and Google and Reddit and Twitter also support humane conversations. Most people aren’t going online to talk about politics and if you are, then you are rare. These sites are places where families and friends can connect. They offer a space of solace – like when chronic pain sufferers find others on Facebook, or when widows vent, rage, laugh and cry without judgement through the Hot Young Widows Club. Let’s also not forget that Reddit, while sometimes a place of rage and spite, is also where a weight lifter with cerebral palsy can become a hero and where those with addiction can find healing. And in the hardest to reach places in Canada, in Iqaluit, people say that “Amazon Prime has done more toward elevating the standard of living of my family than any territorial or federal program. Full stop. Period” Three-fourths of Americans say major technology companies’ products and services have been more good than bad for them personally. But when it comes to the whole of society, they are more skeptical about technology bringing benefits. Here is how I read that disparity: Most of us think that we have benefited from technology, but we worry about where it is taking the human collective. That is an understandable worry, but one that shouldn’t hobble us to inaction. Nor is technology making us stupid. Indeed, quite the opposite is happening. Technology use in those aged 50 and above seems to have caused them to be cognitively younger than their parents to the tune of 4 to 8 years. While the use of Google does seem to reduce our ability to recall information, studies find that it has boosted other kinds of memory, like retrieving information. Why remember a fact when you can remember where it is located? Concerned how audiobooks might be affecting people, Beth Rogowsky, an associate professor of education, compared them to physical reading and was surprised to find “no significant differences in comprehension between reading, listening, or reading and listening simultaneously.” Cyberbullying and excessive use might make parents worry, but NIH supported work found that “Heavy use of the Internet and video gaming may be more a symptom of mental health problems than a cause. Moderate use of the Internet, especially for acquiring information, is most supportive of healthy development.” Don’t worry. The kids are going to be alright.

And yes, there is a lot we still need to fix. There is cruelty, racism, sexism, and poverty of all kinds embedded in our technological systems. But the best way to handle these issues is through the application of human ingenuity. Human ingenuity begets technology in all of its varieties.

When Scott Alexander over at Star Slate Codex recently looked at 52 startups being groomed by startup incubator Y Combinator, he rightly pointed out that many of them were working for the betterment of all:

Thirteen of them had an altruistic or international development focus, including Neema, an app to help poor people without access to banks gain financial services; Kangpe, online health services for people in Africa without access to doctors; Credy, a peer-to-peer lending service in India; Clear Genetics, an automated genetic counseling tool for at-risk parents; and Dost Education, helping to teach literacy skills in India via a $1/month course.

Twelve of them seemed like really exciting cutting-edge technology, including CBAS, which describes itself as “human bionics plug-and-play”; Solugen, which has a way to manufacture hydrogen peroxide from plant sugars; AON3D, which makes 3D printers for industrial uses; Indee, a new genetic engineering system; Alem Health, applying AI to radiology, and of course the obligatory drone delivery startup. Eighteen of them seemed like boring meat-and-potatoes companies aimed at businesses that need enterprise data solution software application package analytics targeting management something something something “the cloud”. As for the other companies, they were the kind of niche products that Silicon Valley has come to be criticized for supporting. Perhaps the Valley deserves some criticism, but perhaps it deserves more credit than it’s been receiving as-of-late.

Contemporary tech criticism displays a kind of anti-nostalgia. Instead of being reverent for the past, anxiety for the future abounds. In these visions, the future is imagined as a strange, foreign land, beset with problems. And yet, to quote that old adage, tomorrow is the visitor that is always coming but never arrives. The future never arrives because we are assembling it today. We need to work diligently together to piece together a better world. But if we constantly live in fear of what comes next, that future won’t be built. Optimism needn’t be pollyannaish. It only needs to be hopeful of a better world.