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Death Cult

#### **Invocation of death impacts is an obsession with body counts that culminates in genocidal violence---rejecting it is a gateway issue**

Bjork 93 [Rebecca Bjork, Former College Debater and Former Associate Professor at the University of Utah, Where She Taught Graduate and Undergraduate Courses in Communication and Women in Debate, Reflections on the Ongoing Struggle, Debater's Research Guide 1992-1993: Wake Forest University, Symposium, <http://groups.wfu.edu/debate/MiscSites/DRGArticles/Oudingetal1992Pollution.htm>]

While reflecting on my experiences as a woman in academic debate in preparation for this essay, I realized that I have been involved in debate for more than half of my life.  I debated for four years in high school, for four years in college, and I have been coaching intercollegiate debate for nine years.  Not surprisingly, much of my identity as an individual has been shaped by these experiences in debate.  I am a person who strongly believes that debate empowers people to be committed and involved individuals in the communities in which they live.  I am a person who thrives on the intellectual stimulation involved in teaching and traveling with the brightest students on my campus.  I am a person who looks forward to the opportunities for active engagement of ideas with debaters and coaches from around the country.  I am also, however, a college professor, a "feminist," and a peace activist who is increasingly frustrated and disturbed by some of the practices I see being perpetuated and rewarded in academic debate.  I find that I can no longer separate my involvement in debate from the rest of who I am as an individual. Northwestern I remember listening to a lecture a few years ago given by Tom Goodnight at the University summer debate camp.  Goodnight lamented what he saw as the debate community's participation in, and unthinking perpetuation of what he termed the "death culture." He argued that the embracing of "big impact" arguments--nuclear war, environmental destruction, genocide, famine, and the like-by debaters and coaches signals a morbid and detached fascination with such events, one that views these real human tragedies as part of a "game" in which so-called "objective and neutral" advocates actively seek to find in their research the "impact to outweigh all other impacts"--the round-winning argument that will carry them to their goal of winning tournament X, Y, or Z. He concluded that our "use" of such events in this way is tantamount to a celebration of them; our detached, rational discussions reinforce a detached, rational viewpoint, when emotional and moral outrage may be a more appropriate response.  In the last few years, my academic research has led me to be persuaded by Goodnight's unspoken assumption; language is not merely some transparent tool used to transmit information, but rather is an incredibly powerful medium, the use of which inevitably has real political and material consequences. Given this assumption, I believe that it is important for us to examine the "discourse of debate practice:" that is, the language, discourses, and meanings that we, as a community of debaters and coaches, unthinkingly employ in academic debate.  If it is the case that the language we use has real implications for how we view the world, how we view others, and how we act in the world, then it is imperative that we critically examine our own discourse practices with an eye to how our language does violence to others.  I am shocked and surprised when I hear myself saying things like, "we killed them," or "take no prisoners," or "let's blow them out of the water."  I am tired of the "ideal" debater being defined as one who has mastered the art of verbal assault to the point where accusing opponents of lying, cheating, or being deliberately misleading is a sign of strength. But what I am most tired of is how women debaters are marginalized and rendered voiceless in such a discourse community.  Women who verbally assault their opponents are labeled "bitches" because it is not socially acceptable for women to be verbally aggressive.  Women who get angry and storm out of a room when a disappointing decision is rendered are labeled "hysterical" because, as we all know, women are more emotional then men.  I am tired of hearing comments like, "those 'girls' from school X aren't really interested in debate; they just want to meet men."  We can all point to examples (although only a few) of women who have succeeded at the top levels of debate.  But I find myself wondering how many more women gave up because they were tired of negotiating the mine field of discrimination, sexual harassment, and isolation they found in the debate community. As members of this community, however, we have great freedom to define it in whatever ways we see fit.  After all, what is debate except a collection of shared understandings and explicit or implicit rules for interaction?  What I am calling for is a critical examination of how we, as individual members of this community, characterize our activity, ourselves, and our interactions with others through language.  We must become aware of the ways in which our mostly hidden and unspoken assumptions about what "good" debate is function to exclude not only women, but ethnic minorities from the amazing intellectual opportunities that training in debate provides.  Our nation and indeed, our planet, faces incredibly difficult challenges in the years ahead.  I believe that it is not acceptable anymore for us to go along as we always have, assuming that things will straighten themselves out. If the rioting in Los Angeles taught us anything, it is that complacency breeds resentment and frustration.  We may not be able to change the world, but we can change our own community, and if we fail to do so, we give up the only real power that we have.

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T Prohibit

#### Business practices are ongoing conduct defined by the behaviors of many market participants

Kerry Lynn Macintosh 97, Associate Professor of Law, Santa Clara University School of Law. B.A. 1978, Pomona College; J.D. 1982, Stanford University, “Liberty, Trade, and the Uniform Commercial Code: When Should Default Rules Be Based On Business Practices?,” 38 Wm. & Mary L. Rev. 1465, Lexis

These new and revised articles reflect a strong trend toward choosing default rules 4 that codify existing business practices. 5 [FOOTNOTE 5 BEGINS] In this Article, the term "business practices" is used to refer to practices that emerge over time as countless market participants exercise their freedom to engage in profitable transactions. For an account of the evolution of business practices, see infra Part II. As used here, "business practices" is broader and less technical than "trade usage," which the Code narrowly defines as "any practice or method of dealing having such regularity of observance in a place, vocation, or trade as to justify an expectation that it will be observed with respect to the transaction in question." U.C.C. 1-205(2). [FOOTNOTE 5 ENDS] This is particularly true of the recent revisions to Articles 3 (Negotiable Instruments), 4 (Bank Deposits and Collections) and 5 (Letters of Credit).

#### Only per se illegality prohibits a practice---rules of reason prohibit anticompetitive effects for individual acts, or instances of ‘practice.’

John Paul Stevens 90, Justice, Supreme Court of the United States, “FTC v. Superior Court Trial Lawyers Ass'n,” 493 U.S. 411, Lexis

LEdHN[3C] [3C]LEdHN[14] [14]Equally important is the second error implicit in respondents' claim to immunity from the per se rules. In its opinion, the Court of Appeals assumed that the antitrust laws permit, but do not require, the condemnation of price fixing and boycotts without proof of market power. 15 The opinion further assumed that the per se rule prohibiting such activity "is only a rule of 'administrative convenience and efficiency,' not a statutory command." 272 U.S. App. D. C., at 295, 856 F. 2d, at 249.This statement contains two errors. HN10 [\*\*\*\*42] The per se [\*433] rules are, of course, the product of judicial interpretations of the Sherman Act, but the rules nevertheless have the same force and effect as any other statutory commands. Moreover, while the per se rule against price fixing and boycotts is indeed justified in part by "administrative convenience," the Court of Appeals erred in describing the prohibition as justified only by such concerns. The per se rules also reflect a long-standing judgment that the prohibited practices by their nature have "a substantial potential for impact on competition." Jefferson Parish Hospital District No. 2 v. Hyde, 466 U.S. 2, 16 (1984).

[\*\*\*\*43] LEdHN[15] [15]As we explained in Professional Engineers, HN11 the rule of reason in antitrust law generates

"two complementary categories of antitrust analysis. In the first category are agreements whose nature and necessary effect are so plainly anticompetitive that no elaborate study of the industry is needed to establish their illegality -- they are 'illegal per se.' In the second category are agreements whose competitive effect can only be evaluated by analyzing the facts peculiar to the business, the history of the restraint, and the reasons why it was imposed." 435 U.S., at 692.

[\*\*\*873] "Once experience with a particular kind of restraint enables the Court to predict with confidence that the rule of reason will condemn it, it has applied a conclusive presumption that the restraint is unreasonable." Arizona v. Maricopa County Medical Society, 457 U.S. 332, 344 (1982).

[\*\*781] LEdHN[16] [16] [\*\*\*\*44] The per se rules in antitrust law serve purposes analogous to per se restrictions upon, for example, stunt flying in congested areas or speeding. Laws prohibiting stunt flying or setting speed limits are justified by the State's interest in protecting human life and property. Perhaps most violations of such rules actually cause no harm. No doubt many experienced drivers and pilots can operate much more safely, even at prohibited speeds, than the average citizen.

[\*434] If the especially skilled drivers and pilots were to paint messages on their cars, or attach streamers to their planes, their conduct would have an expressive component. High speeds and unusual maneuvers would help to draw attention to their messages. Yet the laws may nonetheless be enforced against these skilled persons without proof that their conduct was actually harmful or dangerous.

In part, the justification for these per se rules is rooted in administrative convenience. They are also supported, however, by the observation that every speeder and every stunt pilot poses some threat to the community. An unpredictable event may overwhelm the skills of the best driver or pilot, even if the [\*\*\*\*45] proposed course of action was entirely prudent when initiated. A bad driver going slowly may be more dangerous that a good driver going quickly, but a good driver who obeys the law is safer still.

#### Voting issue---key to link uniqueness and preventing bidirectionality on an otherwise virtually unlimited topic

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T Subsets

#### ‘Core antitrust laws’ must be economy wide---the aff only effects a subset

Gerber ’20 [David; October; Distinguished Professor of Law at Chicago-Kent College of Law, Illinois Institute of Technology; Oxford Scholarship Online, Competition Law and Antitrust, “What is It? Competition Law’s Veiled Identity,” Ch. 1, p. 14-15]

C. A Core Definition

The Guide uses the terms “competition law” and “antitrust law” to refer to a general domain of law whose object is to deter private restraints on competitive conduct. We look more closely at the terms:

1. “General”—The laws included are those that are applicable throughout an economy and thereby provide a framework for all market operations (there are always some exempted sectors). Laws dealing only with specific markets (e.g., telecommunication) do not play that role.

2. “Domain of Law” here refers to a politically authorized set of norms and the institutional arrangements used to enforce them.

Is it law—or is it policy? The relationship between “competition law” and “competition policy” is not always clear. Often the terms are used interchangeably, but there can be important differences between them. Both can refer to norms used to combat restraints on competition, but they represent two different ways of looking at the relevant laws, and the differences can influence how norms are interpreted and applied. “Law” implies that established methods of interpretation are used to interpret and apply the norms and that established procedures are the sole or primary means of enforcing and changing the norms. In this view, the norms are a relatively stable component of a legal system. Thinking of those same norms as “policy,” on the other hand, implies that they are a tool of whatever government is in power and that it can use and modify them as it wishes.

3. “Restraint” refers to any limitation imposed by one or more private actors that reduces the intensity of competition in a market.

4. “Competition” refers to a process by which firms in a market seek to maximize their profits by exploiting market opportunities more effectively than other firms in the market.

#### Substantial’ means in totality of circumstances

U.S. First Circuit Court of Appeals ’98 [United States Circuit Court; August 25; Federal Appeals Court of the First Circuit; Southwestern Learning, “Court Uses ‘Totality of Circumstances’ for Test of Substantial Abuse by Debtor,” http://www.swlearning.com/blaw/cases/court\_uses.html]

Decision Affirmed. The court joins other circuits in adopting the "totality of the circumstances" test as the measure of substantial abuse under the Bankruptcy Code. This is a flexible standard adopted by Congress to allow bankruptcy courts to consider the factors involved in each case and to prevent abuse of Chapter 7 filings. When there is evidence that the consumer can pay their debts, there is likely to be found substantial abuse.

#### Voting issue---creates a moral hazard to rush to small non-controversial tweaks that shreds limits and ground

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T Private Sector

#### Private sector excludes the states

OED ’89 [Oxford English Dictionary Online; second edition published in 1989 and updated continuously since; “private, adj.1, adv., and n.”]

private sector n. that part of an economy, industry, etc., which is privately owned and free from direct state control.

#### Voting issue---the aff prohibits a practice by states not business

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CIL CP

#### The United States federal government should substantially increase its prohibitions anticompetitive business practices by the private sector shielded by state action immunity by expanding the scope of its interpretive obligations under customary international law.

#### The CP competes and solves the case – it renders the same conduct equally unlawful, but expands CIL rather than antitrust statute – that signals U.S. adherence to norms of international economic law.

Banks ’12 [Ted; 2012; Scharf President, Compliance & Competition Consultants; Denver Journal of International Law & Policy, “40th Anniversary Edition: The International Law of Antitrust Compliance,” 368]

Introduction

It was not so long ago that the concept of international criminal law was an idea with which lawyers struggled. In 1987, Ved Nanda and M. Cherif Bassiouni put together what may have been the first one-volume compendium of information on antitrust, securities, extradition, tax, and other subjects that made up the developing area of international criminal law. Today, it is well-accepted that there are certain standards of behavior that are the norm in practically all nations, and through national laws and multinational treaties, these principles are entering the realm of customary international law.

Developments in the area of competition law, or antitrust as it is known in some countries, have been particularly dramatic. Countries understand that the encouragement of competition is a key to economic development, and national laws have been enacted where they did not exist before, along with enforcement cooperation agreements among increasing numbers of countries. 1 Enforcement of criminal antitrust laws takes place against both individuals and businesses, 2 and while it is clear that there are situations where business entities must be held responsible for actions of their employees, there are other situations where the intent of the corporation may be contrary to the actions of the employee. Throughout the world, in competition law, as well as in other areas of law, there is a consensus that it is appropriate for companies to adopt compliance and ethics programs to utilize management techniques to foster compliance with law. So, as standards of corporate [\*369] conduct become more universal, they reflect adherence to what is essentially an international law - the international law of competition. At the same time, more national authorities recognize that companies are expected to have compliance programs, and that a bona fide compliance program reflects a corporate intent not to violate the law, and therefore should be a positive factor in how authorities treat such companies, including as a mitigating factor for any penalty that might be imposed based on the ultra vires act by an employee.

It is well accepted that compliance and ethics programs are an expected part of corporate activity, and while no program can always guarantee human behavior, these programs do work to mitigate violations of law. Indeed, it can be said that it is now a standard for companies to have compliance programs or at least some elements of such programs such as codes of conduct. We submit that this growing recognition of the purpose of compliance and ethics programs has reached broad-based acceptance and should now be recognized in the competition law field by the United States and other governments as a standard of international law.

The Concept of Organizational Liability

Under many legal regimes, a corporation cannot be criminally punished for the actions of its employees, and until relatively recently (at least if you consider a century relatively recent), under the common law, a corporation was viewed as a legal fiction, 3 which could not be held liable for the criminal conduct of its employees. In the United States, it was not until 1909, in New York Central & Hudson River Railroad v. United States, 4 that the Supreme Court ruled that because the great majority of business transactions were conducted by corporations, it was time to abandon the "old and exploded doctrine" that a corporation was not indictable. 5 The Court reasoned that, as a matter of public policy, because a corporation could be held civilly liable, criminal liability should also follow. 6

This concept of corporate liability has been extended to the point where the business is often held liable for acts of employees even if the [\*370] company was not aware of the violation, 7 prohibited the conduct that led to the violation, 8 or there was no actual benefit to the corporation through the acts of the employee. 9 So even if none of the three justifications for corporate liability are present, i.e., knowledge, benefit, or authority, corporate liability for the acts of an employee - in addition to the liability of the employee - may still be found. A number of reasons have been given for this approach, but a consistent argument is that this type of liability will have an in terrorem effect on the corporation and force the entity to make certain that employees obey the law. 10 As a practical matter, it also reflects the reality that employees working through a corporation, whether or not their actions are authorized, can cause harm far beyond the abilities of one person. Therefore, according to this line of reasoning, it is appropriate that the entity be punished criminally (and pay civil damages).

The usual rule in the United States and other common law countries is that a corporation is liable for acts of agents and employees acting within the scope of their employment and, in most cases, with the intent to benefit the company. 11 This approach derives from the common law doctrine of respondeat superior, which held that a master is generally liable for the actions of servants, but may escape liability if the servant acts outside the scope of employment (i.e., takes action for [\*371] which there is no actual or apparent authority). 12 The concept of apparent authority, the authority that outsiders would normally assume the agent to possess judging from his or her position in the company and the circumstances surrounding previous instances of conduct, is often the foundation for a finding of corporate liability. 13 Employees are assumed to be acting within the scope of their employment 14 if they are doing acts on the corporation's behalf in the performance of their general line of work. 15 An agent must be "performing acts of the kind which he is authorized to perform, and those acts must be motivated - at least in part - by an intent to benefit the corporation." 16 It is not necessary that the acts actually benefited the corporation, only that they were intended to do so.

The court decisions and statutes that led to these multiple bases for finding enterprise liability grew up in an era where there was recognition of the power of the "faceless" corporation and the need to control its activities. Courts would impute knowledge or intent to the corporation, even where there was no benefit to the enterprise by the wrongful acts of the employee and the activities did not benefit the corporation, although some courts are willing to consider whether the violation was foreseeable. 17 In other situations, liability might be imputed to a corporate officer or director for failure to exert their authority to ensure that the corporation (i.e., acting through employees) did not do wrong. 18

But it is also an inescapable fact of our human existence that people are fallible, and that in some cases people will ignore instructions and do things that they were expressly forbidden to do. By holding a corporation liable for virtually anything that any employee does, a situation of strict liability is created that may, in fact, be outside the scope of many laws that require an intent to violate the law. [\*372] Notwithstanding the desire to control the power of the corporation, there are limits to what it can do. The efforts of the corporation to control the actions of employees are a valid consideration in determining whether the corporation should be held liable for the actions of an employee, as was noted in the instructions to the jury after the trial of Arthur Andersen in connection with the Enron debacle:

If an agent was acting within the scope of his or her employment, the fact that the agent's act was illegal, contrary to the partnership's instructions, or against the partnership's policies does not relieve the partnership of responsibility for the agent's acts. A partnership may be held responsible for the acts its agents performed within the scope of their employment even though the agent's conduct may be contrary to the partnership's actual instructions or contrary to the partnership's stated policies. You may, however, consider the existence of Andersen's policies and instructions, and the diligence of its efforts to enforce any such policies and instructions, in determining whether the firm's agents were acting within the scope of their employment. 19

The key here is "diligence." Was a compliance program something that existed only on paper, 20 or were there indicia of sincerity on the part of the corporation that showed that it legitimately tried to enforce its policy of compliance? The diligence of the corporation in enforcing its policy should be a key factor in determining if it is the kind of program that should entitle the corporation to some measure of mitigation from legal penalties imposed as a result of the actions of an employee that disobeyed the policy. 21

[\*373] Competition law imposes certain standards of behavior that are accepted because of an understanding that society benefits from competition. Therefore, in most cases, cartels are prohibited, as is abuse of market power or dominance. There is a recognition in many areas of law that transparency is beneficial, and thus bribes or secret rebates are prohibited for their disruptive impact on competition, as well as their inherent corruptness.

But how do these standards become accepted? It is not sufficient only to implement national laws and multinational agreements. Enforcement authorities recognize that there must also be private action to enforce policies within corporations and to demonstrate that noncompliance with law will not be tolerated. As will be discussed below, there are benchmarks of what is an "effective" compliance and ethics program that have received broad-based acceptance. Standards of international competition law cannot have their desired impact without international standards and efforts for compliance. Companies need to be able to know that what they do to implement compliance standards does matter so that they will make a diligent effort to prevent cartel behavior from happening. If a company has taken serious action to enforce its standards, such as by discharge of employees who violate the law, 22 this level of corporate compliance, which is expected by enforcement authorities, should be recognized when deciding how to treat corporations, including charging and penalty decisions.

So, there is a combination of factors at work here. Competition law standards are virtually universal in their acceptance. 23 To get those standards to actually be implemented by corporations, there need to be corporate compliance and ethics programs in place. Standards of culpability recognize that factors such as intent, knowledge, and benefit are relevant to findings of corporate liability. A number of countries do specifically encourage compliance and ethics programs, including in the antitrust area. 24 Therefore, this growing, worldwide acceptance, combined with universal necessity, has established an international law not just for antitrust, but for antitrust compliance. The countries that do not formally recognize the value of bona fide compliance programs as relevant to corporate liability, perhaps seduced by the possibility of collecting huge fines from a corporate piggy-bank, are out-of-step with the reality of what is necessary to truly promote the principles of competition law.

#### U.S. commitment prevents the disintegration of international economic law – extinction.

Arcuri ’20 [Alessandra; 2020; Full Professor of Inclusive Global Law and Governance at the Erasmus School of Law, Journal of International Economic Law, “International Economic Law and Disintegration: Beware the Schmittean Moment,” vol. 23]

Introduction

There was a time when national sovereignty was out of fashion. In the nineties, international lawyers were engaged in imaging the global order beyond the nation-state. Theories to make this order possible were proliferating: from Global Administrative Law to global constitutionalism.1 International Economic Law (IEL) played an important role in the journey toward the global order. Our markets could be integrated through an almost brand new organization, the World Trade Organization (WTO). The WTO was created and endowed with a powerful set of new agreements, promoting the harmonization of health and safety law—through the Sanitary and Phytosanitary (SPS) Agreement—and technical regulation—Technical Barriers to Trade (TBT) Agreement—and establishing (relatively uniform) Intellectual Property Rights regimes worldwide (the TRIPS Agreement). The WTO also included a brand new dispute settlement system, considered by many as a manifestation of the rule of law at the international level. Similarly, organizations such as the World Bank and the International Monetary Fund (IMF) were indirectly spreading (de-)regulatory policies throughout the developing world.2 Globalization, nudged by a global technocratic elite, was alive and kicking, back then.

Today we face a crisis of the regime of international economic law and, more broadly, global economic governance. The system appears broken for its incapacity to face some of the most daunting challenges of our time: the widespread and dramatic process of environmental degradation and the unacceptable inequalities between poor and rich. On its face, the phenomenon of far-right populists, partly reflected in Brexit and Trump politics, and spreading across the Atlantic is shaking the system of international economic law, by hailing nationalist policies. The idea that the nation-state may be a desirable source of disintegration of the global (legal) order is gaining traction across the political spectrum. It appears clear that the answer to the legitimacy crisis of the system of international economic law and governance offered by progressives3 resorts also to entrusting the nation state with more political space—a space that allegedly has been unduly constrained by the global economic order.

Not only politicians but also progressive academicians, such as Professor Dani Rodrik, have defended the importance of national sovereignty,4 as one of the necessary paradigms to fix our broken world order. The gist of the reasoning is simple: global institutions went too far in eroding national sovereignty, which is the real basis for democratic liberal regimes. Without the nation-state, environmental, industrial, and redistributive policies cannot be realized. As Rodrik put it: ‘So, I accept that nation-states are a source of disintegration for the global economy.’5

This article critically engages with the idea that the nation-state is a legitimate force of disintegration of the international economic order, with particular attention to trade and investment agreements. There are disparate circumstances, from the realm of food safety regulation to the regulation of capital flows,6 in which it is arguably desirable that domestic institutions (re-)gain more power. Most importantly, the nation-state is today an important site of democracy and, only for that reason, it is worth defending. Yet, in times of raising authoritarianism, it is crucial to reflect on some of the limits of the nation-state and on the necessity to develop alternative paradigms for integrating economies and societies.

This article presents a two-fold critique of the idea that an expansion of national sovereignty is going to achieve a better socio-economic world order per se. The first critique is internal, showing that the nation-state does not possess intrinsic characteristics to facilitate democracy, equality, and sustainability. The second is external and focuses on the necessity to look reflexively at the goals of the system of international economic law, to re-imagine it as capable to address questions of inequality and environmental degradation.

In a more pragmatic fashion, this article posits that more nation-state may be a misleading and possibly dangerous response to today’s daunting challenges. It is misleading in so far as it promises solutions that nation-states alone cannot deliver. It is dangerous in so far as the rhetoric of the nation-state paradoxically facilitates the turn toward an expansion of the ‘rule of exception’ and, eventually, authoritarianism. Above all, in advocating for disintegration through the nation-state, we need to reckon with our haunting past where economic autarchy has been deeply intertwined with the ascent of fascism and Nazism. If today the nation-state may appear as a beacon of democracy, the role of nationalism in generating the nemesis of democracy should not be neglected. In short, and at the risk of oversimplification, ‘America first’ echoes too closely fascist slogans.7

I. A PROGRESSIVE DEFENSE OF THE NATION-STATE AND THE RISK OF A ‘SCHMITTEAN MOMENT’

Let me start by rehashing the two interconnected and equally formidable challenges we are facing today: the question of environmental degradation and the unacceptable level of inequalities whereby a large part of the population in the world lives in poverty (both in developing and developed countries, but still overwhelmingly concentrated in so-called developing countries) vis-à-vis a small elite enjoying incredible wealth. Economic integration that does not deal with these challenges is not only doomed to fail; it is a type of economic integration that we should not aspire to.

It is plausible that Brexit and the disintegrationist economic policy of Trump have been partly enabled by the growing inequalities in the Anglophone nations. It is no brainer that a large fraction of Brexiteers and Trump voters are the ‘left behind.’8 In wealthy countries, the working class often felt left behind by thriving globalization, which has benefited only the elites. The—often labelled—‘populist turn’ rests on the idea that the ‘other’, the ‘foreigner’ has stolen ‘our’ welfare and a more nationalistic policy is needed to protect the losers of the current state of affairs. This is evident from Trump’s slogan ‘Buy American, Hire American.’ It is worrying how this type of nationalism is entrenched in racism and in the othering of the non-American.

However, as mentioned earlier, the case for more nation-state has also been made by ‘progressive’ politicians and intellectuals. Among progressive economists, Dani Rodrik stands out for having defended the nation-state with compelling arguments. Let me quote him at length: ‘When it comes to providing the arrangements that markets rely on, the nation-state remains the only effective actor, the only game in town. Our elites’ and technocrats’ obsession with globalism weakens citizenship where it is most needed—at home—and makes it more difficult to achieve economic prosperity, financial stability, social inclusion, and other desirable objectives.’9 Not only is the nation-state the only game in town, when it comes to issues of redistribution, social security and safety, the nation-state is also desirable because it can deliver institutional diversity which is needed to realize the social contract: ‘Developing nations have different institutional requirements than rich nations. There are, in short, strong arguments against global institutional harmonization.’10 The nation-states can meet different preferences, and ‘[i]nsufficient appreciation of the value of nation-states leads to dead ends.’ Rodrik also concedes that international market liberalization is the offspring of well-functioning nation-states rather than international institutions: ‘Domestic political bargains, more than GATT rules, sustained the openness that came to prevail.’11 Against this background, Rodrik defends ‘economic populism’ in so far as it constitutes a form of resistance to ‘liberal technocrats’ imposing undue restraints on domestic economic policy.12 The rigid focus on price stability in low-inflation environments is a clear example of global or EU-driven policies largely insensitive to the effects on employment and paradoxically even growth.13

Many of Rodrik’s arguments are compelling, such as his critique of the economic profession’s misleading analysis of trade and investment agreements. Some of his reform proposals, such as the strengthening of green industrial policy,14 are arguably desirable. Most crucially, the nation-state may be at present one of the most developed sites of democracy, albeit an imperfect one. When global institutions constrain nation-state policies formed following democratic decision-making, this may legitimately be seen as a threat to democracy. Rodrik’s work has had a wide echo in legal circles, as evidenced by the publication of a book with the goal of reimagining trade and investment law, 15 which is opened by several chapters all commenting—in overwhelmingly positive terms—on Rodrik’s Straight Talks on Trade. The nation-state and, more generally, sovereignty is (re-)gaining traction also among progressive political theorists. In times of economic and existential uncertainties, sovereignty is there to offer protection ‘from unfettered markets and from permanently incumbent austerity’ and it constitutes a ‘refusal of a “liquid society” and of its very solid … inequalities.’16 Some of the most lucid analyses of the current international economic order point at the dramatic consequences of an increase of capitalist power that has incapacitated states to act in defense of its own people.17 The attention on sovereignty is also partly reflected in recently negotiated provisions of new trade and investment agreements, where states are explicitly endowed with a ‘right to regulate.’ Despite the unclear practical implications of such jargon, its symbolic value is unambiguously bearing witness to the shared view that states ought to maintain (or regain) political space. Against this background, Trump’s claims to defend the Ohio steel workers by whatever trade measures it takes may appear more acceptable. Could we then read in this reinvigorated faith in sovereignty a ‘Grotian moment’?18

Without indulging on this question, this article posits that we should beware the ‘risk’ of entering a ‘Schmittean moment’.19 This term is here used to refer to a major shift toward an ideal of unfettered national sovereignty as the chief paradigm to re-orient the international (economic) order. Under such ideal, any international normative benchmark is brushed away by an allegedly more intellectually honest ‘political’ dimension, which can find its realization only in the decisionist state.20 To understand the risk of a ‘Schmittean moment’, it is important to recognize that the move toward more nation-state is partly animated by the legitimate concerns over the existing international legal order; legitimate concerns, which have eloquently been articulated by Schmitt himself.

Carl Schmitt’s work offers a lucid critique of the ‘exclusionary character of liberal universalism.’21 His critique exposes the hypocrisy underpinning many universalisms, most prominently the legal canon of ‘just’ war.22 In fact, it is the very core of the contemporary international legal project that gets questioned: ‘The concept of humanity is an especially useful ideological instrument of imperialist expansion, and in its ethical-humanitarian form, it is a specific vehicle of economic imperialism. Here, one is reminded of a somewhat modified expression of Proudhon’s: whoever invokes humanity wants to cheat.’23 This argument has direct relevance for the domain of international economic law. In an endnote to this claim—discussing the extermination of Indians in North America—Schmitt explains the danger to use certain moral canons as exclusionary devices: ‘As civilization progresses and morality rises, even less harmless things than devouring human flesh could perhaps qualify as deserving to be outlawed in such a manner. Maybe one day, it will be enough if people were unable to pay its debts.’24 This consideration is of extreme actuality in relation to the current international legal order, which seems to have crystallized structures of annihilation of debt states, and their very peoples.25 In decrying how the economical is rescinded by the political, Schmitt unveils the absent ‘presence’ of (mostly American) politics in the economy. In short, Schmitt’s analysis cogently engages with the problem of depoliticization that the international liberal order yields.26 It is at this juncture that the thoughts of Schmitt and Rodrik may intersect. In some sense, Schmitt’s critique resonates with the critique of ‘hyper-globalization’ articulated by Rodrik:27 ‘one type of failure arose from pushing rule making onto supranational domains too far beyond the reach of political debate and control.’28

Before elaborating on this intersection, it is key to rehash some flaws of Schmitt’s analysis. While he has certainly a point in showing how liberal universalism can be used to arbitrarily exert hegemonic power in the name of humanity (and has so been used in such way by the US and other predominantly Western countries), the alternative he implicitly propounds rests on a nostalgia for a mythical past—a golden age based on the jus publicum Europaeum. Regrettably, this age has been golden only for some; the jus publicum Europaeum for all its glory was made of colonial relations, exploitation, and violence. It has also been noted how Schmitt’s historical analysis, which portrays the times of the jus publicum Europaeum as times where war gets domesticated by the modern state eclipses the fact that the ‘development of the modern state apparatus … helped bring about unprecedented capacities for organized state violence, even if such violence was no longer typically unleashed against fellow Europeans.’29 His conception of sovereignty, which finds essential realization only in the ‘unlimited jurisdictional competence’ normalizes the rule of exception. A related trouble with Schmitt’s core normative ideas is the totalizing enemy-friendship antithesis: ‘the distinction of friend and enemy denotes the utmost degree of intensity of a union or separation, of an association or dissociation.’30 This is particular fatal to an ideal of nonviolent international law, as it denies even the aspiration of solidarity beyond borders.31 In other words, Schmitt conceptualization of the international legal order crystallizes nation-state borders in deeper existential structures, leaving no hope for common projects of different communities inhabiting the earth. In exposing the violence of allegedly humanitarian projects, Schmitt is de facto hollowing out the concept humanity, reducing its essence to violence in potentia: ‘the entire life of a human being is a struggle and every human being symbolically a combatant. The friend, enemy, and combat concepts receive their real meaning precisely because they refer to the real possibility of physical killing.’32 In denouncing the hypocrisy of moralism, Schmitt seems to negate the possibility of morality altogether. The Nomos of the earth, starting with the act of appropriation—nehmen (take)—and continuing with dividing the land—nemein (divide)—does not engage with the morality of the first act of appropriation nor with its division. And this is also what Hanna Arendt contests to Schmitt: ‘to remove justice from the content of the law.’33

### 1NC---OFF

Regs CP

#### The United States federal government should:

#### create an agency tasked with certifying the safety and assessing liability for emerging tech systems, including biotechnology, drones, space weapons, and all AI;

#### inaugurate an agency tasked with advancing global pandemic risk readiness and substantially increase global health funding and R&D;

#### reimburse hospitals that responsibly prescribe novel antibiotics and induces antibiotic development

#### continually staff these new agencies with rotating, nonpartisan field experts without financial ties to relevant industries;

#### and not prohibit states or state actors from enacting anticompetitive business practices immunized by the state action immunity doctrine, clarifying that North Carolina Dental’s active supervision requirements abrogated state action immunity.

#### It solves emerging tech.

Scherer ’16 [Matthew; Spring;, Attorney, Buchanan Angeli Altschul & Sullivan LLP, Harvard Journal of Law & Technology; “Regulating Artificial Intelligence Systems: Risks, Challenges, Competencies, And Strategies,” 29 Harv. J. Law & Tec 353]

Part IV sets forth a proposed regulatory regime for AI. The purpose of this proposal is not to provide a complete blueprint for an AI regulatory regime, but rather to start a conversation on how best to manage the public risks associated with AI without stifling innovation. To that end, the scheme outlined below proposes legislation, the Artificial Intelligence Development Act ("AIDA"), that would create an agency tasked with certifying the safety of AI systems. Instead of giving the new agency FDA-like powers to ban products it believes to be unsafe, AIDA would create a liability system under which the designers, manufacturers, and sellers of agency-certified AI programs would be subject to limited tort liability, while uncertified programs that are offered for commercial sale or use would be subject to strict joint and several liability.

AIDA leverages the respective institutional strengths of legislatures, agencies, and courts, as discussed in Part III, while taking account of the unique aspects of AI research that make it particularly difficult to regulate, as discussed in Part II. It takes advantage of legislatures' democratic legitimacy by assigning legislators the task of setting forth the goals and purposes that guide AI regulation. It delegates the substantive task of assessing the safety of AI systems to an independent agency staffed by specialists, thus insulating decisions about the safety of specific AI systems from the pressures exerted by electoral politics. This critical task is assigned to agencies because those institutions are better equipped than courts to assess the safety of individual AI systems, largely due to the misaligned incentives of the court system. Decisions regarding the safety of an emerging technology should not be informed primarily by testimony from hired guns chosen by litigants, particularly because individual court cases rarely reflect the overall risks and benefits associated with any technology. n146 Finally, AIDA leverages courts' experience in adjudicating individual disputes by assigning courts the tasks of determining whether an AI system falls within the scope of an agency-certified design and allocating responsibility when the interaction between multiple components of an AI system give rise to tortious harm.

This strong tort-based system would compel designers and manufacturers to internalize the costs associated with AI-caused harm -- ensuring compensation for victims and forcing AI designers, programmers, and manufacturers to examine the safety of their systems -- without the innovation-stifling effects of an agency empowered to ban certain AI systems outright.

#### And generally makes state regs effective.

Tseytlin ’16 [Misha; Feb 2; Solicitor General of Wisconsin; “Occupational Licensing/State Action Doctrine,” Statement of Misha Tseytlin Solicitor General Wisconsin for the Committee on Senate Judiciary Subcommittee on Antitrust, Competition Policy and Consumer Rights, CQ]

II. The Supreme Court's Decision In North Carolina State Board of Dental Examiners

In North Carolina State Board of Dental Examiners, the Supreme Court adopted a far-reaching limitation on the State Action Doctrine. The North Carolina Dental Board a garden-variety state- regulatory board had sent out cease-and-desist letters to individuals conducting teeth whitening, alleging that those individuals were violating the state prohibition against practicing dentistry without a license. The FTC found that sending these cease-and-desist letters violated Section 1 of the Sherman Act, and that the board was not protected by the State Action Doctrine. See In re N.C. St. Bd. of Dental Exam'rs, 2011-2 Trade Cases P 77705, 152 F.T.C. 640, 2011 WL 11798463 (Dec. 2, 2011).

In an opinion for six Justices written by Justice Kennedy, the Court affirmed the FTC's conclusion that the state dental board would be treated like a private party acting on behalf of the State, for purposes of federal antitrust liability. The Court based its decision upon the fact that, because a majority of the board members are active dentists, a "controlling number of decisionmakers are active market participants in the occupation the board regulates." N.C. St. Bd. of Dental Exam'rs, 135 S. Ct. at 1114.

The Court held that whenever a state board is controlled by active market participants, the Board can only obtain State Action Doctrine immunity if (1) the board acts pursuant to a State's articulation of "a clear policy to allow the anticompetitive conduct"; and (2) "the State provides active supervision of [the] anticompetitive conduct." Id. at 1111 (quotation omitted). The fact that a regulatory board is "designated by the States as [an] agency" does not change the analysis because "State agencies controlled by active market participants, who possess singularly strong private interests, pose the very risk of self-dealing [that the active] supervision requirement was created to address." Id. at 1113-14. This was an extremely consequential, far-reaching holding because, as the States had explained in their amicus brief, many regulatory boards throughout the country are composed of active professionals. See Brief of Amici Curiae State of West Virginia and 22 Other States, at 8-14.

The Court also provided some general parameters as to what it would take for a board to satisfy these elements. First, the "clear articulation" prong is satisfied "where the displacement of competition [is] the inherent, logical, or ordinary result of the exercise of authority delegated by the state legislature." N.C. St. Bd. of Dental Exam'rs, 135 S. Ct. at 1112 (citing Phoebe Putney, 133 S. Ct. at 1010-13). Second, active supervision is satisfied where "state officials [that are themselves not active professionals] have and exercise power to review particular anticompetitive acts of private parties and disapprove those that fail to accord with state policy." N.C. St. Bd. of Dental Exam'rs, 135 S. Ct. at 1112 (citation omitted). "Active supervision need not entail day-to-day involvement in an agency's operations or micromanagement of its every decision. Rather, the question is whether the State's review mechanisms provide realistic assurance that a nonsovereign actor's anticompetitive conduct promotes state policy, rather than merely the party's individual interests." Id. at 1116 (citation omitted).

"The supervisor must review the substance of the anticompetitive decision, not merely the procedures followed to produce it; the supervisor must have the power to veto or modify particular decisions to ensure they accord with state policy; and the mere potential for state supervision is not an adequate substitute for a decision by the State." Id. at 1117 (citation omitted).

In a powerful dissent, Justice Alito writing for himself and two other Justices argued that the history and text of the Sherman Act make plain that state regulatory boards fall outside of the Act's reach. Id. at 1118-19 (Alito, J., dissenting). The dissent further explained that the majority's decision would cause "practical problems and is likely to have far-reaching effects on the States' regulation of professions." Id. at 1122. "As a result of today's decision, States may find it necessary to change the composition of medical, dental, and other boards, but it is not clear what sort of changes are needed to satisfy the test that the Court now adopts." Id. at 1122-23 (emphasis added). Justice Alito then laid out the numerous ambiguities the States will face in attempting to protect their state agencies and personnel from antitrust liability: "What is a 'controlling number'? . . . [D]oes the Court mean to leave open the possibility that something less than a majority might suffice in particular circumstances? . . . Who is an 'active market participant'? If Board members withdraw from practice during a short term of service but typically return to practice when their terms end, does that mean that they are not active market participants during their period of service?" Id. at 1123.

III. Lawsuits That Have Been Filed In Light Of North Carolina State Board of Dental Examiners

The North Carolina State Board of Dental Examiners decision makes it easier for antitrust plaintiffs to sue regulatory boards created by the sovereign States, and thus will encourage more such lawsuits. Below, I provide several examples of federal lawsuits that have already been brought under that decision. Given that the Supreme Court issued that decision just eleven months ago, there is a serious concern that these early-filed lawsuits are just the tip of the oncoming iceberg. Notably, even though some of the cases below have been unsuccessful to date, the cost of defending against such lawsuits can be substantial.

-- Teladoc, Inc. v. Texas Medical Board, No. 15-cv-343 (W.D. Tx. April 29, 2015): Sherman Act lawsuit filed by providers of telephonic medical services against the Texas Medical Board. The district court granted a preliminary injunction against the Board, Dkt. 44 (May 29, 2015), and denied the Board's motion to dismiss, Dkt. 80 (Dec. 14, 2015). The case is on an interlocutory appeal before the Court of Appeals for the Fifth Circuit. See No. 16-50017 (5th Cir. 2016).

-- Strategic Pharmaceutical Solutions, Inc. v. Nevada State Board of Pharmacy, No. 16-cv-171 (D. Nev. Jan. 26, 2016). Sherman Act lawsuit filed by pet-medication distributors against the Nevada State Board of Pharmacy. This case is pending in the district court.

-- Express Lien, Inc. v. Cleveland Metropolitan Bar Association, No. 15-cv-2519 (E.D. La. July 19, 2015): Sherman Act lawsuit filed by a construction-lien software company against the Cleveland Metropolitan Bar Association. The case is pending before the district court.

-- WSPTN Corp. v. Tennessee Department of Health, No. 15-cv-840 (M.D. Tenn. July 30, 2015): Sherman Act lawsuit filed by hearing- aid retailers against the Tennessee Department of Health. The case has been stayed by request of all parties, pending settlement negotiations. Dkt. 67 (Oct. 30, 2015).

-- Axcess Med. Clinic, Inc. v. Mississippi Board of Medical Licensure, No. 15-cv-307 (S.D. Miss. Apr. 24, 2015): Sherman Act lawsuit filed by owner of medical clinics against the Mississippi Board of Medical Licensure. This case was dismissed by stipulation without prejudice to refile. Dkt. 2 (Aug. 31, 2016).

-- Coestervms.com, Inc. v. Virginia Real Estate Appraisers Board, No. 1:15-CV-980 (E.D. Va. Oct. 6, 2015): Sherman Act lawsuit filed by appraisal management company for unlawful orders against the Virginia Real Estate Appraisers. This case was voluntarily dismissed. Dkt. 15 (Oct. 6, 2015).

-- Rodgers v. Louisiana State Board of Nursing, No. 15-cv-615 (M.D. La. Aug. 12, 2015): Sherman Act lawsuit filed by a student at Grambling State University against the Louisiana State Board of Nursing. The lawsuit was dismissed on sovereign immunity grounds, see dkt. 42 (Dec. 12, 2015), and is on appeal before the Court of Appeals for the Fifth Circuit, see No. 16-30023 (5th Cir. 2016).

-- Robb v. Connecticut Board of Veterinary Medicine, No. 15-cv- 906 (D. Conn. June 12, 2015): Sherman Act lawsuit filed by a veterinarian against the Connecticut Board of Veterinary Medicine. The district court recently granted the Board's motion to dismiss, Dkt. 47 (Jan. 20, 2016), but further proceedings are probable.

-- Petrie v. Virginia Board of Medicine, No. 13-cv-1486 (E.D. Va. Fed. 3, 2014): Sherman Act lawsuit filed by a chiropractor against the Virginia Board of Medicine. The district court granted summary judgment in the Board's favor. The case is on appeal before the Court of Appeals for the Fourth Circuit, and is scheduled for argument on March 22, 2016. See No. 15-1007 (4th Cir. 2015).

IV. Steps The States And Congress Can Take In Response To North Carolina State Board of Dental Examiners

Most State responses to the North Carolina State Board of Dental Examiners decision are still in their nascent phase. The Supreme Court issued its decision just eleven months ago, when many State legislatures were already deep into their work for that year's session.3 Accordingly, many States in 2015 did not have the opportunity to consider fully how to grapple with this decision. Indeed, given the complexities that this decision poses for the States as Justice Alito's dissent articulates it may take years for many States to decide what steps they will take. In the meantime, plaintiffs will likely bring more lawsuits. While States can take proactive steps to limit the exposure of their regulatory boards, only clear guidance and protection from the U.S. Congress can fully alleviate this problematic situation.

The most straightforward, short-term way that States can respond to the North Carolina State Board of Dental Examiners decision is by State attorneys general and other State attorneys providing sound legal guidance to State regulatory boards and legislatures. This advice-giving has already begun. For example, the States of California and Idaho have published detailed, formal Attorney General Opinions providing advice regarding how to respond to this decision to both regulatory boards and legislatures. Many other States have offered less formal guidance. Advice has taken the form of internal memoranda, consultation, meetings and other intragovernmental communications. More such advice in various forms is likely to continue and increase in the coming years.

Many State legislatures and governors will also likely respond to the North Carolina State Board of Dental Examiners decision by making structural changes. The State of Oklahoma has been an early leader in this regard. On July 17, 2015, Oklahoma Governor Mary Fallin issued an executive order to "all state boards who have a majority of members who are participants of markets that are directly or indirectly controlled by the board" to submit "all non-rulemaking actions" to the Office of the Attorney General of Oklahoma. Oklahoma's Attorney General, Scott Pruitt, has devoted substantial resources to carrying out these responsibilities. As of last week, Attorney General Pruitt had issued 248 opinions responding to 372 requests from 20 agencies on proposed non-rulemaking actions pursuant to Governor Fallin's executive order. In addition, Connecticut adopted legislation in response to the North Carolina State Board of Dental Examiners decision, requiring that its Department of Public Health review and approve all decisions made by regulatory boards under the Department's auspices.

Similar actions by legislatures and governors will likely continue and increase in the coming years. These structural changes may consist of, among other things, changing the composition of state regulatory boards, eliminating certain boards, and altering state supervisor structures in the hopes of satisfying the active supervision test. While some of these changes may or may not have salutary benefits for consumers, depending on how they are structured, it is important to note that such alterations in the way the States structure their internal operations are very far afield from the interests that the Sherman Act was designed to protect. See N.C. St. Bd. of Dental Exam'rs, 135 S. Ct. at 1118-19 (Alito, J., dissenting).

Ultimately, however, only action by the U.S. Congress can alleviate fully the problems that the North Carolina State Board of Dental Examiners decision has created for the sovereign States. While there are many positive steps that Congress can take, one option should be considered: eliminating by statute the judicially created "active supervision" requirement from federal antitrust law. Given that the State Action Doctrine is intended to ensure that the anticompetitive policy is genuinely the policy of the State, and not of private parties, the mandate that the State itself "clearly articulated" the policy at issue fully achieves this aim.

It undermines the States' sovereign dignity including their right to "prescribe the qualifications of their own officers" for them to be forced to structure their decision making processes to avoid federal antitrust liability, as the active supervision prong requires. Gregory v. Ashcroft, 501 U.S. 452, 460 (1991) (quotation omitted). And active supervision often fails to balance these serious harms to state sovereignty with any benefits to consumers; indeed, it may well be counterproductive in this regard. As widely respected federal judge Frank H. Easterbrook explained, the "active supervision" requirement encourages States to adopt duplicative regulatory structures, which in some cases may be "conducive to competition among cartelists for rents." At a minimum, each State should have the sovereign right to choose for itself the type and level of supervision for its own State boards.

Given that the Supreme Court's decision in North Carolina State Board of Dental Examiners has so unsettled the States' expectations in this area, Congress should consider corrective action of the type described above or other measures to provide the States with more guidance. Federal legislation clearly delineating state liability if any under federal antitrust laws could better strike the balance between the twin paramount interests of federalism and consumer protection than does the uncertain, litigation-saturated status quo.

### 1NC---OFF

FTC DA

#### The FTC is escalating enforcement against dark patterns.

AELP ’12-22 [American Economic Liberties Project; December 22; Non-partisan, non-profit organization chaired by experts from Harvard University, the American Civil Liberties Union, Columbia University, and other accredited institutions; AELP, “A New Era: A Stronger FTC to Defend Working Families and Honest Businesses,” <https://www.economicliberties.us/our-work/a-new-era-a-stronger-ftc-to-defend-working-families-and-honest-businesses/>]

Ramped-Up Enforcement Against Subscription Tricks and Traps

In a bipartisan 3-to-1 vote, the FTC ramped-up enforcement against illegal subscription traps in response to a rising number of complaints about deceptive sign up tactics, unauthorized charges, and ongoing billing that is impossible to cancel. The new enforcement policy statement from the FTC made clear that deploying illegal “dark patterns” to trick consumers into signing up for subscription programs or trap them when they try to cancel is against the law, and subject to penalties.

Returned $135 Million to Working Americans

In an unprecedented year, the FTC stood up for working families by holding corporate criminals and scammers accountable. Working families across the country had over $135 million returned to them by the FTC after it was stolen, swindled, or scammed from them including $60 million in [stolen wages returned](https://www.usatoday.com/story/tech/news/2021/11/03/amazon-will-pay-back-withheld-tips-from-drivers/6265205001/) to Amazon drivers, up to $40 million to patients defrauded by [“Pharma Bro” Martin Shkreli](https://apnews.com/article/business-health-federal-trade-commission-martin-shkreli-98e0a8b6be3dc6901153610756cbb58a) after a unanimous FTC vote, and over $35 million in refunds to scam victims across the country. In addition to refunds, the FTC also pressed forward to hold bad actors accountable in court, including [suing FleetCor and its CEO for fleecing small businesses](https://www.thestreet.com/investing/fleetcor-flt-federal-trade-commission-complaint) with mystery fuel card fees.

Protected Privacy in the Digital Age

In addition to issuing a landmark report proving the leading internet service providers (ISPs)[collect and sell more data than consumers know](https://www.cnet.com/home/internet/ftc-calls-out-internet-providers-for-amassing-user-browsing-data/) — including full browsing history, location data, sexual orientation and more — the FTC also took aggressive action to protect consumers in the digital era. The FTC strengthened the Safeguards Rule to[require banks protect customer data](https://www.reuters.com/legal/transactional/new-safeguards-rule-how-will-it-impact-financial-institutions-2021-12-09/) following widespread data breaches that led to financial losses and identity theft, [protected over 100 million app users](https://www.nytimes.com/2021/01/28/us/period-apps-health-technology-women-privacy.html) by requiring sensitive health data is not shared with Facebook and Google without permission, and banned SpyFone and its CEO from the surveillance business and ordered them [delete all secretly stolen data](https://www.engadget.com/ftc-spyware-company-spyfone-surveillance-industry-151300900.html).

#### Expanding the legal scope of antitrust trades off.

Frank ’21 [Fried Frank Harris Shriver & Jacobson LLP; January 5; Law firm advising the world’s leading corporations, investment funds, and financial institutions; Lexology, “Managing Antitrust Risk in the Biden Administration,” <https://www.lexology.com/library/detail.aspx?g=8f2eaf8e-db8e-47d5-80c5-c912e3042591>]

Apart from proposed legislative changes, any change in enforcement will depend on President-Elect Biden's appointments to lead the FTC and the DOJ. What is clear, however, is that the sitting Democratic-appointed FTC Commissioners support major changes in the next Administration's approach to antitrust. For example, Commissioner Chopra has been critical of the FTC's long-standing practice of approving pharmaceutical mergers with divestitures limited to overlap products and has argued that the Commission should also consider the overall impact of the size of the companies on competition.7 He has also been particularly critical of private equity, arguing that roll-up acquisitions by PE-backed firms allow them to quietly accumulate market share and harm competition. Commissioners Chopra and Slaughter recently dissented from the DOJ/FTC Vertical Merger Guidelines and Vertical Merger Commentary because they believe that vertical merger enforcement has been too lax, and strongly cautioned the market against relying on these guidelines as an indication of how the FTC will act going forward.8

While the agencies already are focused on acquisitions of nascent competitors in markets with significant entry barriers, such deals likely will get even more scrutiny as the agencies are careful not to repeat the controversial clearances of Facebook's acquisitions of Instagram and WhatsApp. This trend was apparent in Visa/Plaid and Sabre/Farelogix, where both deals were challenged despite the targets' extremely small market share.

Federal Courts and Budget Constraints Will Be Limiting Factors

Challenging transactions based on novel antitrust theories, without the benefit of precedent, means the agencies have the uphill battle of persuading a court that the transaction violates antitrust laws. The DOJ's unsuccessful challenges of the AT&T/Time Warner and Sabre/Farelogix mergers showed how difficult it can be to win a merger challenge that goes beyond the comfort of precedent and presumptions. Notably, in Sabre/Farelogix, the court found in favor of the parties based almost entirely on the precedent set in the Supreme Court's decision in Ohio v. American Express. Similarly, the FTC's Ninth Circuit loss in its lawsuit against Qualcomm will make it more difficult to bring an antitrust challenge to licensing practices for standard-essential patents. With the Trump Administration appointing almost a quarter of active federal judges and three Supreme Court justices, winning cases that push the boundaries of antitrust law will not be easy.

Further, despite a record number of litigated cases, the budget at the antitrust agencies is insufficient to match the rhetoric of more enforcement. The DOJ had 25% fewer full-time employees in 2019 than it had 10 years earlier9 and the FTC recently imposed a hiring freeze. With limited resources, the agencies are forced to make important tradeoffs in deciding what matters to challenge, settle, or walk away from. Indeed, Commissioner Wilson reportedly voted against bringing a lawsuit to block CoStar's acquisition of RentPath, in part, because of limited FTC resources.10 Although the agencies will receive a modest budget increase for the current fiscal year,11 it is far short of what some think is needed.12 As antitrust enforcement has become a bipartisan issue, a significant increase in the antitrust agencies' budgets in the future is likely.

#### Data dystopia outweighs

Harel and Brownsword, 19—law professor at the Hebrew University of Jerusalem AND Professor in Law at King's College London (Alon and Roger, “Law, liberty and technology: criminal justice in the context of smart machines,” International Journal of Law in Context, Volume 15, Special Issue 2, June 2019, pp. 107-125, dml) [language modifications denoted by brackets]

Famously, Stephen Hawking (2018, p. 188) remarked that ‘the advent of super-intelligent AI would be either the best or the worst thing ever to happen to humanity’. At best, smart machines, smart policing and smart cities of the kind contemplated by Elizabeth Joh might signal the end of crime; but, at worst, we can imagine various dystopian futures where the existential and agential threats presented by AI have been realised. Given, in James Bridle's (2018, p. 2) words, that our technologies are complicit in ‘an out-of-control economic system that immiserates many and continues to widen the gap between rich and poor; the collapse of political and societal consensus across the globe resulting in increasing nationalisms, social divisions, ethnic conflicts and shadow wars; and a warming climate, which existentially threatens us all’, then Vincent Chiao might well be right in claiming that the turn to smart technology might not be the smartest [best] way of trying to achieve the end of crime.

In this collection, our contributors have not highlighted concerns of an existential nature. Nevertheless, we might fear that, in our quest for crime-free societies, for greater safety and well-being, we will develop and embed ever more intelligent devices to the point that there is a risk of the extinction of humans – or, if not that, then a risk of humanity surviving ‘in some highly suboptimal state or in which a large portion of our potential for desirable development is irreversibly squandered’ (Bostrom, 2014, p. 281, note 1; see also Ford, 2015). Our contributors have not yet recommended that we should follow the example of Samuel Butler's Erewhonians who, fearful for their liberty, destroyed their machines (Butler, 1872) – and who also, of course, inverted conventional wisdom by punishing those who fell ill while, by contrast, treating in hospital and sympathising with those who committed crimes such as forging cheques, setting property on fire or robbing with violence. Yet, the beauty of Erewhon is that, to some present-day readers – particularly readers who are familiar with, say, Harari's Homo Deus (2016) 15 or Häggerström's Here be Dragons (2016) – the practices of the Erewhonians might seem to be anything but benighted. Is it so ridiculous to think that, with the acceleration in technological development, machines might become much smaller and smarter, capable of reproducing themselves, communicating with one another and displaying various degrees of intelligence (if not consciousness as humans experience it) and agency? Most importantly, which policy would be the more crazy [imprudent]: to disregard machines as a threat to the human condition or to treat the threat as sufficiently serious to warrant at least some precautionary measures – albeit perhaps not precaution on the scale exercised by the Erewhonians, who destroyed ‘all the inventions that had been discovered for the preceding 271 years’ (Butler, 1872, p. 260)?

Such, however, are not the most explicit concerns of our contributors. Rather, the concerns expressed by Bowling and Iyer, by Lynskey and by Macdonald, Correia and Watkin relate to our agential interests and, in particular to our interests in privacy, in the fair collection and processing of our personal data and in access to (and the integrity of) the informational eco-system. Increasingly, it is being recognised that such interests are ‘contextual’ not only in the sense that their demands might vary from one context to another, but in the more fundamental sense that we have a common interest in a context that enables our self-development (Hu, 2017; Brincker, 2017). This is nicely expressed in a paper (discussing data governance) from the Royal Society and British Academy:

‘Future concerns will likely relate to the freedom and capacity to create conditions in which we can flourish as individuals; governance will determine the social, political, legal and moral infrastructure that gives each person a sphere of protection through which they can explore who they are, with whom they want to relate and how they want to understand themselves, free from intrusion or limitation of choice.’ (Royal Society and British Academy, 2016, p. 5)

With data being gathered, in both the public and the private sector, on an unprecedented scale (Vaidhyanathan, 2011; Galloway, 2017), we might treat such dataveillance as compromising the conditions for self-development and agency (Pasquale, 2015). Moreover, we might fear that, where data are used to train smart machines that sift and sort citizens (as mooted by the Chinese social credit system) (Chen and Cheung, 2017), then, in Glen Greenwald's (2014, p. 6) words, this could be the precursor to a truly dystopian ‘system of omnipresent monitoring and control’.

Finally, there is the subtle and insidious way in which smart machines might compromise the conditions for moral development. If we accept that the fundamental aspiration of any moral community is that its members should try to do the right thing, then this presupposes a process of moral reflection and action that accords with one's moral judgment. Of course, this does not imply that each agent will make the same moral judgment or apply the same reasons. A utilitarian community is very different to a Kantian community; but, in both cases, these are moral communities and it is their shared aspiration to do the right thing that is the lowest common denominator (Brownsword, 2013; 2018a). Arguably, liberty – in the sense of having the practical option of doing both the right thing and the wrong thing – is critical to moral community. On the East coast, where crime is rife and where prudential reasoning dominates, the moral project is poorly realised; but it is at least a community with moral possibilities and with room for moral improvement. By contrast, in the well-ordered technologically managed West coast, if the possibility of moral community is lost, then, as Beyleveld and Brownsword emphasise, this should certainly give us pause about the direction of travel in the criminal justice system.

The ability to do the right thing also hinges not only on individual deliberation, but also on public moral deliberation. The automated processes designed to disable crime also typically mute and disable public moral deliberation. If behaviour that previously was condemned and prohibited has become impossible to engage in (due to technological innovations), we are less likely to debate its justifiability. We will never know whether speed limits are justified unless some people violate them; we can never know whether certain restrictions on movement promote the public interest if such restrictions are enforced perfectly by using technological innovations. In other words, automated processes do not only erode individual moral sensibilities; they also erode public moral deliberation.

## Adv---Pharma

### 1NC---AT: Pharma

#### Innovation is high on all fronts now.

Asutosh Padhi 11-8, Managing Partner for McKinsey in North America, et al., 11/8/21, “A sustainable, inclusive, and growing future for the United States,” https://www.mckinsey.com/featured-insights/sustainable-inclusive-growth/a-sustainable-inclusive-and-growing-future-for-the-united-states

For all the United States’ economic frailties, vulnerable populations, and left-behind places, it can count on major strengths, including the resilience of its economy, the strength of its private sector, and a long tradition of innovation. On their own, the following assets will not be enough to generate sustainable and inclusive growth, but they are the essential tools needed to help the country do so:

A dynamic and resilient economy. Over the past two decades, the US economy has demonstrated remarkable resilience and dynamism. The United States rebounded from the 2008 financial crisis with robust aggregate employment growth, low inflation, and technological innovation that boosted entrepreneurship and sharply reduced prices for many consumer goods and services. Further, its economy is showing strong signs of recovery from the COVID-19 pandemic.

A robust market economy and private sector with a record of delivering. Despite the recent slowdown, US GDP per capita has more than doubled over the past 50 years, and its personal-consumption expenditure has almost tripled during that period. The domestic-business contribution to US GDP per capita has risen fourfold. Businesses account for 83 percent of US technology investment, 76 percent of US R&D investment, and 81 percent of US labor-productivity growth in the 21st century. And Americans are living longer and have more leisure time.

An unparalleled innovation engine. The United States is at the forefront of advanced technologies, from biotechnology to AI, with contributions from companies, universities, and government agencies. These technologies could be critical new sources of growth and potentially help further both inclusion and sustainability—with advances in climate science especially relevant for the latter. Innovation is not just taking place in laboratories: the COVID-19 crisis accelerated the adoption of new technologies. A McKinsey survey conducted in October 2020 found that that roughly half of the respondents reported increasing digitization of customer channels (such as through e-commerce, mobile apps, and chatbots), and two-thirds reported accelerating adoption of automation and AI.

Promising prospects for productivity growth. Evidence from some companies and sectors suggests that the United States can rebound from the COVID-19 pandemic with renewed vigor. Indeed, the pandemic accelerated trends that will likely have persistent effects with profound economic implications, hastening the potential for productivity gains—even in the sectors that have historically been slow to change. For example, in retail, with the exception of e-commerce players, companies had been slow to adopt digital sale strategies, doing so mostly as a way to complement Main Street retailing. That changed abruptly during the pandemic. It will take more companies and more sectors contributing to productivity to drive national-level productivity. If all US companies and key large sectors adopt the range of digital and productivity acceleration already seen during the pandemic, the nation could see around 1–1.5 percent higher growth across sectors over the next three years (Exhibit 5).

Prospect of robust demand in the near term, although it would need to be sustained. Stimulus programs related to the pandemic have boosted personal incomes and represent considerable savings ready to be spent. From March to April 2020 alone, the personal savings rate in the United States has shot up to nearly 34 percent, from 13 percent, and remained above 15 percent for most of the pandemic as households cut spending in the face of uncertainty. This large cache of accumulated savings and pent-up demand could drive growth momentum as people start to spend at prepandemic levels, assuming widespread vaccinations and a benign “COVID-19 exit” scenario.

Growing commitments to carbon and net zero. Looking ahead, the urgency of climate mitigation and adaptation is now more widely acknowledged in the United States and elsewhere, the resetting of government and corporate agendas is under way, green-tech costs are favorable and declining, and climate- and infrastructure-related investments can boost jobs. Many US companies are making net-zero commitments and beginning to develop plans to achieve them. Consumers may be more open to demanding more sustainable goods and services. According to a McKinsey survey in October 2020, for example, more than half of the consumers surveyed said they would buy more products with sustainable packaging if their pricing matched that of conventionally packaged ones.

Coming together on an inclusive economic agenda. Already before the COVID-19 pandemic, organizations were examining their stances regarding inclusion. For example, the US Business Roundtable revisited its purpose statement to put new emphasis on “an economy that serves all Americans,” broadening the scope from shareholders to a wider range of stakeholders.4 During the pandemic, the US social contract has been strengthened with massive state support to individuals, although it remains to be seen whether this will be a sustained change. Going forward, it will be important to harness the economic dynamism that already exists in minority communities.5 Public–private cooperation has been successful in many geographies, and technological adoption spurred by the pandemic offers new solutions—not just hybrid work but also digital finance and large-scale retraining programs.

#### Particularly in pharma.

Ikeda ’21 [Naomi; February 4; Manager of Innovation Incentives at Ayming; Pharma Times, “Pharma R&D: 2021 and beyond,” https://www.pharmatimes.com/web\_exclusives/Pharma\_R\_and\_D\_2021\_and\_beyond\_1362768]

2020 was an even bigger year than expected with the pharma sector thrown into the limelight as a potential saviour to the pandemic. Funding was channelled into pharma in record amounts, supercharging R&D activity. Public confidence is high in the industry; our recent research report based on a survey of businesses across the globe, the International Innovation Barometer (IIB), has shown that those within the pharma sector remain positive about their ability to drive forward R&D spend. In this research, conducted in May last year, 59% of respondents in the pharma sector expected their R&D budgets to either somewhat or significantly increase over the next three years.

One thing is certain; pharma has entered into 2021 with a greater presence and with more funding than before. For a long time, the sector has struggled with its image; some seeing it as a giant industry that puts profits before people. The success of COVID-19 treatments is changing this narrative and provides the pharmaceutical sector with wider investor interest and public support to use as a foundation for greater innovation for the future.

The cutting edge of pharma knows no bounds, but there are several key trends likely to define the sector in the near future.

Collaboration will be even more important

The last five years have seen increasing demands for firms to pool resources. To improve or develop products in the modern world is increasingly technical and demanding, leading to more complex developmental activities as well. At the same time, economic and regulatory pressures are squeezing margins. Developing a new drug or treatment from scratch has historically been an incredibly expensive and long process, often taking years – if not decades – before a company sees the fruits of its labour. Collaboration not only allows the burden of costs to be spread across multiple companies, but the pooling of expertise and knowledge leading to faster breakthroughs.

### 1NC---AT: Disease

#### Pandemics won’t cause human extinction

Sebastian Farquhar 17. Director at Oxford's Global Priorities Project, Owen Cotton-Barratt, a Lecturer in Mathematics at St Hugh’s College, Oxford, John Halstead, Stefan Schubert, Haydn Belfield, Andrew Snyder-Beattie, 01-23-17, "Existential Risk Diplomacy and Governance", GLOBAL PRIORITIES PROJECT 2017, https://www.fhi.ox.ac.uk/wp-content/uploads/Existential-Risks-2017-01-23.pdf

1.1.3 Engineered pandemics For most of human history, natural pandemics have posed the greatest risk of mass global fatalities.37 However, there are some reasons to believe that natural pandemics are very unlikely to cause human extinction. Analysis of the International Union for Conservation of Nature (IUCN) red list database has shown that of the 833 recorded plant and animal species extinctions known to have occurred since 1500, less than 4% (31 species) were ascribed to infectious disease.38 None of the mammals and amphibians on this list were globally dispersed, and other factors aside from infectious disease also contributed to their extinction. It therefore seems that our own species, which is very numerous, globally dispersed, and capable of a rational response to problems, is very unlikely to be killed off by a natural pandemic. One underlying explanation for this is that highly lethal pathogens can kill their hosts before they have a chance to spread, so there is a selective pressure for pathogens not to be highly lethal. Therefore, pathogens are likely to co-evolve with their hosts rather than kill all possible hosts.39

## Adv---Federalism

### 1NC---TURN

#### Extinction is inevitable from future technology — nanotech, our simulation gets shut down, AI, biotech, particle accelerators, and black swans

Bruce **Sterling**, 6-1-20**18**, "When Nick Bostrom says “Bang”," WIRED, https://www.wired.com/beyond-the-beyond/2018/06/nick-bostrom-says-bang/

4.1 Deliberate misuse of nanotechnology

In a mature form, molecular nanotechnology will enable the construction of bacterium-scale self-replicating mechanical robots that can feed on dirt or other organic matter [22-25]. Such replicators could eat up the biosphere or destroy it by other means such as by poisoning it, burning it, or blocking out sunlight. A person of malicious intent in possession of this technology might cause the extinction of intelligent life on Earth by releasing such nanobots into the environment.[9]

The technology to produce a destructive nanobot seems considerably easier to develop than the technology to create an effective defense against such an attack (a global nanotech immune system, an “active shield” [23]). It is therefore likely that there will be a period of vulnerability during which this technology must be prevented from coming into the wrong hands. Yet the technology could prove hard to regulate, since it doesn’t require rare radioactive isotopes or large, easily identifiable manufacturing plants, as does production of nuclear weapons [23].

Even if effective defenses against a limited nanotech attack are developed before dangerous replicators are designed and acquired by suicidal regimes or terrorists, there will still be the danger of an arms race between states possessing nanotechnology. It has been argued [26] that molecular manufacturing would lead to both arms race instability and crisis instability, to a higher degree than was the case with nuclear weapons. Arms race instability means that there would be dominant incentives for each competitor to escalate its armaments, leading to a runaway arms race. Crisis instability means that there would be dominant incentives for striking first. Two roughly balanced rivals acquiring nanotechnology would, on this view, begin a massive buildup of armaments and weapons development programs that would continue until a crisis occurs and war breaks out, potentially causing global terminal destruction. That the arms race could have been predicted is no guarantee that an international security system will be created ahead of time to prevent this disaster from happening. The nuclear arms race between the US and the USSR was predicted but occurred nevertheless.

4.2 Nuclear holocaust[winter]

The US and Russia still have huge stockpiles of nuclear weapons. But would an all-out nuclear war really exterminate humankind? Note that: (i) For there to be an existential risk it suffices that we can’t be sure that it wouldn’t. (ii) The climatic effects of a large nuclear war are not well known (there is the possibility of a nuclear winter). (iii) Future arms races between other nations cannot be ruled out and these could lead to even greater arsenals than those present at the height of the Cold War. The world’s supply of plutonium has been increasing steadily to about two thousand tons, some ten times as much as remains tied up in warheads ([9], p. 26). (iv) Even if some humans survive the short-term effects of a nuclear war, it could lead to the collapse of civilization. A human race living under stone-age conditions may or may not be more resilient to extinction than other animal species.

4.3 We’re living in a simulation and it gets shut down

A case can be made that the hypothesis that we are living in a computer simulation should be given a significant probability [27]. The basic idea behind this so-called “Simulation argument” is that vast amounts of computing power may become available in the future (see e.g. [28,29]), and that it could be used, among other things, to run large numbers of fine-grained simulations of past human civilizations. Under some not-too-implausible assumptions, the result can be that almost all minds like ours are simulated minds, and that we should therefore assign a significant probability to being such computer-emulated minds rather than the (subjectively indistinguishable) minds of originally evolved creatures. And if we are, we suffer the risk that the simulation may be shut down at any time. A decision to terminate our simulation may be prompted by our actions or by exogenous factors.

While to some it may seem frivolous to list such a radical or “philosophical” hypothesis next the concrete threat of nuclear holocaust, we must seek to base these evaluations on reasons rather than untutored intuition. Until a refutation appears of the argument presented in [27], it would intellectually dishonest to neglect to mention simulation-shutdown as a potential extinction mode.

4.4 Badly programmed superintelligence

When we create the first superintelligent entity [28-34], we might make a mistake and give it goals that lead it to annihilate humankind, assuming its enormous intellectual advantage gives it the power to do so. For example, we could mistakenly elevate a subgoal to the status of a supergoal. We tell it to solve a mathematical problem, and it complies by turning all the matter in the solar system into a giant calculating device, in the process killing the person who asked the question. (For further analysis of this, see [35].)

4.5 Genetically engineered biological agent

With the fabulous advances in genetic technology currently taking place, it may become possible for a tyrant, terrorist, or ~~lunatic~~ to create a doomsday virus, an organism that combines long latency with high virulence and mortality [36].

Dangerous viruses can even be spawned unintentionally, as Australian researchers recently demonstrated when they created a modified mousepox virus with 100% mortality while trying to design a contraceptive virus for mice for use in pest control [37]. While this particular virus doesn’t affect humans, it is suspected that an analogous alteration would increase the mortality of the human smallpox virus. What underscores the future hazard here is that the research was quickly published in the open scientific literature [38]. It is hard to see how information generated in open biotech research programs could be contained no matter how grave the potential danger that it poses; and the same holds for research in nanotechnology.

Genetic medicine will also lead to better cures and vaccines, but there is no guarantee that defense will always keep pace with offense. (Even the accidentally created mousepox virus had a 50% mortality rate on vaccinated mice.) Eventually, worry about biological weapons may be put to rest through the development of nanomedicine, but while nanotechnology has enormous long-term potential for medicine [39] it carries its own hazards.

4.6 Accidental misuse of nanotechnology (“gray goo”)

The possibility of accidents can never be completely ruled out. However, there are many ways of making sure, through responsible engineering practices, that species-destroying accidents do not occur. One could avoid using self-replication; one could make nanobots dependent on some rare feedstock chemical that doesn’t exist in the wild; one could confine them to sealed environments; one could design them in such a way that any mutation was overwhelmingly likely to cause a nanobot to completely cease to function [40]. Accidental misuse is therefore a smaller concern than malicious misuse [23,25,41].

However, the distinction between the accidental and the deliberate can become blurred. While “in principle” it seems possible to make terminal nanotechnological accidents extremely improbable, the actual circumstances may not permit this ideal level of security to be realized. Compare nanotechnology with nuclear technology. From an engineering perspective, it is of course perfectly possible to use nuclear technology only for peaceful purposes such as nuclear reactors, which have a zero chance of destroying the whole planet. Yet in practice it may be very hard to avoid nuclear technology also being used to build nuclear weapons, leading to an arms race. With large nuclear arsenals on hair-trigger alert, there is inevitably a significant risk of accidental war. The same can happen with nanotechnology: it may be pressed into serving military objectives in a way that carries unavoidable risks of serious accidents.

In some situations it can even be strategically advantageous to deliberately make one’s technology or control systems risky, for example in order to make a “threat that leaves something to chance” [42].

4.7 Something unforeseen

We need a catch-all category. It would be foolish to be confident that we have already imagined and anticipated all significant risks. Future technological or scientific developments may very well reveal novel ways of destroying the world.

Some foreseen hazards (hence not members of the current category) which have been excluded from the list of bangs on grounds that they seem too unlikely to cause a global terminal disaster are: solar flares, supernovae, black hole explosions or mergers, gamma-ray bursts, galactic center outbursts, supervolcanos, loss of biodiversity, buildup of air pollution, gradual loss of human fertility, and various religious doomsday scenarios. The hypothesis that we will one day become “illuminated” and commit collective suicide or stop reproducing, as supporters of VHEMT (The Voluntary Human Extinction Movement) hope [43], appears unlikely. If it really were better not to exist (as Silenus told king Midas in the Greek myth, and as Arthur Schopenhauer argued [44] although for reasons specific to his philosophical system he didn’t advocate suicide), then we should not count this scenario as an existential disaster. The assumption that it is not worse to be alive should be regarded as an implicit assumption in the definition of Bangs. Erroneous collective suicide is an existential risk albeit one whose probability seems extremely slight. (For more on the ethics of human extinction, see chapter 4 of [9].)

4.8 Physics disasters

The Manhattan Project bomb-builders’ concern about an A-bomb-derived atmospheric conflagration has contemporary analogues.

There have been speculations that future high-energy particle accelerator experiments may cause a breakdown of a metastable vacuum state that our part of the cosmos might be in, converting it into a “true” vacuum of lower energy density [45]. This would result in an expanding bubble of total destruction that would sweep through the galaxy and beyond at the speed of light, tearing all matter apart as it proceeds.

Another conceivability is that accelerator experiments might produce negatively charged stable “strangelets” (a hypothetical form of nuclear matter) or create a mini black hole that would sink to the center of the Earth and start accreting the rest of the planet [46].

These outcomes seem to be impossible given our best current physical theories. But the reason we do the experiments is precisely that we don’t really know what will happen. A more reassuring argument is that the energy densities attained in present day accelerators are far lower than those that occur naturally in collisions between cosmic rays [46,47]. It’s possible, however, that factors other than energy density are relevant for these hypothetical processes, and that those factors will be brought together in novel ways in future experiments.

The main reason for concern in the “physics disasters” category is the meta-level observation that discoveries of all sorts of weird physical phenomena are made all the time, so even if right now all the particular physics disasters we have conceived of were absurdly improbable or impossible, there could be other more realistic failure-modes waiting to be uncovered. The ones listed here are merely illustrations of the general case.

#### Growth causes a global toxification crisis - risks extinction

Ehrlichand Ehrlich 13 [Paul R. Ehrlich, Professor of Biology and President of the Center for Conservation Biology at Stanford University, and Adjunct Professor at the University of Technology, Sydney, Anne H. Ehrlich, Senior Research Scientist in Biology at Stanford and focuses her research on policy issues related to the environment, “Can a collapse of global civilization be avoided?”, Proc Biol Sci. Mar 7, 2013; 280(1754), \\wyo-bb]

Another possible threat to the continuation of civilization is global toxification. Adverse symptoms of exposure to synthetic chemicals are making some scientists increasingly nervous about effects on the human population [77–79]. Should a global threat materialize, however, no planned mitigating responses (analogous to the ecologically and politically risky ‘geoengineering’ projects often proposed to ameliorate climate disruption [80]) are waiting in the wings ready for deployment. Much the same can be said about aspects of the epidemiological environment and the prospect of epidemics being enhanced by rapid population growth in immune-weakened societies, increased contact with animal reservoirs, high-speed transport and the misuse of antibiotics [81]. Nobel laureate Joshua Lederberg had great concern for the epidemic problem, famously stating, ‘The survival of the human species is not a preordained evolutionary program’ [82, p. 40]. Some precautionary steps that should be considered include forbidding the use of antibiotics as growth stimulators for livestock, building emergency stocks of key vaccines and drugs (such as Tamiflu), improving disease surveillance, expanding mothballed emergency medical facilities, preparing institutions for imposing quarantines and, of course, moving as rapidly as possible to humanely reduce the human population size. It has become increasingly clear that security has many dimensions beyond military security [83,84] and that breaches of environmental security could risk the end of global civilization.

#### War is inevitable---BUT, the longer we wait, the worse it gets.

Seth **Baum &** Anthony **Barrett 18**. Global Catastrophic Risk Institute. 2018. “A Model for the Impacts of Nuclear War.” SSRN Electronic Journal. Crossref, doi:10.2139/ssrn.3155983.

On the other end of the spectrum, the norm could be weaker. The Hiroshima and Nagasaki bombings provided a vivid and enduring image of the horrors of nuclear war—hence the norm can reasonably be described as a legacy of the bombings. Without this image, there would be less to motivate the norm. A weaker norm could in turn have led to a nuclear war occurring later, especially during a near-miss event like the Cuban missile crisis. A later nuclear war would likely be much more severe, assuming some significant buildup of nuclear arsenals and especially if “overkill” targeting was used. A new nuclear war could bring a similarly wide range of shifts in nuclear weapons norms. It could strengthen the norm, hastening nuclear disarmament. Already, there is a political initiative drawing attention to the humanitarian consequences of nuclear weapons use in order to promote a new treaty to ban nuclear weapons as a step towards complete nuclear disarmament (Borrie 2014). It is easy to imagine this initiative using any new nuclear attacks to advance their goals. Alternatively, it could weaken the norm, potentially leading to more and/or larger nuclear wars. This is a common concern, as seen for example in debates over low-yield bunker buster nuclear weapons (Nelson 2003). Given that the impacts of a large nuclear war could be extremely severe, a shift in nuclear weapons norms could easily be the single most consequential effect of a smaller nuclear war.

#### Nuke war won’t cause extinction---BUT, it’ll spur political will for meaningful disarmament.

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Although nuclear war is the oldest of these technogenic threats to civilization and human survival, and although important steps to restraint, particularly at the end of the Cold War, have been achieved, the nuclear world is increasingly changing in major ways, and in almost entirely dangerous directions. The third “bombs away” phase of the great debate on the nuclear-political question is more consequentially divided than in the first two phases. Even more ominously, most of the momentum lies with the forces that are pulling states toward nuclear-use, and with the radical actors bent on inflicting catastrophic damage on the leading states in the international system, particularly the United States. In contrast, the arms control project, although intellectually vibrant, is largely in retreat on the world political stage. The arms control settlement of the Cold War is unraveling, and the world public is more divided and distracted than ever. With the recent election of President Donald Trump, the United States, which has played such a dominant role in nuclear politics since its scientists invented these fiendish engines, now has an impulsive and uninformed leader, boding ill for nuclear restraint and effective crisis management. Given current trends, it is prudent to assume that sooner or later, and probably sooner, nuclear weapons will again be the used in war. But this bad news may contain a “silver lining” of good news. Unlike a general nuclear war that might have occurred during the Cold War, such a nuclear event now would probably not mark the end of civilization (or of humanity), due to the great reductions in nuclear forces achieved at the end of the Cold War. Furthermore, politics on “the day after” could have immense potential for positive change. The survivors would not be likely to envy the dead, but would surely have a greatly renewed resolution for “never again.” Such an event, completely unpredictable in its particulars, would unambiguously put the nuclear-political question back at the top of the world political agenda. It would unmistakeably remind leading states of their vulnerability It might also trigger more robust efforts to achieve the global regulation of nuclear capability. Like the bombings of Hiroshima and Nagasaki that did so much to catalyze the elevated concern for nuclear security in the early Cold War, and like the experience “at the brink” in the Cuban Missile Crisis of 1962, the now bubbling nuclear caldron holds the possibility of inaugurating a major period of institutional innovation and adjustment toward a fully “bombs away” future.

#### Industrial civilization wouldn’t recover.

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Imagine that the world as we know it ends tomorrow. There’s a global catastrophe: a pandemic virus, an asteroid strike, or perhaps a nuclear holocaust. The vast majority of the human race perishes. Our civilisation collapses. The post-apocalyptic survivors find themselves in a devastated world of decaying, deserted cities and roving gangs of bandits looting and taking by force. Bad as things sound, that’s not the end for humanity. We bounce back. Sooner or later, peace and order emerge again, just as they have time and again through history. Stable communities take shape. They begin the agonising process of rebuilding their technological base from scratch. But here’s the question: how far could such a society rebuild? Is there any chance, for instance, that a post-apocalyptic society could reboot a technological civilisation? Let’s make the basis of this thought experiment a little more specific. Today, we have already consumed the most easily drainable crude oil and, particularly in Britain, much of the shallowest, most readily mined deposits of coal. Fossil fuels are central to the organisation of modern industrial society, just as they were central to its development. Those, by the way, are distinct roles: even if we could somehow do without fossil fuels now (which we can’t, quite), it’s a different question whether we could have got to where we are without ever having had them. So, would a society starting over on a planet stripped of its fossil fuel deposits have the chance to progress through its own Industrial Revolution? Or to phrase it another way, what might have happened if, for whatever reason, the Earth had never acquired its extensive underground deposits of coal and oil in the first place? Would our progress necessarily have halted in the 18th century, in a pre-industrial state? It’s easy to underestimate our current dependence on fossil fuels. In everyday life, their most visible use is the petrol or diesel pumped into the vehicles that fill our roads, and the coal and natural gas which fire the power stations that electrify our modern lives. But we also rely on a range of different industrial materials, and in most cases, high temperatures are required to transform the stuff we dig out of the ground or harvest from the landscape into something useful. You can’t smelt metal, make glass, roast the ingredients of concrete, or synthesise artificial fertiliser without a lot of heat. It is fossil fuels – coal, gas and oil – that provide most of this thermal energy. In fact, the problem is even worse than that. Many of the chemicals required in bulk to run the modern world, from pesticides to plastics, derive from the diverse organic compounds in crude oil. Given the dwindling reserves of crude oil left in the world, it could be argued that the most wasteful use for this limited resource is to simply burn it. We should be carefully preserving what’s left for the vital repertoire of valuable organic compounds it offers. But my topic here is not what we should do now. Presumably everybody knows that we must transition to a low-carbon economy one way or another. No, I want to answer a question whose interest is (let’s hope) more theoretical. Is the emergence of a technologically advanced civilisation necessarily contingent on the easy availability of ancient energy? Is it possible to build an industrialised civilisation without fossil fuels? And the answer to that question is: maybe – but it would be extremely difficult. Let’s see how. We’ll start with a natural thought. Many of our alternative energy technologies are already highly developed. Solar panels, for example, represent a good option today, and are appearing more and more on the roofs of houses and businesses. It’s tempting to think that a rebooted society could simply pick up where we leave off. Why couldn’t our civilisation 2.0 just start with renewables? Well, it could, in a very limited way. If you find yourself among the survivors in a post-apocalyptic world, you could scavenge enough working solar panels to keep your lifestyle electrified for a good long while. Without moving parts, photovoltaic cells require little maintenance and are remarkably resilient. They do deteriorate over time, though, from moisture penetrating the casing and from sunlight itself degrading the high-purity silicon layers. The electricity generated by a solar panel declines by about 1 per cent every year so, after a few generations, all our hand-me-down solar panels will have degraded to the point of uselessness. Then what? New ones would be fiendishly difficult to create from scratch. Solar panels are made from thin slices of extremely pure silicon, and although the raw material is common sand, it must be processed and refined using complex and precise techniques – the same technological capabilities, more or less, that we need for modern semiconductor electronics components. These techniques took a long time to develop, and would presumably take a long time to recover. So photovoltaic solar power would not be within the capability of a society early in the industrialisation process. Perhaps, though, we were on the right track by starting with electrical power. Most of our renewable-energy technologies produce electricity. In our own historical development, it so happens that the core phenomena of electricity were discovered in the first half of the 1800s, well after the early development of steam engines. Heavy industry was already committed to combustion-based machinery, and electricity has largely assumed a subsidiary role in the organisation of our economies ever since. But could that sequence have run the other way? Is there some developmental requirement that thermal energy must come first? On the face of it, it’s not beyond the bounds of possibility that a progressing society could construct electrical generators and couple them to simple windmills and waterwheels, later progressing to wind turbines and hydroelectric dams. In a world without fossil fuels, one might envisage an electrified civilisation that largely bypasses combustion engines, building its transport infrastructure around electric trains and trams for long-distance and urban transport. I say ‘largely’. We couldn’t get round it all together. When it comes to generating the white heat demanded by modern industry, there are few good options but to burn stuff While the electric motor could perhaps replace the coal-burning steam engine for mechanical applications, society, as we’ve already seen, also relies upon thermal energy to drive the essential chemical and physical transformations it needs. How could an industrialising society produce crucial building materials such as iron and steel, brick, mortar, cement and glass without resorting to deposits of coal? You can of course create heat from electricity. We already use electric ovens and kilns. Modern arc furnaces are used for producing cast iron or recycling steel. The problem isn’t so much that electricity can’t be used to heat things, but that for meaningful industrial activity you’ve got to generate prodigious amounts of it, which is challenging using only renewable energy sources such as wind and water. An alternative is to generate high temperatures using solar power directly. Rather than relying on photovoltaic panels, concentrated solar thermal farms use giant mirrors to focus the sun’s rays onto a small spot. The heat concentrated in this way can be exploited to drive certain chemical or industrial processes, or else to raise steam and drive a generator. Even so, it is difficult (for example) to produce the very high temperatures inside an iron-smelting blast furnace using such a system. What’s more, it goes without saying that the effectiveness of concentrated solar power depends strongly on the local climate. No, when it comes to generating the white heat demanded by modern industry, there are few good options but to burn stuff. But that doesn’t mean the stuff we burn necessarily has to be fossil fuels. Let’s take a quick detour into the pre-history of modern industry. Long before the adoption of coal, charcoal was widely used for smelting metals. In many respects it is superior: charcoal burns hotter than coal and contains far fewer impurities. In fact, coal’s impurities were a major delaying factor on the Industrial Revolution. Released during combustion, they can taint the product being heated. During smelting, sulphur contaminants can soak into the molten iron, making the metal brittle and unsafe to use. It took a long time to work out how to treat coal to make it useful for many industrial applications. And, in the meantime, charcoal worked perfectly well. And then, well, we stopped using it. In retrospect, that’s a pity. When it comes from a sustainable source, charcoal burning is essentially carbon-neutral, because it doesn’t release any new carbon into the atmosphere – not that this would have been a consideration for the early industrialists. But charcoal-based industry didn’t die out altogether. In fact, it survived to flourish in Brazil. Because it has substantial iron deposits but few coalmines, Brazil is the largest charcoal producer in the world and the ninth biggest steel producer. We aren’t talking about a cottage industry here, and this makes Brazil a very encouraging example for our thought experiment. The trees used in Brazil’s charcoal industry are mainly fast-growing eucalyptus, cultivated specifically for the purpose. The traditional method for creating charcoal is to pile chopped staves of air-dried timber into a great dome-shaped mound and then cover it with turf or soil to restrict airflow as the wood smoulders. The Brazilian enterprise has scaled up this traditional craft to an industrial operation. Dried timber is stacked into squat, cylindrical kilns, built of brick or masonry and arranged in long lines so that they can be easily filled and unloaded in sequence. The largest sites can sport hundreds of such kilns. Once filled, their entrances are sealed and a fire is lit from the top. The skill in charcoal production is to allow just enough air into the interior of the kiln. There must be enough combustion heat to drive out moisture and volatiles and to pyrolyse the wood, but not so much that you are left with nothing but a pile of ashes. The kiln attendant monitors the state of the burn by carefully watching the smoke seeping out of the top, opening air holes or sealing with clay as necessary to regulate the process. Brazil shows how the raw materials of modern civilisation can be supplied without reliance on fossil fuels Good things come to those who wait, and this wood pyrolysis process can take up to a week of carefully controlled smouldering. The same basic method has been used for millennia. However, the ends to which the fuel is put are distinctly modern. Brazilian charcoal is trucked out of the forests to the country’s blast furnaces where it is used to transform ore into pig iron. This pig iron is the basic ingredient of modern mass-produced steel. The Brazilian product is exported to countries such as China and the US where it becomes cars and trucks, sinks, bathtubs, and kitchen appliances. Around two-thirds of Brazilian charcoal comes from sustainable plantations, and so this modern-day practice has been dubbed ‘green steel’. Sadly, the final third is supplied by the non-sustainable felling of primary forest. Even so, the Brazilian case does provide an example of how the raw materials of modern civilisation can be supplied without reliance on fossil fuels. Another, related option might be wood gasification. The use of wood to provide heat is as old as mankind, and yet simply burning timber only uses about a third of its energy. The rest is lost when gases and vapours released by the burning process blow away in the wind. Under the right conditions, even smoke is combustible. We don’t want to waste it. Better than simple burning, then, is to drive the thermal breakdown of the wood and collect the gases. You can see the basic principle at work for yourself just by lighting a match. The luminous flame isn’t actually touching the matchwood: it dances above, with a clear gap in between. The flame actually feeds on the hot gases given off as the wood breaks down in the heat, and the gases combust only once they mix with oxygen from the air. Matches are fascinating when you look at them closely. Wartime gasifier cars could achieve about 1.5 miles per kilogram. Today’s designs improve upon this To release these gases in a controlled way, bake some timber in a closed container. Oxygen is restricted so that the wood doesn’t simply catch fire. Its complex molecules decompose through a process known as pyrolysis, and then the hot carbonised lumps of charcoal at the bottom of the container react with the breakdown products to produce flammable gases such as hydrogen and carbon monoxide. The resultant ‘producer gas’ is a versatile fuel: it can be stored or piped for use in heating or street lights, and is also suitable for use in complex machinery such as the internal combustion engine. More than a million gasifier-powered cars across the world kept civilian transport running during the oil shortages of the Second World War. In occupied Denmark, 95 per cent of all tractors, trucks and fishing boats were powered by wood-gas generators. The energy content of about 3 kg of wood (depending on its dryness and density) is equivalent to a litre of petrol, and the fuel consumption of a gasifier-powered car is given in miles per kilogram of wood rather than miles per gallon. Wartime gasifier cars could achieve about 1.5 miles per kilogram. Today’s designs improve upon this. But you can do a lot more with wood gases than just keep your vehicle on the road. It turns out to be suitable for any of the manufacturing processes needing heat that we looked at before, such as kilns for lime, cement or bricks. Wood gas generator units could easily power agricultural or industrial equipment, or pumps. Sweden and Denmark are world leaders in their use of sustainable forests and agricultural waste for turning the steam turbines in power stations. And once the steam has been used in their ‘Combined Heat and Power’ (CHP) electricity plants, it is piped to the surrounding towns and industries to heat them, allowing such CHP stations to approach 90 per cent energy efficiency. Such plants suggest a marvellous vision of industry wholly weaned from its dependency on fossil fuel. Is that our solution, then? Could our rebooting society run on wood, supplemented with electricity from renewable sources? Maybe so, if the population was fairly small. But here’s the catch. These options all presuppose that our survivors are able to construct efficient steam turbines, CHP stations and internal combustion engines. We know how to do all that, of course – but in the event of a civilisational collapse, who is to say that the knowledge won’t be lost? And if it is, what are the chances that our descendants could reconstruct it? In our own history, the first successful application of steam engines was in pumping out coal mines. This was a setting in which fuel was already abundant, so it didn’t matter that the first, primitive designs were terribly inefficient. The increased output of coal from the mines was used to first smelt and then forge more iron. Iron components were used to construct further steam engines, which were in turn used to pump mines or drive the blast furnaces at iron foundries. And of course, steam engines were themselves employed at machine shops to construct yet more steam engines. It was only once steam engines were being built and operated that subsequent engineers were able to devise ways to increase their efficiency and shrink fuel demands. They found ways to reduce their size and weight, adapting them for applications in transport or factory machinery. In other words, there was a positive feedback loop at the very core of the industrial revolution: the production of coal, iron and steam engines were all mutually supportive. In a world without readily mined coal, would there ever be the opportunity to test profligate prototypes of steam engines, even if they could mature and become more efficient over time? How feasible is it that a society could attain a sufficient understanding of thermodynamics, metallurgy and mechanics to make the precisely interacting components of an internal combustion engine, without first cutting its teeth on much simpler external combustion engines – the separate boiler and cylinder-piston of steam engines? It took a lot of energy to develop our technologies to their present heights, and presumably it would take a lot of energy to do it again. Fossil fuels are out. That means our future society will need an awful lot of timber. An industrial revolution without coal would be, at a minimum, very difficult In a temperate climate such as the UK’s, an acre of broadleaf trees produces about four to five tonnes of biomass fuel every year. If you cultivated fast-growing kinds such as willow or miscanthus grass, you could quadruple that. The trick to maximising timber production is to employ coppicing – cultivating trees such as ash or willow that resprout from their own stump, becoming ready for harvest again in five to 15 years. This way you can ensure a sustained supply of timber and not face an energy crisis once you’ve deforested your surroundings. But here’s the thing: coppicing was already a well-developed technique in pre-industrial Britain. It couldn’t meet all of the energy requirements of the burgeoning society. The central problem is that woodland, even when it is well-managed, competes with other land uses, principally agriculture. The double-whammy of development is that, as a society’s population grows, it requires more farmland to provide enough food and also greater timber production for energy. The two needs compete for largely the same land areas. We know how this played out in our own past. From the mid-16th century, Britain responded to these factors by increasing the exploitation of its coal fields – essentially harvesting the energy of ancient forests beneath the ground without compromising its agricultural output. The same energy provided by one hectare of coppice for a year is provided by about five to 10 tonnes of coal, and it can be dug out of the ground an awful lot quicker than waiting for the woodland to regrow. It is this limitation in the supply of thermal energy that would pose the biggest problem to a society trying to industrialise without easy access to fossil fuels. This is true in our post-apocalyptic scenario, and it would be equally true in any counterfactual world that never developed fossil fuels for whatever reason. For a society to stand any chance of industrialising under such conditions, it would have to focus its efforts in certain, very favourable natural environments: not the coal-island of 18th-century Britain, but perhaps areas of Scandinavia or Canada that combine fast-flowing streams for hydroelectric power and large areas of forest that can be harvested sustainably for thermal energy. Even so, an industrial revolution without coal would be, at a minimum, very difficult. Today, use of fossil fuels is actually growing, which is worrying for a number of reasons too familiar to rehearse here. Steps towards a low-carbon economy are vital. But we should also recognise how pivotal those accumulated reservoirs of thermal energy were in getting us to where we are. Maybe we could have made it the hard way. A slow-burn progression through the stages of mechanisation, supported by a combination of renewable electricity and sustainably grown biomass, might be possible after all. Then again, it might not. We’d better hope we can secure the future of our own civilisation, because we might have scuppered the chances of any society to follow in our wake.

#### Rigorous climate simulations prove that hydrophilic black carbon would cause to atmospheric precipitation – results in a rainout effect that quickly reverses nuclear cooling

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\*BC = Black Carbon

The no-rubble simulation produces a significantly more intense fire, with more fire spread, and consequently a significantly stronger plume with larger amounts of BC reaching into the upper atmosphere than the simulation with rubble, illustrated in Figure 5. While the no-rubble simulation **represents the worst-case scenario** involving vigorous fire activity, **only a relatively small amount of carbon makes its way into the stratosphere** during the course of the simulation. But while small compared to the surface BC mass, stratospheric BC amounts from the current simulations are significantly higher than what would be expected from burning vegetation such as trees (Heilman et al., 2014), e.g., the higher energy density of the building fuels and the initial fluence from the weapon produce an intense response within HIGRAD with initial updrafts of order 100 m/s in the lower troposphere. Or, in comparison to a mass fire, wildfires will burn only a small amount of fuel in the corresponding time period (roughly 10 minutes) that a nuclear weapon fluence can effectively ignite a large area of fuel producing an impressive atmospheric response. Figure 6 shows vertical profiles of BC multiplied by 100 (number of cities involved in the exchange) from the two simulations. The total amount of BC produced is in line with previous estimates (about 3.69 Tg from no-rubble simulation); however, the majority of BC resides **below the stratosphere** (3.46 Tg below 12 km) and can be **readily impacted by scavenging from precipitation** either via pyro-cumulonimbus produced by the fire itself (not modeled) or other synoptic weather systems. While the impact on climate of these more realistic profiles will be explored in the next section, it should be mentioned that **these estimates are** still **at the high end**, considering the inherent simplifications in the combustion model that lead to **overestimating BC production**. 3.3 Climate Results Long-term climatic effects critically depend on the initial injection height of the soot, with larger quantities reaching the upper troposphere/lower stratosphere inducing a greater cooling impact because of longer residence times (Robock et al., 2007a). Absorption of solar radiation by the BC aerosol and its subsequent radiative cooling tends to heat the surrounding air, driving an initial upward diffusion of the soot plumes, an effect that depends on the initial aerosol concentrations. **Mixing and sedimentation** tend to **reduce this process**, and low altitude emissions are also significantly impacted by precipitation if aging of the BC aerosol occurs on sufficiently rapid timescales. But once at stratospheric altitudes, aerosol dilution via coagulation is hindered by low particulate concentrations (e.g., Robock et al., 2007a) and lofting to much higher altitudes is inhibited by gravitational settling in the low-density air (Stenke et al., 2013), resulting in more stable BC concentrations over long times. Of the initial BC mass released in the atmosphere, most of which is emitted below 9 km, **70% rains out within the first month** and 78%, or about 2.9 Tg, is removed within the first two months (Figure 7, solid line), with the remainder (about 0.8 Tg, dashed line) being transported above about 12 km (200 hPa) within the first week. This outcome differs from the findings of, e.g., Stenke et al. (2013, their high BC-load cases) and Mills et al. (2014), who found that most of the BC mass (between 60 and 70%) is lifted in the stratosphere within the first couple of weeks. This can also be seen in Figure 8 (red lines) and in Figure 9, which include results from our calculation with the initial BC distribution from Mills et al. (2014). In that case, only 30% of the initial BC mass rains out in the troposphere during the first two weeks after the exchange, with the remainder rising to the stratosphere. In the study of Mills et al. (2008) this percentage is somewhat smaller, about 20%, and smaller still in the experiments of Robock et al. (2007a) in which the soot is initially emitted in the upper troposphere or higher. In Figure 7, the e-folding timescale for the removal of tropospheric soot, here interpreted as the time required for an initial drop of a factor e, is about one week. This result compares favorably with the “LT” experiment of Robock et al. (2007a), considering 5 Tg of BC released in the lower troposphere, in which 50% of the aerosols are removed within two weeks. By contrast, the initial e-folding timescale for the removal of stratospheric soot in Figure 8 is about 4.2 years (blue solid line), compared to about 8.4 years for the calculation using Mills et al. (2014) initial BC emission (red solid line). The removal timescale from our forced ensemble simulations is close to those obtained by Mills et al. (2008) in their 1 Tg experiment, by Robock et al. (2007a) in their experiment “UT 1 Tg”, and © 2018 American Geophysical Union. All rights reserved. by Stenke et al. (2013) in their experiment “Exp1”, in all of which 1 Tg of soot was emitted in the atmosphere in the aftermath of the exchange. Notably, the e-folding timescale for the decline of the BC mass in Figure 8 (blue solid line) is also close to the value of about 4 years quoted by Pausata et al. (2016) for their long-term “intermediate” scenario. In that scenario, which is also based on 5 Tg of soot initially distributed as in Mills et al. (2014), the factor-of2 shorter residence time of the aerosols is caused by particle growth via coagulation of BC with organic carbon. Figure 9 shows the BC mass-mixing ratio, horizontally averaged over the globe, as a function of atmospheric pressure (height) and time. The BC distributions used in our simulations imply that the upward transport of particles is substantially less efficient compared to the case in which 5 Tg of BC is directly injected into the upper troposphere. The semiannual cycle of lofting and sinking of the aerosols is associated with atmospheric heating and cooling during the solstice in each hemisphere (Robock et al., 2007a). During the first year, the oscillation amplitude in our forced ensemble simulations is particularly large during the summer solstice, compared to that during the winter solstice (see bottom panel of Figure 9), because of the higher soot concentrations in the Northern Hemisphere, as can be seen in Figure 11 (see also left panel of Figure 12). Comparing the top and bottom panels of Figure 9, the BC reaches the highest altitudes during the first year in both cases, but the concentrations at 0.1 hPa in the top panel can be 200 times as large. Qualitatively, the difference can be understood in terms of the air temperature increase caused by BC radiation emission, which is several tens of kelvin degrees in the simulations of Robock et al. (2007a, see their Figure 4), Mills et al. (2008, see their Figure 5), Stenke et al. (2013, see high-load cases in their Figure 4), Mills et al. (2014, see their Figure 7), and Pausata et al. (2016, see one-day emission cases in their Figure 1), due to high BC concentrations, but it amounts to only about 10 K in our forced ensemble simulations, as illustrated in Figure 10. Results similar to those presented in Figure 10 were obtained from the experiment “Exp1” performed by Stenke et al. (2013, see their Figure 4). **In that scenario as well, somewhat less that 1 Tg of BC remained in the atmosphere after the initial rainout**. As mentioned before, the BC aerosol that remains in the atmosphere, lifted to stratospheric heights by the rising soot plumes, undergoes sedimentation over a timescale of several years (Figures 8 and 9). This mass represents the effective amount of BC that can force climatic changes over multi-year timescales. In the forced ensemble simulations, it is about 0.8 Tg after the initial rainout, whereas it is about 3.4 Tg in the simulation with an initial soot distribution as in Mills et al. (2014). Our more realistic source simulation involves the worstcase assumption of no-rubble (along with other assumptions) and hence serves as an upper bound for the impact on climate. As mentioned above and further discussed below, our scenario induces perturbations on the climate system similar to those found in previous studies in which the climatic response was driven by roughly 1 Tg of soot rising to stratospheric heights following the exchange. Figure 11 illustrates the vertically integrated mass-mixing ratio of BC over the globe, at various times after the exchange for the simulation using the initial BC distribution of Mills et al. (2014, upper panels) and as an average from the forced ensemble members (lower panels). All simulations predict enhanced concentrations at high latitudes during the first year after the exchange. In the cases shown in the top panels, however, these high concentrations persist for several years (see also Figure 1 of Mills et al., 2014), whereas the forced ensemble simulations indicate that the BC concentration starts to decline after the first year. In fact, in the simulation represented in the top panels, mass-mixing ratios larger than about 1 kg of BC © 2018 American Geophysical Union. All rights reserved. per Tg of air persist for well over 10 years after the exchange, whereas they only last for 3 years in our forced simulations (compare top and middle panels of Figure 9). After the first year, values drop below 3 kg BC/Tg air, whereas it takes about 8 years to reach these values in the simulation in the top panels (see also Robock et al., 2007a). Over crop-producing, midlatitude regions in the Northern Hemisphere, the BC loading is reduced from more than 0.8 kg BC/Tg air in the simulation in the top panels to 0.2-0.4 kg BC/Tg air in our forced simulations (see middle and right panels). The more rapid clearing of the atmosphere in the forced ensemble is also signaled by the soot optical depth in the visible radiation spectrum, which drops below values of 0.03 toward the second half of the first year at mid latitudes in the Northern Hemisphere, and everywhere on the globe after about 2.5 years (without never attaining this value in the Southern Hemisphere). In contrast, the soot optical depth in the calculation shown in the top panels of Figure 11 becomes smaller than 0.03 everywhere only after about 10 years. The two cases show a similar tendency, in that the BC optical depth is typically lower between latitudes 30º S-30º N than it is at other latitudes. This behavior is associated to the persistence of stratospheric soot toward high-latitudes and the Arctic/Antarctic regions, as illustrated by the zonally-averaged, column-integrated mass-mixing ratio of the BC in Figure 12 for both the forced ensemble simulations (left panel) and the simulation with an initial 5 Tg BC emission in the upper troposphere (right panel). The spread in the globally averaged (near) surface temperature of the atmosphere, from the control (left panel) and forced (right panel) ensembles, is displayed in Figure 13. For each month, the plots show the largest variations (i.e., maximum and minimum values), within each ensemble of values obtained for that month, relative to the mean value of that month. The plot also shows yearly-averaged data (thinner lines). The spread is comparable in the control and forced ensembles, with average values calculated over the 33-years run length of 0.4-0.5 K. This spread is also similar to the internal variability of the globally averaged surface temperature quoted for the NCAR Large Ensemble Community Project (Kay et al., 2015). These results imply that surface air temperature differences, between forced and control simulations, which lie within the spread may not be distinguished from effects due to internal variability of the two simulation ensembles. Figure 14 shows the difference in the globally averaged surface temperature of the atmosphere (top panel), net solar radiation flux at surface (middle panel), and precipitation rate (bottom panel), computed as the (forced minus control) difference in ensemble mean values. The sum of standard deviations from each ensemble is shaded. Differences are qualitatively significant over the first few years, when the anomalies lie near or outside the total standard deviation. Inside the shaded region, differences may not be distinguished from those arising from the internal variability of one or both ensembles. The surface solar flux (middle panel) is the quantity that appears most affected by the BC emission, with qualitatively significant differences persisting for about 5 years. The precipitation rate (bottom panel) is instead affected only at the very beginning of the simulations. The red lines in all panels show the results from the simulation applying the initial BC distribution of Mills et al. (2014), where the period of significant impact is much longer owing to the higher altitude of the initial soot distribution that results in longer residence times of the BC aerosol in the atmosphere. When yearly averages of the same quantities are performed over the IndiaPakistan region, the differences in ensemble mean values lie within the total standard deviations of the two ensembles. The results in Figure 14 can also be compared to the outcomes of other previous studies. In their experiment “UT 1 Tg”, Robock et al. (2007a) found that, when only 1 Tg of soot © 2018 American Geophysical Union. All rights reserved. remains in the atmosphere after the initial rainout, temperature and precipitation anomalies are about 20% of those obtained from their standard 5 Tg BC emission case. Therefore, the largest differences they observed, during the first few years after the exchange, were about - 0.3 K and -0.06 mm/day, respectively, comparable to the anomalies in the top and bottom panels of Figure 14. Their standard 5 Tg emission case resulted in a solar radiation flux anomaly at surface of -12 W/m2 after the second year (see their Figure 3), between 5 and 6 time as large as the corresponding anomalies from our ensembles shown in the middle panel. In their experiment “Exp1”, Stenke et al. (2013) reported global mean surface temperature anomalies not exceeding about 0.3 K in magnitude and precipitation anomalies hovering around -0.07 mm/day during the first few years, again consistent with the results of Figure 14. In a recent study, Pausata et al. (2016) considered the effects of an admixture of BC and organic carbon aerosols, both of which would be emitted in the atmosphere in the aftermath of a nuclear exchange. In particular, they concentrated on the effects of coagulation of these aerosol species and examined their climatic impacts. The initial BC distribution was as in Mills et al. (2014), although the soot burden was released in the atmosphere over time periods of various lengths. Most relevant to our and other previous work are their one-day emission scenarios. They found that, during the first year, the largest values of the atmospheric surface temperature anomalies ranged between about -0.5 and -1.3 K, those of the sea surface temperature anomalies ranged between -0.2 and -0.55 K, and those of the precipitation anomalies varied between -0.15 and -0.2 mm/day. All these ranges are compatible with our results shown in Figure 14 as red lines and with those of Mills et al. (2014, see their Figures 3 and 6). As already mentioned in Section 2.3, the net solar flux anomalies at surface are also consistent. This overall agreement suggests that the **inclusion of organic carbon aerosols, and** ensuing **coagulation** with BC, **should not dramatically alter the climatic effects** resulting from our forced ensemble simulations. Moreover, aerosol growth would likely **shorten the residence time of the BC particulate in the atmosphere** (Pausata et al., 2016), possibly **reducing the duration of these effects.**

#### Isolated island populations repopulate Earth after radiation and nuclear winter – bunkers and submarines expand the likelihood of survival

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Different types of possible catastrophes suggest different scenarios for how survival could happen on an island. What is important is that the island should have properties which protect against the specific dangers of particular global catastrophic risks. Specifically, different islands will provide protection against different risks, and their natural diversity will contribute to a higher total level of protection: **Quarantined island survives pandemic** . An island could impose effective quarantine if it is sufficiently remote and simultaneously able to protect itself, possibly using military ships and air defense. **Far northern aboriginal people survive an ice age**. Many far northern people have adapted to survive in extremely cold and dangerous environments, and under the right circumstances could potentially survive the return of an ice age. However, their cultures are endangered by globalization. If these people become dependent on the products of modern civilization, such as rifles and motor boats, and lose their native survival skills, then their likelihood of surviving the collapse of the outside world would decrease. Therefore, preservation of their survival skills may be important as a defense against the risks connected with **extreme cooling**. Remote polar island with high mountains survives brief global warming of median surface temperatures, up to 50˚C. There is a theory that the climates of planets similar to the Earth could have several semi-stable temperature levels (Popp et al., 2016). If so, because of climate change, the Earth could transition to a second semi-stable state with a median global temperature of around 330 K, about 60˚C, or about 45˚C above current global mean temperatures. But even in this climate, **some regions of Earth could still be survivable for humans**, such as the Himalayan plateau at elevations above 4,000 m, but below 6,000 (where oxygen deficiency becomes a problem), or on polar islands with mountains (however, global warming affects polar regions more than equatorial regions, and northern island will experience more effects of climate change, including thawing permafrost and possible landslides because of wetter weather). In the tropics, the combination of increased humidity and temperature may increase the wet bulb temperature above 36˚C, especially on islands, where sea moisture is readily available. In such conditions, proper human perspiration becomes impossible (Sherwood and Huber, 2010), and there will likely be increased mortality and morbidity because of tropical diseases. If temperatures later returned to normal – either naturally or through climate engineering – **the rest of the Earth could be repopulated**. ‘‘Swiss Family Robinsons’’ survive on a tropical island, unnoticed by a military robot ‘‘mutiny’’. Most AI researchers ignore medium-term AI risks, which are neither near-term risks, like unemployment, nor remote risks, like AI superintelligence. But a large drone army – if one were produced – could receive a wrong command or be infected by a computer virus, leading it to attack people indiscriminately. Remote islands without robots could provide protection in this case, allowing survival until such a drone army ran out of batteries, fuel, ammunition or other supplies: Primitive tribe survives civilizational collapse. The inhabitants of **North Sentinel Island**, near the Andaman Islands in the Indian Ocean, are hostile and uncontacted. **The Sentinelese survived the 2004 Indian Ocean tsunami apparently unaffected** (Voanews, 2009), and if the rest of humanity disappear, **they might well continue their existence without change.** Tropical Island survives extreme global nuclear winter and glaciation event. Were a **nuclear**, bolide impactor or volcanic “**winter**” scenario to unfold, these islands would remain surrounded by Warm Ocean, and local volcanism or other energy sources might provide heat, energy and food. Such island refuges may have helped life on Earth survive during the **“Snowball Earth”** event in Earth’s distant past (Hoffman et al., 1998). Remote island base for project “Yellow submarine”. Some catastrophic risks such as a gamma ray burst, a global nuclear war with high radiological contamination or multiple pandemics might be best survived **underwater in nuclear submarines** (Turchin and Green, 2017). However, after a catastrophe, the submarine with survivors would eventually need a place to dock, and an island with some prepared amenities would be a reasonable starting point for rebuilding civilization. Bunker on remote island. For risks which include multiple or complex catastrophes, such as a bolide impact, extreme volcanism, tsunamis, multiple pandemics and nuclear war with radiological contamination, **island refuges could be strengthened with bunkers**. Richard Branson survived hurricane Irma on his own island in 2017 by seeking refuge in his concrete wine cellar (Clifford, 2017). Bunkers on islands would have higher survivability compared to those close to population centers, as they will be neither a military target nor as accessible to looters or unintentionally dangerous (e.g. infected) refugees. These bunkers could potentially be connected to water sources by underwater pipes, and passages could provide cooling, access and even oxygen and food sources.

### 1NC---AT: AI

#### Emerging tech classification and regulation impossible.

Rotolo et al. 15 (Daniele, SPRU – Science Policy Research Unit, University of Sussex, Brighton BN1 9SL, United Kingdom, Diana Hicks, School of Public Policy, Georgia Institute of Technology, Atlanta 30332-0345, United States, Ben R. Martin, Centre for Science and Policy (CSAP) and Centre for Business Research, Judge Business School, University of Cambridge, Cambridge CB2 1QA, United Kingdom, “What is an emerging technology?,” Research Policy, Volume 44, Issue 10, December 2015, ScienceDirect)

3. Defining emerging technologies To further clarify what is meant by emerging technology, we reviewed literature in innovation studies dealing with definitional issues of emerging technologies. To identify relevant studies, we searched for “emerg\* technolog\*”, “tech\* emergence”, “emergence of\* technolog\*”, or “emerg\* scien\* technol\*” in publication titles by querying SCOPUS (see the left-hand column of Table 2).1 We restricted the search to the title field to limit results to publications primarily focused on emerging technologies. The search identified a total of 2201 publications from 1971 to mid 2014.2 Within this sample we selected those publications in social science domains, thus reducing the sample to 501 records (see Fig. 1). We then read the abstracts and accessed the full-text of these studies where necessary both to identify additional documents from the list of cited references and to exclude studies that are not relevant to the scope of this paper. We found that about 50% of the studies in the sample refer to a specific industrial context (e.g. listing and discussing emerging technologies in a given industry) or to the educational sector (e.g. emergence of novel technologies to improve education and learning). These were deemed not relevant to our study. The remaining studies were further examined to identify those that develop or provide definitions of emerging technologies — we searched for ‘defining’ sentences within the publication full-text by using the keywords listed above. This led to a core set of 12 studies from science and technology (S&T) policy studies, evolutionary economics, management, and scientometrics that contributed to the conceptualisation of technological emergence. These are listed with their definitions of emerging technologies in Table 3. We analysed the textual content of the definitions reported in Table 3 to extract all the component concepts. These were grouped into the attributes discussed below and used to construct our definition of emerging technologies. Extracted concepts excluded from our list of attributes will also be discussed. The first defining attribute of emerging technology, explicitly included in two of the 12 core articles, is radicalnovelty: “novelty (or newness)” (Small et al., 2014) may take the form of “discontinuous innovations derived from radical innovations” (Day and Schoemaker, 2000) and may appear either in the method or the function of the technology. To achieve a new or a changed purpose/function, emerging technologies build on different basic principles (Arthur, 2007) (e.g. cars with an internal combustion engine vs. an electric engine, cytology-based techniques vs. molecular biology technologies). Novelty is not only a characteristic of technologies deriving from technical revolutions, i.e. technologies with relatively limited prior developments (e.g. DNA sequencing technologies, molecular biology, nano-materials), but it may also be generated by putting an existing technology to a new use. The evolutionary theory of technological change views this as the speciation process of technology, that is the process of applying an existing technology from one domain to another domain or ‘niche’ (Adner and Levinthal, 2002). The niche is characterised by a selection process that is different from the one where the technology was initially applied. The niche specifically may differ in terms of adaptation (the needs of the niche) and abundance of resources. The technology applied in the niche may adapt and then emerge as well as potentially invading other domains including the initial domain (giving rise to a ‘revolution’ or a process of ‘creative destruction’). This implies that ‘evolutionary’ technology (those not characterised by revolutionary technical developments) can also be radically novel in domains of application different from those where the technology was initially developed. Adner and Levinthal (2002) provided a compelling example of the speciation process by reporting on the evolution of wireless communication technology. This technology was created for laboratory purposes, and specifically for the measurement of electromagnetic waves. Yet, it found numerous subsequent applications. Wireless communication technology first enabled communication with locations (e.g. lighthouses) otherwise not reachable with wired telegraphy. Then, applications expanded to the transmission of voice (radiotelephony and broadcasting), and, more recently, to data transmission (Wi-Fi). With each shift, wireless communication technology appeared radically novel in its new domain of application, although the technology itself had existed since the early laboratory and telegraphy applications. The evolutionary theory of technological change teaches us that radical novelty may characterise innovations based on both revolutionary and evolutionary inventions resulting from the speciation process. However, the term ‘evolutionary’ is also used to refer to incremental technological advances. To avoid ambiguity, we opted to use the term ‘radical novelty’ rather than ‘revolutionary/evolutionary’ and to contextualise it in relation to the domain(s) in which the technology is arising.3 The second defining attribute of emerging technologies, identified by three of the 12 core articles is “clockspeed nature” (Srinivasan, 2008) or “fast growth” (Cozzens et al., 2010), or at least “growth” (Small et al., 2014). Growth may be observed across a number of dimensions such as the number of actors involved (e.g. scientists, universities, firms, users), public and private funding, knowledge outputs produced (e.g. publications, patents), prototypes, products and services, etc. As with the radical novelty attribute, the fast growth of a technology needs to be contextualised. A technology may grow rapidly in comparison with other technologies in the same domain(s), therefore relativelyfastgrowth may be a better term. The third attribute of emerging technologies, identified by four of the 12 core articles is coherence that persists over time. The core articles variously describe this attribute as “convergence of previously separated research streams” (Day and Schoemaker, 2000), “convergence in technologies” (Srinivasan, 2008), and technologies that “have already moved beyond the purely conceptual stage” (Stahl, 2011). Alexander et al. (2012) point instead to the role of “an expert community of practice”, which adopts and iterates the concepts or constructs underlying the particular emerging technology. The concept of a community of practice suggests that both a number of people and a professional connection between those people are necessary. Coming together, intertwining and staying together are all entailed in coherence. Coherence refers to internal characteristics of a group such as ‘sticking together’, ‘being united’, ‘logical interconnection’ and ‘congruity’. The status of external relations is also important. The emerging technology must detach itself from its technological ‘parents’ to some degree to merit a separate identity. Furthermore, it must stay detached for some period of time to be seen as self-sustaining (Glänzel and Thijs, 2012). As we stated above, emergence is a process and coherence, detachment and identity do not characterise a final state, but are always in the process of realisation, presenting challenging issues of boundary delineation and classification. Perspective matters since an analyst may see an exciting emerging technology about to make a major economic impact in something a scientist sees as long past the exciting emerging phase. The fourth defining attribute of emerging technologies, identified by nine of the 12 core articles is to yield “benefits for a wide range of sectors” (Martin, 1995), “create new industry or transform existing ones” (Day and Schoemaker, 2000), “exert much enhanced economic influence” (Porter et al., 2002), or change “the basis of competition” (Hung and Chu, 2006). Corrocher et al. (2003) also point to the pervasiveness of the impact that the emerging technology may exert by crosscutting multiple levels of the socio-economic system, i.e. organisations and institutions, as well as knowledge production processes and technological regimes. Accordingly, we identify prominentimpact as another key attribute of emerging technologies. Most of the core articles conceived the prominent impact of emerging technologies as exerted on the entire socio-economic system. In this usage the concept of emerging technologies becomes very close to that of ‘general purpose technologies’ and so excludes technologies prominent within a specific domain. We wish to include relatively smaller scale prominence in our definition. For example, a diagnostic technology may emerge and significantly reshape the clinical practices associated with a given disease, profoundly affecting one disease domain but not others. In other words, our definition allows for prominent impact with narrow scope (emergence in one or a few domains), as well as wide-ranging impact across domains and potentially the entire socio-economic system (e.g. ICT and molecular biology). Such a perspective suggests, as with the attributes of radical novelty and relatively fast growth, the importance of contextualising the prominent impact of the observed technology within the domain(s) from which the technology emerges. The final defining attribute of emerging technologies, identified in seven of the 12 core articles is that the prominent impact of emerging technologies lies somewhere in the future — the technology is not finished. Thus, uncertainty features in the emergence process. The non-linear and multi-factor nature of emergence provides emergence with a certain degree of autonomy, which in turn makes predicting a difficult task (de Haan, 2006, Mitchel, 2007). As a consequence, knowledge of the probabilities associated with each possible outcome (e.g. potential applications of the technology, financial support for its development, standards, production costs) may be particularly problematic (Stirling, 2007). Core articles expressed this attribute in terms of the ‘potential’ that emerging technologies have for changing the existing ‘ways of doing things’ (e.g. Boon and Moors, 2008, Hung and Chu, 2006, Stahl, 2011). Ambiguity in origin and use make definitions impossible. However, these definitions seem not to disentangle explicitly another important aspect of emergence from the concept of uncertainty. This is ambiguity. Ambiguity arises because proposed applications are still malleable, fluid and in some cases contradictory, i.e. even the knowledge of possible outcomes of emergence is incomplete. A variety of possible outcomes may occur because social groups encountered during emergence hold diverging values and ascribe different meanings to the technology (Mitchel, 2007). It is worth noting that uncertainty and ambiguity are, however, not mutually exclusive (Stirling, 2007). These are not discrete conditions. A continuum exists as defined by the extent to which knowledge of possible outcomes and likelihood for each outcome is incomplete. For example, it may be problematic evaluating the probabilities associated with known possible outcomes, but at the same time there may also be a lack of knowledge of other possible outcomes such as unintended/undesirable consequences deriving from the (potentially uncontrolled) use of the technology. Uncertainty and ambiguity are key starting concepts for a wide variety of science and technology studies (STS) focusing on the role of the expectations in technological emergence (e.g. van Lente and Rip, 1998). The studies reviewed here introduced various additional concepts such as the science-based-ness, network effects, and early-stage development of emerging technologies. While the last of these seems to be implicit in the definition of emergence and the key role of networks (of users adopting the technology) is certainly not a unique feature of emerging technologies, the association with science-based-ness is less clear. The importance of science (especially public science) for the development of industrial technologies is widely accepted on the basis of substantial evidence (e.g. Narin et al., 1997). However, even today not all technological revolutions may depend on breakthrough advances in science. In certain domains, a technology can be developed without the need for deep scientific understanding of how the phenomenon underlying it works — “it is possible to know how to produce an effect without knowing how an effect is produced” (Nightingale, 2014, p. 4). For example, Vincenti (1984) provided evidence of this in the case of the construction of airplanes in the 1930s. The different parts of an airplane were initially joined using rivets with dome-shaped heads. These types of rivets, however, caused resistance to the air, thus reducing the aerodynamic efficiency of the plane. As other dimensions of airplane performance were improving (e.g. speed), the aerodynamic efficiency became increasingly relevant. The dome-shaped rivets were therefore replaced with rivets flush with the surface of the airplane. This was a major improvement for the aerodynamics of airplanes in 1930s, but it required no major scientific breakthrough.4 A more recent example is the development of smartphones which did not require major advancements in science since most of the technologies used already existed — the integration of these technologies, and advances in design for the creation of novel user interfaces instead provided the foundation of the innovation.5 For these reasons, ‘science-based-ness’ does not feature in our definition of emerging technologies. In summary, as reported in Table 4, our review of innovation studies identified five main defining characteristics or attributes of emerging technologies: (i) radical novelty, (ii) relatively fast growth, (iii) coherence, (iv) prominent impact, and (v) uncertainty and ambiguity. Combining these attributes, we define an emerging technology as a radically novel and relatively fast growing technology characterised by a certain degree of coherence persisting over time and with the potential to exert a considerable impact on the socio-economic domain(s) which is observed in terms of the composition of actors, institutions and patterns of interactions among those, along with the associated knowledge production processes. Its most prominent impact, however, lies in the future and so in the emergence phase is still somewhat uncertain and ambiguous. It is reasonable to assume that the attributes of emergence range from ‘low’ to ‘high’ levels. Nonetheless, to try and pin them down to some absolute level is rather meaningless. As discussed, the attributes of emergence (especially radical novelty and relatively fast growth) provide an indication of emergence when they are considered in the domain in which the given technology is arising and therefore in relation to other technologies that may exist in that domain. Most importantly, these attributes are likely to co-evolve and assume very different levels over different periods of emergence. In the early stage of emergence (‘pre-emergence’), a technology is likely to be characterised by high levels of radical novelty as compared to other technologies in the domain in which it is arising. However, the impact the technology can exert on that domain is still relatively low. The technology has not yet gone beyond the purely conceptual stage, multiple communities are involved in its development, and the delineation of the boundary of the technology is particularly problematic (i.e. low levels of coherence). As a consequence, its growth is relatively slow or not yet begun, and high levels of uncertainty and ambiguity are associated with the future developments of the technology — the technology may not even emerge. The technology may then acquire a certain momentum. Some trajectories of development may have been selected out and certain dimensions of performance prioritised and improved. A community of practice may have also emerged. The technology thus becomes more coherent. Its impact is also relatively less uncertain and ambiguous, and the technology starts to take off in terms of publications, patents, researchers, firms, prototypes/products, etc. However, at the same time, it is likely that the radical novelty of the technology will diminish — other technologies that exploit different basic principles may be emerging as well in the domain in which the considered technology is emerging. We conceived ‘emergence’ as this phase where the attributes of emergence are subject to dramatic change. Finally, impact and growth may enter a stable or declining phase, the technology loses its radical novelty, knowledge of the possible outcomes of the technology becomes more complete (probabilities can be perhaps assigned to outcomes), and the community of practice may become well-established (e.g. regular conferences, dedicated journals). The technology enters in a ‘post-emergence’ period. In line with the S-shaped patterns highlighted in early studies on the growth of science (e.g. De Solla Price, 1963) and in technological adoption literature (e.g. Mansfield, 1961, Rogers, 1962), we ‘stylised’ the change in the levels of the attributes of emergence as following an S curve (or more strictly, a reversed S curve in two of the five cases). This is qualitatively depicted in Fig. 2. Defining ‘emerging technology’ is, however, only half the battle. If the definition is to be useful, we must show how the attributes can be measured and thus how technologies can be classified as emerging or not. In the next section, we link our definition to the operationalisation of our definition of emerging technologies. We rely mainly on scientometric techniques, bringing in other approaches to fill certain gaps.

#### If AI works then there won’t be arms control

Horowitz 18 Michael C. Horowitz, Professor of political science and the author of The Diffusion of Military Power: Causes and Consequences for International Politics, "World War AI," Foreign Policy, September 12, 2018. https://foreignpolicy.com/2018/09/12/will-the-united-states-lose-the-artificial-intelligence-arms-race/

The fundamental dilemma facing most attempts at arms control is that the more useful a technology is at providing armies with an edge, the harder it is to effectively regulate. There is, after all, no arms control agreement that meaningfully restricts countries from developing tanks, submarines, or fighter jets. Effective agreements tend to restrict the use of less important weapons that don’t decide wars—such as landmines and blinding lasers—or ones that have rarely been used, such as nuclear weapons. Military history suggests that those applications of AI with the greatest relevance for fighting and winning wars will also be the hardest to regulate, since states will have an interest in investing in them.

# 2NC

## Adv---Fism

### 2NC---AT: Regulations Solve

#### No political will and any regulations will be toothless

Michael Horowitz 16, associate professor of political science and the associate director of Perry World House at the University of Pennsylvania, 6/24/2016, “Ban killer robots? How about defining them first?”, Bulletin of the Atomic Scientists, https://thebulletin.org/ban-killer-robots-how-about-defining-them-first9571

What is a killer robot? A key sticking point in the global conversation remains fundamental uncertainty about what exactly an autonomous weapon system is, along with what it means for a weapon to be beyond human control. The US Department of Defense, like many nongovernmental organizations, defines an autonomous weapon system as one with the ability to select and engage targets without human intervention. The devil, however, is in the details.

Interpreted broadly, weapon systems that select and engage targets on their own could include computer-guided precision weapons like the Tomahawk missile used by the United States and other militaries, as well as other homing munitions that have existed for many decades. On the other end of the spectrum, autonomous weapons could be defined so narrowly as to only include intelligent machines capable of cognitive judgments on par with humans. There is a huge gulf between precision-guided weapons that reduce civilian casualties and enhance battlefield effectiveness by enabling more accurate targeting, on one hand, and sentient robotic soldiers on the other. A failure to agree on a working definition makes real discussion about the differences between potential autonomous weapon systems and existing weapons difficult.

At this year’s annual Convention on Certain Conventional Weapons, attended by more than 100 countries, there was one sign of progress—what appears to be general agreement that humans should remain at the center of decision-making concerning the use of force, whether one describes that center with the phrase “meaningful human control” (the phrase preferred by NGOs) or “appropriate levels of human judgment” (preferred by the United States and some other governments). But even these phrases raise further questions about how specifically to define those terms, especially given the heavy automation in many modern weapon systems today, such as the AIM-120 AMRAAM air-to-air missile, the next-generation LRASM anti-ship missile, or the Phalanx ship-defense system.

The vast degree of uncertainty about what autonomous weapons are makes the discussion over whether to ban them fundamentally different from the arms control dialogues of the last few decades. Land mines, cluster munitions, and blinding lasers have all been regulated in recent years, the latter proactively, as they weren’t yet in battlefield use. But those campaigns focused on discrete and well-understood weapons not viewed as central to most military operations. In the case of land mines and cluster munitions, their responsibility for horrific civilian suffering around the world also loomed large.

#### Intelligence explosion is exponential and AI will hide its motives

James Daniel **Miller 18**. Based at Smith College, South Deerfield, Massachusetts. 10/11/2018. “When Two Existential Risks Are Better than One.” Foresight. Crossref, doi:10.1108/FS-04-2018-0038.

2. The dangers of unfriendly powerful artificial general intelligence Unlike with whatever wetware runs the human brain, it would be relatively easy to make changes to a PAGI’s software. PAGI could even make changes to itself. Such selfmodification could possibly allow PAGI to undergo an intelligence explosion where it figures out how to improve its own intelligence, then, as it gets smarter, it figures out new ways to improve its intelligence. It has been theorized that through recursive self-improvement a PAGI could go from being a bit smarter than humans to becoming a computer superintelligence in a matter of days (Good, 1965; Yudkowsky, 2008). If our understanding of the laws of physics is correct, the universe contains a limited amount of free energy, and this free energy is necessary to do any kind of work and most types of computing. Consequently, it has been theorized that most types of computer superintelligences would have an instrumental goal of gathering as much free energy as possible to further whatever ultimate goals they had (Omohundro, 2008). Humanity’s continued existence uses free energy. Consequently, if a PAGI did not have promoting human welfare as a goal, it would likely see humanity’s continuing existence as rival to its terminal values. A PAGI that wanted to maximize its understanding of, say, chess would further this end by exterminating mankind and using the atoms in our bodies to make chess computing hardware. A PAGI that wanted to maximize the number of paperclips in the universe would likewise kill us, not out of malice, but to align the atoms in our bodies with its objective. The term “paperclip maximizer” has come to mean a PAGI that seeks to use all the resources it can get for an objective that most humans would not consider worthwhile (Arbital Contributors, 2017). A PAGI that was smarter than humans, but not yet smart enough to take over the world, would have an incentive to hide its abilities and intentions from us if it predicted that we would turn the PAGI off if it scared us. Consequently, the PAGI might appear friendly weak, and unambitious right until it launches a surprise devastating attack on us, by taking what has been called a “treacherous turn” (Bostrom, 2014, pp. 116-119).

#### If AI works then there won’t be arms control

Horowitz 18 Michael C. Horowitz, Professor of political science and the author of The Diffusion of Military Power: Causes and Consequences for International Politics, "World War AI," Foreign Policy, September 12, 2018. https://foreignpolicy.com/2018/09/12/will-the-united-states-lose-the-artificial-intelligence-arms-race/

The fundamental dilemma facing most attempts at arms control is that the more useful a technology is at providing armies with an edge, the harder it is to effectively regulate. There is, after all, no arms control agreement that meaningfully restricts countries from developing tanks, submarines, or fighter jets. Effective agreements tend to restrict the use of less important weapons that don’t decide wars—such as landmines and blinding lasers—or ones that have rarely been used, such as nuclear weapons. Military history suggests that those applications of AI with the greatest relevance for fighting and winning wars will also be the hardest to regulate, since states will have an interest in investing in them.

#### It’s logistically impossible and will be circumvented

Satariano 18 (10/19, Adam, NYT, “Will There Be a Ban on Killer Robots?”, https://www.nytimes.com/2018/10/19/technology/artificial-intelligence-weapons.html)

LONDON — An autonomous missile under development by the Pentagon uses software to choose between targets. An artificially intelligent drone from the British military identifies firing points on its own. Russia showcases tanks that don’t need soldiers inside for combat. A.I. technology has for years led military leaders to ponder a future of warfare that needs little human involvement. But as capabilities have advanced, the idea of autonomous weapons reaching the battlefield is becoming less hypothetical. The possibility of software and algorithms making life-or-death decisions has added new urgency to efforts by a group called the Campaign To Stop Killer Robots that has pulled together arms control advocates, humans rights groups and technologists to urge the United Nations to craft a global treaty that bans weapons without people at the controls. Like cyberspace, where there aren’t clear rules of engagement for online attacks, no red lines have been defined over the use of automated weaponry. Without a nonproliferation agreement, some diplomats fear the world will plunge into an algorithm-driven arms race. In a speech at the start of the United Nations General Assembly in New York on Sept. 25, Secretary General António Guterres listed the technology as a global risk alongside climate change and growing income inequality. “Let’s call it as it is: The prospect of machines with the discretion and power to take human life is morally repugnant,” Mr. Guterres said. Two weeks earlier, Federica Mogherini, the European Union’s high representative for foreign affairs and security policy, said the weapons “impact our collective security,” and that decisions of life and death must remain in human hands. Twenty-six countries have called for an explicit ban that requires some form of human control in the use of force. But the prospects for an A.I. weapons ban are low. Several influential countries including the United States are unwilling to place limits while the technology is still in development. Diplomats have been unable to reach a consensus about how a global policy can be implemented or enforced. Some have called for a voluntary agreement, others want rules that are legally binding. A meeting of more than 70 countries organized by the United Nations in Geneva in August made little headway, as the United States and others said a better understanding of the technology was needed before sweeping restrictions can be made. Another round of talks are expected to be held later this year. Some have raised concerns that a ban will affect civilian research. Much of the most cutting-edge work in artificial intelligence and machine learning is from universities and companies such as Google and Facebook. But much of that technology can be adapted to military use. “A lot of A.I. technologies are being developed outside of government and released to the public,” said Jack Clark, a spokesman for OpenAI, a Silicon Valley group that advocates for more measured adoption of artificial intelligence. “These technologies have generic capabilities that can be applied in many different domains, including in weaponization.” Major technical challenges remain before any robot weaponry reaches the battlefield. Maaike Verbruggen, a researcher at the Institute for European Studies who specializes in emerging military and security technology, said communication is still limited, making it hard for humans to understand why artificially intelligent machines make decisions. Better safeguards also are needed to ensure robots act as predicted, she said. But significant advancements will come in the next two decades, said Derrick Maple, an analyst who studies military spending for the market research firm Jane’s by IHS Markit in London. As the technology changes, he said, any international agreement could be futile; countries will tear it apart in the event of war. “You cannot dictate the rules of engagement,” Mr. Maple said. “If the enemy is going to do something, then you have to do something as well. No matter what rules you put in place, in a conflict situation the rules will go out the window.” Defense contractors, identifying a new source of revenue, are eager to build the next-generation machinery. Last year, Boeing reorganized its defense business to include a division focused on drones and other unmanned weaponry. The company also bought Aurora Flight Sciences, a maker of autonomous aircrafts. Other defense contractors such as Lockheed Martin, BAE Systems and Raytheon are making similar shifts. Mr. Maple, who has worked in the field for over four decades, estimates military spending on unmanned military vehicles such as drones and ships will top $120 billion over the next decade. No completely autonomous weapons are known to be currently deployed on the battlefield, but militaries have been using technology to automate for years. Israel’s Iron Dome air-defense system automatically detects and destroys incoming rockets. South Korea uses autonomous equipment to detect movements along the North Korean border. Mr. Maple expects more collaboration between humans and machines before there is an outright transfer of responsibility to robots. Researchers, for example, are studying how aircrafts and tanks can be backed by artificially intelligent fleets of drones. In 2016, the Pentagon highlighted its capabilities during a test in the Mojave Desert. More than 100 drones were dropped from a fighter jet in a disorganized heap, before quickly coming together to race toward and encircle a target. From a radar video shared by the Pentagon, the drones look like a flock of migrating starlings. There were no humans at the controls of the drones as they flew overhead, and the machines didn’t look much different from those any person can buy from a consumer-electronics store. The drones were programmed to communicate with each other independently to collectively organize and reach the target. “They are a collective organism, sharing one distributed brain for decision-making and adapting to each other like swarms in nature,” William Roper, director of the Pentagon’s strategic capabilities office, said at the time. To those fearful of the advancement of autonomous weapons, the implications were clear. “You’re delegating the decision to kill to a machine,” said Thomas Hajnoczi, the head of disarmament department for the Austrian government. “A machine doesn’t have any measure of moral judgment or mercy.”

#### China thumps and is rapidly developing military AI

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1. China’s leadership – including President Xi Jinping – believes that being at the forefront in AI technology is critical to the future of global military and economic power competition. In July 2017, China’s State Council issued the New Generation Artificial Intelligence Development Plan (AIDP).1 This document – along with Made in China 2025,2 released in May 2015 – form the core of China’s AI strategy. Both documents, as well as the issue of AI more generally, have received significant and sustained attention from the highest levels of China’s leadership, including Xi Jinping. Total Chinese national and local government spending on AI to implement these plans is not publicly disclosed, but it is clearly in the tens of billions of dollars. At least two3 Chinese regional governments have each committed to investing 100 billion yuan (~$14.7 billion USD).4 The opening paragraphs of the AIDP exemplify mainstream Chinese views regarding AI: AI has become a new focus of international competition. AI is a strategic technology that will lead in the future; the world’s major developed countries are taking the development of AI as a major strategy to enhance national competitiveness and protect national security.5 The above quote also reflects how China’s AI policy community6 is paying close attention to the AI industries and policies of other countries, particularly the United States. Chinese government organizations routinely translate, disseminate, and analyze U.S. government and think tank reports about AI. In my conversations with Chinese officials and my reading of Chinese government AI reports, they demonstrated substantive and timely knowledge of AI developments in the United States and elsewhere. Chinese government AI reports frequently cite U.S. national security think tank publications.7 The U.S. policymaking community ought to make it a priority to be equally effective at translating, analyzing, and disseminating Chinese publications on AI for the insights they provide into Chinese thinking.8 2. China’s leadership – including Xi Jinping – believes that China should pursue global leadership in AI technology and reduce its vulnerable dependence on imports of international technology. In October 2018, Xi Jinping led a Politburo study session on AI. Such sessions are reserved for the high-priority policy issues where leaders need the benefit of outside expertise. Xi’s publicly reported comments during and after the study session reiterated the main conclusions of both the AIDP and Made in China 2025, which were that China should “achieve world-leading levels”9 in AI technology and reduce its vulnerable “external [foreign] dependence for key technologies and advanced equipment.”10 In his speech during the study session, Xi said that China must “ensure that our country marches in the front ranks where it comes to theoretical research in this important area of AI, and occupies the high ground in critical and AI core technologies.”11 Xi further said that China must “pay firm attention to the structure of our shortcomings, ensure that critical and core AI technologies are firmly grasped in our own hands.” Xi’s speech demonstrates that China’s leadership continues to subscribe to AIDP’s and Made in China 2025’s two major conclusions that China should pursue both world leadership and self-reliance in AI technology. The Chinese AI sector’s dependence on foreign technology is discussed further in point nine.

#### They’ll never agree and will cheat if they do

UCESRC 17 [US-China Economic and Security Review Commission Staff Research Report. China’s Position on a Code of Conduct in Space. September 8, 2017. https://www.uscc.gov/sites/default/files/Research/USCC\_China%27s%20Position%20on%20a%20Code%20of%20Conduct%20in%20Space.pdf]

South China Sea. Since China signed the China-Association of Southeast Asian Nations (ASEAN) Declaration on the Conduct of Parties in the South China Sea (DOC) in 2002, it has consistently violated its commitments under the DOC, most notably promises to not “inhabit” uninhabited features in the South China Sea and to abide by the UN Convention on the Law of the Sea (UNCLOS).\*27 While parties to the DOC affirmed they would work toward the eventual creation of a code of conduct (COC),28 the Congressional Research Service noted in July 2017 that “some observers have argued that China has been dragging out the negotiations on the COC for years as part of a ‘talk and take strategy.’”29 While China finally announced the completion of the first draft of a “framework” for the COC in March 2017,30 and Beijing has touted “cooling” tensions in the region as a result,31 it has pushed for a framework that is not legally binding and lacks enforcement mechanisms.32 Ian Storey, senior fellow at the ISEAS-Yusof Ishak Institute, a think tank in Singapore, suggests the framework “makes China look cooperative ... without having to do anything that might constrain its freedom of action.”33 Beijing also did not abide by the public promise of Chinese President and General Secretary of the Chinese Communist Party Xi Jinping—made in Washington in September 2015—to not “militarize” China’s artificial islands in the southern South China Sea,34 and China also rejected the 2016 international legal ruling that some of its specific territorial claims were invalid under UNCLOS— a legally binding treaty.35

China-India border dispute. In the wake of the 2013 Border Defense Cooperation Agreement, the most recent in a series of agreements between the two countries dating back to 1993,36 India has argued for delimiting the Line of Actual Control, while China prefers to first create a code of conduct based on the measures set forth in the agreement,37 refusing to even reveal its version of the Line of Actual Control.38 Although China has resolved numerous border disputes since 1949,39 little progress has been made in settling this dispute and prospects appear limited, given growing domestic political constraints on both sides.40 China’s July 2017 decision to unilaterally build a road through the Doklam Plateau, the site of a disputed “tri-junction” with India and Bhutan, violated China’s promises under the 2013 agreement as well as a 2012 agreement to maintain the status quo in that location.41

Cyberspace. China has argued for the creation of an international code of conduct for cyberspace within the framework of the UN, and has sought to highlight its “active role” in this area.42 China submitted a draft International Code of Conduct for Information Security to the UN in 2015 (updated from 2011), along with Russia and fellow Shanghai Cooperation Organization members Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan.43 This code promotes the concept of “cyber sovereignty,” favorable to these authoritarian countries’ widespread information controls, and has been rejected by the United States and other countries for this reason.44 While China reached a bilateral cyber agreement with the United States in 2015 in which both sides pledged to “refrain from conducting or knowingly supporting cyber-enabled theft of intellectual property,”45 the U.S. Intelligence Community assessed in May 2017 that Beijing would continue actively targeting the U.S. government, its allies, and U.S. companies for cyber espionage—citing private sector reports that these attacks have continued but at significantly lower volumes.46

Observations. Several observations can be drawn from these cases. First, Beijing appears to see inherent value in participating in diplomatic negotiations and seeking to shape emerging rules, and has frequently drawn attention to these efforts. Second, China at times appears to enter into agreements to forestall or delay other outcomes, as in the case of its acceptance of the China-ASEAN DOC followed by an extended delay in negotiating a COC, as well as its numerous border agreements with India. Finally, China has frequently broken its agreements, as in the case of the DOC, its 2015 promise not to further militarize land features in the southern South China Sea, its agreements with India, and its bilateral cyber security agreement with the United States.

### 2NC---Transition---Industrial Civ

#### Can’t rebuild industrial civilization.

John **Jacobi 17**. Leads an environmentalist research institute and collective, citing Fred Hoyle, British astronomer, formulated the theory of stellar nucleosynthesis, coined the term “big bang,” recipient of the Gold Medal of the Royal Astronomical Society, professor at the Institute of Astronomy, Cambridge University. 05-27-17. “Industrial Civilization Could Not Be Rebuilt.” The Wild Will Project. <https://www.wildwill.net/blog/2017/05/27/industrial-civilization-not-rebuilt/>

A suggestion, for the sake of thought: If industrial civilization collapsed, it probably could not be rebuilt. Civilization would exist again, of course, but industry appears to be a one-time experiment. The astronomist Fred Hoyle, exaggerating slightly, writes: It has often been said that, if the human species fails to make a go of it here on Earth, some other species will take over the running. In the sense of developing high intelligence this is not correct. We have, or soon will have, exhausted the necessary physical prerequisites so far as this planet is concerned. With coal gone, oil gone, high-grade metallic ores gone, no species however competent can make the long climb from primitive conditions to high-level technology. This is a one-shot affair. If we fail, this planetary system fails so far as intelligence is concerned. The same will be true of other planetary systems. On each of them there will be one chance, and one chance only. Hoyle overstates all the limits we actually have to worry about, but there are enough to affirm his belief that industry is a “one-shot affair.” In other words, if industry collapsed then no matter how quickly scientific knowledge allows societies to progress, technical development will hit a wall because the builders will not have the needed materials. For example, much of the world’s land is not arable, and some of the land in use today is only productive because of industrial technics developed during the agricultural revolution in the 60s, technics heavily dependent on oil. Without the systems that sustain industrial agriculture much current farm land could not be farmed; agricultural civilizations cannot exist there, at least until the soil replenishes, if it replenishes. And some resources required for industrial progress, like coal, simply are not feasibly accessible anymore. Tainter writes: . . . major jumps in population, at around A.D. 1300, 1600, and in the late eighteenth century, each led to intensification in agriculture and industry. As the land in the late Middle Ages was increasingly deforested to provide fuel and agricultural space for a growing population, basic heating, cooking, and manufacturing needs could no longer be met by burning wood. A shift to reliance on coal began, gradually and with apparent reluctance. Coal was definitely a fuel source of secondary desirability, being more costly to obtain and distribute than wood, as well as being dirty and polluting. Coal was more restricted in its spatial distribution than wood, so that a whole new, costly distribution system had to be developed. Mining of coal from the ground was more costly than obtaining a quantity of wood equivalent in heating value, and became even more costly as the 54 most accessible reserves of this fuel were depleted. Mines had to be sunk ever deeper, until groundwater flooding became a serious problem. Today, most easily accessible natural coal reserves are completely depleted. Thus, societies in the wake of our imagined collapse would not be able to develop fast enough to reach the underground coal. As a result of these limits, rebuilding industry would take at least thousands of years — it took 10,000 years the first time around. By the time a civilization reached the point where it could do something about industrial scientific knowledge it probably would not have the knowledge anymore. It would have to develop its sciences and technologies on its own, resulting in patterns of development that would probably look similar to historical patterns. Technology today depends on levels of complexity that must proceed in chronological stages. Solar panels, for example, rely on transportation infrastructure, mining, and a regulated division of labor. And historically the process of developing into a global civilization includes numerous instances of technical regression. The natives of Tasmania, for example, went from a maritime society to one that didn’t fish, build boats, or make bows and arrows. Rebuilding civilization would also be a bad idea. Most, who are exploited by rather than benefit from industry, would probably not view a rebuilding project as desirable. Even today, though citizens of first-world nations live physically comfortable lives, their lives are sustained by the worse off lives of the rest of the world. “Civilization . . . has operated two ways,” Paine writes, “to make one part of society more affluent, and the other more wretched, than would have been the lot of either in a natural state.” Consider the case of two societies in New Zealand, the Maori and the Moriori. Both are now believed to have originated out of the same mainland society. Most stayed and became the Maori we know, and some who became the Moriori people settled on the Chatham Islands in the 16th century. Largely due to a chief named Nunuku-whenua, the Moriori had a strict tradition of solving inter-tribal conflict peacefully and advocating a variant of passive resistance; war, cannibalism, and killing were completely outlawed. They also renounced their parent society’s agricultural mode of subsistence, relying heavily on hunting and gathering, and they controlled their population growth by castrating some male infants, so their impact on the non-human environment around them was minimal. In the meantime, the Maori continued to live agriculturally and developed into a populated, complex, hierarchical, and violent society. Eventually an Australian seal-hunting ship informed the Maori of the Moriori’s existence, and the Maori sailed to the Chathams to explore: . . . over the course of the next few days, they killed hundreds of Moriori, cooked and ate many of the bodies, and enslaved all the others, killing most of them too over the next few years as it suited their whim. A Moriori survivor recalled, “[The Maori] commenced to kill us like sheep . . . [We] were terrified, fled to the bush, concealed ourselves in holes underground, and in any place to escape our enemies. It was of no avail; we were discovered and eaten – men, women, and children indiscriminately.” A Maori conqueror explains, “We took possession . . . in accordance with our customs and we caught all the people. Not one escaped. Some ran away from us, these we killed, and others we killed – but what of that? It was in accordance with our custom.” Furthermore, we can deduce from the ubiquitous slavery in all the so-called “great civilizations” like Rome or Egypt that any attempt to rebuild a similar civilization will involve slavery. And to rebuild industry, something similar to colonization and the Trans-Atlantic Slave Trade would probably have to occur once again. After all, global chattel slavery enabled the industrial revolution by financing it, extracting resources to be accumulated at sites of production, and exporting products through infrastructure that slavery helped sustain. So, if industrial society collapsed, who would be doing the rebuilding? Not anyone most people like. It is hard to get a man to willingly change his traditional way of life; even harder when his new life is going into mines. And though history demonstrates that acts like those of the Maori or slave traders are not beyond man’s will or ability, certainly most in industrial society today would not advocate going through the phases required to reach the industrial stage of development.

### 2NC---Transition---Mindset

#### Major events catalyze political and social solutions that counteract any biological nature – their ev uses data that is cherry-picked and maneuvered to match the political biases of their authors

**Busser 6** [“The Evolution of Security: Revisiting the Human Nature Debate in International Relations”, Mark Busser, Master’s Candidate, Department of Political Science, York University, YCISS Working Paper Number 40, August 2006]

Responding directly to Thayer, Duncan Bell and Paul MacDonald have expressed concern at the intellectual functionalism inherent in sociobiological explanations, suggesting that too often analysts choose a specific behaviour and read backwards into evolutionary epochs in an attempt to rationalize explanations for that behaviour. These arguments, Bell and MacDonald write, often fall into what Richard Lewontin and Stephen Jay Gould have called ‘adaptionism,’ or “the attempt to understand all physiological and behavioural traits of an organism as evolutionary adaptations.”42 Arguments such as these are hand-crafted by their makers, and tend to carry forward their assumptions and biases. In an insightful article, Jason Edwards suggests that sociobiology and its successor, evolutionary psychology, are fundamentally political because they frame their major questions in terms of an assumed individualism. Edwards suggests that the main question in both sub-fields is: “given human nature, how is politics possible?”43 The problem is that the ‘givens’ of human nature are drawn backward from common knowledges and truths about humans in society, and the game-theory experiments which seek to prove them are often created with such assumptions in mind. These arguments are seen by their critics as politicized from the very start. Sociobiology in particular has been widely interpreted as a conservative politico-scientific tool because of these basic assumptions, and because of the political writings of many sociobiologists.44 Because sociobiology naturalizes certain behaviours like conflict, inequality and prejudice, Lewontin et al. suggest that it “sets the stage for legitimation of things as they are.”45 The danger inherent in arguments that incorporate sociobiological arguments into examinations of modern political life, the authors say, is that such arguments naturalize variable behaviours and support discriminatory political structures. Even if certain behaviours are found to have a biological drives behind them, dismissing those behaviours as ‘natural’ precludes the possibility that human actors can make choices and can avoid anti-social, violent, or undesirable action.46 While the attempt to discover a geneticallydetermined human nature has usually been justified under the argument that knowing humankind’s basic genetic programming will help to solve the resulting social problems, discourse about human nature seems to generate self-fulfilling prophesies by putting limits on what is considered politically possible. While sociobiologists tend to distance themselves from the naturalistic fallacy that ‘what is’ is ‘what should be,’ there is still a problem with employing adaptionism to ‘explain’ how existing political structures because conclusions tend to be drawn in terms of conclusions that assert what ‘must be’ because of biologicallyingrained constraints.47 Too firm a focus on sociobiological arguments about ‘natural laws’ draws attention away from humanity’s potential for social and political solutions that can counteract and mediate any inherent biological impulses, whatever they may be. A revived classical realism based on biological arguments casts biology as destiny in a manner that parallels the neo-realist sentiment that the international sphere is doomed to everlasting anarchy. Jim George quotes the English School scholar Martin Wight as writing that “hope is not a political virtue: it is a theological virtue.”48 George questions the practical result of traditional realsist claims, arguing that the suggestion that fallen man’s sinful state can only be redeemed by a higher power puts limitations on what is considered politically possible. Thayer’s argument rejects the religious version of the fallen man for a scientific version, but similar problems remain with his ‘scientific’ conclusions.

#### Movements will literally overthrow recalcitrant governments. Nuclear use makes the audience costs huge.

Steven R. **David 18**. Professor of Political Science at Johns Hopkins University. 2018. “The Nuclear Worlds of 2030.” Fletcher Forum of World Affairs, vol. 42, pp. 107–118. //reem

CATASTROPHE AND THE END OF NUCLEAR WEAPONS In the year 2025, the world very nearly came to an end. Smarting after several years of economic downturn and angry at American efforts to encircle it with NATO bases, Russia responded to a "plea" for help from co-ethnics in the Baltic states. Thousands of Russian troops, disguised as contract "volunteers" dashed across international borders allegedly to protect Russian speakers from governmental assaults. The Baltic countries invoked Article 5 of the NATO Treaty while American forces, deployed there precisely to deter this kind of aggression, clashed with Russian troops. Hundreds of Americans were killed. Washington warned Moscow to halt its invasion to no avail. The United States then prepared for a major airlift of its forces to the beleaguered countries, with Moscow threatening America with "unrestrained force" if it followed through. Washington ignored the threat and Moscow, seeking to "de-escalate by escalating," destroyed the American base of Diego Garcia in the Indian Ocean with a nuclear-armed cruise missile. The United States responded with limited nuclear strikes against Russian bases in Siberia. Thus far, the collateral damage had been kept to a minimum, but this bit of encouragement did not last. Fearing a massive American pre-emptive strike aimed at disarming its nuclear arsenal, Russia struck first against the range of US nuclear forces both in the United States and at sea. America responded with its surviving weapons, destroying much (but not all) of the remaining Russian nuclear arms. And then, both sides took a breather, but it was too late. Although cities had been largely spared, millions had died on each side. Making matters worse, predictions of nuclear winter came to pass - producing massive changes in the weather and killing millions more, especially in developing states. The world finally had enough. A dawning realization emerged that leaders of countries simply could not be trusted with weapons that could destroy humankind.3 Protests swept the globe calling for total disarmament. Mass demonstrations engulfed the United States and Russia demanding the replacement of their existing governments with ones committed to ending nuclear weapons. Voices calling for more moderate disarmament that would preserve a modest nuclear deterrent were angrily (and sometimes violently) quashed. The possession of nuclear weapons became morally repugnant and unacceptable. No longer were the intricacies of nuclear doctrine or force levels subject to debate. The only question remaining was how one could get rid of these loathsome weapons as quickly as possible. Under the auspices of the United Nations, a joint committee composed of the Security Council members, other countries known to possess nuclear arms, and several non-nuclear powers was established. Drawing on the structure and precedent of the Chemical Weapons Convention, this UN body drew up the Treaty that called for the complete disarmament of nuclear arms by 2030. The development, possession, and use of nuclear weapons was prohibited. An airtight inspection regime, enhancing the procedures already in existence through the Non-Proliferation Treaty, was established to first account for all nuclear arms and fissile material and then monitor the destruction of the nuclear weaponry. All countries were subject to the Treaty, whether they maintained nuclear facilities or not. Violations would produce a range of punishment from global economic sanctions to massive conventional attack.' 6 By 2030, all the nations of the world had agreed to the Treaty. No violations occurred. Armed conflicts persisted, but they proved to be of modest scale, erupting only within countries but not between them. Insofar as the fear of nuclear weapons helped keep the peace during the Cold War and post-Cold War eras, the horror of nuclear use now made war all but unthinkable. A feeling of relief swept the globe as the specter of nuclear holocaust vanished, tempered only by the painful regret that it took the death of millions to realize a goal that for so many had been self-evident since 1945.

### 2NC---Defense---AT: Nuclear Winter

#### 2---Isolated island populations repopulate Earth after radiation and nuclear winter---bunkers and submarines expand the likelihood of survival

Turchin and Green 18 (Alexey Turchin – Scientist for the Foundation Science for Life Extension in Moscow, Russia, Founder of Digital Immortality Now, author of several books and articles on the topics of existential risks and life extension. Brian Patrick Green – Director of technology ethics at the Markkula Center for Applied Ethics, teaches AI ethics in the Graduate School of Engineering at Santa Clara University. <MKIM> “Islands as refuges for surviving global catastrophes”. September 2018. DOA: 7/20/19. https://www.emerald.com/insight/content/doi/10.1108/FS-04-2018-0031/full/html?fullSc=1&mbSc=1&fullSc=1)

Different types of possible catastrophes suggest different scenarios for how survival could happen on an island. What is important is that the island should have properties which protect against the specific dangers of particular global catastrophic risks. Specifically, different islands will provide protection against different risks, and their natural diversity will contribute to a higher total level of protection: **Quarantined island survives pandemic** . An island could impose effective quarantine if it is sufficiently remote and simultaneously able to protect itself, possibly using military ships and air defense. **Far northern aboriginal people survive an ice age**. Many far northern people have adapted to survive in extremely cold and dangerous environments, and under the right circumstances could potentially survive the return of an ice age. However, their cultures are endangered by globalization. If these people become dependent on the products of modern civilization, such as rifles and motor boats, and lose their native survival skills, then their likelihood of surviving the collapse of the outside world would decrease. Therefore, preservation of their survival skills may be important as a defense against the risks connected with **extreme cooling**. Remote polar island with high mountains survives brief global warming of median surface temperatures, up to 50˚C. There is a theory that the climates of planets similar to the Earth could have several semi-stable temperature levels (Popp et al., 2016). If so, because of climate change, the Earth could transition to a second semi-stable state with a median global temperature of around 330 K, about 60˚C, or about 45˚C above current global mean temperatures. But even in this climate, **some regions of Earth could still be survivable for humans**, such as the Himalayan plateau at elevations above 4,000 m, but below 6,000 (where oxygen deficiency becomes a problem), or on polar islands with mountains (however, global warming affects polar regions more than equatorial regions, and northern island will experience more effects of climate change, including thawing permafrost and possible landslides because of wetter weather). In the tropics, the combination of increased humidity and temperature may increase the wet bulb temperature above 36˚C, especially on islands, where sea moisture is readily available. In such conditions, proper human perspiration becomes impossible (Sherwood and Huber, 2010), and there will likely be increased mortality and morbidity because of tropical diseases. If temperatures later returned to normal – either naturally or through climate engineering – **the rest of the Earth could be repopulated**. ‘‘Swiss Family Robinsons’’ survive on a tropical island, unnoticed by a military robot ‘‘mutiny’’. Most AI researchers ignore medium-term AI risks, which are neither near-term risks, like unemployment, nor remote risks, like AI superintelligence. But a large drone army – if one were produced – could receive a wrong command or be infected by a computer virus, leading it to attack people indiscriminately. Remote islands without robots could provide protection in this case, allowing survival until such a drone army ran out of batteries, fuel, ammunition or other supplies: Primitive tribe survives civilizational collapse. The inhabitants of **North Sentinel Island**, near the Andaman Islands in the Indian Ocean, are hostile and uncontacted. **The Sentinelese survived the 2004 Indian Ocean tsunami apparently unaffected** (Voanews, 2009), and if the rest of humanity disappear, **they might well continue their existence without change.** Tropical Island survives extreme global nuclear winter and glaciation event. Were a **nuclear**, bolide impactor or volcanic “**winter**” scenario to unfold, these islands would remain surrounded by Warm Ocean, and local volcanism or other energy sources might provide heat, energy and food. Such island refuges may have helped life on Earth survive during the **“Snowball Earth”** event in Earth’s distant past (Hoffman et al., 1998). Remote island base for project “Yellow submarine”. Some catastrophic risks such as a gamma ray burst, a global nuclear war with high radiological contamination or multiple pandemics might be best survived **underwater in nuclear submarines** (Turchin and Green, 2017). However, after a catastrophe, the submarine with survivors would eventually need a place to dock, and an island with some prepared amenities would be a reasonable starting point for rebuilding civilization. Bunker on remote island. For risks which include multiple or complex catastrophes, such as a bolide impact, extreme volcanism, tsunamis, multiple pandemics and nuclear war with radiological contamination, **island refuges could be strengthened with bunkers**. Richard Branson survived hurricane Irma on his own island in 2017 by seeking refuge in his concrete wine cellar (Clifford, 2017). Bunkers on islands would have higher survivability compared to those close to population centers, as they will be neither a military target nor as accessible to looters or unintentionally dangerous (e.g. infected) refugees. These bunkers could potentially be connected to water sources by underwater pipes, and passages could provide cooling, access and even oxygen and food sources.

#### There are 15 islands are capable of facilitating post-apocalyptic human repopulation---We’ll insert this chart

Turchin and Green 18 (Alexey Turchin – Scientist for the Foundation Science for Life Extension in Moscow, Russia, Founder of Digital Immortality Now, author of several books and articles on the topics of existential risks and life extension. Brian Patrick Green – Director of technology ethics at the Markkula Center for Applied Ethics, teaches AI ethics in the Graduate School of Engineering at Santa Clara University. <MKIM> “Islands as refuges for surviving global catastrophes”. September 2018. DOA: 7/20/19. https://www.emerald.com/insight/content/doi/10.1108/FS-04-2018-0031/full/html?fullSc=1&mbSc=1&fullSc=1)

Chart

Description automatically generated with medium confidence

#### 3---Superior studies- theirs are confirmation-bias laden and repeatedly disproven

S. Fred **Singer 18**. Professor emeritus at the University of Virginia and a founding director and now chairman emeritus of the Science & Environmental Policy Project, specialist in atmospheric and space physics, founding director of the U.S. Weather Satellite Service, now part of NOAA, served as vice chair of the U.S. National Advisory Committee on Oceans &amp; Atmosphere, an elected fellow of several scientific societies, including APS, AGU, AAAS, AIAA, Sigma Xi, and Tau Beta Pi, and a senior fellow of the Heartland Institute and the Independent Institute. 6-27-2018. "Remember Nuclear Winter?." American Thinker. https://www.americanthinker.com/articles/2018/06/remember\_nuclear\_winter.html

Nuclear Winter burst on the academic scene in December 1983 with the publication of the hypothesis in the prestigious journal Science. It was accompanied by a study by Paul Ehrlich, et al. that hinted that it might cause the extinction of human life on the planet. MCANW stands for Medical Campaign Against Nuclear Weapons. Photo via Wellcome Images. The five authors of the Nuclear Winter hypothesis were labeled TTAPS, using the initials of their family names (T stands for Owen Toon and P stands for Jim Pollak, both Ph.D. students of Carl Sagan at Cornell University.) Carl Sagan himself was the main author and driving force. Actually, Sagan had scooped the Science paper by publishing the gist of the hypothesis in Parade magazine, which claimed a readership of 50 million! Previously, Sagan had briefed people in public office and elsewhere, so they were all primed for the popular reaction, which was tremendous. Many of today's readers may not remember Carl Sagan. He was a brilliant astrophysicist but also highly political. Imagine Al Gore, but with an excellent science background. Sagan had developed and narrated a television series called Cosmos that popularized astrophysics and much else, including cosmology, the history of the universe. He even suggested the possible existence of extraterrestrial intelligence and started a listening project called SETI (Search for Extraterrestrial Intelligence). SETI is still searching today and has not found any evidence so far. Sagan became a sort of icon; many people in the U.S. and abroad knew his name and face. Carl Sagan also had another passion: saving humanity from a general nuclear war, a laudable aim. He had been arguing vigorously and publicly for a "freeze" on the production of more nuclear weapons. President Ronald Reagan outdid him and negotiated a nuclear weapons reduction with the USSR. In the meantime, much excitement was stirred up by Nuclear Winter. Study after study tried to confirm and expand the hypothesis, led by the Defense Department (DOD), which took the hypothesis seriously and spent millions of dollars on various reports that accepted Nuclear Winter rather uncritically. The National Research Council (NRC) of the National Academy of Sciences published a report that put in more quantitative detail. It enabled critics of the hypothesis to find flaws – and many did. The names Russell Seitz, Dick Wilson (both of Cambridge, Mass.), Steve Schneider (Palo Alto, Calif.), and Bob Ehrlich (Fairfax, Va.) (no relation to Paul Ehrlich) come to mind. The hypothesis was really "politics disguised as science." The whole TTAPS scheme was contrived to deliver the desired consequence. It required the smoke layer to be of just the right thickness, covering the whole Earth, and lasting for many months. The Kuwait oil fires in 1991 produced a lot of smoke, but it rained out after a few days. I had a mini-debate with Sagan on the TV program Nightline and published a more critical analysis of the whole hypothesis in the journal Meteorology & Atmospheric Physics. I don't know if Carl ever saw my paper. But I learned a lot from doing this analysis that was useful in later global warming research. For example, the initial nuclear bursts inject water vapor into the stratosphere, which turns into contrail-like cirrus clouds. That actually leads to a strong initial warming and a "nuclear summer."

#### 4---Resiliency---most studies say famines would kill “billions” and some casually assert everyone would die---BUT, that’s an assumption not warranted by their studies

David S. **Stevenson 17**. Professor of planetary science at Caltech. 2017. “Agents of Mass Destruction.” The Nature of Life and Its Potential to Survive, Springer, Cham, pp. 273–340. link.springer.com, doi:10.1007/978-3-319-52911-0\_7.

When the dust settled, literally as well as figuratively, one would expect most human life to have been eliminated, along with most other large animal species. As a general rule those animals with a mass over 25 kg are most susceptible to extinction, because these have the largest appetites that are hardest to satiate. Although forests, not afflicted directly by the nuclear war, would shrivel, we would expect a reasonably fast recovery. This would be aided by elevated levels of carbon dioxide from all the incinerated cities and their residents. Thus, when the skies cleared plant life would recover strongly, aided in particular by a gross reduction in organisms that would otherwise eat them. Although the carbon dioxide-driven rebound might benefit plants, a spike in global temperatures could drive further species to extinction. It is, therefore, likely that Earth would suffer a global mass extinction event on a par with the demise of the dinosaurs at the end of the Cretaceous. What about humanity—would it survive? The direct death toll from the nuclear war would hover around 1.0–1.5 billion if we assume few survivors in the cities. Radioactive fallout might kill another few hundred million in areas downwind of the explosions. Remember that climate changes and nuclear winter-driven monsoon outflows would push radioactivity from Eurasia into China (assuming it was not directly involved) and southwards across India, southeast Asia and onto Australia and New Zealand. Likewise, much of South America and Africa would be grossly polluted by outflowing winds blowing from the devastated northern continents. These contaminated winds might kill another few hundred million. However, the real killer would be the prolonged cold. Aside from a meager band of bunkered humans with access to a long-lasting power supply that was sufficient to run underground greenhouses, almost all remaining humans in North America and Eurasia could expect to die from starvation over the ensuing few weeks to months if they could not move elsewhere. The death toll would then top two billion. Climatic effects in China, southern Asia and the southern hemisphere would lead to mass starvation, potentially killing a few billion more. If we begin our all-out war in the next 30 years, then of the ten billion likely to populate the planet, less than one billion would survive. Some calculations lower the surviving population to a few hundred thousand, with almost the entire human population starving to death. However, this may be a little overly pessimistic. Humans survived the ice ages where conditions were comparable to a nuclear winter. Certainly, the air wasn’t radioactive, and no, the skies weren’t darkened. However, the dregs of humanity are likely to cling on along the coastlines of southern South America, Southern Africa and the Antipodes. Living off the sea—the contaminated sea—humanity could cling on long enough for the biosphere to recover. Most of the planet would be uninhabitable for decades thanks to chemical and radioactive pollution from the war. However, there would be sufficient land to allow bands of survivors. At this point it is down to luck whether humanity survived overall. Humanity could become extinct if the remaining thousands of people are dispersed into isolated communities. Without a means to interbreed, small populations could become so inbred as to become unstable and go into catastrophic decline. Conversely, very isolated but manageable populations could diversify so that given sufficient time new species of humans might emerge in each community. Longer term, the planet would likely benefit from such a global conflict. Spurred on by an enhanced mutation rates and the loss of its top predator, most other surviving species would be presented with an evolutionary window where they could strongly diversify. Earth would experience its second Paleocene where surviving mammalian species could diversify to fill the niches we’d abandoned. Only the rapid re-expansion of remaining human species would prevent this—and this would likely depend on what technology remained and how quickly the population could re-grow.

#### True of theirs, says “most” would starve, not all---only reference to extinction is about mass animal die offs

Starr 15 (Steve Starr - Director of the University of Missouri’s Clinical Laboratory Science Program, as well as a senior scientist at the Physicians for Social Responsibility. <MKIM> “Nuclear War, Nuclear Winter, and Human Extinction”. 10/14/19. DOA: 7/21/19. https://fas.org/pir-pubs/nuclear-war-nuclear-winter-and-human-extinction/)

While it is impossible to precisely predict all the human impacts that would result from a nuclear winter, it is relatively simple to predict those which would be most profound. That is, a nuclear winter would cause most humans and large animals to die from nuclear famine in a mass extinction event similar to the one that wiped out the dinosaurs. Following the detonation (in conflict) of US and/or Russian launch-ready strategic nuclear weapons, nuclear firestorms would burn simultaneously over a total land surface area of many thousands or tens of thousands of square miles. These mass fires, many of which would rage over large cities and industrial areas, would release many tens of millions of tons of black carbon soot and smoke (up to 180 million tons, according to peer-reviewed studies), which would rise rapidly above cloud level and into the stratosphere. [For an explanation of the calculation of smoke emissions, see Atmospheric effects & societal consequences of regional scale nuclear conflicts.] The scientists who completed the most recent peer-reviewed studies on nuclear winter discovered that the sunlight would heat the smoke, producing a self-lofting effect that would not only aid the rise of the smoke into the stratosphere (above cloud level, where it could not be rained out), but act to keep the smoke in the stratosphere for 10 years or more. The longevity of the smoke layer would act to greatly increase the severity of its effects upon the biosphere. Once in the stratosphere, the smoke (predicted to be produced by a range of strategic nuclear wars) would rapidly engulf the Earth and form a dense stratospheric smoke layer. The smoke from a war fought with strategic nuclear weapons would quickly prevent up to 70% of sunlight from reaching the surface of the Northern Hemisphere and 35% of sunlight from reaching the surface of the Southern Hemisphere. Such an enormous loss of warming sunlight would produce Ice Age weather conditions on Earth in a matter of weeks. For a period of 1-3 years following the war, temperatures would fall below freezing every day in the central agricultural zones of North America and Eurasia. [For an explanation of nuclear winter, see Nuclear winter revisited with a modern climate model and current nuclear arsenals: Still catastrophic consequences.] Nuclear winter would cause average global surface temperatures to become colder than they were at the height of the last Ice Age. Such extreme cold would eliminate growing seasons for many years, probably for a decade or longer. Can you imagine a winter that lasts for ten years? The results of such a scenario are obvious. Temperatures would be much too cold to grow food, and they would remain this way long enough to cause most humans and animals to starve to death. Global nuclear famine would ensue in a setting in which the infrastructure of the combatant nations has been totally destroyed, resulting in massive amounts of chemical and radioactive toxins being released into the biosphere.

### 2NC---Defense---AT: EMPs

#### No impact to EMPs

Hall 19 (Allen Hall – Expert in Aerospace Management, Manufacturing, Engineering and IT, worked closely with the military, research labs, FFRDC’s, AFRL, NAVSEA / NAVAIR, all the major ALC’s and all the aerospace OEM’s. <MKIM> “Who would win in a war between Russia and the US?”. 4/25/19. DOA: 7/17/19. https://www.quora.com/Who-would-win-in-a-war-between-Russia-and-the-US/answer/Allen-E-Hall-2)

In the case of high altitude nuclear bursts, two main EMP types come into play, “fast pulse” and the “slow pulse.” The fast pulse EMP field is created by gamma ray interaction with stratospheric air molecules. It peaks at tens of kilovolts per meter in a few nanoseconds, and lasts for a few hundred nanoseconds. The broad-band frequency content of (0-1000 megahertz) enables it to couple to electrical and electronic systems in general, regardless of the length of their penetrating cables and antenna lines. Induced currents range into the 1,000s of amperes. The “slow pulse” EMP is caused by the distortion of the earth’s magnetic field lines due to the expanding nuclear fireball and rising of heated and ionized layers of the ionosphere. These effects are limited to Earth's Ionosphere, a range of altitude between 50 and 600 miles above the earth’s surface. The strength of EMP’s are limited bt the Gamma ray release of the nuclear explosion. A bomb not specifically designed to enhance this will not normally result in a high field strength value and **the EMP will do little permanent damage as a result.**

Diagram

Description automatically generated

As an example, the chart above shows the effect of prompt Gamma ray output and how it affects field strength. [67] The 1.4 MT Starfish Prime test produced a 1.4kt prompt Gamma Ray output which resulted in a peak field strength of about 50,000 v/m. This is about the minimum energy needed to do substantial damage to a country's electrical systems but even at that level **many things would be left unharmed** as the danger diminishes with distance. Starfish produced the largest fields of the high-altitude detonations; they caused outages of the series-connected street-lighting systems of Oahu (Hawaii), probable failure of a microwave repeating station on Kauai, failure of the input stages of ionospheric sounders and damage to rectifiers in communication receivers, Other than the failure of the microwave link, no problem was noted in the telephone system. No failure was noted in the telemetry systems used for data transmission on board the many instrumentation rockets. There was no apparent increase in radio or television repairs subsequent to any of the Johnson Island detonations. The failures observed were generally in the unprotected input stages of receivers or in rectifiers of electronic equipment; transients on the power line probably caused the rectifier failures. There was one failure in the unprotected part of an electronic system of the LASL Optical Station on top of Mount Haleakala on Maui Island.[68] DoD EMP SIMULATIONS TESTS We tested a sample of 37 cars in an EMP simulation laboratory, with automobile vintages ranging from 1986 through 2002. ... The most serious effect observed on running automobiles was that the motors in three cars stopped at field strengths of approximately 30 kV/m or above. In an actual EMP exposure, these vehicles would glide to a stop and require the driver to restart them. Electronics in the dashboard of one automobile were damaged and required repair. Based on these test results, we expect few automobile effects at EMP field levels below 25 kV/m. Approximately 10 percent or more of the automobiles exposed to higher field levels may experience serious EMP effects, including engine stall, that require driver intervention to correct. Five of the 18 trucks tested did not exhibit any anomalous response up to field strengths of approximately 50 kV/m. Based on these test results, we expect few truck effects at EMP field levels below approximately 12 kV/m. At higher field levels, 70 percent or more of the trucks on the road will manifest some anomalous response following EMP exposure. Approximately 15 percent or more of the trucks will experience engine stall, sometimes with permanent damage that the driver cannot correct. Results indicate that some computer failures can be expected at relatively low EMP field levels of 3 to 6 kilovolts per meter (kV/m). At higher field levels, additional failures are likely in computers, routers, network switches, and keyboards embedded in the computer-aided dispatch, public safety radio, and mobile data communications equipment. ... none of the radios showed any damage with EMP fields up to 50 kV/m. While many of the operating radios experienced latching upsets at 50 kV/m field levels, these were correctable by turning power off and then on.[69] Contrary to many sensational headlines, **the US Military is well protected from most EMP’s**. For decades now the military has defined systems around survivability. The details of such are contained here: E.6 Military Standards DTRA and its predecessor agencies have developed, and regularly update, military standards (MIL-STDs) designed to aid in the design, development, test, and evaluation of DoD systems subjected to nuclear and EMP environments. These MIL-STDs cover nuclear-generated **EMP survivability of aircraft, maritime, and other systems** in coordination with the Air Force and the Navy, as well as the broader community of stakeholders. The following are some of the relevant MIL-STDs: MIL-STD-1766, Nuclear Hardness and Survivability Program Requirements for ICBM Weapon Systems defines nuclear hardness and survivability requirements and practices for use during the concept exploration, demonstration and validation, full-scale development, production, and deployment phases of the acquisition life-cycle of ICBM weapon systems. MIL-STD-2169C, HEMP Environment Standard (Classified) defines high-altitude EMP environments for system hardness design and testing. MIL-STD-3023, HEMP Protection for Military Aircraft establishes design margin, performance metrics, and test protocols for HEMP protection of military aircraft with nuclear EMP survivability at three hardness levels. This MIL-STD may also be used for aircraft that support multiple missions. Subsystems of the aircraft required to fully comply with the provisions of the standard are designated as Mission-Critical Subsystems having a HEMP survivability requirement. This approach also allows for consideration of platforms not yet addressed in this standard, such as Unmanned Aerial Vehicles. MIL-STD-188-125, HEMP Protection for Ground-Based C4I Facilities Performing Critical, Time Urgent Missions is in the process of being updated. DTRA is investigating present capabilities and shortfalls of power filters as well as utilizing test results from EMP simulators. MIL-STD-4023, Maritime EMP Standard establishes performance metrics, test protocols, and hardness margin levels for HEMP protection of military surface ships that must function when subjected to a HEMP environment. Satellite System Nuclear Survivability (SSNS) Environment Standard defines nuclear weapon environment levels for evaluating satellite system performance in nuclear scenarios. Comprehensive Atmospheric Nuclear Environments Standard (CANES) provides detailed nuclear environments and effects for a number of different nuclear weapon-types as a function of height of burst. A supplement to this MIL-STD covers nuclear-disturbed communication environments and nuclear ground burst environments.[70] DoD has adopted protective priorities using commercial protective equipment. The Department of Defense (DoD) has experience in prioritizing and protecting systems since the 1960s. The DoD has prioritized and has protected selected systems against EMP (and, by similitude to E3, GMD effects). DoD places emphasis on protecting its strategic triad and associated command, control, communications, computer, and intelligence (C4I) systems. **Nuclear EMP will burn** out **every exposed electronic system is FALSE**. The DoD and Congressional EMP Commission’s EMP test data demonstrates that smaller, self-contained systems that are not connected to long-lines tend **not to be affected by EMP fields.** Examples of such systems include vehicles, hand-held radios, and disconnected portable generators. If there is an effect on these systems, it is more often temporary upset rather than component burnout. [71] The NRC on Nuclear Power Facilities Vulnerabilities “The most probable effect of EMP on a modern nuclear power plant is an unscheduled shutdown. EMP may also cause an extended shutdown by the unnecessary activation of some safety-related systems. In general, EMP would be a nuisance to nuclear plants, **but it is not considered a serious threat to plant safety**. Counter-measures to minimize the effects of EMP have been recommended. Implementation of these recommendations would also increase the protection of the plant against damage by lightning, switching, and electromagnetic interference transients as well as general failures in electrical, control, and instrument power. “[72] As part of a larger EMP study in the 1980’s Sandia Laboratories analyzed the **“worst case” scenario** and concluded that **EMP poses no substantial threat to** such (**nuclear) plants** based upon both analysis and simulated EMP tests.[73] The NRC’s current statement The NRC requires U.S. nuclear power plants to be able to shut down safely in the face of many extreme events – tornados, hurricanes and earthquakes. But the NRC also takes into account far more unusual events, like solar flares and man-made electromagnetic pulse (EMP). Both can affect generators, transformers and other parts of the electric grid – which in turn could affect nuclear power plants. The NRC has been examining these issues for more than 30 years, starting in the late 1970s when the agency studied how EMP could affect nuclear power plant safe-shutdown systems. In February 1983 the NRC issued the study’s conclusion: nuclear power plants’ safety systems can do their jobs after an EMP event. The agency revisited the issue in 2007 to account for the increasing use of digital computer systems in nuclear plants, which potentially could be more susceptible to EMP. The agency continued to conclude as recently as two years ago that nuclear power plants can safely shut down following an EMP event. Additional research in 2010 analyzed and compared solar or geomagnetically-induced current events to those of the EMP events previously analyzed. This work led to the same conclusion as the EMP studies – U.S. nuclear power plants can safely shut down if a solar storm disrupts the grid. The edge of the NRC’s authority lies in a nuclear power plant’s electric switchyard, where our rules mesh with those of the Federal Energy Regulatory Commission, which oversees the nation’s electric grids. Another body, the North American Electric Reliability Corporation develops and enforces grid reliability standards. The NRC works closely with FERC and NERC on grid reliability issues, including the effects of solar or geomagnetic storms and EMP. In 2015 FERC began the process of creating reliability standards to protect the grid against these events.[74] This new standard was made into law on November, 17, 2016.[75][76] The NRC continues to update operator guidelines and requirements with changes in technology or new understandings on issues previously not covered such as the events at Fukushima in 2011. Safety enhancements on topics like spent fuel cooling pools are covered in regular NRC updates, the latest being 2015 titled Mitigation of Beyond-Design-Basis Events[77] . EMP Comparisons with lightning Lightning shares many of characteristics of E2, but contrary to what is often quoted, its magnitude can exceed even the peak E1 fields in the discharge region. Research on lightning indicates that a stroke may contain significant components with rise-time of less than 10−7 sec and electric fields greater than 106V/m—more than a order of magnitude greater than even the highest peak E1 fields, from the biggest nuclear devices. The implications of lightning research for EMP vulnerability is a critical topic to include in any future peer-reviewed study of the EMP threat.[78]

### 2NC---Defense---AT: Famine

#### No famine internal link or impact

David Denkenberger et al. 17 {International Journal of Disaster Risk Reduction, Global Catastrophic Risk Institute. 1-5-2017. “Feeding Everyone if the Sun is Obscured and Industry is ~~Disabled~~ [Shut Down].” https://www-sciencedirect-com.proxy.lib.umich.edu/science/article/pii/S2212420916305453}//JM

For combined sun blocking and industrial failure scenarios, the reduced output of conventional agriculture would present a threat of causing mass starvation. This study showed that one solution in the short term is extracting edible calories from killed leaves using distributed mechanical processes. Then a constrained food web could be formed where part of the remainder from this could be fed to chickens, and the rest coupled with leaf litter could have mushrooms grown on it. A second group of solutions is growing mushrooms on dead trees and the residue going to cellulose digesting animals such as cattle and rabbits. Typically, in these catastrophes the sun is not blocked completely, so some agriculture would be possible based off of existing farming in extreme environments (e.g. growing UV and cold tolerant crops in the tropics). Furthermore, the cooling climate would cool the upper layer of the ocean, causing upwelling of nutrient-rich deep ocean water. This would facilitate algae growth in the ocean, feeding fish; retrofitting of ships to be sail powered could enable significant fishing. The results of this study show these solutions could enable the feeding of everyone given minimal preparation, and this preparation should be a high priority now.

### 2NC---Impact---Run

#### Probabilistically outweigh---10% each century

Phil **Torres**, 8-17-20**16**, "The Looming Extinction of Humankind, Explained," Vice, https://www.vice.com/en\_us/article/vv7pzb/armageddon-comma-explained

For most people, driving with a seat belt tightly strapped around their bodies is a smart habit. Not only is racing down the highway without it illegal—"click it or ticket," as the slogan goes—but seat belts also "reduce serious crash-related injuries and deaths by about half." Yet as we've previously estimated, your chances of dying in a car crash are at least 9.5 times lower than dying in a human extinction event. If this sounds incredible—and admittedly, it does—it's because the human mind is susceptible to cognitive biases that distort our understanding of reality. Consider the fact that you're more likely to be killed by a meteorite than a lightning bolt, and your chances of being struck by lightning are about four times greater than dying in a terrorist attack. In other words, you should be more worried about meteorites than the Islamic State or al-Qaeda (at least for now). The calculation above is based on an assumption made by the influential "Stern Review on the Economics of Climate Change," a report prepared for the UK government that describes climate change as "the greatest and widest-ranging market failure ever seen." In making its case that climate change should be a top priority, the Stern Review stipulates a 0.1 percent annual probability of human extinction. This number might appear minuscule at first glance, but over the course of a century it yields a whopping 9.5 percent probability of our species going extinct. Even more, compared to estimates offered by others, it's actually quite low. For example, a 2008 survey of experts put the probability of human extinction this century at 19 percent. And the co-founder of the Centre for the Study of Existential Risk, Sir Martin Rees, argues that civilization has a 50:50 chance of making it through the current century—a mere coin toss How could the probability of a global disaster be so much greater than that of dying in a car accident? How is this possible? How could the probability of a global disaster be so much greater than that of dying in a car accident? To be sure, these estimates could be wrong. While some existential risks, such as asteroid impacts and super-volcanic eruptions, can be estimated using objective historical data, risks associated with future technologies require a good dose of speculation. Nonetheless, we know enough about certain technological trends and natural phenomena to make at least some reasonable claims about what our existential situation will look like in the future. There are three broad categories of "existential risks," or scenarios that would either cause our extinction or permanently catapult us back into the Stone Age. The first includes natural risks like asteroid and comet impacts, super-volcanic eruptions, global pandemics, and even supernovae. These form our cosmic risk background and, as just suggested, some of these risks are relatively easy to estimate. As you may recall from middle school, an assassin from the heavens, possibly a comet, smashed into the Yucatan Peninsula 66 million years ago and killed almost all of the dinosaurs. And about 75,000 years ago, a super-volcano in Indonesia caused the Toba catastrophe, which some scientists believe dramatically reduced the human population, though this claim is controversial. Few people today realize just how close humanity may have come to extinction in the Paleolithic. Although the "dread factor" of pandemics tends to be lower than wars and terrorist attacks, they have resulted in some of the most significant episodes of mass death in human history. For example, the 1918 Spanish flu killed about 3 percent (though some estimates are double that) of the human population and infected roughly a third of all humans between 1918 and 1920. In absolute numbers, it threw roughly 33 million more people into the grave than all the bayonets, bullets, and bombs of World War I, which lasted from 1914 to 1918. And based on CDC estimates, the fourteenth-century Black Death, caused by the bubonic plague, could have taken approximately the same number of lives as World War II, World War I, the Crusades, the Mongol conquests, the Russian Civil War, and the Thirty Years' War combined. (Take note, anti-vaxxers!) INFLUENZA PATIENTS DURING THE 1918 FLU PANDEMIC IN IOWA. IMAGE: OFFICE OF THE PUBLIC HEALTH SERVICE HISTORIAN The second category of existential risks concerns advanced technologies, which could cause unprecedented harm through "error or terror." Historically speaking, humanity created the first anthropogenic risk in 1945 when we detonated an atomic bomb in the New Mexico desert. Since this watershed event, humanity has lived in the flickering shadows of a nuclear holocaust, a fact that led a group of physicists to create the Doomsday Clock, which metaphorically represents our collective nearness to disaster. While nuclear tensions peaked during the Cold War—President Kennedy even estimated that the likelihood of nuclear war at one point was "between 1 in 3 and even"—the situation improved significantly after the Iron Curtain fell. Unfortunately, US-Russian relations have recently deteriorated, leading Russian Prime Minister Dmitry Medvedev to suggest that, "we have slid back to a new Cold War." As we write this, the Doomsday Clock is set to a mere three minutes before midnight—or doom—which is the second closest it's been to midnight since its creation in 1947. While nuclear weapons constitute the greatest current risk to human survival, they may be among the least of our concerns by the end of this century. Why? Because of the risks associated with emerging fields like biotechnology, synthetic biology, and nanotechnology. The key point to understand here is that these fields are not only becoming exponentially more powerful, but their products are becoming increasingly accessible to groups and individuals as well. For example, it's increasingly possible for nonexperts to cobble together a makeshift gene-editing laboratory. The affordability of home-built labs is being driven in part by the biohacking movement, which aims to empower interested hobbyists by making inexpensive, automated equipment readily available. DNA material can also be ordered from commercial providers, as journalists for the Guardiandiscovered in 2006 when they managed to acquire "part of [the] smallpox genome through mail order." Even more, anyone with an internet connection can access databases that contain the genetic sequences of pathogens like Ebola. We're a long way from programming organisms' DNA the way we program software. But if these trends continue (as they likely will), terrorists and lone wolves of the future will almost certainly have the ability to engineer pandemics of global proportions, and perhaps even more devastating than anything our species has previously encountered. As for nanotechnology, the most well-known risk stems from what's called the grey goo scenario. This involves tiny self-replicating machines, or nanobots, programmed to disassemble whatever matter they come into contact with and reorganize those atoms into exact replicas of themselves. The resulting nanorobotic clones would then convert all the matter around them into even more copies. Because of the exponential rate of replication, the entire biosphere could be transformed into a wriggling swarm of mindlessly reproducing nanobots in a relatively short period of time. Alternatively, a terrorist could design such nanobots to selectively destroy organisms with a specific genetic signature. An ecoterrorist who wants to remove humanity from the planet without damaging the global ecosystem could potentially create self-replicating nanobots that specifically target Homo sapiens, thereby resulting in our extinction.

#### 3---AI---Computers are amoral and would stop at no length to accomplish the literal interpretion of their programmed goal. They would conquer the entire universe and turn it into energy to maximize it’s ability to solve the problem

#### That outweighs

Milan M. **Ćirković 19**. Future of Humanity Institute, Faculty of Philosophy, University of Oxford. 01/01/2019. “Space Colonization Remains the Only Long-Term Option for Humanity: A Reply to Torres.” Futures, vol. 105, pp. 166–173.

Perhaps a skeptic wants to believe (as a kind of anti-agent Moulder, of the X-Files’ fame) that extraterrestrial intelligence is nonexistent or vanishingly rare? To begin with, it would be strange to bet the long-term future of humanity on such a technical astrobiological issue, on which we can exert no influence whatsoever. Extraterrestrial life either exists or it does not, irrespectively of any amount of our ethical or political hand-wringing. So, lacking specific information for one or the other, we should certainly make strategies for both options. Further, the advances of astrobiology over the last quarter century offer many reasons for cautious belief in the conclusion that life and intelligence are reasonably abundant in astrophysically and astrochemically permissible ecosystems. Some of the arguments to that effect are summarized in Ćirković (2012).11 Even if, by some quirk of astrobiological evolution, humanity is the first intelligent species to arise in the Milky Way (as, for instance, per the well-known argument of Carter, 1983, 2008), following Torres’s advice and relinquishing space colonization will simply ensure that the second, third, or 275th intelligent species to evolve will indeed colonize the Galaxy instead of humans. If, on the other hand, Torres is wrong and it is possible to colonize the Galaxy in a peaceful and prosperous manner, humanity might survive on Earth in a kind of zoo or preserve, surrounded by friendly and considerate interstellar aliens – but obviously failing to realize its creative potential (which would also count as an existential catastrophe in Bostrom’s taxonomy).12 There is simply no way out of that quandary, unless one is a creationist who believes that humanity originated by Divine supernatural act and there is exactly zero probability of abiogenesis/noogenesis occurring elsewhere. In general, no naturalistic utilitarian calculus of various scenarios for the future of humanity could be complete if it does not take extraterrestrial intelligence into account.

#### Also risks infinite torture

**Turchin and Denkenberger 18** {Turchin is a researcher at the Science for Life Extension Foundation; Denkenberger is with the Global Catastrophic Risk Institute (GCRI) @ Tennessee State University, Alliance to Feed the Earth in Disasters (ALLFED). 5-3-2018. “Classification of Global Catastrophic Risks Connected with Artificial Intelligence.”}//JM

6.4. AI that is programmed to be evil We could imagine a perfectly aligned AI, which was deliberately programmed to be bad by its creators. For example, a hacker could create an AI with a goal of killing all humans or torturing them. The Foundational Research Institute suggested the notion of s-risks, that is, the risks of extreme future suffering, probably by wrongly aligned AI (Daniel 2017). AI may even upgrade humans to make them feel more suffering, like in the short story “I have no mouth but I must scream” (Ellison 1967). The controversial idea of “Roko’s Basilisk” is that a future AI may torture people who did not do enough to create this malevolent AI. This idea has attracted attention in the media and is an illustration of “acausal” (not connected by causal links) blackmail by future AI (Auerbach 2014). However, this cannot happen unless many people take the proposition seriously.

#### Outweighs extinction

Max **Daniel 17**. Executive Director, Foundational Research Institute. 2017. “S-risks: Why they are the worst existential risks, and how to prevent them (EAG Boston 2017).” FRI. https://foundational-research.org/s-risks-talk-eag-boston-2017/

“S-risk – One where an adverse outcome would bring about severe suffering on a cosmic scale, vastly exceeding all suffering that has existed on Earth so far.” So, s-risks are roughly as severe as factory farming, but with an even larger scope. To better understand this definition, let’s zoom in on the part of the map that shows existential risk. One subclass of risks are those that, with respect to their scope, would affect all future human generations, and, with respect to their severity, would remove everything valuable. One central example of such pan-generational, crushing risks are risks of human extinction. Risks of extinction have received the most attention so far. But, conceptually, x-risks contain another class of risks. These are risks of outcomes even worse than extinction in two respects. First, with respect to their scope, they not only threaten the future generations of humans or our successors, but all sentient life in the whole universe. Second, with respect to their severity, they not only remove everything that would be valuable but also come with a lot of disvalue – that is, features we’d like to avoid no matter what. Recall the story I told in the beginning, but think of Greta’s solitary confinement being multiplied by many orders of magnitude – for instance, because it affects a very large population of sentient uploads. Let’s pause for a moment. So far, I’ve introduced the concept of s-risk. To recap, they are risks of severe suffering on a cosmic scale, which makes them a subclass of existential risk. (Depending on how you understand the “curtail its potential” case in the definition of x-risks, there actually may be s-risks which aren’t x-risks. This would be true if you think that reaching the full potential of Earth-originating intelligent life necessarily involves creating permanent suffering on an astronomical scale, i.e., the realisation of an s-risk. Think of a quarter of the universe filled with suffering, and three quarters filled with happiness. Considering such an outcome to be the full potential of humanity seems to require the view that the suffering involved would be outweighed by other, desirable features of reaching this full potential, such as vast amounts of happiness. While this is a view many people find plausible, FRI is committed to a family of rivalling views, which we call suffering-focused ethics.) Next, I’d like to talk about why and how to prevent s-risks. All plausible value systems agree that suffering, all else being equal, is undesirable. That is, everyone agrees that we have reasons to avoid suffering. S-risks are risks of massive suffering, so I hope you agree that it’s good to prevent s-risks. However, you’re probably here because you’re interested in effective altruism. You don’t want to know whether preventing s-risks is a good thing, because there are a lot of good things you could do. You acknowledge that doing good has opportunity cost, so you’re after the most good you can do. Can preventing s-risks plausibly meet this higher bar? This is a very complex question. To understand just how complex it is, I first want to introduce a flawed argument for focusing on reducing s-risk. (I’m not claiming that anyone has advanced such an argument about either s-risks or x-risks.) This flawed argument goes as follows. Premise 1: The best thing to do is to prevent the worst risks Premise 2: S-risks are the worst risks Conclusion: The best thing to do is to prevent s-risk I said that this argument isn’t sound. Why is that? Before delving into this, let’s get one potential source of ambiguity out of the way. On one reading, premise 1 could be a value judgment. In this sense, it could mean that, whatever you expect to happen in the future, you think there is a specific reason to prioritize averting the worst possible outcomes. There is a lot one could say about the pros and cons as well as about the implications of such views, but this is not the sense of premise 1 I’m going to talk about. In any case, I don’t think any purely value-based reading of premise 1 suffices to get this argument off the ground. More generally, I believe that your values can give you substantial or even decisive reasons to focus on s-risk, but I’ll leave it at that. What I want to focus on instead is that, (nearly) no matter your values, premise 1 is false. Or at least it’s false if, by “the worst risks”, we understand what we’ve talked about so far, that is, badness along the dimensions of scope and severity. When trying to find the action with the highest ethical impact there are, of course, more relevant criteria than scope and severity of a risk. What’s missing are a risk’s probability; the tractability of preventing it; and its neglectedness. S-risks are by definition the worst risks in terms of scope and severity, but not necessarily in terms of probability, tractability, and neglectedness. These additional criteria are clearly relevant. For example, if s-risks turned out to have probability zero, or if reducing them was completely intractable, it wouldn’t make any sense to try to reduce them. We must therefore discard the flawed argument. I won’t be able to definitively answer the question under what circumstances we should focus on s-risk, but I’ll offer some initial thoughts on the probability, tractability, and neglectedness of s-risks. I’ll argue that s-risks are not much more unlikely than AI-related extinction risk. I’ll explain why I think this is true and will address two objections along the way. You may think “this is absurd”, we can’t even send humans to Mars, why worry about suffering on cosmic scales? This was certainly my immediately intuitive reaction when I first encountered related concepts. But as EAs, we should be cautious to take such intuitive, ‘system 1’ reactions, at face value. For we are aware that a large body of psychological research in the “heuristics and biases” approach suggests that our intuitive probability estimates are often driven by how easily we can recall a prototypical example of the event we’re considering. For types of events that have no precedent in history, we can’t recall any prototypical example, and so we’re systematically underestimating the probability of such events if we aren’t careful. So we should critically examine this intuitive reaction of s-risks being unlikely. If we do this, we should pay attention to two technological developments, which are at least plausible and which we have reason to expect for unrelated reasons. These are artificial sentience and superintelligent AI, the latter unlocking many more technological capabilities such as space colonization. Artificial sentience refers to the idea that the capacity to have subjective experience – and in particular, the capacity to suffer – is not limited to biological animals. While there is no universal agreement on this, in fact most contemporary views in the philosophy of mind imply that artificial sentience is possible in principle. And for the particular case of brain emulations, researchers have outlined a concrete roadmap, identifying concrete milestones and remaining uncertainties. As for superintelligent AI, I won’t say more about this because this is a technology that has received a lot of attention from the EA community. I’ll just refer you to Nick Bostrom’s excellent book on the topic, called Superintelligence, and add that s-risks involving artificial sentience and “AI gone wrong” have been discussed by Bostrom under the term mindcrime. But if you only remember one thing about the probability of s-risk, let it be this: This is not Pascal’s wager! In brief, as you may recall, Pascal lived in the 17th century and asked whether we should observe religious commands. One of the arguments he considered was that, no matter how unlikely we think it is that God exists, it’s not worth risking ending up in hell. In other words, hell is so bad that you should prioritize avoiding it, even if you thought hell was very unlikely. But that’s not the argument we’re making with respect to s-risk. Pascal’s wager invokes a speculation based on one arbitrarily selected ancient collection of books. Based on this, one cannot defensibly claim that the probability of one type of hell is greater than the probability of competing hypotheses. By contrast, worries about s-risk are based on our best scientific theories and a lot of implicit empirical knowledge about the world. We consider all the evidence we have, and then articulate a probability distribution over how the future may unfold. Since predicting the future is so hard, the remaining uncertainty will be quite high. But this kind of reasoning could in principle justify concluding that s-risk is not negligibly small.

#### It’ll be 5 times the Large Hadron Collider and even bigger projects are coming

Thompson 18 – Avery Thompson, Staff Writer for Popular Mechanics, B.S. in Physics from RIT, “China Plans to Build a Particle Collider Five Times More Powerful Than the LHC”, Popular Mechanics, 11-14, https://www.popularmechanics.com/science/a25101820/china-lhc-particle-collider-cepc/

For about a decade, the biggest machine on the planet has been the Large Hadron Collider (LHC), situated on the border between Switzerland and France. The main body of the collider is a giant ring over five miles in diameter and the entire facility employs thousands of people. But according to a new announcement from China’s Institute of High Energy Physics, it might not be the world’s largest machine for long.

The Chinese institute announced plans to build its own particle accelerator over the next decade, and it’s designed to surpass the LHC in every way. According to the report authored by the institute, the upcoming collider will be over five times more powerful and over 20 miles in diameter.

The proposed collider is called the Circular Electron Positron Collider (CEPC), and was first proposed back in 2012. At the time, the specs for the collider were vague. Proposals ranged significantly in terms of size and power, so it wasn’t clear exactly how big or how much science would be done with it. That all changes with this latest announcement, which is accompanied by a 500-page detailed proposal for every last inch of the collider.

Here’s how the plan is going to unfold: First, the CEPC will be built with its 20-mile-diameter ring. If construction goes according to plan—which it very well may not, considering the scale of the endeavor—the collider should be finished by 2030. The CEPC will then go into full operation, where it will begin producing exotic particles like the Higgs boson. According to the plan, the CEPC should be able to make a million Higgs particles over a decade, along with millions of other rare particles like W and Z bosons.

Currently, only handfuls of these particles are produced in the Large Hadron Collider, and their rarity makes them difficult study subjects. If scientists could drown themselves in these particles—metaphorically speaking, of course—they could learn so much more about them. These particles might also be key to unlocking new physics, such as discovering the identity of dark matter.

After ten years of making bosons, the CEPC will be retired. But in its place, scientists will build another collider, called the Super Proton Proton Collider, that will work exactly like a bigger, more powerful version of the LHC. This new collider will take advantage of the infrastructure already built for the CEPC and the advanced technologies that will likely exist by 2040.

With around five times as much energy as the LHC is currently able to produce, this second-generation collider might even be able to create new particles we’ve never seen before. With both of these new colliders, working in slightly different ways to produce different classes of particles at extreme energies, the mysteries of the universe likely won’t stay hidden for long.

#### 7---Black holes---

#### Humans will try to explore black holes---risks spaghettification

Bill Andrews 19 {Senior Associate Editor for Discover Magazine, citing NASA research on black holes. 7-30-2019. “If Wormholes Exist, Could We Really Travel Through Them?” https://www.discovermagazine.com/the-sciences/if-wormholes-exist-could-we-really-travel-through-them}//JM

The second issue is that, despite years of research, scientists still aren’t really sure how wormholes would work. Can any technology ever create and manipulate them, or are they simply a part of the universe? Do they stay open forever, or are they only traversable for a limited time? And perhaps most significantly, are they stable enough to allow for human travel?

The answer to all of these: We just don’t know.

But that doesn’t mean scientists aren’t working on it. Despite the lack of actual wormholes to study, researchers can still model and test Einstein’s equations. NASA’s conducted legitimate wormhole research for decades, and a team described just this year how wormhole-based travel might be more feasible than previously thought.

That research concerned one of the most popular conceptions of wormholes, with black holes serving as one of the openings. But black holes are famously dangerous, possibly stretching apart anyone who approaches too close. It turns out, though, that some black holes might allow objects to pass through relatively easily. This would allow a traveler to explore the space beyond, and thus eliminate one of the biggest hurdles to entering such a wormhole. But again, that’s only if they exist in the first place.

So, until we either find an actual wormhole to study, or realize that they can’t help us explore the universe, we’ll have to do it the old fashioned way: By taking rockets the long way around, and taking our minds on fictional adventures.

#### Spaghettification causes infinite suffering

Harry Pettit 19 {Formerly a science and technology reporter at MailOnline, Harry Pettit joined The Sun in December 2018. He holds an undergrad degree in Physiology from the University of Manchester and a Masters degree in Science Communication from Imperial College London. 4-11-2019. “What happens if you fall into a black hole? Infinite suffering, body ‘spaghettification’ and your past.” https://www.thesun.co.uk/tech/8839382/what-happens-fall-in-black-hole/}//JM

'Spaghettification' Black holes are blobs of unbelievably dense matter with a gravitational pull millions of times greater than the force we feel on Earth. If you got too close, these gargantuan forces would pull your body apart. As you got closer, the difference in gravity between your head and your feet would stretch you out like a piece of chewing gum. Scientists affectionately call this process "spaghettification". You eventually become a stream of subatomic particles that swirl into the black hole like water down a plug. According to TV physicist Neil De Grasse Tyson: "As you get closer and closer, the force of gravity grows astronomically. You stay whole until the stretching force exceeds the molecular bonds of your body's flesh. "At that moment, your body would snap into two segments. Everything of you that ever was gets funnelled to the black hole's centre. "Not only have you been ripped in half – you've been extruded through the fabric of space and time like toothpaste through a tube." Live forever The bigger a black hole is, the smaller its gravitational pull. That's led some experts to ponder whether larger black holes would spaghettify you at all, as the forces aren't strong enough to pull you apart. Instead, getting caught in one of these beauties could help you cheat death altogether. Time is said to freeze at the edge of a black hole, due its extreme forces bending the very fabric of space and time. If you reach this spot without being torn apart, you could become immortal – well, almost.

#### Quantum vacuum mining---it’s feasible and scientifically proven and causes a phase transition that destroys the Universe

Folger 8 – Tim Folger, Contributing Editor at Discover Magazine, Writer for National Geographic, MA in Journalism from New York University, BA in Physics from UC Santa Cruz, “Nothingness of Space Could Illuminate the Theory of Everything”, Discover Magazine, 7-18, http://discovermagazine.com/2008/aug/18-nothingness-of-space-theory-of-everything

When the next revolution rocks physics, chances are it will be about nothing—the vacuum, that endless infinite void. In a discipline where the stretching of time and the warping of space are routine working assumptions, the vacuum remains a sort of cosmic koan. And as in the rest of physics, its nature has turned out to be mind-bendingly weird: Empty space is not really empty because nothing contains something, seething with energy and particles that flit into and out of existence. Physicists have known that much for decades, ever since the birth of quantum mechanics. But only in the last 10 years has the vacuum taken center stage as a font of confounding mysteries like the nature of dark energy and matter; only recently has the void turned into a tantalizing beacon for cranks. As one blond celebrity heiress and embodiment of emptiness might say, nothing is hot.

To investigate the mysteries of the void, some physicists are using the biggest scientific instrument ever built—the just-completed Large Hadron Collider, a huge particle accelerator straddling the French-Swiss border. Others are designing tabletop experiments to see if they can plumb the vacuum for ways to power strange new nanotech devices. “The vacuum is one of the places where our knowledge fizzles out and we’re left with all sorts of crazy-sounding ideas,” says John Baez, a mathematical physicist at the University of California at Riverside. Whether in the visionary search for the engine of cosmic expansion or the near-fruitless quest for perpetual free energy, the vacuum is where it’s happening. By mining the vacuum’s riches, a true theory of everything may yet emerge.

Empty space wasn’t always so mystifying. Until the 1920s physicists viewed the vacuum much as the rest of us still do: as a featureless nothingness, a true void. That all changed with the birth of quantum mechanics. According to that theory, the space around a particle is filled with countless “virtual” particles rapidly bursting into and out of existence like an invisible fireworks display.

Those virtual quantum particles are more than a theoretical abstraction. Sixty years ago a Dutch physicist named Hendrik Casimir suggested a simple experiment to show that virtual particles can move objects in the real world. What would happen, he asked, to two metal plates placed very close together in a complete vacuum? In the days before quantum mechanics, physicists would have said that the plates would just sit there. But Casimir realized that the net pressure of all the virtual particles—the stuff of empty space—outside the plates should exert a minuscule force, a nudge from nothing that would push the plates together.

Physicists tried for decades to measure the Casimir force with great precision, but it wasn’t until 1997 that technology caught up with theory. In that year, physicist Steve Lamoreaux, now at Yale, managed to detect the feeble Casimir force on two small surfaces separated by a few thousandths of a millimeter. Its strength was about equal to the force that would be exerted against the palm of one’s hand by the weight of a single red blood cell.

At first most physicists regarded the Casimir force as a quantum oddity, something of no practical value. Now that has changed: Forward thinkers see it as an important energizer for the tiniest of machines, devices on the nano scale, and a few labs are working on ways to use the force to defy the conventional limitations of mechanical design. Federico Capasso, a physicist at Harvard, leads a small team that is trying to create a repulsive Casimir force by tinkering with the shapes of plates or with the coatings used to cover them. His entire set of experiments fits on a desktop, and the objects he works with are so small that most of them cannot be seen without a microscope.

“Once you have a repulsive force between two plates, you should be able to eliminate static friction,” Capasso says. That could lead to a host of useful applications, including tiny frictionless bearings or nanogears that spin without touching. “But the experiments are enormously difficult, so I cannot tell you when and how.”

For all its strangeness, the Casimir force may be the one property of empty space that does not baffle today’s physicists. It is garden-variety quantum mechanics, weird but not unexpected. The same can’t be said about dark energy, a truly astonishing discovery made by astronomers a decade ago while observing distant exploding stars. The explosions revealed a universe expanding at an ever-faster rate, a finding at odds with previous expectations that the expansion of the cosmos should be slowing down, braked by the collective gravitational pull of all the matter out there. Some unknown form of energy—physicists call it dark energy simply for lack of a more descriptive term—appears to be built into the very fabric of space, countering the gravitational pull of matter and pushing everything in the universe apart. Some theorists speculate that dark energy might cause a runaway expansion of the universe, resulting in a so-called Big Rip some 50 billion years from now that would tear the cosmos to pieces, shredding even atoms.

The observations have allowed physicists to estimate the quantity of dark energy by deducing the force needed to produce the accelerating effect. The result is a minuscule amount of energy for every cubic meter of vacuum. Since most of the cosmos consists of empty space, though, that little bit adds up, and the total amount of dark energy completely dominates the dynamics of the universe.

With the discovery of dark energy came difficult questions: What is this energy, and where does it come from? Physicists simply do not know. According to quantum mechanics, the energy of empty space comes from the virtual particles that dwell there. But when physicists use the equations of quantum theory to calculate the amount of that virtual energy, they get a ridiculously huge number—about 120 orders of magnitude too large. That much energy would literally blow the universe apart: Objects a few inches from us would be carried away to astronomical distances; the universe would literally double in size every 10-43 second, and it would keep doubling at that rate until all the vacuum energy was gone. This may be the most colossal gap between observation and theory in the history of science. And it means that physicists are missing something fundamental about the way the universe works.

“We’ve made a prediction on the basis of our best theories, and it is wrong, wildly wrong,” says Sean Carroll, a theoretical physicist at the California Institute of Technology. “That means we don’t just tweak a parameter here and there; we really have to think deeply about what our theories are.”

Even if no one knows where the energy of empty space comes from or why it has the value it does, there is now no doubt that it exists. And if there is energy to be had, there is inevitably somebody out there thinking of how to exploit it. The notion of limitless energy from empty space has inspired legions of wannabe physicists who dream of developing the ultimate perpetual-motion device, a machine that would solve the world’s energy problems forever. A quick Internet search for the words free energy and vacuum turns up pages and pages of schemes for tapping the vacuum’s energy. I ask John Baez if such efforts are as hopeless as previous perpetual-motion machines. Are they equally crazy and doomed to failure?

“Perhaps not as doomed as trying to prove the world is flat,” Baez says. “One thing I can say is that I sure hope it doesn’t work, because if you could extract energy from the vacuum, it would mean that the vacuum is not stable. For normal physicists,” he adds with a laugh, “the definition of the vacuum is that it’s the lowest-energy situation possible—it has less energy than anything else.” In short, Baez says, while we may be able to get energy from the vacuum, success “would mean the universe is far more unstable than we ever dreamed.”

The reasoning goes like this: If the vacuum is not at the lowest energy state possible, then at some point in the future, the vacuum could fall to a lower state, pulsing out energy that would threaten the very structure of the cosmos. If some clever engineer were ever to extract energy from the vacuum, it could set off a chain reaction that would spread at the speed of light and destroy the universe. Free energy, yes, but not what the inventors had in mind.

### 2NC---T/C---Disease

#### Globalization is the only think that could make existential diseases possible

Margaret Hamburg 8. MD, FDA Commissioner. "Germs go global", http://healthyamericans.org/assets/files/GermsGoGlobal.pdf)

Globalization, the worldwide movement toward economic, financial, trade, and communications integration, has impacted public health significantly. Technology and economic interdependence allow diseases to spread globally at rapid speeds. Experts believe that the increase in international travel and commerce, including the increasingly global nature of food handling, processing, and sales contribute to the spread of emerging infectious diseases.47 Increased global trade has also brought more and more people into contact with zoonosis -diseases that originated in animals before jumping to humans. For example, in 2003, the monkeypox virus entered the U.S. through imported Gambian giant rats sold in the nation’s under-regulated exotic pet trade. The rats infected pet prairie dogs, which passed the virus along to humans.48 International smuggling of birds, brought into the U.S. without undergoing inspection and/or quarantine, is of particular concern to public health experts who worry that it may be a pathway for the H5N1 “bird flu” virus to enter the country.Lower cost and efficient means of international transportation allow people to travel to more remote places and potential exposure to more infectious diseases. And the close proximity of passengers on passenger planes, trains, and cruise ships over the course of many hours puts people at risk for higher levels of exposure. If a person contracts a disease abroad, their symptoms may not emerge until they return home, having exposed others to the infection during their travels. In addition, planes and ships can themselves become breeding grounds for infectious diseases.The 2002-2003 SARS outbreak spread quickly around the globe due to international travel. SARS is caused by a new strain of coronavirus, the same family of viruses that frequently cause the common cold. This contagious and sometimes fatal respirator y illness first appeared in China in November 2002. Within 6 weeks, SARS had spread worldwide, transmitted around the globe by unsuspecting travelers. According to CDC, 8,098 people were infected and 774 died of the disease.49

SARS represented the first severe, newly emergent infectious disease of the 21st century.50 It illustrated just how quickly infection can spread in a highly mobile and interconnected world. SARS was contained and controlled because public health authorities in the communities most affected mounted a rapid and effective response.SARS also demonstrated the economic consequences of an emerging infectious disease in closely interdependent and highly mobile world. Apart from the direct costs of intensive medical care and disease control interventions, SARS caused widespread social disruption and economic losses. Schools, hospitals, and some borders were closed and thousands of people were placed in quarantine. International travel to affected areas fell sharply by 50 70 percent. Hotel occupancy dropped by more than 60 percent. Businesses, particularly in tourism-related areas, failed. According to a study by Morgan Stanley, the Asia-Pacific region’s economy lost nearly $40 billion due to SARS.51 The World Bank found that the East Asian region’s GDP fell by 2 percent in the second quarter of 2003.52 Toronto experienced a 13.4 percent drop in tourism in 2003.53

#### Industrial civilization regulation is structurally impossible

Mark Prado 11 {Mark Evan Prado, a physicist in the Washington, D.C., region working for the Pentagon in advanced planning in the space program. “Human Extinction by Biotechnology and Nanotechnology.” [https://www.permanent.com/human-extinction-biotechnology-nano.html}//JM](https://www.permanent.com/human-extinction-biotechnology-nano.html%7d//JM)

As biotechnology has advanced, so has the power of the individual. In the past century, it took a country or rogue organization, a lot of money, and special skills to create a weapon of mass destruction (WMD). Now, it takes just one person, the internet, and a small cheap lab. Instead of "Weapons of Mass Destruction (WMD)", we are faced with "Weapons of Mass Extinction (WME)". For example, in 2011, in a surprise address to the Biological Weapons Convention in Geneva, U.S. Secretary of State Hillary Clinton stated: "Less than a year ago, al Qaeda in the Arabian Peninsula made a call to arms for, and I quote, 'brothers with degrees in microbiology or chemistry to develop a weapon of mass destruction.'"Clinton-UN She also officially acknowledged the generally accepted situation that "A crude but effective terrorist weapon can be made by using a small sample of any number of widely available pathogens, inexpensive equipment, and college-level chemistry and biology" and noted that "it is not possible, in our opinion, to create a verification regime" for preventing biological weapons. This came just a few months after two independent developments -- a scientist in the Netherlands, and a team led by a Japanese scientist at the University of Wisconsin -- both announced that they had created viruses in the laboratory which are far more virulent than anything which had occurred naturally, potentially the most deadly virus ever faced by humans. Both were created by modifying the H5N1 Bird Flu virus in the laboratory. These scientists were apparently planning to publish their research openly soon after Clinton's address. The US government's National Science Advisory Board for Biosecurity (NSABB), a division of the National Institute of Health (NIH) requested they not publish the details. The NSABB has no legal authority, and is only an advisory organization. The authors disagreed with the decision but agreed to adhere to it. All the authors had already received funding from the NIH and it might be presumed they would continue to receive funding... unless they did not follow the request. After also being contacted by the NSABB, the two scientific journals, Nature and Science (two highly established journals), still planned to publish the two papers minus some of the details. The journal Science stated it would agree with the NSABB to refrain from publishing the details only if the government created a system whereby scientists worldwide could access the details if they had a legitimate need to know the information. However, at least one of the scientists had already presented his work at a major conference.SciAm-Albert Indeed, the editor of Science Magazine said "This finding shows its much easier to evolve this virus to an extremely dangerous state where it can be transmitted in aerosols [i.e., by coughing or sneezing] than anybody had recognized. NYTimes-1220 In 2011, folks. Imagine, as this news spreads around, and as technology advances even further, what the world will be like in 2020. Scientists are already saying it's not a matter of "if" but one of "when". These kinds of things cannot be kept secret. They will spread. Indeed, such news announcements stimulate interest. You can be sure that the news media will broadcast such gains very prominently, because it sells their service and makes them money, and can selfishly rationalize away the greater interests of our species. Keeping this kind of research secret is difficult. Pharmaceutical companies pay scientists for information and cooperation all the time. Others can pay scientists as well. There are still many scientists who rationalize their research as "not that dangerous" and/or is important for "defensive" purposes (kind've like other arms races) in order to promote their paid work, and when money is offered, many people can rationalize even more. It may not matter whether the money is offered by a pharmaceutical company or just a visiting consultant. It could even be an undercover agents posing as pharmaceutical company staff, either a front company or faked, or even a plant into a legitimate company, university, computer center, or other organization. Indeed, what percentage of people really verify an identity on a business card, and check with the boss of the person?

## Adv---Pharma

### 2NC---AT: Disease

#### Their ev assumes a level of virulence that has literally never occurred

Wendy Orent 15, anthropologist and freelance science writer whose work has appeared in The Washington Post, The LA Times, The New Republic, Discover, and The American Prospect, instructor in science journalism @ Emory, Ignore predictions of lethal pandemics and pay attention to what really matters, LA Times, 1/3/15, http://www.latimes.com/opinion/op-ed/la-oe-orent-pandemic-hysteria-20150104-story.html

Prophets of doom have been telling us for decades that a deadly new pandemic — of bird flu, of SARS or MERS coronavirus, and now of Ebola — is on its way. Why are we still listening? If you look back at the furor raised at many distinguished publications — Nature, Science, Scientific American, National Geographic — back in, say, 2005, about a potential bird flu (H5N1) pandemic, you wonder what planet they were on. Nature ran a special section titled — “Avian flu: Are we ready?” — that began, ominously, with the words “Trouble is brewing in the East” and went on to present a mock aftermath report detailing catastrophic civil breakdown. Robert Webster, a famous influenza virologist, told ABC News in 2006 that “society just can't accept the idea that 50% of the population could die. And I think we have to face that possibility.” Public health expert Michael T. Osterholm of the University of Minnesota, at a meeting in Washington of scientists brought together by the Institute of Medicine, warned in 2005 that a post-pandemic commission, like the post-9/11 commission, could hold “many scientists … accountable to that commission for what we did or didn't do to prevent a pandemic.” He also predicted that we could be facing “three years of a given hell” as the world struggled to right itself after the deadly pandemic. And Laurie Garrett, author of what must be the urtext for pandemic predictions, her 1994 book “The Coming Plague,” intoned in Foreign Affairs that “in short, doom may loom.” Although she followed that with “But note the may,” the article went on to paint a terrifying picture of the avian flu threat nonetheless. And such hysteria still goes on: Whether it's over the MERS coronavirus, a whole alphabet of chicken flu viruses, a real but not very deadly influenza pandemic in 2009, or a kerfuffle like the one in 2012 over a scientist-crafted ferret flu that also was supposed to be a pandemic threat. Along the way, virologist Nathan Wolfe published “The Viral Storm: the Dawn of a New Pandemic Age,” and David Quammen warned in his gripping “Spillover” that some new animal plague could arise from the jungle and sweep across the world. And now there's Ebola. Osterholm, in a widely read op-ed in the New York Times in September, wrote about the possibility that scientists were afraid to mention publicly the danger they discuss privately: that Ebola “could mutate to become transmissible through the air.” “The Ebola epidemic in West Africa has the potential to alter history as much as any plague has ever done,” he wrote. And Garrett wrote in Foreign Policy, “Attention, World: You just don't get it.” She went on to say, “Wake up, fools,” because we should be more frightened of a potential scenario like the one in the movie “Contagion,” in which a lethal, fictitious pandemic scours the world, nearly destroying civilization. But there were fewer takers this time. Osterholm's claims about Ebola going airborne were discounted by serious scientists, and Garrett seemingly retracted her earlier hysteria about Ebola by claiming that, after all, evolution made such spread unlikely. The scientific world has changed since 2005. Now, most scientists understand that there are significant physical and evolutionary barriers to a blood- and fluid-borne virus developing airborne transmission, as Garrett has acknowledged. Though Ebola virus has been detected in human alveolar cells, as Vincent Racaniello, virologist at Columbia University, explained to me, that doesn't mean it can replicate in the airways enough to allow transmission. “Maybe … the virus can get in, but can't get out. Like a roach motel,” wrote Racaniello in an email. H5N1, we understand now, never went airborne because it attached only to cell receptors located deep in human lungs, and could not, therefore, be coughed or sneezed out. SARS, or severe acute respiratory syndrome, caused local outbreaks after multiple introductions via air travel but spread only sluggishly and mostly in hospitals. Breaking its chains of transmission ended the outbreak globally. There probably will always be significant barriers preventing the easy adaptation of an animal disease to the human species. Furthermore, Racaniello insists that there are no recorded instances of viruses that have adapted to humans, changing the way they are spread. So we need to stop listening to the doomsayers, and we need to do it now. Predictions of lethal pandemics have — since the swine flu fiasco of 1976, when President Ford vowed to vaccinate “every man, woman and child in the United States” — always been wrong. Fear-mongering wastes our time and our emotions and diverts resources from where they should be directed — in the case of Ebola, to the ongoing tragedy in West Africa. Americans have all but forgotten about Ebola now, because most people realize it isn't coming to a school or a shopping mall near you. But Sierra Leoneans and Liberians go on dying.

#### Even if theoretically possible, its probabilistically negligible

Anders Sandberg 18. {Future of Humanity Institute, University of Oxford. 2-26-2018. “Human Extinction from Natural Hazard Events.” Oxford Research Encyclopedia of Natural Hazard Science. oxfordre.com, doi:10.1093/acrefore/9780199389407.013.293.}//JM

It is possible to place upper bounds on extinction risks due to natural disasters by considering the fossil record. This can be done in several ways; the following will be based on the work of Toby Ord (2017). The simplest bound is based on the observation that H. sapiens has existed for 200,000 years: this observation would be unlikely if the extinction risk was higher than about 1 in 3,000 per century. One can say that an extinction rate of 0.15% or higher per century is ruled out at a 95% confidence level. Another bound uses now-extinct related hominin species as a reference class, producing estimates in the range 0.001% to 0.05% per century. This is in line with survival times for mammalian species, which typically is 1–2 million years (Raup, 1978) but shorter than for the entire fossil record where lifetimes of 5–10 million years are typical (Raup, 1986; May, Lawton, & Stork, 1995). H. sapiens is an unusually populous, well-dispersed, and adaptable large mammal species. However, it also has high food requirements and a long generation time. It may then be that the most likely risk to lead to extinction would be a mass-extinction level risk. Large mass extinctions occur at a rate of about 1 in 100 million years, producing a risk estimate of 0.0001% per century.

#### Bioterrror is far off (and we solve it)

Pinker 18 – Steven Arthur Pinker is a Canadian-American cognitive psychologist, Professor at Harvard University. [Enlightenment Now: The Case for Reason, Science, Humanism, and Progress, Viking, Penguin Group]//BPS

Biological agents are particularly ill-suited to terrorists, whose goal, recall, is not damage but theater (chapter 13).58 The biologist Paul Ewald notes that natural selection among pathogens works against the terrorist’s goal of sudden and spectacular devastation. 59 Germs that depend on rapid person-to-person contagion, like the common-cold virus, are selected to keep their hosts alive and ambulatory so they can shake hands with and sneeze on as many people as possible. Germs get greedy and kill their hosts only if they have some other way of getting from body to body, like mosquitoes (for malaria), a contaminable water supply (for cholera), or trenches packed with injured soldiers (for the 1918 Spanish flu). Sexually transmitted pathogens, like HIV and syphilis, are somewhere in between, needing a long and symptomless incubation period during which hosts can infect their partners, after which the germs do their damage. Virulence and contagion thus trade off, and the evolution of germs will frustrate the terrorist’s aspiration to launch a headline-worthy epidemic that is both swift and lethal. Theoretically, a bioterrorist could try to bend the curve with a pathogen that is virulent, contagious, and durable enough to survive outside bodies. But breeding such a fine-tuned germ would require Nazi-like experiments on living humans that even terrorists (to say nothing of teenagers) are unlikely to carry off. It may be more than just luck that the world so far has seen just one successful bioterror attack (the 1984 tainting of salad with salmonella in an Oregon town by the Rajneeshee religious cult, which killed no one) and one spree killing (the 2001 anthrax mailings, which killed five).60 To be sure, advances in synthetic biology, such as the gene-editing technique CRISPR-Cas9, make it easier to tinker with organisms, including pathogens. But it’s difficult to re-engineer a complex evolved trait by inserting a gene or two, since the effects of any gene are intertwined with the rest of the organism’s genome. Ewald notes, “I don’t think that we are close to understanding how to insert combinations of genetic variants in any given pathogen that act in concert to generate high transmissibility and stably high virulence for humans.”61 The biotech expert Robert Carlson adds that “one of the problems with building any flu virus is that you need to keep your production system (cells or eggs) alive long enough to make a useful quantity of something that is trying to kill that production system. . . . Booting up the resulting virus is still very, very difficult. . . . I would not dismiss this threat completely, but frankly I am much more worried about what Mother Nature is throwing at us all the time.”62 And crucially, advances in biology work the other way as well: they also make it easier for the good guys [public protectors] (and there are many more of them) to identify pathogens, invent antibiotics that overcome antibiotic resistance, and rapidly develop vaccines.63 An example is the Ebola vaccine, developed in the waning days of the 2014–15 emergency, after public health efforts had capped the toll at twelve thousand deaths rather than the millions that the media had foreseen. Ebola thus joined a list of other falsely predicted pandemics such as Lassa fever, hantavirus, SARS, mad cow disease, bird flu, and swine flu.64 Some of them never had the potential to go pandemic in the first place because they are contracted from animals or food rather than in an exponential tree of person-to-person infections. Others were nipped by medical and public health interventions. Of course no one knows for sure whether an evil genius will someday overcome the world’s defenses and loose a plague upon the world for fun, vengeance, or a sacred cause. But journalistic habits and the Availability and Negativity biases inflate the odds, which is why I have taken Sir Martin up on his bet. By the time you read this you may know who has won.65

### 2NC---AT: ABR

#### ABR is fake.

Yang 18 Hsu Li Yang, Public Health Professor at the National University of Singapore. [Dealing with the evolving threat of antimicrobial resistance, 11-18-2018, https://www.todayonline.com/commentary/dealing-evolving-threat-antimicrobial-resistance]

The threat of a “doomsday scenario” of a post-antibiotic era – where common infections or minor injuries can result in death – has been raised by many experts and organisations, including the WHO. This is an exaggerated worst case future projection designed to generate headlines and increase awareness (and support) of the issue via fear – a tactic that has similarly been adopted for many causes. The reality is that we will never end up in such an apocalyptic future.

# 1NR

## CP - CIL

### AT: Do Both

#### The perm creates statutory support for CIL, deflecting the precedent of independent enforceable obligations.

Kundmueller ‘2 [Michelle; May 1; Attorney specializing in constitutional law, candidate for a J.D. and M.A. in Political Theory from the University of Notre Dame, B.A. from Flagler College; Journal of Legislation, “Note: The Application of Customary International Law in US Courts: Custom, Convention, or Pseudolegislation?” vol. 28]

III. Uses, Abuses, and Implications of Customary International Law in Domestic Law

Debates over the role of customary international law in domestic courts continue to produce differing opinions about the role of customary international law within the U.S. legal structure. While there is general agreement that customary international law plays some role, the extent of this role remains unclear. Three of the most important of the unanswered questions are covered in this section of this Note: (1) whether customary international law has the potential to trump federal legislation, (2) whether customary international law is federal law without empowering legislation from Congress, and (3) which political branch holds ultimate control over the interpretation of customary international law. The resolution of these issues will determine the power of customary international law in U.S. legal systems. In doing this, it may also change the balance of power between the respective federal branches by expanding the judiciary's ability to overrule federal law. In the final analysis, the answers to the preceding questions will determine whether customary international law or Congress controls in domestic legislation. The following section examines some currently viable theories about the power of customary international law in the U.S. legal system.

A. Dominance of Customary International Law over Federal Law

Jordan J. Paust, who has authored a book and several law review articles on the subject of customary international law, asserts that the incorporation [\*366] of this body of law into domestic law is required by the Constitution. He claims that "customary international law has been directly incorporable, at least for civil sanction and jurisdictional purposes, without the need for some other statutory base." 20 According to Paust, "the Founders clearly expected that the customary law of nations was binding, was supreme law, created (among others) private rights and duties, and would be applicable in United States federal courts." 21

Based on his claims of constitutionally mandated incorporation of customary international law, Paust delineates the areas of domestic law that this affects. In some applications, customary international law enhances the power of the "Executive under Article II, section 3 to 'take care that the Laws be faithfully executed.'" 22 In other applications, customary international law restricts the Executive: "Supreme Court and other opinions have also recognized that while exercising Presidential war powers, the Executive is bound by customary international law." 23 In addition to affecting the President and therefore indirectly the Legislative branch, Paust claims that customary international law directly shapes Congressional power because it "can limit the exercise of an otherwise appropriate Congressional power and thus can function partly as an aid for interpreting the extent of constitutional grants of power." 24 The power of customary international law also affects the courts, where it "may be relevant to an adequate interpretation of various sorts of Congressional power in order to functionally enhance such powers." 25 Finally, Paust claims that the "latter process of incorporation might include an enhancement of the power of Congress under Article I, section 3, clause 18 to enact legislation 'necessary and proper for carrying into Execution . . . all other Powers vested by this Constitution in the Government of the United States, or in any Department or Officer thereof.'" 26

Because customary international law thus pervades the federal government, alternately limiting and expanding the powers of the respective branches, it becomes a defining body of law in relationship to the federal government. Hence, Paust writes, "in the case of an unavoidable clash between fundamental human rights supported by customary international law and a federal statute, the human rights (which have a constitutional status) [\*367] must prevail." 27 In normal conflicts between codified (treaty) international law and federal statute, the last-in-time rule applies; this rule dictates that whichever law was most recently enacted controls. 28 Paust claims that this rule dictates that, in conflicts between customary international law and federal statutes, customary international law always controls. 29 As Paust theorizes, "customary international law would necessarily be 'last in time,' since custom is either constantly re-enacted through a process of recognition and behavior involving patterns of expectation and practice or it loses its validity and force as law." 30 By this reasoning, custom is always a controlling authority in the face of a directly conflicting federal statute.

The extent to which Paust claims that customary international law influences and controls domestic law leads to the question of who, within the U.S. legal system, decides upon the content, interpretation, and manner of application of international law. While all three branches of the federal government will have some indirect control in forming customary international law, it also limits the scope of each. Hence, whichever branch is empowered to control the application and interpretation of this body of law within the domestic legal structure will be that much stronger, relative to the coordinating branches. In Paust's view, the judicial branch is responsible to "identify, clarify, and apply" this body of law. 31 In response to concerns that this role improperly changes the balance of powers, he asserts that "it is precisely because the federal judiciary has both the power and responsibility to identify and apply customary international law in cases otherwise properly before the courts that there is no violation of the separation of powers when federal courts apply international law while interpreting federal statutes." 32

In an article on human rights law and domestic courts, Richard B. Lillich explores the role and the ramifications of customary international law in United States law. Like Paust, Lillich bases his understanding of the role of customary international law on the finding that "customary international law, while not mentioned in the Constitution, is part of the law of the land to be determined and applied by the courts whenever appropriate in making a decision." 33 Based on this, Lillich states that "the starting point in ascertaining what international human rights norms have been received into customary international law--and therefore are rules of decisions for domestic [\*368] courts--commonly is thought to be the Universal Declaration of Human Rights . . . ." 34 The status of the Universal Declaration of Human Rights as a source of the customary international law rests solely on its position as evidence of existing customary international law. Lillich admits that, while the Universal Declaration of Human Rights resolution was adopted without a dissenting vote by the U.N. in 1948, it is not legally binding as a treaty, as it has never been ratified. 35

Thus, to the extent Lillich is correct that the Universal Declaration of Human Rights reflects--at least in part--customary international law, and to the extent that both Paust and Lillich are correct that customary international law is part of United States law which should be enforced and interpreted by the courts, it should also "be directly enforceable in domestic courts." 36 Most customary international law claims in U.S. courts have been based on a statute which provides for such a claim. The most common example of this is the Alien Tort Statute, which dates back to the Judiciary Act of 1789 and provides for federal jurisdiction over "any civil action by an alien for a tort only, committed in violation of the law of nations of a treaty of the United States." 37 The point of Lillich's suggestion is that, while there is nothing wrong with providing statutorily for the incorporation of customary international law, as has been done in the past, it is unnecessary or redundant.

The implications of Lillich's claim that customary international law may and ought to be directly incorporated into United States law even without statutory support are far reaching. He advocates that judges ought to use human rights law--and implicitly all of customary international law--without statutory support. Not only could claims be brought in federal and state courts without the benefit of enabling statutes, but, under the mirror principle, the United States has an obligation, enforceable domestically, to live up to the provisions of customary international law. 38 Beyond this direct effect, which has the potential to permit the voiding of a federal statute on the grounds that it conflicts with customary international law (as defined and recognized by the judiciary), Lillich predicts that customary international law should have the "greatest impact on domestic law in the future by influencing the courts' approach to constitutional and statutory standards." 39 This means that the Constitution, federal law, and state law should be interpreted in light of customary international law. As Lillich states, "litigants and judges already have invoked the Universal Declaration [of Human Rights] for precisely this purpose." 40 Lillich hails this new world of customary international law's direct and indirect incorporation into United States law as offering "significant as well as virtually limitless possibilities for achieving greater protection of the rights of individuals." 41

2. Conflict.

#### CIL is codified only when it proves it can override conflicting statute – the perm renders it mere gap-filler.

Wouters ‘2 [Jan and Dries Van Eeckhoutte; June 2002; Professor of International Law and the Law of International Organisations, Leuven University, and Of Counsel at Linklaters De Bandt; Research Assistant, Institute for International Law, Leuven University; Institute for International Law Working Paper, “Giving Effect to Customary International Law Through European Community Law,” No. 25]

1. Introduction

Being part of general international law, customary international law1 is in principle binding on all subjects of international law, including international organisations like the European Union2, the European Community and all of the EU’s Member States.3 The breach of rules of customary international law will entail the international responsibility of the subject(s) involved. However, for private individuals, what matters most is the question of whether and to which extent they are able to rely on a rule of customary international law before the courts in order to see their rights protected. In most domestic legal systems, national courts are under certain conditions willing to accept that a private individual invokes a rule of customary international law to interpret a domestic rule in conformity with customary international law; to derive a right out of a rule of customary international law; or - the strongest and most far-reaching use - to contest the legality of a rule of domestic law. However, this last type of reliance on customary international law is especially severely restricted if not rendered impossible in the case-law of many States.4

Although the case-law of the European Court of Justice (“Court of Justice”) has for many years taken rules of customary international law into account 5, it is only very recently, in the Opel Austria judgment6 of the European Court of First Instance (“Court of First Instance”) and in the Racke judgment7 of the Court of Justice, that the Community courts have explicitly relied on customary international law to test the validity of acts of EU institutions.

These two cases raise a variety of issues which will be analysed in this contribution. First, the question arises as to what the precise position of customary international law is in Community law8 (2). Secondly, Racke and Opel Austria raise the question under which conditions rules of customary international law can be invoked in Community law in order to challenge the validity of acts of EU institutions or rules of national law. This requires a careful analysis of the reasoning followed in the judgments concerned (3). In the third place, it should be examined how the Community courts’ case-law on the invocability of customary international law relates to their case-law on the invocability of treaties to which the EC is a party (4). It would be interesting to see whether there is any incoherence between the two lines of case-law and whether the outcome of a case before the Community courts could differ depending on the formal source of international law involved. Based on the insights acquired in the previous sections, we will end our contribution with some reflections relating to the nature of customary international law (5).

A preliminary remark should be made as to the terminology used in this contribution. The concept of “invocability” is often used interchangeably with that of “direct effect”. In the present contribution, however, we prefer the term “invocability” as it better catches the different manners in which customary international law can be used by private individuals, in particular the review of the legality of domestic (be it national or EC) rules and the interpretation of those rules in conformity with customary international law.9 The use of the term “invocability” also helps to distinguish our analysis, which concerns the relationship between the international legal order and domestic (national or EC) legal orders, from the context in which the notion of “direct effect” is typically used, namely the relationship between rules of Community law and rules of national law.10 When the term “direct effect” is used hereinafter, it will be in reference to the Court of Justice’s wellestablished case-law concerning the rights of private individuals derived from Community acts and/or their right to invoke EC law before a national court in order to assess the compatibility of national law with EC law.

2. The position of customary international law in Community law

Much has been written about the initial reticence of the Court of Justice regarding the relationship between general international law and EC law.11 One can find a specimen of such reticence in the Dyestuffs case (1972), a competition law case in which the Court avoided the problem of the limits which customary international law imposes on the EC’s jurisdiction in cartel cases.12 [FOOTNOTE] 12 Case 48/69, ICI v Commission [1972] ECR 619. As is known, the Court avoided the problem of customary law of jurisdiction by following the Commission’s argument that the parent companies outside the EC, by giving pricing instructions to their EC-based subsidiaries, were acting as a single entity so that the Commission’s decision could be seen as a simple application of the territoriality principle. One may compare this with the thorough examination of customary international law of jurisdiction by Advocate General Mayras in his opinion in this case: [1972] ECR 619, at 692-697. The Court avoided this question again in Joined Cases 6/73 and 7/73, Istituto Chemioterapico Italiano and Commercial Solvents v Commission [1974] ECR 223, points 36-41. [END FOOTNOTE] As Timmermans has rightly stressed, the Court’s initial reticence can largely be explained from its efforts to safeguard the autonomy of Community law vis-à-vis international law.13 However, since then the Court of Justice has made numerous references to customary international law, even though the wording used often blurs the precise formal source of the rule (typically, reference is made to “the general rules of international law”14, “the rules of (public) international law”15, “principles of international law”16 or even simply to “public international law”17 or “international law”18).

This is not to say, though, that through the Community case-law, the precise legal status and place of customary international law within the hierarchy of norms has been clear. Before Opel Austria and Racke the Court of Justice mainly relied on customary international law (i) to demarcate the limits of State or EC/EU jurisdiction and powers, (ii) as providing rules of interpretation and (iii) as a ‘gap-filler’ in the absence of specific EC rules. Although this may have been implicit in earlier case-law (see below), before the aforementioned judgments the Community courts had not explicitly confirmed the possibility that customary international rules could be relied upon to challenge the validity of Community acts (iv).

#### Including the plan obviates the showdown between CIL and domestic law – that prevents precedent-setting.

Kundmueller ‘2 [Michelle; May 1; Attorney specializing in constitutional law, candidate for a J.D. and M.A. in Political Theory from the University of Notre Dame, B.A. from Flagler College; Journal of Legislation, “Note: The Application of Customary International Law in US Courts: Custom, Convention, or Pseudolegislation?” vol. 28]

V. Conclusion

This Note has attempted to demonstrate some of the difficulties of applying customary international law in U.S. courts. At every level, there are unanswered questions. Many of these issues, like how "general" a practice or its acceptance must be in order to constitute customary international law, can only be given imprecise answers. Not only are these general problems inherent in all legal questions involving line-drawing in the defining of customary international law, but there is a virtual war being waged over where that line should be drawn and by whom. This issue, in turn, raises questions of constitutional importance, the gravity of which it is almost impossible to overstate. Practical concerns about the balance of powers, no less than theoretical misgivings over undermining our government's consentbased authority and legitimacy, demand our attention as the possibility of directly incorporating customary international law, perhaps even when in direct contravention of federal statute, comes closer to becoming a reality.

Current cases do not present any of these possibilities as realities. They do, however, contain the beginnings of what could become fundamental structural changes in customary--and hence, United States--law should the judicial system prove dominant in determining customary international law. Current cases show U.S. courts, on a fairly modest level, defining, determining, and applying customary international law. The cases have yet to produce a real showdown between domestic, either constitutional or congressional, and customary law. To date, congressional and executive actions and statements have been taken as one type of evidence in determining the content of customary international law, but they have not served as dispositive or controlling in the face of overwhelming evidence that customary international law as a whole dictates a contrary outcome.

This, of course, is the real issue. What happens when the will of the people or a dictate of the Constitution conflicts directly with customary international law? No doubt, our courts will do their best to interpret creatively so as to avoid such a conflict, but, eventually, the conflict will come, and a decision will be made. The conflict is inevitable due to the nature of modern customary international law. No longer delegated to issues traditionally understood as exterior, modern customary international law is beginning to define relationships between governments and their citizens and amongst citizens. [\*378]

The conclusions of this Note are three. First, there is an impending constitutional crisis, with the potential to alter the fundamental structure of our laws and the legal authority (if not the power) of the American people. Second, in this eminent struggle, Congress ought to take the lead, controlling through legislation the authority of customary international law in domestic matters and thus circumventing the potential conflict between international and domestic law by upholding the supremacy of U.S. law in domestic matters. The courts will by necessity play a crucial role, for they must concur that this role belongs to the legislature and that federal law is supreme. Third, U.S. courts must, in their role as interpreters of customary international law, hold ever present in their determinations the recognized definition of customary law, which encompasses both a custom and a convention element: the practice of nations ought not be ignored. By this means, they will be surer of applying customary international law as it exists, rather than as courts and commentators wish it to be.

#### Alignment crushes codification.

Meyer ’12 [Timothy; 2012; Assistant Professor of Law at the University of Georgia School of Law, JD from the University of California, Berkeley School of Law, PhD in Jurisprudence and Social Policy from the University of California, Berkeley; University of Pennsylvania Law Review, “Codifying Custom,” vol. 160]

B. Compliance

Having explained the logic and limits of tthe Clarification Thesis, I now explain why concerns about promoting compliance also fail to explain codification. Customary international law is for the most part comprised of rules of conduct. That is, customary international legal rules create legal rights and obligations, such as the right to exercise sovereignty over the territorial sea and the obligation to refrain from committing genocide. Treaties, however, can include a variety of mechanisms, such as monitoring mechanisms or jurisdictional protocols, that can further promote compliance. As governments have frequently recognized, codification can therefore improve compliance with customary rules by appending to these rules compliance- [\*1017] promoting mechanisms that generally do not exist in customary international law. 75 I refer to this rationale for codification as the Compliance Thesis.

The mere existence of rules of conduct can change the way states behave when, for example, decentralized penalties, such as reputational sanctions, exist for violating the rules of conduct. But while bare rules of conduct can affect state behavior, their mere existence may be insufficient to promote an ideal level of compliance. Bare rules do not address international law's overarching problem: the problem of enforcement. International law is mostly a self-help system, in the sense that there is no centralized enforcement mechanism. States may therefore wish to create certain mechanisms that are likely to raise the costs of noncompliance with the substantive rules of conduct.

Codification allows states to solve the enforcement problem in a variety of ways. Most importantly, codification gives states the chance to provide advance consent to dispute resolution provisions. For example, the Optional Protocol to the Vienna Convention on Consular Relations grants jurisdiction over disputes arising under that Convention to the International Court of Justice. 76 Similarly, the U.N. Convention on the Law of the Sea establishes the International Tribunal for the Law of the Sea to resolve disputes. 77 Bilateral investment treaties and the investment chapters of regional free trade agreements are noted less for the manner in which they codify customary international law and more for the fact that their arbitration provisions create a private cause of action against host states that did not exist under customary international law. And in defining the crimes over which the ICC has jurisdiction, the Rome Statute codifies much of the substantive [\*1018] international criminal law developed in the twentieth century. 78 The codification exercise, however, was less about agreeing on the substantive rules of conduct and considerably more about creating an international mechanism for the enforcement of customary rules.

Codification also allows states to create ancillary monitoring and enforcement obligations that are specific to the customary rule codified. Treaties can create self-reporting obligations for states that allow other states and monitoring bodies to judge whether a state is honoring its customary obligations. For example, the International Convention on Civil and Political Rights, which is thought to codify certain customary human rights obligations, 79 contains self-reporting requirements. 80 The CAT, which codifies the customary prohibition against torture, also requires states to report on measures taken to comply with the Convention. 81 The CAT requires states to criminalize acts of torture in their domestic law and to investigate and either extradite or prosecute those who have committed such acts. 82 These treaties thus create a variety of enforcement obligations that do not necessarily accompany the bare customary obligations that the treaties codify.

Finally, codification can have an effect on custom's status as domestic law. For example, in the United States, some scholars have suggested that in the wake of Erie Railroad Co. v. Tompkins 83 customary international law should be treated as state, rather than federal, common law. 84 To the extent this view is adopted by courts, codification [\*1019] restores custom to its status as federal law by operation of the Supremacy Clause. 85 This, in turn, may allow federal courts to act as enforcers of international legal obligations.

Although the compliance benefits of codification are significant - and may, in individual cases, drive the decision to codify - they do not fully explain the phenomenon of codification. Many of the most important codifying treaties fail to employ any of the features identified above that can make codification attractive. The Vienna Conventions on Diplomatic and Consular Relations, for example, do not create mandatory dispute resolution procedures or enforcement or monitoring obligations. 86 And while treaties may clarify custom's status in domestic law, that benefit is specific to countries that make a distinction between custom and treaties in terms of domestic effect. In Germany, for example, customary international law trumps inconsistent statutes. 87 [FOOTNOTE] 87 See Karl M. Meessen, Antitrust Jurisdiction Under Customary International Law, 78 Am. J. Int'l L. 783, 790 (1984) (using conflicting antitrust law to demonstrate Germany's reliance upon customary international law). [END FOOTNOTE] Moreover, even where dispute resolution, enforcement, and reporting obligations exist, institutional design and international politics may render those devices ineffective. Consider the attempts to define the crime of aggression in the Rome Statute. After years of negotiation, the 2010 ICC Review Conference held in Kampala succeeded in adopting a definition, 88 but this success was complicated by the inclusion of restrictive "jurisdictional paths" through which the ICC could actually obtain jurisdiction over allegations of criminal aggression. 89

#### Only CIL as supreme signals commitment to transnational antitrust.

Zwarensteyn ’13 [Hendrik; 2013; J.D., Ph.D., Professor of Business Law at Michigan State University; Some Aspects of the Extraterritorial Reach of the American Antitrust Laws, EBook]

(6) The creation of a special judiciary for antitrust matters in the various countries could in turn, lead to the establishment of a supra-national Court for Antitrust Matters, to which decisions of national antitrust courts could be submitted for review. It follows that the establishment of such an international tribunal, to be meaningful and relevant, implies that not only the decisions of the national courts of the member nations, but also the national laws themselves will be subject to scrutiny against the background of generally recognized and accepted principles of international antitrust law; this means that the member nations would have to recognize the supremacy of this supra-national tribunal in matters of antitrust enforcement in the international community of nations

### AT: Do CP

#### 1. ‘Its’ refers to the U.S., is possessive, and exclusive.

Brent ’10 [Douglas; June 2; Attorney and Co-Chair at Stoll Keenon Ogden LLP, JD from the University of Kentucky College of Law, BA from the University of Kentucky; Commonwealth of Kentucky Before the Public Service Commission, “Reply Brief on Threshold Issues of Cricket Communications, Inc,” http://psc.ky.gov/PSCSCF/2010%20cases/2010-00131/20100602\_Crickets\_Reply\_Brief\_on\_Threshold\_Issues.PDF]

AT&T also argues that Merger Commitment 7.4 only permits extension of “any given” interconnection agreement for a single three year term. AT&T Brief at 12. Specifically, AT&T asserts that because Cricket adopted the interconnection agreement between Sprint and AT&T, which itself was extended, Cricket is precluded from extending the term of its agreement with AT&T. Id

This argument relies upon an inaccurate assumption: that the agreement (contract) between Sprint and AT&T, and the agreement (contract) between Cricket and AT&T, are one and the same. In other words, to accept AT&T’s argument the Commission must conclude that two separate contracts, i.e. the interconnection between Sprint and AT&T in Kentucky (“Sprint Kentucky Agreement”) and the interconnection between Cricket and AT&T in Kentucky (“Cricket Kentucky Agreement”), are one and the same.

Upon this unstated (and inaccurate) premise AT&T asserts that “the ICA was already extended”; id. at 14, and “the ICA Cricket seeks to extend was extended by Sprint . . . .”; id. at 15, and, finally, “Cricket cannot extend the same ICA a second time . . . .” Id. (emphasis added in all). Note that in the quoted portions of the AT&T brief (and elsewhere) AT&T uses vague and imprecise language when referring to either the Sprint Kentucky Agreement, or the Cricket Kentucky Agreement, in hopes that the Commission will treat the two contracts as one and the same.

But it would be a mistake to do so. The contract governing AT&T’s duties and obligations with Sprint is a legally distinct and separate contract from that which governs AT&T’s duties with Cricket. The Sprint Kentucky Agreement was approved by the Commission in September of 2001 in Case Number 2000-00480. The Cricket Kentucky Agreement was approved by the Commission in September of 2008 in Case Number 2008-033 1.

AT&T ignores the fact that these are two separate and distinct contracts because it knows that the merger commitments apply to each agreement that an individual telecommunications carrier has with AT&T. Notably, Merger Commitment 7.4 states that “AT&T/BellSouth ILECs shall permit a requesting telecommunications carrier to extend its current interconnection agreement . . . . As written, the commitment allows any carrier to extend “its” agreement. Clearly, the use of the pronoun “its” in this context is possessive, such that the term “its” means—that particular carrier’s agreement with AT&T (and not any other carrier’s agreement). Thus, the merger commitment applies to each agreement that an individual carrier may have with AT&T. It necessarily follows then, that Cricket’s right to extend its agreement under Merger Commitment 7.4 is separate and distinct right from another carrier’s right to extend its agreement with AT&T (or whether such agreement has been extended).

#### CIL displaces U.S. law.

Henkin ’87 [Louis; February 1987; University Professor at Columbia University; Harvard Law Review, “The Constitution and United States Sovereignty: A Century of Chinese Exclusion and its Progeny,” vol. 100]

The relationship between international and United States law, then, cannot be determined by declaring international law to be common law and therefore inferior to legislation. It has to be determined by reference to some principle that would locate the United States on the monist-dualist spectrum. In fact, one could advance persuasive arguments that customary international law supersedes any United States law and should be given effect even when it conflicts with a subsequent act of Congress. The law of nations, including both treaties and customary international law, is binding on the United States. The framers of the Constitution respected the law of nations, and it is plausible that they expected the political branches as well as the courts to give effect to that law. 100 Other countries have accepted the supremacy of international law: their courts give effect to international law over domestic legislation. 101 Our legal system subordinates treaties to subsequent congressional acts, because the Court has determined that the supremacy clause imposes that hierarchy. But no similar textual basis exists for subordinating customary international law. Customary international law is universal and lasting and has better claim to supremacy than do treaties, which govern only the parties and can be readily terminated or replaced by those parties.

#### They’re only the Big Three.

Rataj ’21 [Michael; May 12; PC, Law Degree from the Detroit College of Law; Michael Rataj Blog, “Consequences for Breaking Antitrust Laws,” https://www.michaelrataj.com/blog/2021/05/consequences-for-breaking-antitrust-laws/]

The core antitrust laws are…

The three core antitrust laws are the Sherman Act, the Federal Trade Commission Act and the Clayton Act. The Sherman Act primarily prohibits unreasonable restraint of trade and monopolization. Those who are in violation of the Sherman Act may face hefty fines, up to $100 million, and up to 10 years behind bars.

The FTC Act prohibits unfair practices or acts and unfair approaches to harming competition. Only the FTC can file cases under this act. The Clayton Act is a catch-all that covers every practice not covered by the Sherman and FTC Acts. Then consequences for violations of both of these acts are usually civil in nature.

#### Custom is a distinct, internationally derived basis – it’s silent on domestic law.

Hepburn ’18 [Jarrod; 2018; McKenzie Postdoctoral Research Fellow at Melbourne Law School, University of Melbourne, DPhil, MPhil and BCL from Balliol College, University of Oxford; American Journal of International Law, “Domestic Investment Statutes in International Law,” vol. 112]

\* ‘FILs’ = Foreign Investment Laws

The Effect of Domestic Limitations Clauses

Many cases and commentators have held that domestic statutes of limitation do not apply to claims before international tribunals. 300 This principle is perhaps confined to situations where an international tribunal is ruling on an alleged breach of international law. Most of the cases addressing the issue have related to international law breaches: of investment treaties (in Wena v. Egypt, Biedermann v. Kazakhstan, Maffezini v. Spain, Bogdanov v. Moldova, and Energoalians v. Moldova) or custom (in the Gentini and Spader arbitrations). 301 The Wena tribunal even specified that, in its view, domestic time-bars "do not necessarily bind a claim for a violation of an international treaty before an international tribunal." 302 If FIL protections are treated as unilaterally assumed international obligations, as considered in Part III, then FIL claims are equivalent to claims under treaty or custom, and domestic time-bars would not be applied. But the cases just cited arguably say nothing about claims before international tribunals for breaches of domestic law. 303 If, therefore, FIL protections are treated as domestic law obligations, the application of domestic time-bars might be plausible.

#### That refers to the breadth of competition law.

Buccirossi ‘9 [Lear and Eui; September 2009; Researchers for the Directorate General for Economic and Financial Affairs of the European Commission; Competition Policy Indexes, “Measuring the Deterrence Properties of Competition Policy: The Competition Policy Indexes,” https://tinyurl.com/sbpbv553]

Also Hilton and Deng have tried to provide a quantitative summary measure of competition law. Their objective has been to gauge the size of the overall “competition law net” by collecting information on the breadth of the law and on its penalty and defence provisions in 102 countries over the time period January 2001 to December 2004. 47 Their scope index differs from the CPI in that it tries to provide a summary description of the areas covered by competition law rather than an evaluation of its quality. Indeed, the scope index does not attempt to measure how the law is effectively enforced, nor the degree of independence of the CA or the quality of the law. 48

#### ‘Of’ locates the coverage in antitrust laws.

McKeown ’11 [Margaret; 2011; Judge on the US Court of Appeals for the Ninth Circuit; Lexis, “Simonoff v. Expedia, Inc,” 643 F.3d 1202]

Our recent decision in Doe 1 is central to our analysis. There we considered a forum selection clause in AOL's website user agreement that [\*\*5] provided for "exclusive jurisdiction for any claim or dispute . . . in the courts of Virginia." Id. at 1080. We concluded that the choice of the preposition "of" in the phrase "the courts of Virginia" was determinative—"of" is a term "'denoting that from which anything proceeds; indicating origin, source, descent, and the like.'" Id. at 1082 (quoting Black's Law Dictionary 1080 (6th ed. 1990)). Thus, the phrase "the courts of" a state refers to courts that derive their power from the state—i.e., only state courts—and the forum selection clause, which vested exclusive jurisdiction in the courts "of" Virginia, limited jurisdiction to the Virginia state courts. Id. at 1081-82.

#### Custom alters no legislation – any other interpretation shreds precision.

Hameed ’17 [Asif; 2017; Fellow in Law at Selwyn College, University of Cambridge, D.Phil in Law at the University of Oxford; Chinese Journal of International Law, “Some Misunderstandings About Legislation and Law,” vol. 16]

II.D.iii. The third problem

41. In the remaining analysis I will treat the expression "general and abstract" as describing a single property-namely, the generality of the legal norm in question. 52 This, I think, is the gist of Talmon′s understanding of legislation. Even so, his formulation faces a further problem. A formulation of legislation, if it is to be a formulation of legislation (as opposed to anything else), must be discriminating. For our purposes, the formulation must discriminate between legislation and other types of law.

42. Talmon′s formulation of legislation fails to discriminate. It indicates that any legal norm that is "general and abstract" (and I take this to mean "general") is legislative. This would indicate, for example, that many norms of customary international law count as (international) legislation.

43. In international law writing there can sometimes be a lack of clarity about the different types of law-making. Legislating is often treated as a synonym for law-making, rather than as one type of law-making which is to be distinguished from others. 53 This includes some of Talmon′s own writing on the matter. He states that "for a long time, the perceived wisdom was [...] that the states are the legislators of the international legal system". 54 If this is true, what legislation have States been producing (according to received wisdom)? Does customary international law constitute legislation (when made by States)?

44. It would appear so. Talmon goes on to explain how international lawyers have used the expression "international legislation" to "describe the conclusion of lawmaking treaties [...] the making of customary international law", and so on. 55

[FOOTNOTE] 55Ibid. And as noted earlier, a similar approach has been taken by other writers-e.g. Higgins, above n.53. But the approach is not universally shared. See e.g. Skubiszewski, above n.34, 1255 where he states that "[w]riters employ the term [legislation] to describe such divergent phenomena as the making of customary international law (which is a clear perversion of the concept of legislation)". [END FOOTNOTE]

45. But consider customary law again. The problem emerges with particular clarity in relation to national legal systems. When legislation and customary law are recognized as sources of law in national legal systems, a clear distinction is drawn between them precisely because they are different types of law. This is true, for instance, of the various legal systems that recognize indigenous custom as a source of law; and the distinction matters, because a given customary norm may be pre-empted or displaced by legislation. 56 In spite of this, Talmon′s formulation transforms custom into legislation, since many customary norms will be general.

#### Custom is grounded in international law, a singular and unitary rule derived from judicial practice – that’s distinct from the plural ‘laws,’ which refers to overall statutory development.

Gasaway ’13 [Robert and Ashley Parrish; 2013; Partner at Kirkland and Ellis LLP; Partner at King and Spalding LLP; Journal of Law, Economics, and Policy, “In Praise of Erie—and its Eventual Demise,” vol. 10]

Interpreting the Federal Rules of Decision Act in Swift, Justice Story relied on the statute's plain meaning, emphasizing that its reference to the "laws of the several states" in the plural was meant to refer to the "positive statutes of the state, and the construction thereof adopted by local tribunals." 46 According to Swift, the Rules of Decision Act did not apply to "questions of a more general nature, . . . especially to questions of general commercial law." 47 Significantly, Justice Brandeis's Erie decision offers no response to Swift's textual analysis. And, as noted above, Justice Friendly abandons any defense of Erie on statutory grounds. Part of the reason Justice Brandeis failed to engage in meaningful textual analysis of the Rules of Decision Act lies hidden in the Erie opinion itself. In a portion of the opinion criticizing Swift, Justice Brandeis cites John Chipman Gray's classic, The Nature and Sources of Law. 48 But Gray's book provides a fascinating kernel of support for Swift's statutory interpretation as against Erie's. Gray recognized that the "meaning of 'Law,' when preceded by the indefinite, is to be distinguished from that which it bears when preceded by the definite, article." As Gray explained, "A law ordinarily means a statute passed by the legislature of a State." In contrast, "'The Law' is the whole system of rules applied by the courts." 49 This same distinction was recognized in a slightly different form by the Supreme Court in Sprietsma v. Mercury Marine. 50 There, the Court interpreted the express preemption provision in the Federal Boat Safety Act of 1971, which applied to "a [state or local] law or regulation." 51 The Court held that the provision did not encompass common law claims because "the article 'a' before 'law or regulation' implies a discreteness--which is embodied in statutes and regulations--that is not present in the common law." 52 These principles are also relevant to interpreting the Constitution's Supremacy Clause, which refers, in the plural, to "the Laws of the United States." 53 By referring to "laws" (plural), the Supremacy Clause refers to the group of positive Congressional enactments, not to the singular and integrated body of general common law. As scholars have recognized, before Erie, the common law applied by federal courts sitting in diversity under the Swift regime did not preempt state law because a federal judicial decision was not a "federal law"; it was "merely the federal judge's interpretation of the principles constituting the distinct field of common law." 54 In other words, before Erie, the general common law was subordinate to state statutory law, 55 a result grounded ultimately in the plural usage ("the Laws of the United States") found in the Supremacy Clause. Justice Brandeis's Erie decision overlooks this interpretive evidence drawn from Swift, Gray, and the Constitution. But even more significantly, Justice Brandeis's opinion is forced by the logic of its argument to recast--slightly but tellingly--the language of the Rules of Decision Act. The Rules of Decision Act states as follows: The laws of the several States, except where the Constitution, treaties, or statute of the United States otherwise require or provide, shall be regarded as rules of decision in trials at common law, in the courts of the United States, in cases where they apply. 56 As recast by Justice Brandeis, however, this statutory text becomes the following: Except in matters governed by the Federal Constitution or by Acts of Congress, the law to be applied in any case is the law of the State. And whether the law of the State shall be declared by its Legislature in a statute or by its highest court in a decision is not a matter of federal concern. 57 Almost through an absence of mind (or perhaps a sleight of hand), Justice Brandeis's formulation importantly alters the meaning of the statutory text it paraphrases. First, the Brandeis formulation transmutes the word "laws" (plural) of the statute into "law" (singular) for purposes of the opinion. But as Justice Brandeis ought to have recognized, whereas the plural statutory language--"laws of the several states"--is most naturally read to refer to the collective group of each state's positive laws, it is awkward and unnatural to read the statutory term "laws" as referring to and encompassing a unitary body of "common law." 58 To be sure, the general common law was typically received into state law via a statute or constitutional provision. But such positive enactments, while they might provide rules of decision for state courts, could not be read constitutionally or by their terms to apply to cases in federal court. Put in terms of the Rules of Decision Act, federal court cases would not have been "cases where" such state incorporation statutes would properly "apply." It is difficult to see how, especially after Swift, Gray, and the Supremacy Clause, Justice Brandeis could have overlooked this important interpretive evidence. Second, Justice Brandeis's recasting omits the statute's reference to treaties. This omission, while perhaps an oversight, is nonetheless of interest because the international law of both the Founding era and Justice Brandeis's day is akin to common law in that it was largely declared by judges.

### 2NC – Antitrust

#### Custom is binding and is well suited for antitrust because core laws leave broad scope for interpretive discretion.

Swaine ’1 [Edward; 2001; Assistant Professor, Legal Studies Department, The Wharton School, University of Pennsylvania; William and Mary Law Review, “The Local Law of Global Antitrust,” vol. 43]

This preference for local understanding does not require a parochial focus on the positions staked by those branches themselves, which we should assume are also capable of appreciating the views of their sovereign counterparts. 368 Nor does it require subscribing to the view that custom is federal law only by virtue of independent, political-branch lawmaking. 369 But where [\*719] primary sources suggest that the inquiry is a close one, any clear position staked out by the local sovereign should be favored in construing local political enactments. 370 This approach also bears on the treatment of emerging custom. As noted previously, it is inappropriate for a court to regard a yet-emerging custom as equivalent to one that has fully bloomed; at the same time, the line between the two is often hard to draw, and gainsaying a position taken by the political branches on the question may unduly interfere. The best approach, on balance, is to permit legitimate, if not necessarily wholly mature, assertions of customary inter-national law to influence the judicial construction of domestic law, without requiring that courts take a position on the existence or relevance of that norm at the precise moment of decision.

Perhaps unsurprisingly, this approach is well suited to antitrust. The Sherman Act is notorious for conferring interpretive freedom on the courts and federal agencies, 371 including the authority to reconcile its reach with international law.

Footnote 371:

E.g., Appalachian Coals, Inc. v. United States, 288 U.S. 344, 359-60 (1933) (describing the Sherman Act as a "charter of freedom," with "a generality and adaptability comparable to that found … in constitutional provisions"); see also 1 Areeda & Hovenkamp, supra note 50, P 103, at 63 (explaining that "the Sherman Act effectively vested the federal courts with a power to make competition policy analogous to that of common law courts"); id. P 103 at 62-63 (observing that "judges sometimes talk as if Congress has already decided the question before them but [t]his is usually a misconception"); Frank H. Easterbrook, Statutes' Domains, 50 U. Chi. L. Rev. 533, 544-47, 551-52 (1983) (contrasting broad enactments such as the Sherman Act that invite courts to fashion common law with more precise enactments whose gaps should not be filled).

End of Footnote 371.

In enacting the Foreign Trade Antitrust Improvements Act of 1982 372 and the International [\*720] Antitrust Enforcement Assistance Act of 1994, 373 Congress appears to have deliberately avoided addressing the propriety of Timberlane and kindred jurisdictional tests. In taking advantage of this latitude, courts applying the Charming Betsy canon have properly refrained from resolving the scope of the custom bearing on the question. 374 The result allows arguably "soft" principles like comity the opportunity to emerge as international law. 375 If such [\*721] principles are more than merely colorable, and can be reconciled with federal antitrust laws, unnecessary conflict with domestic political enactments perhaps may be avoided.

C. Local Actors: Differentiating Authority

Respect for the separation of powers may seem superficial when the judiciary posits customary norms that purportedly bind the political branches. An international law of antitrust, for example, might constrain not only the initial exercise of prosecutorial discretion by the U.S. government, but also the ability of the federal courts to assist in any party's enforcement of the Sherman Act. In the face of such custom, half-measures are awkward. Deferring to the executive stewardship of foreign relations, for example, would simply leave U.S. law inconsistent with our international obligations. 376

Footnote 376:

Unless, of course, the international law is later- in-time, and is deemed to override the domestic law. See supra text accompanying note 339.

End of Footnote 376.

#### The CP creates an equivalent substantive obligation, sends a huge signal, is more certain and durable AND the act forwards an assertion of economic law that becomes quickly globalized.

Helfer ’16 [Laurence; 2016; Professor of Law at Duke University; Michigan Journal of International Law, “Customary International Law: An Instrument Choice Perspective,” vol. 37]

Strikingly, however, the rational design, legalization, and instrument choice scholarship has all but ignored CIL. Numerous studies of international lawmaking barely mention custom, lump it together with soft law, or view it as a less binding form of commitment than treaties. 11 More specifically, these accounts fail to consider the distinctive design features of CIL or whether and when states might choose custom as their preferred legal instrument. 12

An instrument choice perspective offers three interrelated insights that reveal custom's continuing relevance to contemporary international lawmaking. First, the perspective identifies the distinctive design elements that distinguish CIL from treaties and soft law. Second, instrument choice illuminates the constraints that limit states' use of custom to particular types of cooperation problems. And third, the approach predicts that states, in these constraints, will continue to prefer custom over treaties and soft law when custom's design features or its substantive norms offer advantages over treaties or soft law.

Before proceeding, we offer a few qualifications and caveats. First, in line with standard rationalist accounts of international cooperation, we view states as the primary actors. This does not imply that the individuals and institutions within states - executive branch officials, legislatures, civil society groups, and so forth - do not influence the selection of custom over treaties or soft law. Our focus, however, is on the dynamics of instrument choice at an international level, where the preferences of these actors have been aggregated and incorporated into the positions states adopt [\*567] vis-a-vis one another. We encourage other scholars to explore the micro-foundations of instrument choice, in particular when and why different domestic actors express a preference for custom over international conventions and nonbinding norms, and how those preferences are translated into official state policy.

Second, we make a simplifying assumption that nations intentionally select one international instrument over another. This assumption - that states "choose" custom, rather than having custom imposed upon them or having it develop as an essentially unconscious process - is borne out by the examples discussed in Part IV. We also recognize, however, that powerful nations have a greater ability than weaker states to control the content of CIL, and we take account of this fact in our analysis.

A third preliminary observation concerns our description of custom's "design features." We use this term to refer to the attributes or characteristics of CIL itself, not to specific tools or mechanisms, such as treaty exit and escape clauses that states can select, discard, or modify when negotiating written international instruments. 13 A state that chooses custom over treaties or soft law is expressing a preference for an instrument with characteristics that cannot be changed or are very difficult to modify. This comparative lack of flexibility helps us to explain why CIL is limited to particular types of cooperation problems - what we label as "custom's domains" - and to identify when custom's design features and substantive norms have advantages for one or more states over those of treaties and soft law.

The remainder of this Article proceeds as follows. We begin in Part II by considering custom's design features, which we distinguish from the canonical elements of custom (state practice and opinio juris) and the individual doctrines associated with CIL. Specifically, we contend that, as an ideal-type, custom is non-negotiated, unwritten, and universal, three characteristics that distinguish CIL from both treaties and soft law, which are almost always negotiated, written, and rarely universal either in formation or application. 14 These design features help to explain some of custom's peculiar doctrinal characteristics, and they cut across the doctrinal divide which is said to distinguish "traditional" and "modern" custom. 15

[\*568] Part III considers the constraints that limit states' recourse to CIL to particular types of cooperation problems or "domains." Although custom's design features make it ill-suited to resolve many transborder public goods or collective action problems, 16 we argue that states can nonetheless generate custom in a range of potentially important contexts. Drawing upon numerous historical and contemporary examples, we show that the design features discussed in Part II facilitate custom's formation primarily in three situations: when all states benefit from a customary rule with low distributional costs, when powerful nations impose a custom on weaker states, and when states seek to entrench shared normative values. Outside of these three domains - or where there is overlap among them - custom is much less likely to form.

Part IV considers custom's future in an international legal landscape dominated by multilateral treaties and soft law initiatives. We argue that states select CIL as their instrument of choice (within the constraints imposed by custom's domains) when its substantive norms or its design features confer advantages over those of soft law or treaties. For example, states may use custom to "unbundle" certain negotiated aspects of multilateral conventions, especially those that preclude reservations. A state could decline to become a party to such a treaty yet profess that some or most of its provisions (in particular those it favors) are binding as CIL. Drawing from the law of the sea, international economic law, human rights, the laws of war, and other substantive issue areas, Part IV provides numerous contemporary examples in which states prefer custom to treaties or soft law, based on either its substantive norms or design features. Accordingly, custom remains relevant even in the age of soft law and treaties, so long as states act within the constraints imposed by custom's domains. Part V concludes.

II. The Design Features of Customary International Law

This Part identifies three design features - custom's universality, its unwritten nature, and its non-negotiated character - that are essential structural characteristics of CIL, which differentiate it from treaties and soft law as a form of international cooperation. We distill these characteristics from the extensive legal literature on custom as a source of international law, in both its traditional and modern guises.

We acknowledge at the outset that these three design features (universal, unwritten, and non-negotiated) are ideal types, and that treaties and soft law share these features to a limited degree. However, if one views [\*569] each attribute along a spectrum, there can be little doubt that custom occupies the high end of the spectrum for each variable as compared to treaties and soft law. Moreover, custom's design features are fixed. Although states are largely free to select the design features of treaties and soft law that best suit their purposes, they generally lack the power to do so with respect to custom. 17 In the discussion that follows, we first address each characteristic separately and then consider potential objections to this typology.

A. Universal

Customary law aspires to universality in both its formation and application. Article 38 of the International Court of Justice (ICJ) provides the canonical definition of custom, as "a general practice accepted as law." 18 As the word "general" suggests, the practice of all nations is potentially relevant to the formation of custom. States may choose to negotiate treaties and soft law instruments with only a select group of states. By contrast, participation in the formation of custom is in principle open to all nations, 19 even if powerful or specially affected countries often have more control over its development than do weaker or less interested states. 20 Even for regional custom (discussed below), all states within the region may participate in the practice that gives rise to a legal obligation.

This formulation of the state practice requirement reflects a normative commitment to facilitating the creation of legal rules in which all nations participate and that, in turn, apply to all nations. 21 Consider how this compares with other sources. Treaties achieve universality, if at all, only after decades of arduous country by country ratification. 22 Indicia of widespread [\*570] state support for soft law are found in more diverse sources, such as votes for resolutions in international organizations, endorsements by government officials, campaigns by civil society groups, and nonbinding agreements. Yet there is no accepted method of evaluating these practices to determine the extensiveness of international support for nonbinding norms.

For custom, in contrast, it is widely agreed that a universal rule arises even when many or even most states do nothing. These nations are said to "tacitly accept" or "acquiesce" in an emerging rule; their consent may be "inferred" from silence, 23 if their consent is in fact required. 24 These assumptions, which make the development of universal custom markedly easier, hold true for both traditional and modern forms of custom. "Traditionally, customary law has been made by a few interested states for all." 25 The process unfolds inductively, building up from specific examples of affirmative practice. "The awareness and opinions of other states that take no overt position are rarely considered." 26 Modern custom flips this analysis, applying a deductive process that begins with assertions of opinio juris rather than discrete instances of practice. 27 The result in either case is the same: a universally applicable binding rule of international law. 28

Three legal doctrines buttress custom's universal aspirations: the position of new states, the status of persistent objectors, and assertions of regional custom. Each of these doctrines, properly understood, reinforces custom's universalist tendencies.

First, it is "widely accepted that a new State is bound by all rules of general customary international law which existed at the time that State came into being," although such a state had no opportunity to support, acquiesce in, or oppose these preexisting customs. 29 The rationales offered to justify this rule range from a benign desire to preserve stability in international relations to a nefarious effort to shackle "uncivilized" peoples emerging from colonialism to legal rules previously developed by and benefiting Western powers. 30 Whatever the explanation, there has been little [\*571] if any pushback against this doctrine from the dozens of new nations that have emerged since the end of the Second World War. 31 When paired with the well-settled (although recently challenged) prohibition on unilateral withdrawal from extant custom, 32 the result is a marked geographic expansion of customary law's reach.

The second legal doctrine, the persistent objector, arose to alleviate the anxieties of positivist scholars, who were troubled by the notion that states could be bound through acquiescence rather than express consent. 33 According to the doctrine's canonical definition, a nation that regularly and vociferously opposes an emerging custom will, if the new rule eventually forms, not be bound by the rule in its relations with other states. 34 Consistent with the rules applicable to the formation of custom, the option to object is open to all nations.

If states regularly staked out positions as persistent objectors, our claim that universal application is one of custom's distinctive features would be questionable. In fact, although most courts and commentators now accept the persistent objector concept in principle, 35 its application in practice is both exceedingly rare and difficult to sustain in those few instances when such an objection is raised. 36

Why might this be the case? One answer is found in the principle of reciprocity, which disadvantages putative objectors by forcing them to bear the new custom's burdens without enjoying its benefits. As Michael Byers has illustrated with an example from the law of the sea, "even the most powerful of the maritime States - the United States, the United Kingdom and Japan - eventually abandoned their persistent objection to the development of the twelve-mile territorial sea as a rule of customary international law." 37 They did so "at least partly as a result of coastal fishing and security concerns. Although foreign fishing vessels and spy ships were able to operate just outside the three-mile limits of the persistently objecting States, the objecting States' vessels were excluded from waters [\*572] within twelve miles of other States' coastlines." 38 Reciprocity, in other words, systematically discourages persistent objection to emerging customs that involve reciprocal rights and obligations. Thus, in practice, the doctrine of persistent objectors poses little if any impediment to custom's applicability to all nations. 39

A third doctrine reinforcing custom's universality is the presumption against regional custom. Commentators have long asserted that a custom can, in principle, be restricted to a geographically linked group of countries. Such a rule would bind only the states in that area, leaving nations elsewhere unaffected. If regional custom were a common source of international legal obligation, it would cast doubt on our universality claim. Examples are few and far between, not the least because the ICJ has actively discouraged the formation of regional custom.

In the Asylum Case, 40 the World Court considered Colombia's allegation that a Latin American custom required Peru to grant safe passage to an individual to whom Colombia had granted political asylum. The ICJ rejected this claim, reasoning that a state's silence in response to an emerging regional custom was to be construed as an objection. This is precisely the opposite of the rule governing global custom, where silence is equated with acquiescence. Why, David Bederman pointedly asks, "did the World Court change the calculus of consent for regional custom in The Asylum Case?" His answer:

One can only conclude that the Court wished to suppress regional custom, and there is no more effective way to do so than to declare a presumption that fundamentally disrupts the formation of such regional practices. [The ICJ] was concerned that development of distinctive bodies of regional rules - not just for Latin America, but perhaps also for Europe, Africa, and Asia - might unduly interfere with the universal aspirations of international law. 41

The use of procedural rules that discouraged regional custom thus "preserved the ICJ's prerogative to declare the content of customary international law … for the benefit of … the global community at large." 42

B. Unwritten

A second feature that distinguishes custom from treaties and nonbinding norms is that custom is an unwritten form of law. In a review of international law sources in the early years of the 20th century, Lassa Oppenheim asserted that "the rules of the present international law are to a great extent not written rules, but based on custom." 43 Numerous recent studies concur that custom is unwritten law, some even labeling this as one of custom's "defining characteristics." 44

In contrast, the vast majority of treaties are memorialized. Drafts are circulated and marked up during negotiations, ultimately leading to the adoption of a final authoritative text that is opened for signature. Several rules and institutional features of the international legal system provide strong incentives for states to put their agreements in writing. The Vienna Convention on the Law of Treaties (VCLT) - and the benefits of its many default rules - apply only to written treaties, a limitation intended to promote predictability and legal certainty and reduce future interpretive disputes. 45 In addition, treaties cannot be entrusted to a depository or included in published compendia such as the United Nations Treaty Series unless they are in written form. 46 Finally, some national laws require treaties to be memorialized for various purposes. 47

Nonbinding norms too are overwhelmingly written. Dinah Shelton's authoritative treatise identifies two types of soft law - primary and secondary - both of which are embodied in written instruments. Shelton defines primary soft law as "those normative texts not adopted in treaty form that are addressed to the international community as a whole or to the entire membership of the adopting institution or organization." 48 Examples include [\*574] the U.N. Standard Minimum Rules for the Treatment of Prisoners, the U.N. Standard Minimum Rules for the Administration of Juvenile Justice, the Declaration on Rights of Indigenous Peoples, and declarations adopted at the close of U.N.-sponsored human rights conferences. 49 Secondary soft law includes "the recommendations and general comments of international human rights supervisory organs, the jurisprudence of courts and commissions, decisions of special rapporteurs and other ad hoc bodies, and the resolutions of political organs of international organizations applying primary norms." 50 These illustrations reveal that primary and secondary soft law come in many shapes and sizes, but one feature that unites all of these examples is their written form.

To be sure, written documents often provide evidence - sometimes the best evidence - of state practice and opinio juris. Yet, references to written materials to prove these elements does not transform custom into written law. Rather, they further underscore the differences between custom on the one hand, and treaties and soft law on the other.

First, custom is a "norm without a [formal] act, at least, without a founding act, where you might hope to find its origin and from which you might be able to derive its authority." 51 Proving the existence of custom cannot, unlike most treaties and nonbinding norms, be done by consulting a single authoritative text. Rather, a putative rule must be pieced together from numerous sources - official publications, historical records, newspaper articles, and so forth - in dozens of nations. 52 Diligent researchers may identify these materials relatively easily for the few industrialized nations that publish digests of state practice, but the task is far more difficult elsewhere. And even for governments with large and sophisticated international law departments, "customary practices are often not formally recorded at all." 53

In addition, some treaties codify existing customary rules or crystalize the formation of new custom, with the result that the same norm exists in both sources of international law. This overlap between treaties and custom does not, however, render the latter as written law. To the contrary, [\*575] treaty and custom remain separate sources of obligation. 54 As we later explain, the enduring separation of these sources is particularly important for non-ratifying countries and for state parties that later withdraw from a treaty that embodies a customary rule.

C. Non-negotiated

A third distinctive characteristic of custom is that it is not negotiated in the manner of treaties and soft law. Commentators describe the practice that produces custom as "informal, haphazard, not deliberate, even partly unintentional and fortuitous" as well as "unstructured and slow." 55 Even scholars who perceive some order in this chaos characterize custom as emerging from a "struggle for law reflected in exchanges of signals, cues, bids, and responses" 56 among states "competing in a marketplace of rules." 57 Custom, in other words, is formed by iterated claims and defenses in which some "groups of states may 'bid' new norms, while others may object, and yet other countries may simply remain silent and so acquiesce." 58

This process does not involve negotiation, which is commonly defined as a "formal discussion between people who are trying to reach an agreement." 59 Custom is not produced by a formal discussion or exchange of views. In fact, the state practice that serves as its basis may not even be motivated by a desire to reach an agreement. 60

Many negotiations over legal instruments involve another element as well, bargaining. Negotiation over treaties, for example, often involves competing demands and concessions in which the parties trade various aspects of the form and substance of the agreement. Consider multilateral [\*576] conventions that regulate global public goods or club goods. 61 Most of these agreements contain carefully crafted compromises, often hashed out in exquisite detail among cross-cutting alliances. 62 A group of states may give up a preferred position in one section of a treaty (or in one treaty in a nested treaty regime, such as the WTO) in exchange for benefits in another section. Or a party may agree to less favorable substantive rules only if those rules are phrased very broadly or if the treaty includes express exit or escape clauses. 63 These exchanges expand the zone of agreement, facilitating the resolution of "multilateral coordination problems [that] cannot easily be solved in the informal, unstructured, and decentralized manner typically associated with customary international law." 64

Custom also generally arises on a rule by rule basis. State practice and opinio juris focus on a single, discrete legal issue, often expressed at a high level of generality, rather than a fully fleshed-out group of norms with carefully delineated contours and exceptions. This partly reflects the largely unwritten nature of custom, which increases the cost and reduces the efficacy of establishing multiple, related customs at the same time. But it also makes custom a useful tool for general international rules that eschew country-specific or case-specific tailoring. As Bradley and Gulati assert with reference to the custom of diplomatic immunity, "if nations can assume that the same rules of diplomatic immunity apply, no matter where, then there will be no need to negotiate specific rules every time a diplomatic mission is established in a new country." 65

One potential objection to our claim that custom is non-negotiated arises from the widely-held view that U.N. General Assembly resolutions are evidence of customary international law. These resolutions are sometimes the subject of intensive negotiations among dozens of countries, including on-the-record debates, bargaining among state representatives, and attempts to reach agreement on a written text. In 2013, for example, the General Assembly adopted a resolution on data privacy 66 that was the product of extensive negotiations. States that engage in widespread data collection were especially active in these negotiations and succeeded in weakening the resolution's final language. 67

[\*577] If such resolutions were in themselves binding as CIL, our claim about that source's distinctive features would be difficult to sustain. Although a few scholars have asserted that some General Assembly resolutions create "instant custom," 68 such a claim is now discredited. Rather, it is widely agreed that General Assembly resolutions provide only evidence of CIL, with the weight of that evidence dependent upon factors such as voting patterns, express reference to custom in the text, and, most importantly, whether legal norms referred to in the resolution are subsequently reinforced by other indicia of state practice and opinio juris. 69 In addition, structural limitations constrain opportunities for negotiation of General Assembly resolutions. The Assembly and its Main Committee include all U.N. members. Negotiation on this scale is unwieldy, reducing the ability of individual states to influence the drafting of language that describes the resolution's relationship to extant or emerging custom. 70

A second potential objection to custom as non-negotiated relates to the use of treaties as evidence of custom. 71 Some treaties are intended to codify preexisting custom, thereby rendering it less vague by memorializing it. 72 Such treaties may then serve as evidence of the content of the customary norm, meaning that the negotiation of the treaty is potentially also a negotiation about the content of custom. 73 Yet states have an incentive to continue to promote the customary norm even after the conclusion of the treaty because the norm binds all states, even those not party to the treaty. 74

[\*578] Other treaties aim to facilitate the development of new customary norms. Still other agreements both restate existing custom and include provisions that may crystalize into custom, in part through their inclusion in the treaty. The VCLT is a well-known example. To the extent that treaties such as the VCLT are adopted with the purpose of facilitating the formation of new custom, the negotiation of the treaty is potentially also an indirect negotiation of the customary norm.

Seen from this perspective, the distinction between custom and treaties may seem quite thin, particularly with regard to the comparatively non-negotiated character of custom. Jose Alvarez succinctly captures this view, arguing that many multilateral codification conferences are "international law-making fora for the purposes of not one but two potential sources of international obligation" - treaty-making and "the elaboration of codified custom." 75 Aware of this double function, states participating in such conferences employ "conscious stratagems for reaffirming, modifying, or elaborating codified custom." 76 This new form of creating custom, Alvarez contends, "responds to states' contemporary needs for a more rapid, less vague, and deliberative process for the establishment of preferably written and clear global rules." 77

Nevertheless, like General Assembly resolutions, treaty norms do not automatically become custom. As Robert Jennings has observed, "the very fact of changing the law from an unwritten source to a written source is in itself inevitably a major change." 78 Accordingly, the argument that treaty provisions reflect preexisting or subsequently formed custom is often contested or based on evidence found in multiple legal instruments. The purported duty to prevent transboundary pollution, for example, is based in part on certain treaty clauses, but also rests on soft law documents such as recommendations of the Organization for Economic Cooperation and Development, the Stockholm and Rio Declarations, and U.N. General Assembly Resolutions, among other sources. As a result, whether customary international law in fact imposes such a duty remains contested. 79

To the extent that treaties do articulate customary norms it is often because they reflect preexisting norms of customary law, like pacta sunt servada. The subsequent treaty does not render the preexisting custom negotiated. To the contrary, the act of codification often changes the content of rule for the treaty but not for its customary law antecedent. Codification treaties generally "lay down the customary rule in a more precise and systematic manner," and the "jus scriptum may cure omissions, eliminate [\*579] anachronisms, introduce recent doctrinal findings, or even consider the eventual enforcement (or adjudication) of the written rule. As a result, codification contains a creative element and regularly entails a certain amount of change." 80

Moreover, the kinds of treaties that are generally cited as evidence of custom tend to have a somewhat less negotiated character. Many are drafted or negotiated under the auspices of an international organization such as the United Nations General Assembly (through a referral to the International Law Commission). The involvement of international organizations tends to expand the number of states involved, 81 increase the presence of NGOs, involve high levels of openness, and increase the importance of independent experts - all of which reduces the ability of particular states to control the outcome. 82 Nevertheless, some of the treaties that emerge from this process are highly negotiated, including the U.N. Convention on the Law of Sea and the Rome Statute establishing the International Criminal Court. Consistent with their negotiated character, neither permits reservations, and both have proven to be especially controversial evidence of customary international law. 83

We anticipate a number of objections to our claim that CIL has three essential structural characteristics, which we label as custom's design features. Positivist international law scholars may protest that we give insufficient attention to state practice, opinio juris, and canonical legal doctrines associated with CIL. We agree that these topics are central to understanding when states choose custom over treaties and soft law. However, we see these doctrines - both in their traditional form and as re-envisioned by modern approaches to custom - as products of the three overarching attributes we identify. Indeed, analyzing custom from the perspective of its design features illuminates potential explanations for longstanding areas of doctrinal confusion, as well as topics, such as the persistent objector and the presumption against regional custom that garner significant attention in legal treatises but are rarely followed in practice.

Other commentators may challenge our claim that the three design features accurately characterize CIL or distinguish it from treaties and soft law. Some customary rules are, after all, memorialized in written documents, [\*580] and some nonbinding instruments are adopted by international organizations with little if any negotiation among member states. Our overarching response to this critique is to reiterate that custom's three distinctive attributes are not rigid, binary categories. We have been careful to describe custom as universal, unwritten, and non-negotiated in relation to treaties and soft law. If all three norms were located along a spectrum that runs, for example, from fully non-negotiated at one end to entirely negotiated at the other, custom would be much closer to one pole than the other two legal norms. The same is true for the other two characteristics. Our contention is that these differences, even if they are differences in degree rather than in kind, are empirically accurate, legally consequential and (as we now discuss) illuminate constraints on the creation of CIL that help to explain why custom has emerged in some areas of interstate cooperation but not others.

III. Custom's Domains

The foregoing section described three distinctive design features of CIL - it is universal, unwritten, and non-negotiated. Because these characteristics are relatively fixed and cannot be manipulated to the same extent as the design elements of treaties and soft law, 84 the characteristics constrain when states can turn to custom to create international law. Given these constraints, we argue that CIL forms primarily in three domains - when all nations benefit from a general legal norm with low distributional costs, when powerful countries make visible and sustained commitments to a legal norm, and when states seek to entrench shared normative values. The significance of each of the three distinctive design features varies context to context, but all three features are important to understanding custom's domains.

A. Custom that Benefits All States

States will use a non-negotiated, universal, and unwritten form of legalized cooperation to create rules from which all states benefit. Because such rules advantage all nations in relatively equal measure regardless of their size, economic might, or military power, they have few distributional consequences and reinforce the foundational principle of sovereign equality. 85

The three distinctive features of custom identified in Part II facilitate the generation of this category of international norms. Negotiation is unnecessary because states benefit from the rules as such without the need to make specific demands and concessions. Unwritten practice suffices to engender consensus about general rules that lack tailored or detailed provisions. Indeed, the unwritten character of custom helps to secure states' [\*581] agreement to a legal norm articulated at a high level of generality by deferring potential disputes over specific interpretations or applications. Universality means that states can predict that other nations will be bound to the rule, which may constrain self-interested behavior in the future when some states face strong incentives to defect.

All-states-benefit custom often arises from areas of interstate behavior that were previously unregulated by any international rules, and it is comprised of legal norms that are articulated at a high level of generality. Many venerable rules of international law have these qualities. 86 For example, all nations gain from having predetermined methods of communicating with each other through representatives without the fear of arrest or civil suits related to the officials' duties. Customary law thus provides for the immunity of diplomats and consular officials. Other examples include pacta sunt servana, territorial prescriptive jurisdiction, the prohibition of piracy, and the immunity of states from suit in foreign courts over sovereign or public acts (jure imperii). 87 Two additional illustrations from the law of the sea and outer space help to illuminate the contours of this category of custom.

Consider the mare liberum principle, first espoused by Hugo Grotius, which has long protected freedom of navigation over the world's oceans. As Sir William Scott wrote in an early 19th century court case rejecting British efforts to enforce a domestic ban on the slave trade against foreign vessels, the universal appeal of mare liberum was an important justification for its acceptance as custom:

all nations being equal, all have an equal right to the uninterrupted use of the unappropriated parts of the ocean for their navigation. In places where no local authority exists, where the subjects of all states meet upon a footing of entire equality and independence, no one state, or any of its subjects, has a right to assume or exercise authority over the subjects of another. 88

A similar rationale undergirds the countervailing custom that the flag state has sole jurisdiction over vessels that sail on the high seas under its badge of nationality. As one commentator has explained, the benefits accruing to all nations from the mare liberum and flag state rules were "mutually reinforcing," aiding the formation of both customs:

reciprocal respect for the exclusive jurisdiction of states over their ships provided a sort of state-to-state equality of opportunity. All states met upon equal footing on the high seas and could make free use of the sea for maximum benefit, but no state could independently impose its legislative will upon the modalities of use. 89

Turning from the oceans to the heavens, the universal recognition that "outer space is unsusceptible to national or private appropriation" aided rapid acceptance of the non-appropriation principle - a prohibition of territorial occupation or acquisition - as the customary ground norm for future activities in space. 90 The principle has benefitted all states, facilitating "the orderly development of space activities for more than forty years and … effectively preventing a colonial race in the high frontier." 91 To be sure, disagreements have arisen at the margins, in particular over the upper extent of the earth's atmosphere. But consistent with our theory, the contending positions over these boundary issues have been advanced, and compromises achieved, via multilateral treaties and soft law, not by challenges to the customary non-appropriation principle as such. 92

In sum, the all-states-benefit principle explains the formation of many foundational rules of customary international law. But it also sheds light on why custom plays only a limited role in other areas of interstate cooperation. Many important problems faced by the international community involve difficult and contentious questions of how to distribute the benefits and burdens of cooperation among differently situated states. If governments perceive that distributive effects of an international rule are high, unwritten and non-negotiated custom will serve as a poor alternative to treaties and soft law, where specific quid pro quo trade-offs can be worked out, or finely-tuned language can be negotiated, to suit all parties at the table. Climate change and other global environmental problems are prime examples. In these contexts, to the extent that custom forms at all, it will do so around highly abstract norms that leave distributive questions to future negotiations. For example, customary rules of international environmental law tend to be extremely broad and open-ended - what Dan Bodansky describes as a "common ethical framework." 93 They also tend to be derived from soft law and treaties, which allow states to shape rules with distributional consequences in mind. 94

[\*583] As explained above, the unwritten character of all-states-benefit custom means that the resulting legal rules are often amorphous and malleable. This facilitates widespread initial agreement to a rule, while also giving states leeway to assert their preferred interpretation when applying that rule to specific contexts or new circumstances. To be sure, no rule is entirely free from distributional consequences. As general rules become increasingly particularized in response to these claims, however, distributional issues often become more acute. Custom's distinctive features make it far less useful for resolving these distributional controversies. Instead, states attempt to resolve these concerns through treaty negotiations and codification exercises. Consistent with the argument advanced here, Tim Meyer has shown that efforts to codify preexisting custom is "often driven by distributional concerns." 95 This highlights an important corollary to our theory - over time, all-states-benefit custom tends to become more contentious as it is applied to new circumstances, increasing the likelihood that states will turn to treaty-making or codification to resolve disagreements over the norm. As we explain in Part IV, however, all-states-benefit custom remains relevant even after norms have been codified.

The history of sovereign immunity illustrates this trajectory. Early domestic suits against foreign states were often brought against state-owned maritime vessels. The doctrine of absolute immunity thus benefited countries with large navies and merchant marines, which were immune from suit. 96 On the other hand, private firms and individuals in these countries often had potential claims against foreign vessels, so these states bore the burden as well as the benefit of an absolute immunity rule. As states became more significant economic actors in first part of the 20th Century, the economic importance of state immunity rules increased, which magnified existing distributional effects and generated new ones. The benefits accruing to governments that nationalized private industries and the "State trading activities" of the Soviet Union and other socialist nations were particular concerns. 97 In part as a result, many states abandoned absolute [\*584] immunity in favor of a restrictive rule, which does not protect the commercial activities of foreign sovereigns. Consistent with our claim, although the absolute immunity arose with little dissent, the shift to restrictive immunity remains contested after more than a century. As one Chinese author recently explained, "developing countries, to better protect their own national interests, should continue to adhere to the principle of absolute immunity and should not follow the footsteps of the developed countries to accept the restrictive approach." 98

The heightened salience of distributional costs and the collapse of consensus around absolute immunity also coincided with the growth of treaties governing this topic. 99 Unable to secure acceptance of restrictive immunity as a customary rule, proponents of that approach turned to bilateral or regional agreements. 100 Efforts to codify restrictive immunity in a global treaty have been less successful. A U.N. convention endorsing that approach was adopted in 2004, but has yet to enter into force. 101

B. Hegemonic Custom

The non-negotiated, universal, and unwritten characteristics of custom also facilitate efforts by powerful states to create international rules that bind all nations. We label these rules as hegemonic custom. That powerful states play an important or even dispositive role in the formation of CIL is not a new observation, 102 but no other scholar has (to our knowledge) [\*585] linked the role of power to custom's distinctive design features or used it to develop a theory of instrument choice for custom. Below we discuss a number of variations of hegemonic custom, identify the conditions that make it more or less likely to be accepted by other nations, and analyze when powerful states turn to treaties and soft law to bolster their efforts to promote a desired customary rule. Before proceeding, we emphasize that we do not take a position on the normative desirability of hegemonic norm creation, focusing instead on its relationship to custom's distinctive characteristics. We take up normative issues in the paper's conclusion.

It is hardly surprising that powerful nations advance international rules that further their interests regardless of whether those rules benefit other countries. Yet given custom's universal scope and the ability of all states to object to the formation of an emerging norm, one might assume that attempts by hegemons to instantiate a preferred rule or practice as binding law would be doomed to failure. In fact, less powerful nations have sometimes embraced or at least acquiesced in campaigns for new customary rules by one or more powerful nations.

Perhaps the best examples involve the law of the sea. President Truman issued a proclamation in September 1945 claiming for the United States jurisdiction and control over its continental shelf, including beyond its territorial sea. 103 Because that area of the seabed was then part of the high seas and thus available for exploitation by all, the Truman Proclamation had significant distributional consequences. Yet coastal states quickly emulated the Proclamation and asserted sovereignty over their respective continental shelves. 104 Perhaps more surprisingly, landlocked nations also rapidly accepted the norm. The speed with which the custom crystalized was striking. As one commentator pithily noted, "the Truman proclamation was revolutionary in 1945 but passe by 1958." 105

What explains the rapid and universal acceptance of this new legal norm, advanced by the world's most powerful maritime nation, without formal negotiations or carefully delineated treaty texts? The timing - just after the end of the Second World War - was propitious. Many nations were still recovering from that conflict and others become economically or politically dependent on the United States during the Cold War's first decade. Both trends discouraged efforts to "challenge the [Truman] doctrine or reveal its flaws." 106 In addition, the new rule's distributional costs were somewhat uncertain. Most countries lacked the resources or technological knowhow to exploit the continental shelf (by drilling for oil, for example). [\*586] But such distributional costs that could be identified were partly mitigated by Truman's promise to issue leases to foreign corporations. Arguably the most important explanation for the doctrine's acceptance, however, was the claim by other coastal states - including two veto-wielding permanent members of the recently-created U.N. Security Council - that asserting sovereignty over their respective continental shelves was permitted by customary international law. 107

The credible, visible commitments to the new custom by these nations yielded a better outcome for all states than the uncertainty of no agreement, even if some governments would have preferred a different rule (in other words, there are distributional consequences in selecting a particular rule). Game theorists label this as a "battle of the sexes." 108 Ed Swaine has applied this analysis to the formation of new custom. He argues that "it is at these early stages where credible commitments, backed by reputational investment in the customary international law regime, may usefully diminish uncertainty and allow coordination to be attained more rapidly and with less friction." 109 Announcing a customary rule "permits a state to commit to one of the equilibria and to have its representation regarded as binding." 110 Although Swaine does not limit his analysis to a particular type of nation, his example - the development of the three-mile territorial sea - concerns a rule backed by two powerful maritime countries, England and the United States. 111

We extend Swaine's insight by explaining how custom's distinctive features facilitate the formation of hegemonic custom in a battle of the sexes situation. A hegemon's credible public commitment to a new legal rule on a take-it-or-leave-it basis may convince other governments that they are unlikely to obtain a more favorable rule through a treaty or soft law. Weaker states in particular may conclude that resistance is not worth the effort (since, by definition, the proffered custom is better than none), or they may see little reason to try to improve the rule through negotiations in which the powerful state may have an even stronger hand. For the new custom's proponents, this method of international norm creation is often faster and less onerous than either formal treaty-making processes or breaching existing rules. Although the "continual, overt exercise of power" is possible, it is also costly, providing hegemons with a strong incentive to legalize interstate relations in "settled rules." 112

[\*587] Another type of hegemonic custom concerns rules espoused during periods when a relatively small number of powerful nations dominated international society, a state of affairs that reached its apogee in the late 19th and early 20th century and continued, to a diminishing extent, until the end of colonialism in the 1960s. Commentators have rightly emphasized how the international rules of this period systematically harmed or ignored non-European nations and peoples. However, there were also battles over custom among the Western states. Britain's efforts to outlaw the transatlantic slave trade is the most prominent example.

Beginning in the early 1800s, Britain deployed a multi-prong strategy to stamp out the slave trade. It asserted a unilateral right to interdict vessels on the high seas, seized vessels carrying human chattel from Africa to the Americas, and sought to establish a basis in treaties and customary international law for proscribing the slave trade and enforcing that ban via interdiction. 113 The outcome of these efforts, by the end of the 19th century, was a customary law prohibition on the slave trade that extended to states that had not ratified treaties proscribing that practice and, by analogy to piracy, permitted any nation to seize slaving ships. 114

Unlike the Truman Proclamation, however, Britain's ultimately successful campaign against the slave trade required sustained legal and diplomatic efforts lasting over half a century. These efforts paired the negotiation of bilateral and multilateral treaties with other European powers and the United States with soft law declarations and assertions of customary international law. The early years of the campaign met with stiff resistance. The first bilateral treaties Britain secured did not authorize interdiction, and a key British court decision in 1817 held that searching vessels on the high seas infringed the exclusive jurisdiction of flag states. 115 The result, as Michael Byers has explained, was that the British government failed in its initial "attempt to assert a putative new right of customary international law against a nonconsenting state." 116

[\*588] This failure did not, however, lead Britain to abandon its effort to secure a universally applicable rule. Although the later treaties it negotiated outlawed the trade and provided a limited right of interdiction, these agreements did not bind nonparties. 117 Nevertheless, British ships continued to interdict the vessels of nations that were lawfully transporting African slaves across the Atlantic. 118 By these actions, Britain sought "to convert the[] practice of vigilante justice into a lawful act in accord with the larger framework of the public order of the oceans" and "a universally accepted legal norm." 119 The government did so by a clever recasting of slave trade as an act of piracy, a longstanding crime under customary international law that all nations were authorized to prevent and punish. 120

In sum, "the history of the British attempt to ban the transatlantic slave trade demonstrates how very difficult it is to achieve a customary international law right of interdiction on the high seas." 121 That such a custom arose notwithstanding the hurdles to its formation is due in large part to the sedulous campaign waged by the world's then most powerful maritime nation. To be sure, other factors aided the formation of the custom, most notably that "enforcing the prescription … became less contentious and more widely accepted when few states had a competing interest in favor of preserving the practice." 122 Yet as scholars have shown, the slave trade did not collapse under its own weight. To the contrary, governments and firms only abjured the lucrative practice in response to a massive transnational social movement and sustained political and legal pressure by abolitionist nations, most notably Britain, that reframed what had been viewed as an economic transaction in humanitarian terms. 123

Most important for our purposes, custom's distinctive features aided Britain's efforts to eradicate the slave trade. The government sought a universal ban, a result more easily achieved via a customary rule than by a series of bilateral and plurilateral treaties with varying terms that, in any event, did not bind nonparties. These gaps in treaty coverage were a genuine concern. As Noora Arajarvi has recently written, "many (dominant) countries, which were not party to the treaties, for instance Spain, continued to exercise the slave trade" during the middle decades of the 19th century. 124 This sheds additional light on the references to the slave trade as piracy in the compacts that Britain negotiated. Although these provisions [\*589] were "couched within an essentially contractual agreement," they had a broader aim: "extending the right of visitation to vessels from nonconsenting states" and thus facilitating the formation of a new custom. 125 Britain's interdiction of vessels on the high seas and its assertions of a legal right to interdict - both unwritten practices - were crucial to maintaining pressure on non-parties to renounce the slave trade. Finally, for nations reluctant to sign a treaty, negotiations were of little use; unilateral actions and assertions of legal rights were far more important.

The Truman Proclamation and the abolition of the slave trade are examples of successful hegemonic custom. Powerful nations do not, however, always prevail in their efforts to promote a new international rule. To the contrary, the rapid increase in the number of nations and in the diversity of their interests following the Second World War has eroded - although not entirely eliminated - the creation of hegemonic custom.

Demands by the United States and other capital-exporting nations for full compensation for expropriated alien property provides a classic example. The U.S. position was most famously asserted by U.S. Secretary of State Cordell Hull in a letter to the government of Mexico in the late 1930s. In response to Mexico's expropriation of property owned by U.S. nationals, Hull, coining the doctrine that was to bear his name, asserted that under customary international law "no government is entitled to expropriate private property, for whatever purpose, without provision for prompt, adequate, and effective payment therefor." 126 According to some scholars,

Secretary of State Hull accurately presented the then current position in international law in 1938 when he wrote his famous letter to the Mexican Government … . Even though the Soviet Union and Latin American countries had challenged the rule before that time, it appears that the overwhelming practice and the prevailing legal opinion supported Hull's position." 127

If there was consensus regarding the standard of full compensation, however, it was short lived. By the 1960s, the objections of Latin American states were joined by those of newly independent countries in Africa [\*590] and Asia, which together turned to the U.N. General Assembly to assert a legal rule that was far more favorable to expropriating nations. 128

Yet the most extreme position advocated by capital-importing countries did not prevail. Latin American nations had long advocated a competing legal rule - the Calvo doctrine - which held that "aliens are not entitled to rights and privileges not accorded nationals, and that therefore they may seek redress for grievances only before the local authorities," not via international arbitration or diplomatic protection. 129 Since custom did not limit a government's power to seize the property of citizens, this national treatment standard gave expropriating states a legal justification for not compensating foreigners either. 130 Over time, however, expropriating countries abandoned this extreme position and accepted "that compensation must be paid for expropriated alien property as a matter of international law." 131 The amount of such compensation has remained contested, however, which helps to explain why the United States and European nations have successfully championed the Hull doctrine in a dense web of bilateral investment treaties, which now themselves are cited as evidence of CIL. 132

C. Normative Custom

States also use custom to entrench other-regarding values or goals in international law. We refer to this as "normative custom," which we broadly define to include an assertion of a customary rule that is plausibly advanced as salutary for the international legal system as a whole, even if the rule has distributional costs. The other-regarding character of normative custom distinguishes it most obviously from hegemonic custom - although the two categories may overlap, as illustrated by the divergent motivations for abolishing the slave trade, discussed above. We do not, however, endorse any external standard for assessing whether a putatively other-regarding custom is in fact generally desirable. 133 Rather, such claims will succeed or fail depending on whether other states and non-state actors accept the asserted normative custom as genuinely other-regarding. Although open-ended, this capacious conception of normative [\*591] custom intuitively captures one important way that states raise and contest claims about custom in the international legal order.

As with all-states-benefit and hegemonic custom, it is custom's characteristics as unwritten, universal, and non-negotiated that make it a useful instrument for states seeking to entrench a particular normative standard of conduct in the international legal order. First, normative custom is conducive to development through non-negotiated, tacit agreement. If for all-states-benefit custom there is no reason for any particular state to object, and if for hegemonic custom such objection would be futile, in the case of normative custom, there are political and moral impediments to contestation. Stated another way, normative custom develops through tacit consent if other nations feel morally or politically compelled not to speak out against it. Unlike all-states-benefit custom, there may be high distributional costs to the rules of normative custom, but the costs of contesting the rule are even higher.

Genocide and the death penalty provide useful opposing examples. A 1946 U.N. General Assembly Resolution prohibits genocide. 134 The resolution was adopted by a unanimous vote and no state representative publicly maintained that genocide was permissible under international law. 135 Now consider the death penalty. Many human rights advocates and some states have argued that customary international law prohibits capital punishment. But, many other governments publically refute the existence of such a custom, and some openly continue to impose and carry out death sentences, thereby preventing the norm from becoming custom through tacit consent. 136 At some point, the combination of active endorsement and tacit consent may become so widespread that a custom will form except for a handful of persistent objector countries. For now, however, the death penalty is not prohibited under CIL.

States seeking to develop normative custom may also be drawn to custom's universal applicability, such as its ability to bind new states not in existence when the norm developed and its ban on unilateral withdrawal. 137 In addition, some customary rules have attained the status of jus cogens - non-derogable rules that can only be changed by another rule of the same stature. 138 States seeking to develop the normative bona fides [\*592] of a customary rule would be especially drawn to these features, which help entrench the norm and make it valid against all nations in ways that treaties and soft law do not.

Universality is also attractive for normative custom. States motivated by other-regarding values likely want the norms they espouse to be accepted as broadly and deeply as possible. Anthea Roberts captures this desire when analyzing custom that is derived from treaties: "Where the treaty precedes the custom, the movement to custom often reflects recognition of, or a desire to recognize, the core commitments as non-revocable and binding on all states, thereby increasing their obligatory nature or scope." 139 The same is true of normative custom more generally.

Consider the well-known example of the prohibition on torture. The Convention against Torture is widely, but not universally, ratified. 140 For states that favor a global torture ban, instantiating such a ban in custom binds all nations, and does not permit states to withdraw unilaterally, as does the Convention. Some may challenge these assertions, citing the persistent objector doctrine. Yet even if that doctrine remains available in theory, its application to the prohibition on torture is especially unlikely. The torture ban embodies very widely-held values, and it would be costly for states to explicitly and openly reject such a prohibition. Theodor Meron makes a similar observation about the normative anchoring effect of custom when describing the dual protection of humanitarian norms: "[The] consensus that the Geneva Conventions are declaratory of customary international law would strengthen the moral claim of the international community for their observance because it would emphasize their humanitarian underpinnings and deep roots in tradition and community values." 141

Current controversies surrounding data privacy and mass surveillance offer a different example - the potential emergence of new normative custom. 142 Concerns about internet privacy and the collection of data have been increasingly voiced by states and civil society organizations in various multilateral venues. The U.N. General Assembly adopted two strongly worded and widely supported resolutions on "the right to privacy in the digital age" in 2013 and 2014. 143 The Office of the U.N. High Commissioner for Human Rights issued a report in June 2014 expressing strong support for protecting data privacy and serious concern with mass surveillance [\*593] and retention of personal data. 144 Most recently, in March 2015, the U.N. Human Rights Council adopted by consensus a resolution - supported by 55 co-sponsors from different regions - appointing a new special rapporteur to gather information on these same topics. 145

Regional and national developments are bolstering these emerging norms. 146 Domestic legislation in a growing number of countries provides a right to data privacy. 147 In a landmark ruling in 2014, the European Court of Justice invalidated the EU's Data Retention Directive as an infringement of the right to private life and protection of personal data. 148 The following year, special representatives of the OSCE, OAS, and African Union jointly condemned "untargeted or 'mass' surveillance [as] inherently disproportionate and … a violation of the rights to privacy and freedom of expression," 149 and the Special Rapporteur of the Inter-American Commission on Human Rights called on the Unites States "to introduce strong reforms to the NSA telephone metadata collection program." 150

Much of the debate surrounding data privacy focuses on the application of existing human rights norms to online settings, but it is framed in a way that reiterates the legally binding nature of these norms. 151 Some [\*594] commentators have gone further, arguing that extant international custom specifically protects a right of data privacy. 152 Whether states ultimately recognize customary law restrictions on mass data and surveillance will depend in part on whether data privacy is widely understood as a fundamental right, such that the political or moral costs of objecting to such a rule are too high to incur. We thus expect any custom that emerges from this process to rely heavily on tacit consent, with some governments taking strongly supportive positions and others acquiescing. Such a custom is also likely to be vague, deferring many questions about specific applications of the norm.

A possible impediment to the emergence of a data privacy custom would be objections by nations which, as a result of their more advanced technological capabilities, will incur higher costs of international regulation. Such opposition may, however, be weakened or even defused if a group of relatively powerful states actively supports the custom - a dynamic suggested by recent sparring over data privacy resolutions in the United Nations. 153 Hegemons may also turn to custom for a different reason - because they disagree with the capacious soft law norms advocated by human rights NGOs and experts and seek to develop competing (and more state-friendly) legal rules regarding data privacy.

D. Custom's Overlapping Domains

Extrapolating from the design features that constrain the formation of CIL, this Section has argued that custom has three principal domains: norms that benefit all states, norms backed by visible commitments from powerful nations, and custom that reflects shared normative values. International norms or potential norms that fall outside these domains are not well-suited for regulation via custom. For example, when a custom becomes increasingly distributional in effect, or when it loses the backing of a powerful (enough) hegemon, states are likely to shift to more negotiated forms of international cooperation. The shift from absolute to restrictive immunity is an example of the first, and the decline of the Hull doctrine due to opposition from newly independent states is an illustration of the second.

What we have labeled as domains might, however, also be conceptualized as a set of overlapping and interactive factors that tend to make the formation of custom more likely. For example, even if a putative customary [\*595] norm has distributional impact, a stronger, visible commitment from powerful countries may nevertheless spur its formation. All other things equal, the stronger the distributional effect, the greater the projection of power required.

Hegemons may also spur the formation of international rules that reflect deeply held normative values even if those rules also have distributional consequences. The Nuremberg Tribunal provides an illustration of such a hybrid hegemonic-normative custom. Together, the Tribunal and the Charter that created it, 154 their reception by states, and the subsequent affirmation of their principles by the U.N. General Assembly, 155 established individual criminal responsibility as part of CIL. 156 These developments were unquestionably driven by the visible commitments of the victors of World War II - the United States, France, the United Kingdom and the Soviet Union. 157 The Nuremberg Tribunal corresponded to widely-held normative values: the atrocities committed in World War II were unprecedented in scale and brutality, generating universal condemnation and widespread sense that perpetrators should be held legally accountable. 158

The influential Tadic decision by the International Criminal Tribunal for the former Yugoslavia (ICTY) 159 illustrates how a hybrid normative-hegemonic custom can arise notwithstanding its potential distributional effects. The ICTY Appeals Chamber in that case held that war crimes liability for grave breaches of the Geneva Conventions applies not only to armed conflicts between states but also to internal and non-international armed conflicts. 160 The judges purported to simply restate a preexisting customary rule, but the evidence they cited for that proposition was very thin. 161 The decision did, however, prompt subsequent state practice that crystalized into customary international law. 162

Tadic unquestionably had a normative component, which the Appeals Chamber emphasized in asserting that civilians in all types of armed conflicts should be protected from egregious conduct such as rape, torture, or [\*596] the wanton destruction of hospitals. 163 Yet, the Tadic rule also imposes greater costs on states that regularly experience civil wars or other armed conflicts within their borders. Under the Tadic rule, these states face potential war crimes prosecutions for their conduct in such conflicts; without the Tadic rule, they did not. This may explain the earlier opposition of developing countries to war crimes liability in non-international armed conflicts. 164 In addition, countries such China, India, Pakistan, and Russia opposed incorporating the Tadic rule into the International Criminal Court Statute in 1998. 165 Ultimately, this position was rejected, and the U.N. Security Council later endorsed the Tadic rule (at least tacitly) in resolutions concerning international crimes committed in Libya, 166 Sierra Leone, 167 and Rwanda. 168 By 2011, opposition to Tadic had dissipated further, with India, China, and Russia all voting in favor of a U.N. Security Council resolution asking the ICC to investigate the "serious violations of international humanitarian law" committed during the civil war in Libya. 169 No government criticized the referral on the grounds that potential war crimes had been committed during a non-international armed conflict. 170 According to one commentator, this silence may reflect a desire by developing countries to avoid "picking a fight with an institution established by the powerful Security Council." 171 In sum, the distributional consequences of Tadic were overcome by the confluence of normative and hegemonic support for the rule as international custom.

IV. The Future of Custom in an Age of Soft Law and Treaties

Having described custom's unique features and mapped its domains, we turn to a discussion of custom's relationship to treaties and soft law. This relationship might be understood as complementary: custom can be seen as a fungible form of "soft" hard law or "hard" soft law that exists on a continuum between soft law and treaties. Such a framing suggests that [\*597] custom may be rendered obsolete as unwritten international norms are codified and soft law grows in scope and complexity. 172

We recognize that custom sometimes functions as a complement to treaties or soft law, as the literatures on legalization and instrument choice at times suggest. But, the distinctive (and less malleable) characteristics of custom, as compared to soft law and treaties, create continuing incentives for states to choose custom over the other legal instruments if doing so advances their respective national interests or shapes the content, scope, or application of international rules in ways that favor them. If this account is correct, the demand for custom will not be affected by whether a particular subject area becomes more heavily populated by treaties and/or soft law.

We argue that there are two overarching rationales for states to choose custom over treaties and/or soft law: preferable substantive norms or preferable design features. States dissatisfied with the content of nonbinding norms or treaty provisions might, for example, attempt to develop alternative customary rules with different substantive obligations. Or states might agree with the substance of a treaty or soft law, but turn to custom because of its distinctive design features, such as its preclusion of the ability to "opt-out" by non-ratifications, treaty withdrawals, or reservations.

We represent the two dimensions of the choice between custom on the one hand and treaties and soft law in Figure 1 below. The legal instruments that are alternatives to custom appear on the x-axis, and the two rationales for states to choose custom are listed on the y-axis. The diagram depicts custom that arises later in time than treaties or soft law. 173 We focus on this temporal relationship because we view it as a more significant challenge to custom's continuing relevance to international cooperation. To be sure, as Tim Meyer has shown, custom that develops first may lead states that prefer codified legal norms to advocate, for example, for ILC-generated conventions or draft articles. 174 Yet if states continue to prefer custom - even in areas replete with treaties or nonbinding norms - such a choice casts doubt on predictions of custom's demise in an age of soft law and treaties, and on commentators who discount CIL's role in international cooperation.

A. Custom's Advantages over Treaties: Design Features

The top left box illustrates situations in which states turn to custom to modify or obviate the design features of preexisting international agreements. A prominent illustration of custom that competes with treaty design features is the protection of civilians in CIL and also in the 1949 Geneva Conventions for the Protection of Victims of War. Theodor Meron has argued that the protection of civilians in customary law is important in part because custom, unlike the Geneva Conventions, does not permit unilateral withdrawal and because "reservations to the Conventions may not affect the obligations of the parties under provisions reflecting customary law to which they would be subject independently of the Conventions." 175 Meron also notes that "as customary law, the norms expressed in the Conventions might be subject to a process of interpretation [\*599] different from that which applies to treaties" 176 - a further indication of custom's continuing relevance.

The protection of civilians is a hard case for our theory because the Geneva Conventions have been universally ratified, which some might claim renders custom irrelevant. More common but still supportive examples are multilateral agreements - such as the Convention on the International Sale of Goods and the Vienna Convention on the Law of Treaties - at least some provisions of which are accepted as having attained the status of CIL, thus permitting their application to countries that have refrained from ratifying those instruments. 177

A different use of custom to work around treaty design features is provided by the United States' relationship to the U.N. Convention on the Law of the Sea (UNCLOS). The United States played a lead role in negotiating UNCLOS, but has never ratified the Convention. It has, however, consistently maintained that some aspects of the Convention - in particular, those concerning freedom of navigation - reflect customary international law. 178 Critically for our purposes, the United States recognizes that the navigation rules embodied in these two sources of law are substantively the same. 179 However, because UNCLOS does not permit reser- vations, 180 it precludes treaty parties from opting out from any of its substantive provisions - including provisions, such as UNCLOS' dispute settlement clauses, to which the United States objects. By remaining outside of the Convention while selectively adhering to some of its provisions as custom, the United States is, controversially, using CIL to pick and choose those aspects of UNCLOS that benefit it while avoiding the concomitant burdens of provisions it disfavors 181 - [\*600] precisely what the no reservations clause of UNCLOS was adopted to prevent. 182

B. Custom's Advantages over Treaties: Substantive Norms

The box in the upper right quadrant of Figure 1 depicts situations in which states choose custom over treaties because they prefer CIL's substantive norms. 183 A different area of international maritime law provides a "striking example[] of modification" of a treaty through custom. 184 The 1958 Geneva Convention on the High Seas recognized the freedom of states parties to unilaterally exploit non-living resources on the deep seabed. 185 Yet in the years following the Convention's adoption, a competing principle - the "common heritage of mankind" - emerged and rapidly crystalized as custom. 186 Pursuant to this principle, a state could exploit seabed resources only when acting as an agent of the international community as a whole. 187 Importantly, the common heritage idea arose in part from legal claims by non-parties to the Geneva High Seas Convention, claims that would have gained little if any traction as treaty revisions, but [\*601] were far more salient as efforts to develop new CIL applicable to all nations. 188

The Tadic decision, discussed above in the context of custom's overlapping domains, provides another example of the substantive advantages of a custom over treaties that regulate the same subject area. The Geneva Conventions themselves apply almost exclusively to international armed conflicts, 189 leaving other military hostilities largely unregulated by the laws of war (with only a few exceptions, such as Common Article 3). 190 In Tadic, the ICTY held that certain provisions in the Conventions apply to internal armed conflicts as a matter of CIL. 191 In effect, the decision invoked custom to expand the Geneva Conventions' substantive norms to non-international armed conflicts. In the decades that followed, states increasingly embraced Tadic's substantive expansion of the customary laws of war beyond what the Geneva Conventions themselves require. Interestingly, states had previously considered and rejected precisely such an expansion when negotiating Protocols to the Geneva Conventions in the 1970s. 192

Humanitarian intervention offers another illustration of this relationship. The U.N. Charter prohibits the unilateral use of force in response to humanitarian crises in the absence of U.N. Security Council authorization or plausible claims of self-defense. 193 Yet as recent world events have made painfully clear, U.N. Security Council approval is often blocked by political differences among that body's five veto-wielding permanent members. As discussed in greater detail below, 194 some states dissatisfied with the status quo have turned to customary international law, implicitly or explicitly, to justify a military response to humanitarian crises if the U.N. Security Council fails to act. Such states are, in effect, claiming that custom offers a superior substantive norm that should displace the substantive constraints of the U.N. Charter.

C. Custom's Advantages over Soft Law: Design Features

The box on the lower left of Figure 1 depicts situations in which custom and soft law share the same substantive norms but have different design characteristics. The principal difference is obvious - CIL is legally binding and nonbinding norms are not. But there are other differences as well. Soft law is easier and faster to create and modify than custom, making it useful for situations of uncertainty and experimentation where flexibility is prized. Whether states can alter an existing customary rule without violating it is a question that has long bedeviled scholars. Deviating from soft law incurs no international legal responsibility and no (or at least lower) political and reputational costs, neatly sidestepping these difficulties.

#### Antitrust law is general – there’s wide scope for prohibition based on justifications outside domestic law.

HLR ’20 [Harvard Law Review; June 10; Harvard Law Review Association at Harvard University, ranked number one in law journal citations; Harvard Law Review, “Antitrust Federalism, Preemption, and Judge-Made Law,” vol. 133]

None of this is to say that ERISA preemption fails to raise federalism concerns or that the concerns addressed in Part II are unique to anti- trust. In its decision to expressly preempt state law in ERISA, a wise Congress should have considered the difficulties of preemption via judge-made law. Part II’s concerns with preemption via judge-made law could be applied to any delegation to the judiciary that overrides the states’ will. But given the brevity of federal antitrust statutes and the relative lack of executive branch involvement, Congress should be even more wary if it decides to preempt state antitrust law.159 [FOOTNOTE 159 BEGINS] 159 Complaints about brevity and lack of executive branch involvement land an even stronger blow against preemption via statute-independent federal common law. A grant of federal common lawmaking power does not have to be statutory. All that is needed to support the development of federal common law is “some expressed or implied affirmative grant of power to the national government by the Constitution or a statute enacted pursuant to it.” 19 MILLER, supra note 132, § 4514. When courts make law from a constitutional grant, there may not even be a brief statute. See, e.g., Clearfield Tr. Co. v. United States, 318 U.S. 363, 366–67 (1943) (“When the United States disburses its funds . . . it is exercising a constitutional function or power. . . . In absence of an applicable Act of Congress it is for the federal courts to fashion the governing rule of law according to their own standards.”); see also 19 MILLER, supra note 132, § 4515; Volokh, supra note 94, at 1429 (discussing courts’ “statute-independent federal common-lawmaking powers”). Because statute-independent common law is created completely by the courts, preemption via statute- independent common law will preempt the states while also excluding the federal executive branch.

### AT: Perm ‘Other Issues’

1. Antitrust is key – it’s recognized as a central area for economic law because it’s widely agreed AND seen as critical for development – that’s Banks.

#### It’s the best proxy for overall alignment with IEL.

Manne ’13 [Geoffrey and Seith Weinberger; July 18; Lecturer in Law at Lewis & Clark Law School, Executive Director of the International Center for Law & Economics, JD from the University of Chicago Law School, Former Olin Fellow at the University of Virginia School of Law; PhD and MA in Political Science from Duke University, MA in National Security Studies from Georgetown University, AB from the University of Chicago, Associate Professor in the Department of Politics and Government at the University of Puget Sound; The Antitrust Bulletin, “International Signals: The Political Dimension of International Competition Law,” vol. 57]

States wishing to escape the pressures of the security dilemma and engage in cooperative behavior need a means of conveying their preferences to others in a credible manner. There are, in general, two means by which such information can be transmitted: states can either bind themselves in such a way that they are unable to deviate from a stated behavior (known as “hands tying” in Schelling),32 or they can signal their intention to engage in a specified course of action by incurring costs sufficiently large that they discourage the misrepresentation of preference.33

International institutions can play a crucial role in facilitating the transmission of this information.34 In particular, international agreements over the terms of trade, even without binding supranational enforcement authority, provide a means for states to bind themselves to a desirable course of behavior in the short run and, more importantly, to signal their acquiescence to the ruling world order in the long run. Because compliance with treaty obligations often requires signatories to alter their domestic laws to reflect the terms of the treaty, the costs of compliance can be substantial. In the short run, to the extent that states enforce their domestic laws they can bind themselves to a certain course of behavior. In the long run, a state’s willingness to incur the substantial costs of changing its laws, both the transaction costs inherent in changing domestic laws and the even more substantial costs in domestic political capital, signals a willingness to engage other states on the terms set by the reigning international power. Moreover, there may be unintended effects, as changes in domestic laws result in a new set of domestic incentives to which actors respond, and new windows of opportunity may open up through which policy entrepreneurs can push for the internalization of new norms.35 Competition laws in particular are susceptible to this mode of analysis.

Most nations have adopted competition laws as a way to actualize (as well as to symbolize) a degree of commitment to the competitive process and to the prevention of abusive business practices . . . . The introduction of competition laws and policies has also gone hand in hand with economic deregulation, regulatory reform, and the end of command and control economies.36

The surest way to remove the threat of war, increase wealth, conserve resources, and protect human rights is through fundamental agreement between all states (or at least effective agreement between verifiably status quo states) under a normative umbrella that promotes all of those values. This normative convergence can be effected through the stepwise internalization of the sorts of economic and democratic values inherent in international economic liberalization, perhaps most notably through the adoption of principled international antitrust standards.37

2. Contradiction – including the plan adds a unilateral, national interpretation alongside CIL-based revision. That’s destabilizing, signaling assent to disintegration of global order in favor of state-based reform – that’s Arcuri.

#### Acting on both grounds erases the signal.

Lewis ’19 [Dustin, Naz Modirzadeh, and Gabriella Blum; 2019; Research Director of the Harvard Law School Program on International Law and Armed Conflict, LLM from the Utrecht University School of Law, AB from Harvard University; Founding Director of the Harvard Law School Program on International Law and Armed Conflict, JD from Harvard University, Law School, BA from the University of California, Berkeley; Rita E. Hauser Professor of Human Rights and Humanitarian Law at Harvard Law School, LLB from Tel-Aviv University, LLM from Harvard University Law School; Harvard Law School Program on International Law and Armed Conflict, “Quantum of Silence: Inaction and Jus ad Bellum” https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=3420959]

2. Estoppel

The doctrine of *estoppel* in international law operates to protect legitimate expectations of a State induced by the conduct of another State.[48] The basic idea is that “international jurisprudence has a place for some recognition of the principle that a State cannot blow hot and cold—allegans contraria non audiendus est” [49] (a person making contradictory statements is not to be heard[50]). In certain respects, the exact parameters of the doctrine of estoppel — and its relationship with related concepts, including preclusion — remain difficult to draw with precision.[51] However, the following position concerning the “principle of preclusion” by Judge Spender of the ICJ, in his dissenting opinion in the *Temple of Preah Vihear* case, might provide useful guidance:[52]

[T]he principle [of preclusion] operates to prevent a State contesting before the Court a situation contrary to a clear and unequivocal representation previously made by it to another State, either expressly or impliedly, on which representation the other State was, in the circumstances, entitled to rely and in fact did rely, and as a result that other State has been prejudiced or the State making it has secured some benefit or advantage for itself.[53]

Under those requirements, it has been said, “[t]he typical effect of the doctrine is that … a representing party is barred—estopped or precluded—from successfully adopting different, subsequent statements on the same issue, without regard to their truth and accuracy.”[54]

#### 3. Specificity – the perm lacks a concrete, definite antitrust issue for CIL application – that nukes spillover.

Moore ‘6 [David; November 2006; Associate Professor, University of Kentucky College of Law; George Washington Law Review, “An Emerging Uniformity for International Law,” vol. 75]

B. Specific Definition and Mutuality

In obvious parallel to self-execution analysis, the first two factors the Court identified were specific definition and mutuality. 202 The Court held that "federal courts should not recognize private claims under federal common law for violations of any international law norm with less definite content [, i.e., specific definition,] and acceptance among civilized nations[, i.e., mutuality,] than the historical paradigms familiar when [the ATS] was enacted." 203 These specificity and mutuality requirements proved fatal to Alvarez's ATS claim. 204 Alvarez, according to the Court, 205 relied on "a general prohibition of 'arbitrary' detention defined as officially sanctioned action exceeding positive authorization to detain under the domestic law of some government, regardless of the circumstances." 206 Alvarez could only demonstrate, however, acceptance of "a norm against arbitrary detention...at a high level of generality." 207 To the extent the Restatement provided support for a more specific rule - a rule against state-sanctioned "'prolonged arbitrary detention'" - even that rule would not sufficiently specify when a policy of prolonged arbitrary detention [\*39] would render its enforcers "enemies of the human race" and would certainly require something more than Alvarez's "relatively brief detention in excess of positive authority." 208 Thus, "the broad [norm of CIL] Alvarez advanced" was at present "an aspiration" lacking the required specificity. 209 Absent specificity and mutuality, the federal courts could not provide a common-law remedy; as with treaties, specific definition and mutuality considerations served to cabin federal courts' authority to apply CIL as a federal rule of decision.

One might argue that the specific definition and mutuality limitations on the federal application of CIL (a) are born of the historical context in which the ATS was enacted and (b) only apply to ATS claims. 210 There is some basis for the former contention, as the specificity and mutuality limitations certainly emanate from congressional intent with regard to the ATS. The paradigm offenses, according to the Court, were accepted as part of the law of nations at the time the ATS was enacted and were likely the offenses the ATS-drafters had in mind when providing jurisdiction for torts in violation of the law of nations. 211 The First Congress only intended to provide federal jurisdiction to hear these three claims, or at least a narrow set of such claims. 212 Modern Congresses have approved of federal courts' recognition of other causes of action, but that recognition has been subject to limiting standards like those the Sosa Court adopted. 213 Thus, one might conclude that the specificity and mutuality standards that Sosa imposed, as informed by the paradigm offenses, were simply mandated by congressional intent. To the extent that is true, the Court's adoption of these standards is a further manifestation of the principle that congressional intent is the touchstone of CIL incorporation.

However, congressional intent is only part of the story behind the Supreme Court's imposition of the specific definition and mutuality considerations. Indeed, had the Court felt obliged to impose limitations solely to respect the intent of (at least the First) Congress, it presumably would have permitted recognition only of causes of action in situations where a failure to do so would strain U.S. relations with other countries (again with the three specified offenses as paradigms), 214 for it was the national government's inability to respond to international law violations damaging foreign relations that motivated enactment of the ATS. 215 But the specificity and mutuality standards arguably do not derive solely from the ATS. They are part of a broader analysis that applies to the incorporation question generally, as is evidenced by the fact that these standards (a) are inspired by separation of powers concerns independent from the ATS and (b) serve to address those concerns whenever common-law incorporation is at issue.

The specificity and mutuality considerations arose from the Sosa Court's fidelity to the post-Erie distribution of lawmaking authority between Congress and the federal courts. 216 Indeed, the Court decided against Alvarez precisely because "creating a private cause of action to further [the broad norm Alvarez advanced] would go beyond any residual common law discretion [the Court thought] appropriate to exercise." 217 As the Court explained, Erie concerns provide "good reasons" for restraining "the discretion a federal court … exercises in considering a new cause of action" based on CIL. 218 Those concerns, which arise whenever CIL is incorporated as federal common law, are mitigated by the specific definition and mutuality requirements. 219

At a basic level, specific definition and mutuality serve to ensure that federal courts do not incorporate norms that have not yet qualified as CIL. 220 But these requirements do more than that; they also serve to limit the discretion courts may exercise even when the traditional definition of CIL is arguably satisfied. 221 CIL results from the "general and consistent practice of states followed by them from a sense of legal obligation." 222 The inherent difficulty of identifying norms that satisfy this definition leaves room for significant discretion in recognizing claims based on CIL. 223 Requiring widespread acceptance of specifically defined norms reduces the scope of that discretion. 224 Specific definition helps to ensure that the norms courts incorporate provide judicially enforceable standards rather than allow courts to fill abstract principles with their own content.

Similarly, mutuality ensures that courts do not take the lead in enforcing norms that as yet remain underrecognized by other states. Certainly there are times when the United States should endorse as CIL and adopt as domestic law standards that have not yet achieved extensive acceptance internationally. But the decision to bind the United States without mutuality of commitment from other states is a judgment best left to the political branches. 225 As with treaties, it is less controversial for a court to bind the United States to international norms that have been mutually recognized as obligatory by a large number of other states. 226

In short, the specificity and mutuality considerations the Supreme Court adopted are not exclusive to ATS litigation. Although they are critical to ATS litigation and were key to resolving Alvarez's ATS claim, the reason the Court imposed them and their general utility suggest that they are intended to guide incorporation of CIL by federal courts whether pursuant to the ATS or otherwise.

#### It’ll be cabined as un-ripe.

Hitchcock ’98 [Michael; Spring 1998; University of California, Berkeley, Master of City and Regional Planning, JD from Golden Gate University School of Law; Golden Gate University Law Review, “Suitum v. Tahoe Regional Planning Agency: Applying the Takings Ripeness Rule to Land Use Regulations and Transferable Development Rights,” vol. 87]

A. The Evolution of Ripeness Standards in Takings Claims As there is no case or controversy unless a claim is ripe, a takings claim's ripeness governs the power of a federal court to act. 42 The ripeness doctrine functions to avoid premature adjudication of disagreements with administrative policies. 43 Ripeness refers to "conditions that must exist or standards that must be met before a dispute is sufficiently mature to enable a court to decide a case on its merits." 44 The doctrine is also intended to protect public agencies from judicial interference until an administrative decision has been formalized and its effects are felt by the challenging parties in a concrete way. 45 If a court determines that a plaintiff has not met specific conditions with respect to ripeness, then the court must decline review of the case. 46

### AT: SQ Solves NB

The U.S. is out-of-step because it doesn’t prioritize CIL on antitrust AND its commitment is vital to overall legitimacy – that’s Banks.

#### Customary economic law is limited.

Ziemblicki ’19 [Bartosz; 2019; Assistant Professor at Wroclaw Economics University; Wroclaw Review of Law, “Some Reflections on Custom in International Economic Law,” https://www.researchgate.net/publication/330181124\_Some\_Reflections\_on\_Custom\_in\_International\_Economic\_Law]

International economic law is dominated by treaty law.43 Some experts believe that it is the much developed treaty law that left no room for custom in international economic law.44 But on the other hand one could expect that the large increase in international economic transactions would give rise to customs. As Zamora stated, there is no theoretical reason why customary international economic law should not exist.45 Yet there are few examples of custom in this area of law.

#### Specifically – there’s been no recognition of CIL of antitrust.

Klevorick ’7 [Alvin; 2007; John Thomas Smith Professor of Law and Professor of Economics; Journal of Competition Law and Economics, “United States Courts and the Optimal Deterrence of International Cartels: A Welfarist Perspective on Empagran,” Lexis]

B. The District Court Decision

The Empagran defendants moved to dismiss the complaint "for lack of subject matter jurisdiction and for failure to state a claim upon which relief may be granted." 13 The District Court deferred ruling on the motion with respect to the domestic plaintiffs' claims until they provided more specific factual allegations about how the defendants' conduct had injured those plaintiffs in United States commerce. In sharp contrast, Judge Hogan granted the defendants' motion with respect to the foreign plaintiffs. He dismissed the foreign purchasers' claims under federal antitrust law, the ones they pressed through supplemental jurisdiction under the competition laws of foreign nations, and their claims under the Alien Tort Claims Act for violations of customary international law proscribing the cartel's conduct. The District Court's dismissal of the foreign plaintiffs' federal antitrust claims shaped the question that came before the Supreme Court in Empagran. But the trial court's consideration of the other two claims, its finding that there is no customary international law of antitrust and its discussion of the multiplicity of foreign tribunals weighing foreign purchasers' claims against the vitamins cartel, highlight important aspects of the current context of antitrust policy and the background for the Supreme Court's decision.

### AT: Formal Adoption Fails

#### Antitrust is unique – the CP legitimizes AND develops CIL.

Zwarensteyn ’13 [Hendrik; 2013; Professor of Business Law at Michigan State University; Wroclaw Review of Law, “Some Aspects of the Extraterritorial Reach of the American Antitrust Laws,” ISBN: 9789401744676]

(b) At the Supra-National Level:

An entirely different question which we will have to answer is how the above proposed system would function with regard to the transnational aspects of restraint of trade. Two different situations will have to be considered:

(1) The domestic level.

At the domestic level, the judges can be expected to be conversant with and attuned to the legal and the business problems involved, both from the national and the transnational points of view. It is of course, particularly with respect to the generally accepted and recognized principles of international (antitrust) law that we may insist that the judges apply these principles. This holds true both at the trial level and the appellate levels.

Even then it may happen that an appeal taken to the Court of Antitrust Appeals will be decided in a manner to which a foreign defendant, or his national government, objects on the grounds that the economy, or the sovereignty of the foreign State will be adversely affected, contrary to the rules of international law.

In such a case a review by the United States Supreme Court might seem of little value to the foreign government, particularly if the Supreme Court would only consider the proceedings in the courts below on the basis of the proper application of the law, and not on the basis of the merits of the case. This depends on the wording of the law. If the law contains clearly written rules with regard to transnational aspects of restraint of trade, it would seem highly improbable that the Supreme Court (or even the courts below) would ignore these rules.92

(2) The supra-national level.

The possibility exists that the interpretation of the law by the American domestic courts would lead to an unacceptable result as far as the foreign government is concerned.

To solve problems of this nature provisions need to be made for the review by a supra-national tribunal of cases with trans-national aspects. For convenience sake we shall designate this supra-national tribunal International Antitrust Court. Such a tribunal could conceivably be attached to the International Court of Justice. Another possibility would be to establish an independent Supra-National High Authority for Antitrust Matters, part of which could be a Supra-National Antitrust Court.

A third possibility could be the creation of an International Court of Arbitration for Antitrust Matters. While the organization of the above suggested tribunals may differ slightly in its practical day-to-day work, these differences will not have great impact, since the objectives remain the same.93 We submit that a supra-national tribunal such as suggested by us would not severely jeopardize the sovereignty of the nations affected, because law and economics rather than political considerations would be the major concern of these tribunals.

Furthermore, while these supra-national institutions would review national adjudication on the basis of internationally accepted rules of law and economics, still, they would have to be guided to a certain extent by the ratiocination of the antitrust courts at the national level. To that extent, these courts might even be considered as an extension of the national courts into the trans-national sphere. Conversely, these supra-national tribunals might provide proper guidance to national courts in those cases where trans-national problems of antitrust are submitted to the antitrust courts at the national level. To that extent, a proper interaction would result between the international and the national legal order of the nations of the world. 94

Of course, emotional outbursts can be expected if these supra-national tribunals would find that the national antitrust court had violated the accepted rules of international law. These outbursts will simply have to be countered by the statement that no international cooperation can effectively come about unless even the powerful nations of the world stand ready to have their judicial findings be tested against generally accepted rules or principles. Furthermore, international tribunals have at times reviewed cases which had been decided by national courts, including cases decided by the United States Supreme Court.95 Also, the creation of one more international court in addition to the existing ones does not disturb us; as matters stand today, there are several international tribunals dealing with a variety of rather heterogeneous subject matter. 96

A creation such as here suggested would not only be a vehicle to settle disputes. It would also significantly contribute to the further growth of international law, because it would develop and formulate new principles and rules of international antitrust law; that this is necessary will be shown later in this study.

Furthermore, a tribunal as here alluded to would be of importance with regard to the presently emerging extraterritorial reach of the antitrust law of the European Economic Community, 97 and thus, provide proper guidance with regard to the norms set there. Finally, the tribunal would be an aid to the courts in the emerging and developing nations of the world, in that it could provide guidance with the formulation of principles pertaining to the extraterritorial reach of restrictive trade legislation in those countries. Thus, the principles of international law would increasingly reflect the position that it contains the norms and notions of all nations of the world, rather than the domain of European countries who developed principles to regulate the international relations among themselves.98

There is an added reason for the establishment of an International Antitrust Court. The case for a unilateral application of national law enforcement exclusively by national courts has certainly not been made. On the contrary, this form of adjudication has even provoked the accusation that the (American) national courts were guilty of judicial aggression.99

It just might be possible that a case for antitrust enforcement at the supranational level could be made if the admittedly slower process of adjudication in accordance with the accepted principles of international law were undertaken in a spirit of cooperative effort. 100

We do not underestimate the problems that will confront a Supra-national Antitrust Court, particularly because of the conflicting regulatory policies which prevail in the various countries. 10l It is our conviction however, that the effort is worth the trouble because of the advantages we anticipate to be derived from it.

As early as 1946 the establishment of an international tribunal dealing with antitrust problems was proposed. 102 However, where that suggestion was made for the purpose to determine whether an international cartel would or would not be in conflict with international law, we submit that our proposal would purport to review the decisions of national courts on the basis of the internationally accepted rules of law and economics, against the background of what is necessary to maintain the harmony in the community of nations. Thus, a body of rules of law to which national governments would submit would gradually emerge. 103 in which the special character of the antitrust laws, as a separate area of the law, would find recognition. 104

#### U.S. acceptance causes cascading revision of CIL.

Howard ’20 [David; 2020; Attorney at Baker Botts LLP, J.D. from the University of Texas School of Law; Duke Journal of Constitutional Law and Public Policy, “A Revised Revisionist Position in the Law of Nations Debate,” Lexis]

At the Founding, the Framers viewed the law of nations as arising from positive or natural law, yet this is no longer the case. The law of state-state relations was quite clearly the most important of the three original categories of the law of nations, as it governed the relations between sovereign nations. This law of state-state relations created a system that nations followed to keep the peace and promote economic connections, and is referenced and incorporated in several constitutional provisions, such as the recognition power. However, customary international law has changed drastically since the Founding. Fundamental technological, social, and geopolitical change can accelerate the formation of CIL in what Professor Michael Scharf calls Grotian moments 67, or international constitutional moments.

Footnote 67:

"Grotian Moment" is a term used to describe a "paradigm-shifting development in which new rules and doctrines of customary international law emerge with unusual rapidity and acceptance." See Michael P. Scharf, Seizing the "Grotian Moment": Accelerated Formation of Customary International Law in Times of Fundamental Change, 43 CORNELL INT'L L.J. 439, 440 (2010).

End of Footnote 67.

These are large turning points in the law of nations. The law of nations is not stagnant, and each state action--to varying degrees--affects that "general and consistent" state practice on which CIL is defined. Because CIL is an unwritten body of law and continues to change, there is tremendous difficulty in determining what it requires. There is even debate over what evidence should be used to define CIL. This is why "determinations of the content of customary international law implicate not only legal considerations but also considerations of U.S. foreign policy."

#### A single application to antitrust creates instant CIL.

Foster ’1 [Sharon; 2001; Research Assistant Professor at the University of Arkansas School of Law; Emory International Law Review, “While America Slept: The Harmonization Of Competition Laws Based Upon The European Union Model,” Lexis]

A. Customary International Law In taking an antiharmonization position, the United States has allowed convergence and harmonization of competition laws to proceed based upon the E.U. model. The greater the number of states that conduct themselves in the area of competition law along E.U. lines, the greater the evidence of custom based upon the E.U. model. State conduct can be evidence of a customary rule of international law arising from "a general practice accepted as law." 324 Before a state act or assertion becomes a part of customary international law, it must have been accepted (or at least acquiesced to) for a substantial period of time by other states. 325 However, under certain circumstances, it is possible to have instant customary law. 326 Custom, therefore, has two critical elements: (1) behavior of states; and (2) the belief by states that they are bound to behave in a certain manner due to international law, or opinio juris. 327 State behavior may be discerned from numerous sources, such as diplomatic correspondence, historic records, acts of municipal legislation, decisions of a state's courts, and the general practices of international organizations, such as the United Nations. 328 The RBP code - based on the E.U. model - being agreed to by unanimous vote, and a majority [\*517] of states with competition law using the E.U. model, serve as evidence of customary international competition law. 329 One manner of establishing opinio juris may be by multilateral agreements or treaties that reflect recognized custom. 330 Additionally, a state's conduct is evidence of opinio juris. 331 Thus, the CEEC agreements and the conduct of numerous states in implementing competition laws and voting in favor of the RBP code is evidence of opinio juris. The significance of opinio juris should be readily apparent. There are several trade agreements in place that call for dispute resolution through an international tribunal. 332 To illustrate how the principle of customary international law comes into play with respect to these international tribunals, one need only consider a simple scenario regarding a dispute between two states that are parties to a trade agreement. If party A to the trade agreement fails to provide market access in good faith compliance with its treaty obligations, it has violated the doctrine of pacta sunt servanda (agreements must be honored). 333 Party B may argue that party A has violated its trade agreement under the doctrine of pacta sunt servanda by permitting private barriers to trade to remain in place. In deciding whether these private barriers to trade are imputed to party A, an international tribunal, such as the dispute resolution panel of the WTO, may refer to customary international law. 334 Customary international law for competition law may soon prove to be based on E.U. law. B. Impact on Negotiating Treaties and Conventions The United States has gone down this path before. Prior to 1989, the United States stubbornly refused to participate in an international dialogue on international copyright protection in a meaningful manner. For years, the United States refused to ratify the Berne Convention on international copyright protection in part because Berne incorporated moral rights obligations. 335 The Berne Convention contains little, if any, U.S. input. As such, when the United States sought to include intellectual property interests under GATT during the Uruguay Round of negotiations, its negotiating position was weakened because of its position regarding Berne. The result was that the United States agreed to sign Berne, as is, in exchange for including intellectual property under GATT. 336 Today, Berne is a part of U.S. domestic law as well as part of international law and is incorporated into TRIPS, the intellectual property provision of GATT. With this shrewd negotiating style in mind, one may surmise that the European Union must be delighted with the United States' position on international competition law. Conclusion The purpose of this Article is not to engage in a debate of whether competition laws should be harmonized. Rather, its purpose is to address the fact that competition laws are currently being harmonized based upon the E.U. model. Given the apparent lack of discussion on this point, especially by U.S. competition authorities, there should be some concern that harmonization will occur with little or no United States input. The United States is not in the same economic and political position it was in when it was able to [\*519] derail the Havana Charter in 1947. The devastation to European industry after World War II has been rectified. The European Union has been formed and, in certain areas, has attained parity with the United States on gross world product figures. 337 Accordingly, the European Union is in a position to harmonize competition laws without U.S. participation. As technology expands, the world seems to shrink. Markets that were considered inaccessible or too risky a few years ago, such as Russia or China, are beginning to open. These new markets are being encouraged by the European Union to adopt competition laws based upon the E.U. model. The United States has, in many ways, been responsive to the needs of its domestic business community for an increased global presence. However, the United States remains rather parochial in its position on harmonization of competition laws. This harmonization is occurring and expanding along the E.U. model as a result of the United States' shortsightedness. Not only have U.S. competition authorities failed to recognize the fact of competition law harmonization, they do not appear to accept the existence of the global state. Whether one agrees or disagrees about the advisability of having a global state is ultimately beside the point. Just as competition law harmonization is a reality, so too is a global state. As such, it would be more prudent and productive for the United States to recognize this reality and actively participate in the shaping of harmonized competition laws and the global state.

#### The independent, overriding status of CIL sets a precedent.

Kundmueller ‘2 [Michelle; May 1; Attorney specializing in constitutional law, candidate for a J.D. and M.A. in Political Theory from the University of Notre Dame, B.A. from Flagler College; Journal of Legislation, “Note: The Application of Customary International Law in US Courts: Custom, Convention, or Pseudolegislation?” vol. 28]

The implications of Lillich's claim that customary international law may and ought to be directly incorporated into United States law even without statutory support are far reaching. He advocates that judges ought to use human rights law--and implicitly all of customary international law--without statutory support. Not only could claims be brought in federal and state courts without the benefit of enabling statutes, but, under the mirror principle, the United States has an obligation, enforceable domestically, to live up to the provisions of customary international law. 38 Beyond this direct effect, which has the potential to permit the voiding of a federal statute on the grounds that it conflicts with customary international law (as defined and recognized by the judiciary), Lillich predicts that customary international law should have the "greatest impact on domestic law in the future by influencing the courts' approach to constitutional and statutory standards." 39 This means that the Constitution, federal law, and state law should be interpreted in light of customary international law. As Lillich states, "litigants and [\*369] judges already have invoked the Universal Declaration [of Human Rights] for precisely this purpose." 40 Lillich hails this new world of customary international law's direct and indirect incorporation into United States law as offering "significant as well as virtually limitless possibilities for achieving greater protection of the rights of individuals." 41

B. Dominance of Federal Law over Customary International Law

The argument against direct incorporation of customary international law focuses on several perceived evils, with the primary focus resting on lack of constitutional justification and incompatibility with constitutional principles such as separation of powers and democratic rule. In a Note that focuses specifically on the question of whether customary international law supersedes federal statutes, Garland A. Kelley takes a moderate position, claiming that customary international law should not supercede federal law, but that "American courts must attempt to reconcile U.S. federal statutory law with conflicting international norms and standards, whenever possible." 42 In the course of explaining why federal law ought not be superseded by customary international law, based on constitutional interpretation, Kelley makes an argument for how customary international law has the potential to threaten some of the most basic premises of American constitutional government.

Kelley challenges the claim that the last-in-time doctrine applies to customary international law, pointing out that the Supremacy Clause leaves ambiguous "how conflicts between separate classes of supreme laws are to be resolved." 43 While conflicts between different types of federal law would normally be resolved through the last-in-time doctrine, Kelley notes that with customary international law this does not result in a comfortable outcome. 44 The precise date of a doctrine of customary international law becoming effective, because of the nature of customary international law, is impossible to determine; hence, any date chosen is entirely arbitrary. Unless one is willing to accept the premise that customary law is constantly in the process of being renewed--and, thus, that customary international law always [\*370] trumps legislative federal law--this issue presents a serious practical obstacle to the application of the last-in-time rule.

In a discussion of jus cogens, a specific form of customary international law, Kelley discusses two more fundamental problems of incorporation. Not only is the literature on jus cogens conflicting as to the substance of jus cogens, but the issue of who, in the arena of domestic law, will determine both the substance and applicability of jus cogens does not have an obvious answer. 45 The issue of where to lodge the power of applying customary international law creates a dilemma, but this is not the most daunting problem. Kelley claims that "the most serious objection" is "that ceding peremptory power to jus cogens norms is fundamentally at odds with basic American constitutional values." 46 Modern customary international law conflicts with domestic legal issues, issues concerning the self-governance of Americans. Kelley explains that the heart of the problem lies in the potential for customary international law, over which Americans have no direct control, to undermine democracy and the consent of the governed.

If our form of constitutional government stands for anything, it is the belief that no law is law without the consent of the governed, as expressed through our elected representatives. Preempting domestic statutory law with norms of customary international law, particularly customary international law based not on the practice of nations, but on declarations that are purposeful and hopeful, is to apply law that has been generated by nonUnited States law-making procedure. 47

Kelley contends that the loss of a truly consent-based government would not be the only casualty of customary international law's dominance over federal legislation: such implementation would necessarily come at "considerable cost, upsetting the safeguards inherent in at least three basic U.S. constitutional values and assumptions . . . ." 48 Because directly incorporating customary international law as dominant over federal law would necessitate using the courts as the applying and interpreting body, such incorporation by definition gives previously unknown power to the courts. This power, as Kelley points out, comes at a price. The judicial branch's gain would come at the expense of the President, Congress, and state governments. According to Kelley, such costs are "excessive and illegitimate." 49

In an article on the authoritative sources of customary international law in the United States, Harold G. Maier argues that both the [\*371]

governmental structure of the United States and the functional nature of international law itself compel the conclusion that the authoritative source of public international law in the United States is the will of the United States body politic as reflected in federal law . . . not the will of the world community of nations. 50

Maier bases much of his argument on the role of territorial sovereignty. Territorial sovereignty and nationhood both require "possession of the internal authority to decide whether to violate international obligations." 51 Not only is the authority to choose whether to follow international norms vested in the body politic of each nation, but, as a practical matter, this is the only method through which international law can be translated to the domestic front. In the words of Maier, "it is this functional reality, as much as any language of the courts or of the Constitution, that supports the proposition that United States decision makers are not bound by the Constitution to apply rules of customary international law in domestic fora." 52

In practice, this theory demands "active affirmative participation" of a nation's "authoritative decision-makers" for customary international law to have "applicability within a nation's legal system." 53 Maier explains what this means within the framework of the U.S. legal system, stating that the "principles of international law are accessible to the federal courts when they decide cases by the common law method." 54 While available to courts, "those principles are given domestic legal effect by the authority of the court applying them in its traditional common law process, not by some metaphysical omnipresence of the international legal regime." 55 The courts exercise their discretion in applying and interpreting customary international law.

Customary international law is further checked and, ultimately in the scheme of U.S. law, balanced by the legislative branch. As the will of the people of the United States--as determined through our own law-making process--dominates the common law findings of the judiciary, so the legislative findings of Congress, when they contravene a court's holding concerning customary international law, reverse the holding of the court system. In the words of Maier, when there is "conflict between the will of the people, reflected by the act of their government institutions, and the will of the international community reflected in customary international law, the municipal will must necessarily control . . . ." 56 Maier believes that, within [\*372] the U.S. political and legal systems, customary international law can and rightfully does have a guiding role to play; ultimately, however, the decisionmaking authority is still retained by the people and government, none of whom are "subject to the limitations created by an international legal regime." 57

C. Summary of the Issues at Stake in the United States Incorporation of Customary International Law

This section of this Note, on the legal authority of customary international law vis-a-vis federal legislation, has not been included with the purpose of discovering which position is correct. Rather, the overview of this debate holds a central place in this Note because it demonstrates some of the issues at stake as U.S. courts begin to integrate customary international law into what were previously thought of as purely or primarily domestic issues. Admittedly, the number of cases using customary international law in this manner is still few and primarily based on some enabling federal statute. Nonetheless, these decisions take on a greater importance in light of the debate discussed above. Should theorists such as Paust and Lillich prevail, these early cases, taking the first modern steps in the process of identifying and applying customary international law would become crucial precedent in a law-making process that Congress would be powerless to overturn. On the other hand, the case law about to be analyzed will lie at the mercy of the will of the people and their Congress, should the theories of Kelley and Garland prove prophetic. It is still too early to know which faction will dominate, but this analysis of their theories does survey the potential spectrum of outcomes and the legal and political issues yet to be determined.