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#### The private sector excludes government entities

Senate Report 95 (Senate Report. 104-1, “UNFUNDED MANDATE REFORM ACT OF 1995,” https://www.congress.gov/congressional-report/104th-congress/senate-report/1 , date accessed 9/10/21)

"Private sector" is defined to cover all persons or entities in the United States except for State, local or tribal governments. It includes individuals, partnerships, associations, corporations, and educational and nonprofit institutions.

#### AND anti-competitive practices excludes governmental measures or regulations

WTO 4 (“MEXICO – MEASURES AFFECTING TELECOMMUNICATIONS SERVICES: Report of the Panel” , *SICE Foreign Trade Information System* , <http://www.sice.oas.org/dispute/wto/ds204/ds204r3e.asp> , WT/DS204/R, 2 April 2004, (04-1211)

4.292 Mexico submits that the United States has failed to establish that Section 1 disciplines regulatory "measures" of a WTO Member that have an anti-competitive effect.541 In Mexico's view, "anti-competitive practices" refer to the practices of a major supplier and not to governmental measures that may have an anti-competitive effect.542 Mexico recognizes that all regulation of economic activity, by definition, interferes with the operation of a freely competitive marketplace, including rate-setting by governmental authorities, but claims that such government regulation itself is not typically understood to be capable of violating competition rules.543 According to Mexico, if the United States' interpretation is to be accepted, all government regulatory measures in the telecommunications sector that restrain the actions of a major supplier in a manner that interferes with the operation of a freely competitive marketplace would be prohibited. Mexico claims that this is not what was intended by Section 1 of its Reference Paper. Mexico submits that there is no basis in the text of Section 1 to judge the legitimacy of a WTO Member's internal regulatory policies in circumstances where no multilaterally agreed-upon benchmarks exist. Mexico further contends that in order to justify its own anti-competitive measures, the United States essentially distinguishes between anti-competitive measures that, in its view, have legitimate policy objectives and those that, in its view, do not. In Mexico's view, if the drafters of Section 1 meant to include government regulatory measures, surely they would have included text to take into account such important distinctions and to provide objective benchmarks for assessing the legitimacy of such measures.544

#### State action immunity violates — it includes three distinct categories, but only one is for non-government entities and ALL are based on state government regulations

Safvati 16 [Sina Safvati, J.D., University of California, Los Angeles, School of Law, with honors, 2016 B.A., University of California, Los Angeles, summa cum laude, 2012 CLERKSHIPS U.S.C.A., 9th Circuit U.S.D.C., Southern District of Florida, https://www.uclalawreview.org/wp-content/uploads/2019/09/Safvati-63-4-update.pdf]

Based in part on the fear that States might “confer antitrust immunity on private persons by fiat,”24 the Supreme Court clarified in later decisions that the automatic exemption from federal antitrust law applies only when the state is acting as a sovereign—when the anticompetitive decision is expressly made by a state legislature or state supreme court.25 In the case of political subdivisions and private entities, the Parker immunity exemption applies only if the entity makes a sufficient showing that the anticompetitive decision was in fact one of the sovereign.26 Through its subsequent jurisprudence, the Court defined three distinct categories in the Parker-immunity inquiry.

The first category is reserved for cases in which the sovereign directly and expressly made the anticompetitive action, limited to actions of the state legislature or state supreme court.27 Parker immunity automatically applies in such cases.28 The second category (“quasi-public”)29 is reserved for cases in which a municipality or a “prototypical state agency”30 has engaged in anticompetitive conduct.31 When municipalities seek Parker immunity, the anticompetitive conduct must have been pursuant to a clearly articulated state policy to displace competition.32 The third category is reserved for instances in which private entities have engaged in anticompetitive conduct. When private entities seek Parker state-action immunity, they must show both that the challenged conduct was pursuant to a clearly articulated state policy and that it was actively supervised by the state itself.33 In the 2014–2015 term, the Supreme Court held in North Carolina Board of Dental Examiners v. FTC that a state occupational licensing board comprised of a “controlling number” of “active market participants” was private and subject to the active supervision requirement.34

[Footnote 33] E.g., Cal. Retail Liquor Dealers Ass’n v. Midcal Aluminum, Inc., 445 U.S. 97, 105–06 (1980) (holding that the private wine price-setting scheme could not benefit from Parker immunity because although the scheme was pursuant to a clearly articulated state policy, the state did not engage in any “pointed reexamination” of the program and thus did not satisfy the active state supervision prong); see also S. Motor Carriers Rate Conference, Inc. v. United States, 471 U.S. 48, 56–57 (1985).

#### Vote negative for limits and ground---allowing for non-private sector actors explodes the topic to thousands of different actors that obviate links to core generics like biz con or innovation based on private sector perception---extra t is bad, it undermines and predictability and core offense.

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#### The aff is based on neoliberal exploitation, which makes monopolies and violence inevitable ⁠— only the alt solves

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One of these is the inexorable tendency of competition to lead to monopoly under capitalism. Competition means winners and losers. By definition, not everyone can win when competing. Competition means rivalry for supremacy. Thousands compete in the Olympics, for example, but only a select few (“winners”) go home with a gold medal.[1] It is no accident that the economy, media, and politics are heavily monopolized by a handful of billionaires while billions of people who actually produce the wealth in society and run society remain marginalized and disempowered. This brutal reality cannot be reversed or overcome with the utterance of a few platitudes, the passage of some policies, or the creation of some agencies that claim to be able to fix the outdated economic system, especially when all of the above come from billionaires themselves. On July 9, 2021, President Joe Biden issued an Executive Order on Promoting Competition in the American Economy (https://www.whitehouse.gov/briefing-room/presidential-actions/2021/07/09/executive-order-on-promoting-competition-in-the-american-economy/). The order is about 7,000 words long and full of anticonscious statements. Disinformation pervades the entire order. The opening paragraph begins with the following disinformation: By the authority vested in me as President by the Constitution and the laws of the United States of America, and in order to promote the interests of American workers, businesses, and consumers, it is hereby ordered…. Here, “American workers, businesses, and consumers” are casually misequated and no mention is made of citizens or humans. The implication is that consumerism is normal, healthy, and desirable, and that workers and big business somehow have the same aims, world outlook, and interests. This conceals the fact that owners of capital and workers have antagonistic irreconcilable interests and that people exist as humans and citizens, not just utilitarian consumers and shoppers in a taken-for-granted system based on chaos, anarchy, and violence.

Disinformation is further escalated in the next paragraph:

A fair, open, and competitive marketplace has long been a cornerstone of the American economy, while excessive market concentration threatens basic economic liberties, democratic accountability, and the welfare of workers, farmers, small businesses, startups, and consumers. “Market concentration” has been the norm for generations. Monopolies, cartels, and oligopolies have been around since the late 1800s. Mergers and acquisitions have been taking place non-stop for decades. The so-called “free market” largely disappeared long ago. Objectively, there can be no fairness in a system rooted in wage-slavery and empire-building. Wage-slavery is the precondition for the tendency of the rich to get richer and the poor poorer. It is not a recipe for prosperity and security for all. This is also why inequality, tyranny, violence, and surveillance have been growing over the years. Moreover, what “threatens basic economic liberties, democratic accountability, and the welfare of workers, farmers, small businesses, startups, and consumers” is the ongoing political and economic exclusion of people from control over the economy and their lives by the financial oligarchy. There can be no liberty, accountability, and welfare when most people are deprived of real decision-making power and major owners of capital make all the decisions. Problems would not constantly worsen if people had control over their lives. The “best allocation of resources” cannot be made when the economy is carved up, fractured, and controlled by competing owners of capital. Although recurring economic crises for well over a century have repeatedly discredited “free market” ideology, the 7,000-word executive order is saturated with the language of “choice,” “competition,” and “consumers.” This is the same worn-out language used by privatizers of all hues at home and abroad. Further, while the executive order gives many examples of “economic consolidation” in numerous sectors, the government is not interested in creating a self-reliant vibrant diverse economy that meets the needs of all. It is not committed to reversing “the harmful effects of monopoly and monopsony.” Numerous antitrust laws have not stopped either. Big mergers and acquisitions have been going on for years. Rather, the executive order is an attempt to restructure economic and political arrangements among different factions of the wealthy elite; it reflects a new stage or form of inter-capitalist rivalry for even greater domination of the economy by fewer owners of capital. In other words, moving forward, the economy will remain monopolized by a few monopolies. Wealth is only going to become more concentrated in fewer hands in the years ahead. Mountains of data from hundreds of sources document growing wealth and income inequality every year. The bulk of the executive order is filled with endless directives, strategies, rules, and suggestions for how to curb “unfair practices” and promote “fairness” and “competition.” But these all ring hollow given concrete realities and past experience. Today, governments at all levels have been taken over by global private monopoly interests and have become instruments of decisions made on a supranational basis. There is a fine-tuned revolving door between officials from government and the private sector; they have become synonymous for all essential purposes. The same people who run major corporations also serve in high-level government positions where they advance the narrow interests of the private sector and then they leave government and return to their high-level corporate positions. There is a reason why the majority of members of Congress are millionaires. The Executive Branch in the United States, especially the President’s Office, is a major tool for the expression of the will of the most powerful monopolies. This is why billions of dollars are spent every few years to select the President of the country. A modern economy must be controlled and directed by workers themselves. Only such an economy can provide for the needs of all and avoid endless economic distortions. Uneven economic development, “unfair” arrangements, “market concentration,” monopolies, oligopolies, and recurring crises cannot be avoided so long as those who actually produce the social product have no control over the social product. Workers have first claim to the wealth they produce and have the right to decide how, where, and when that wealth is used. Major owners of capital are historically superfluous and a big block to progress. They are not needed for a healthy vibrant self-reliant economy that meets the needs of all.

#### That causes extinction ⁠— international worker organizing led by the Global South is key

Foster 20, Editor of Monthly Review, and a professor of sociology at the University of Oregon (John Bellamy Foster, “The Renewal of the Socialist Ideal,” *Monthly Review*, September 2020, Volume 72, Number 4)

Any serious treatment of the renewal of socialism today must begin with capitalism’s creative destruction of the bases of all social existence. Since the late 1980s, the world has been engulfed in an epoch of catastrophe capitalism, defined as the accumulation of imminent catastrophe on every side due to the unintended consequences of “the juggernaut of capital.”1 Catastrophe capitalism in this sense is manifested today in the convergence of (1) the planetary ecological crisis, (2) the global epidemiological crisis, and (3) the unending world economic crisis.2 Added to this are the main features of today’s “empire of chaos,” including the extreme system of imperialist exploitation unleashed by global commodity chains; the demise of the relatively stable liberal-democratic state with the rise of neoliberalism and neofascism; and the emergence of a new age of global hegemonic instability accompanied by increased dangers of unlimited war.3 The climate crisis represents what the world scientific consensus refers to as a “no analogue” situation, such that if net carbon emissions from fossil fuel combustion do not reach zero in the next few decades, it will threaten the very existence of industrial civilization and ultimately human survival.4 Nevertheless, the existential crisis is not limited to climate change, but extends to the crossing of other planetary boundaries that together define the global ecological rift in the Earth System as a safe place for humanity. These include: (1) ocean acidification; (2) species extinction (and loss of genetic diversity); (3) destruction of forest ecosystems; (4) loss of fresh water; (5) disruption of the nitrogen and phosphorus cycles; (6) the rapid spread of toxic agents (including radionuclides); and (7) the uncontrolled proliferation of genetically modified organisms.5 This rupturing of planetary boundaries is intrinsic to the system of capital accumulation that recognizes no insurmountable barriers to its unlimited, exponential quantitative advance. Hence, there is no exit from the current capitalist destruction of the overall social and natural conditions of existence that does not require exiting capitalism itself. What is essential is the creation of what István Mészáros in Beyond Capital called a new system of “social metabolic reproduction.”6 This points to socialism as the heir apparent to capitalism in the twenty-first century, but conceived in ways that critically challenge the theory and practice of socialism as it existed in the twentieth century.

The Polarization of the Class System

In the United States, key sectors of monopoly-finance capital have now succeeded in mobilizing elements of the primarily white lower-middle class in the form of a nationalist, racist, misogynist ideology. The result is a nascent neofascist political-class formation, capitalizing on the long history of structural racism arising out of the legacies of slavery, settler colonialism, and global militarism/imperialism. This burgeoning neofascism’s relation to the already existing neoliberal political formation is that of “enemy brothers” characterized by a fierce jockeying for power coupled with a common repression of the working class.7 It is these conditions that have formed the basis of the rise of the New York real-estate mogul and billionaire Donald Trump as the leader of the so-called radical right, leading to the imposition of right-wing policies and a new authoritarian capitalist regime.8 Even if the neoliberal faction of the ruling class wins out in the coming presidential election, ousting Trump and replacing him with Joe Biden, a neoliberal-neofascist alliance, reflecting the internal necessity of the capitalist class, will likely continue to form the basis of state power under monopoly-finance capital. Appearing simultaneously with this new reactionary political formation in the United States is a resurgent movement for socialism, based in the working-class majority and dissident intellectuals. The demise of U.S. hegemony within the world economy, accelerated by the globalization of production, has undermined the former, imperial-based labor aristocracy among certain privileged sections of the working class, leading to a resurgence of socialism.9 Confronted with what Michael D. Yates has called “the Great Inequality,” the mass of the population in the United States, particularly youth, are faced with rapidly diminishing prospects, finding themselves in a state of uncertainty and often despair, marked by a dramatic increase in “deaths of despair.”10 They are increasingly alienated from a capitalist system that offers them no hope and are attracted to socialism as the only genuine alternative.11 Although the U.S. situation is unique, similar objective forces propelling a resurgence of socialist movements are occurring elsewhere in the system, primarily in the Global South, in an era of continuing economic stagnation, financialization, and universal ecological decline. But if socialism is seemingly on the rise again in the context of the structural crisis of capital and increased class polarization, the question is: What kind of socialism? In what ways does socialism for the twenty-first century differ from socialism of the twentieth century? Much of what is being referred to as socialism in the United States and elsewhere is of the social-democratic variety, seeking an alliance with left-liberals and thus the existing order, in a vain attempt to make capitalism work better through the promotion of social regulation and social welfare in direct opposition to neoliberalism, but at a time when neoliberalism is itself giving way to neofascism.12 Such movements are bound to fail at the outset in the present historical context, inevitably betraying the hopes that they unleashed, since focused on mere electoral democracy. Fortunately, we are also seeing the growth today of a genuine socialism, evident in extra-electoral struggle, heightened mass action, and the call to go beyond the parameters of the present system so as to reconstitute society as whole. The general unrest latent at the base of U.S. society was manifested in the uprisings in late May and June of this year, which took the form, practically unheard of in U.S. history since the U.S. Civil War, of massive solidarity protests with millions of people in the streets, and with the white working class, and white youth in particular, crossing the color line *en masse* in response to the police lynching of George Floyd for no other crime than being a Black man.13 This event, coming in the midst of the COVID-19 pandemic and the related economic depression, led to the June days of rage in the United States. But while the movement toward socialism, now taking hold even in the United States at the “barbaric heart” of the system, is gaining ground as a result of objective forces, it lacks an adequate subjective basis.14 A major obstacle in formulating strategic goals of socialism in the world today has to do with twentieth-century socialism’s abandonment of its own ideals as originally articulated in Karl Marx’s vision of communism. To understand this problem, it is necessary to go beyond recent left attempts to address the meaning of communism on a philosophical basis, a question that has led in the last decade to abstract treatments of The Communist Idea, The Communist Hypothesis, and The Communist Horizon by Alain Badiou and others.15 Rather, a more concrete historically based starting point is necessary, focusing directly on the two-phase theory of socialist/communist development that emerged out of Marx’s Critique of the Gotha Programme and V. I. Lenin’s The State and Revolution. Paul M. Sweezy’s article “Communism as an Ideal,” published more than half a century ago in Monthly Review in October 1963, is now a classic text in this regard.16

Marx’s Communism as the Socialist Ideal

In The Critique of the Gotha Programme—written in opposition to the economistic and laborist notions of the branch of German Social Democracy influenced by Ferdinand Lassalle—Marx designated two historical “phases” in the struggle to create a society of associated producers. The first phase was initiated by the “revolutionary dictatorship of the proletariat,” reflecting the class-war experience of the Paris Commune and representing a period of workers’ democracy, but one that still carried the “defects” of capitalist class society. In this initial phase, not only would a break with capitalist private property take place, but also a break with the capitalist state as the political command structure of capitalism.17 As a measure of the limited nature of socialist transition in this stage, production and distribution would inevitably take the form of to each according to one’s labor, perpetuating conditions of inequality even while creating the conditions for their transcendence. In contrast, in the later phase, the principle governing society would shift to from each according to one’s ability, to each according to one’s need and the elimination of the wage system.18 Likewise, while the initial phase of socialism/communism would require the formation of a new political command structure in the revolutionary period, the goal in the higher phase was the withering away of the state as a separate apparatus standing above and in antagonistic relation to society, to be replaced with a form of political organization that Frederick Engels referred to as “community,” associated with a communally based form of production.19 In the later, higher phase of the transition of socialism/communism, not only would property be collectively owned and controlled, but the constitutive cells of society would be reconstituted on a communal basis and production would be in the hands of the associated producers. In these conditions, Marx stated, “labor” will have become not a mere “means of life” but “itself…the prime necessity of life.”20 Production would be directed at use values rather than exchange values, in line with a society in which “the free development of each” would be “the condition for the free development of all.” The abolition of capitalist class society and the creation of a society of associated producers would lead to the end of class exploitation, along with the elimination of the divisions between mental and manual labor and between town and country. The monogamous, patriarchal family based on the domestic enslavement of women would also be surmounted.21 Fundamental to Marx’s picture of the higher phase of the society of associated producers was a new social metabolism of humanity and the earth. In his most general statement on the material conditions governing the new society, he wrote: “Freedom, in this sphere [the realm of natural necessity], can consist only in this, that socialized man, the associated producers, govern the human metabolism of nature in a rational way…accomplishing it with the least expenditure of energy” in the process of promoting conditions of sustainable human development.22 Writing in The State and Revolution and elsewhere, Lenin deftly captured Marx’s arguments on the lower and higher phases, depicting these as the first and second phases of communism. Lenin went on to emphasize what he called “the scientific distinction between socialism and communism,” whereby “what is usually called socialism was termed by Marx the ‘first,’ or lower phase of communist society,” whereas the term communism, meaning “complete communism,” was most appropriately used for the higher phase.23 Although Lenin closely aligned this distinction with Marx’s analysis, in later official Marxism this came to be rigidified in terms of two entirely separate stages, with the so-called communist stage so removed from the stage of socialism that it became utopianized, no longer seen as part of a continuous or ongoing struggle. Based on a wooden conception of the socialist stage and the intermediary principle of distribution to each according to one’s labor, Joseph Stalin carried out an ideological war against the ideal of real equality, which he characterized as a “reactionary, petty-bourgeois absurdity worthy of a primitive sect of ascetics but not of a socialist society organized on Marxist lines.” This same stance was to persist in the Soviet Union in one way or another all the way to Mikhail Gorbachev.24 Hence, as explained by Michael Lebowitz in The Socialist Imperative, “rather than a continuous struggle to go beyond what Marx called the ‘defects’ inherited from capitalist society, the standard interpretation” of Marxism in the half-century from the late 1930s to the late ’80s “introduced a division of post-capitalist society into two distinct ‘stages,’” determined economistically by the level of development of the productive forces. Fundamental changes in social relations emphasized by Marx as the very essence of the socialist path were abandoned in the process of living with and adapting to the defects carried over from capitalist society. Instead, Marx had insisted on a project aimed at building the community of associated producers “from the outset” as part of an ongoing, if necessarily uneven, process of socialist construction.25 This abandonment of the socialist ideal associated with Marx’s higher phase of communism was wrapped up in a complex way with changing material (and class) conditions and eventually the demise of Soviet-type societies, which tended to stagnate once they ceased to be revolutionary and even resurrected class forms, heralding their eventual collapse as the new class or nomenklatura abandoned the system. As Sweezy argued in 1971, “state ownership and planning are not enough to define a viable socialism, one immune to the threat of retrogression and capable of moving forward on the second leg of the movement to communism.” Something more was needed: the continuous struggle to create a society of equals.26 For Marx, the movement toward a society of associated producers was the very essence of the socialist path embedded in “communist consciousness.”27 Yet, once socialism came to be defined in more restrictive, economistic terms, particularly in the Soviet Union from the late 1930s onward, in which substantial inequality was defended, post-revolutionary society lost the vital connection to the dual struggle for freedom and necessity, and hence became disconnected from the long-term goals of socialism from which it had formerly derived its meaning and coherence. Based on this experience, it is evident that the only way to build socialism in the twenty-first century is to embrace precisely those aspects of the socialist/communist ideal that allow a theory and practice radical enough to address the urgent needs of the present, while also not losing sight of the needs of the future. If the planetary ecological crisis has taught us anything, it is that what is required is a new social metabolism with the earth, a society of ecological sustainability and substantive equality. This can be seen in the extraordinary achievements of Cuban ecology, as recently shown by Mauricio Betancourt in “The Effect of Cuban Agroecology in Mitigating the Metabolic Rift” in Global Environmental Change.28 This conforms to what Georg Lukács called the necessary “double transformation” of human social relations and the human relations to nature.29 Such an emancipatory project must necessarily pass through various revolutionary phases, which cannot be predicted in advance. Yet, to be successful, a revolution must seek to make itself irreversible through the promotion of an organic system directed at genuine human needs, rooted in substantive equality and the rational regulation of the human social metabolism with nature.30

Freedom as Necessity

Building on G. W. F. Hegel’s philosophy, Engels famously argued in Anti-Dühring that real freedom was grounded in the recognition of necessity. Revolutionary change was the point at which freedom and necessity met in concrete praxis. Although there was such a thing as blind necessity beyond human knowledge, once objective forces were grasped, necessity was no longer blind, but rather offered new paths for human action and freedom. Necessity and freedom fed on each other, requiring new periods of social change and historical transcendence.31 In illustrating this materialist dialectical principle, Lenin acutely observed, “we do not know the necessity of nature in the phenomena of the weather. But while we do not know this necessity, we do know that it exists.”32 We know the human relation to the weather and nature in general inevitably varies with the changing productive relations governing our actions. Today, the knowledge of anthropogenic climate crisis and of extreme weather events is removing human beings from the realm of blind necessity and demanding that the world’s population engage in the ultimate struggle for freedom and survival against catastrophe capitalism. As Marx stated in the context of the severe metabolic rift imposed on Ireland as a result of British colonialism in the nineteenth century, the ecological crisis presents itself as a case of “ruin or revolution.”33 In the Anthropocene, the ecological rift resulting from the expansion of the capitalist economy now exists on a scale rivaling the biogeochemical cycles of the planet. However, knowledge of these objective developments also allows us to conceive the necessary revolution in the social metabolic reproduction of humanity and the earth. Viewed in this context, Marx’s crucial conception of a “community of associated producers” is not to be viewed as simply a far-off utopian conception or abstract ideal but as the very essence of the necessary human defense in the present and future, representing the insistent demand for a sustainable relation to the earth.34 But where is the agent of revolutionary change? The answer is that we are seeing the emergence of the material preconditions of what can be called a global environmental proletariat. Engels’s Condition of the Working Class in England, published in 1845, was a description and analysis of working-class conditions in Manchester, shortly after the so-called Plug Plot Riots and at the height of radical Chartism. Engels depicted the working-class environment not simply in terms of factory conditions, but much more in terms of urban developments, housing, water supply, sanitation, food and nutrition, and child development. The focus was on the general epidemiological environment enforced by capitalism (what Engels called “social murder” and what Norman Bethune later called “the second sickness”) associated with widespread morbidity and mortality, particularly due to contagious disease.35 Marx, under the direct influence of Engels and as a result of his own social epidemiological studies twenty years later while writing Capital, was to see the metabolic rift as arising not only in relation to the degradation of the soil, but equally, as he put it, in terms of “periodical epidemics” induced by society itself.36 What this tells us—and we could find many other illustrations, from the Russian and Chinese Revolutions to struggles in the Global South today—is that class struggle and revolutionary moments are the product of a coalescence of objective necessity and a demand for freedom emanating from material conditions that are not simply economic but also environmental in the broadest sense. Revolutionary situations are thus most likely to come about when a combination of economic and ecological conditions make social transformations necessary, and where social forces and relations are developed enough to make such changes possible. In this respect, looked at from a global standpoint today, the issue of the environmental proletariat overlaps with and is indistinguishable from the question of the ecological peasantry and the struggles of the Indigenous. Likewise, the struggle for environmental justice that now animates the environmental movement globally is in essence a working-class and peoples’ struggle.37 The environmental proletariat in this sense can be seen as emerging as a force all over the world, as evident in the present period of ecological-epidemiological struggle in relation to COVID-19. Yet, the main locus of revolutionary ecological action in the immediate future remains the Global South, faced with the harsh reality of “imperialism in the Anthropocene.”38 As Samir Amin observed in Modern Imperialism, Monopoly Finance Capital, and Marx’s Law of Value, the triad of the United States, Europe, and Japan is already using the planet’s bio-capacity at four times the world average, pointing toward ecological oblivion. This unsustainable level of consumption of resources in the Global North is only possible because a good proportion of the bio-capacity of society in the South is taken up by and to the advantage of these centers [in the triad]. In other words, the current expansion of capitalism is destroying the planet and humanity. The expansion’s logical conclusion is either the actual genocide of the peoples of the South—as “overpopulation”—or, at the least, their confinement to ever-increasing poverty. An eco-fascist strand of thought is being developed which gives legitimacy to this kind of “final solution” to the problem.39

A New System of Social Metabolic Reproduction

A revolutionary process of socialist construction aimed at building a new system of social reproduction in conformity with the demands of necessity and freedom cannot occur without an overall “orienting principle” and “measure of achievement” as part of a long-term strategy. It is here, following Mészáros, that the notion of substantive equality or a society of equals, also entailing substantive democracy, comes into play in today’s struggles.40 Such an approach not only stands opposed to capital at its barbaric heart but also opposes any ultimately futile endeavor to stop halfway in the transition to socialism. Immanuel Kant spelled out the dominant liberal view shortly after the French Revolution when he stated that “the general equality of men as subjects in a state coexists quite readily with the greatest inequality in degrees of the possessions men have.… Hence, the general equality of men coexists with great inequality of specific rights of which there may be many.”41 In this way, equality came to be merely formal, existing merely “on paper” as Engels pointed out, not only with respect to the labor contract between capitalist and worker but also in relation to the marriage contract between men and women.42 Such a society establishes, as Marx demonstrated, a “right of inequality, in its content, like every right.”43 The idea of substantive equality, consistent with Marx’s notion of communism, challenges all of this. It demands a change in the constitutive cells of society, which can no longer consist of possessive individualists, or individual capitals, reinforced by a hierarchical state, but must be based on the associated producers and a communal state. Genuine planning and genuine democracy can only start through the constitution of power from the bottom of society. It is only in this way that revolutions become irreversible. It was the explicit recognition of the challenge and burden of twenty-first-century socialism in these terms that represented the extraordinary threat to the prevailing order constituted by the Venezuelan Revolution led by Hugo Chávez. The Bolivarian Republic challenged capitalism from within through the creation of communal power and popular protagonism, generating a notion of revolution as the creation of an organic society, or a new social metabolic order. Chávez, building on the analyses of Marx and Mészáros, mediated by Lebowitz, introduced the notion of “the elementary triangle of socialism,” or (1) social ownership, (2) social production organized by workers, and (3) satisfaction of communal needs.44 Underlying this was a struggle for substantive equality, abolishing the inequalities of the color line and the gender line, the imperial line, and other lines of oppression, as the essential basis for eliminating the society of unequals. In “Communism as an Ideal,” Sweezy emphasized the new forms of labor that would necessarily come into being in a society that used abundant human productivity more rationally. Many categories of work, he indicated, would “be eliminated altogether (e.g. coalmining and domestic service), and insofar as possible all jobs must become interesting and creative as only a few are today.” The reduction of the enormous waste and destruction inherent in capitalist production and consumption would open up space for the employment of disposable time in more creative ways. In a society of equals—one in which everyone stands in the same relation to the means of production and has the same obligation to work and serve the common welfare—all “needs” that emphasize the superiority of the few and involve the subservience of the many will simply disappear and will be replaced by the needs of liberated human beings living together in mutual respect and cooperation.… Society and the human beings who compose it constitute a dialectical whole: neither can change without changing the other. And communism as an ideal comprises a new society and a new [human being].45 More than simply an ideal, such an organizing principle in which substantive equality and substantive democracy are foremost in the conception of socialism/communism is essential not only to create a socialist path to a better future but as a necessary defense of the global population confronted with the question of survival. Dystopian books and novels notwithstanding, it is impossible to imagine the level of environmental catastrophe that will face the world’s peoples, especially those at the bottom of the imperialist hierarchy, if capitalism’s creative destruction of the metabolism of humanity and the earth is not stopped mid–century. According to a 2020 article on “The Future of the Human Climate Niche” in the Proceedings of the National Academy of Sciences, based on existing trends, 3.5 billion people are projected to be living in unlivable heat outside the human climate niche by 2070, under conditions comparable to those of the Sahara desert.46 Even such projections fail to capture the enormous level of destruction that will fall on the majority of humanity under capitalist business as usual. The only answer is to leave the burning house and to build another now.47

The International of Workers and Peoples

Although untold numbers of people are engaged in innumerable struggles against the capitalist juggernaut in their specific localities all around the world, struggles for substantive equality, including battles over race, gender, and class, depend on the fight against imperialism at the global level. Hence, there is a need for a new global organization of workers based on the model of Marx’s First International.48 Such an International for the twenty-first century cannot simply consist of a group of elite intellectuals from the North engaged in World Social Forum-like discussion activities or in the promotion of social-democratic regulatory reforms as in the so-called Socialist and Progressive Internationals. Rather, it needs to be constituted as a workers-based and peoples-based organization, rooted from the beginning in a strong South-South alliance so as to place the struggle against imperialism at the center of the socialist revolt against capitalism, as contemplated by figures such as Chávez and Amin. In 2011, just prior to his final illness, Chávez was preparing, following his next election, to launch what was to be called the New International (pointedly not a Fifth International) focusing on a South-South alliance and giving a global significance to socialism in the twenty-first century. This would have extended the Bolivarian Alliance for Peoples of Our America to a global level.49 This, however, never saw the light of day due to Chávez’s rapid decline and untimely death. Meanwhile, a separate conception grew out of the efforts of Amin, working with the World Forum for Alternatives. Amin had long contemplated a Fifth International, an idea he was still presenting as late as May 2018. But in July 2018, only a month before his death, this had been transformed into what he called an Internationale of Workers and Peoples, explicitly recognizing that a pure worker-based International that did not take into account the situation of peoples was inadequate in confronting imperialism.50 This, he stated, would be an organization, not just a movement. It would be aimed at the alliance of all working peoples of the world and not only those qualified as representatives of the proletariat…including all wage earners of the services, peasants, farmers, and the peoples oppressed by modern capitalism. The construction must also be based on the recognition and respect of diversity, whether of parties, trade unions, or other popular organizations of struggle, guaranteeing their real independence.… In the absence of [such revolutionary] progress the world would continue to be ruled by chaos, barbarian practices, and the destruction of the earth.51 The creation of a New International cannot of course occur in a vacuum but needs to be articulated within and as a product of the building of unified mass organizations expanding at the grassroots level in conjunction with revolutionary movements and delinkings from the capitalist system all over the world. It could not occur, in Amin’s view, without new initiatives from the Global South to create broad alliances, as in the initial organized struggles associated with the Third World movement launched at the Bandung Conference in 1955, and the struggle for a New International Economic Order.52 These three elements—grassroots movements, delinking, and cross-country/cross-continent alliances—are all crucial in his conception of the anti-imperialist struggle. Today this needs to be united with the global ecological movement. Such a universal struggle against capitalism and imperialism, Amin insisted, must be characterized by audacity and more audacity, breaking with the coordinates of the system at every point, and finding its ideal path in the principle of from each according to one’s ability, to each according to one’s need, as the very definition of human community. Today we live in a time of the perfect coincidence of the struggles for freedom and necessity, leading to a renewed struggle for freedom as necessity. The choice before us is unavoidable: ruin or revolution.

#### Competition necessitates racism and antiblackness; all capitalism is racial capitalism ⁠— the system of competition the aff perpetuates cannot sustain itself without theft of indigenous land, super-exploitation of black labor, imperial extraction, and racist devaluation of ‘disposable populations’

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\*2 point font and paragraph merging for readability

\*Footnote 14 is inserted below the paragraph it’s cited in, other footnotes excluded for readability

Drawing on the intellectual production of twentieth-century Black anticapitalists, I theorize modern U.S. racial capitalism as a racially hierarchical political economy constituting war and militarism, imperialist accumulation, expropriation by domination, and labor superexploitation.14 The racial here specifically refers to Blackness, defined as African descendants’ relationship to the capitalist mode of production—their structural location—and the condition, status, and material realities emanating therefrom.15 It is out of this structural location that the irresolvable contradiction of value minus worth arises. Stated differently, Blackness is a capacious category of surplus value extraction essential to an array of political-economic functions, including accumulation, disaccumulation, debt, planned obsolescence, and absorption of the burdens of economic crises.16 At the same time, Blackness is the quintessential condition of disposability, expendability, and devalorization.

[Footnote 14]: Another feature of modern U.S. racial capitalism is property by dispossession. In Theft Is Property! Dispossession and Critical Theory, Robert Nichols draws on the experience of Indigenous peoples in the United States, Canada, and New Zealand to theorize how the “system of landed property” was fundamentally predicated on violent dispossession. While the Anglo-derived legal-political regimes differed in these localities, the “intertwined and co-constitutive” material effects converged in the legalized theft of indigenous territory amounting in “approximately 6 percent of the total land on the surface of Earth.” Such dispossession, Nichols notes, is recursive: “In a standard formulation one would assume that ‘property’ is logically, chronologically, and normatively prior to ‘theft.’ However, in this (colonial) context, theft is the mechanism and means by which property is generated: hence its recursivity. Recursive dispossession is effectively a form of property-generating theft.” As such, theft and dispossession, through property regimes, are an ongoing feature of the Indigenous reality of modern U.S. racial capitalism. Robert Nichols, Theft Is Property! Dispossession and Critical Theory (Durham: Duke University Press, 2020), 50–51.

My operationalization of capitalism follows Oliver Cromwell Cox’s explication in Capitalism and American Leadership.17 Modern U.S. racial capitalism arose in the context of the First World War, when, as Cox explains, the United States took advantage of the conflict to capture the markets of South America, Asia, and Africa for its “over-expanded capacity.”18 Cox further expounds upon this auspicious moment of ascendant modern U.S. racial capitalism thus: By 1914, the United States had brought its superb natural resources within reach of intensive exploitation. Under the stimulus of its foreign-trade outlets, the financial assistance of the older capitalist nations, and a flexible system of protective tariffs, the nation developed a magnificent work of transportation and communication so that its mines, factories, and farms became integrated into an effectively producing organism having easy access to its seaports.… [Likewise,] further internal expansion depended upon far greater emphasis on an ever widening foreign commerce.… Major entrepreneurs of the United States proceeded to step up their campaign for expansion abroad. The war accentuated this movement. It accelerated the growth of [modern] American [racial] capitalism and impressed upon its leaders as nothing had before the need for external markets.19 Relatedly, Peter James Hudson argues that the First World War fundamentally changed the terms of order of international finance, allowing New York to compete with London, Paris, and Berlin for the first time in the realm of global banking. This was not least because the Great War “drastically reordered global credit flows,” with the United States transforming from a debtor into a creditor nation.20 In addition to Latin American and Caribbean nations and businesses turning to the United States for financing and credit, domestic saving and investment patterns were altered to the benefit of imperial financial institutions like the City Bank.21 Although the United States is, to use Cox’s terminology, more a “lusty child of an already highly developed capitalism” than an exceptional capitalist power, the nation perfected its techniques of accumulation through its vast natural wealth, large domestic market, imbalance of Northern and Southern economies, and, importantly, through its lack of concern for the political and economic welfare of the overwhelming masses of its population, least of all the descendants of the enslaved.22 Modern U.S. racial capitalism is thus sustained by military expenditure, the maintenance of an extremely low standard of living in “dependent” countries, and the domestic superexploitation of Black toilers and laborers. Cox notes that Black labor has been the “chief human factor” in wealth production; as such, “the dominant economic class has always been at the motivating center of the spreads of racial antagonism. This is to be expected since the economic content of the antagonism, especially at its proliferating source in the South, has been precisely that of labor-capital relations.”23 In a general sense, racial capitalism in the United States constitutes “a peculiar variant of capitalist production” in which Blackness expresses a structural location at the bottom of the labor hierarchy characterized by depressed wages, working conditions, job opportunities, and widespread exclusion from labor unions.24 Furthermore, modern U.S. racial capitalism is rooted in the imbrication of anti-Blackness and antiradicalism. Anti-Blackness describes the reduction of Blackness to a category of abjection and subjection through narrations of absolute biological or cultural difference; ruling-class monopolization of political power; negative and derogatory mass media propaganda; the ascent of discriminatory legislation that maintains and reinscribes inequality, not least various modes of segregation; and social relations in which distrust and antipathy toward those racialized as Black is normalized and in which “interracial mass behavior involving violence assumes a continuously potential danger.”25 Anti-Blackness thus conceals the inherent contradiction of Blackness—value minus worth—obscuring and distorting its structural location by, as Ralph and Singhal remark, contorting it into only a “debilitated condition.”26 Antiradicalism can be understood as the physical and discursive repression and condemnation of anticapitalist and/or left-leaning ideas, politics, practices, and modes of organizing that are construed as subversive, seditious, and otherwise threatening to capitalist society. These include, but are not limited to, internationalism, anti-imperialism, anticolonialism, peace activism, and antisexism. Anti-Blackness and antiradicalism function as the legitimating architecture of modern U.S. racial capitalism, which includes rationalizing discourses, cultural narratives, technologies of repression, legal structures, and social practices that inform and are informed by racial capitalism’s political economy.27 Throughout the twentieth century, anti-Blackness propelled the “Black Scare,” defined as the specter of racial, social, and economic domination of superior whites by inferior Black populations. Antiradicalism, in turn, was enunciated through the “Red Scare,” understood as the threat of communist takeover, infiltration, and disruption of the American way of life.28 For example, in the 1919 Justice Department Report, Radicalism and Sedition Among the Negroes, As Reflected in Their Publications, it was asserted that the radical antigovernment stance of a certain class of Negroes was manifested in their “ill-governed reaction toward race rioting,” “threat of retaliatory measures in connection with lynching,” open demand for social equality, identification with the Industrial Workers of the World (IWW), and “outspoken advocacy of the Bolshevik or Soviet doctrine.”29 Here, anti-Blackness, articulated through the fear of the “assertion of race consciousness,” was attached to the IWW and Bolshevism—in other words, to anticapitalism—to make it appear even more subversive and dangerous. Likewise, antiradicalism, expressed through the denigration of the IWW and Soviet Doctrine, was made to seem all the more threatening and antithetical to the social order in its linkage with Black insistence on equality and self-defense against racial terrorism. In this way, “defiance and insolently race-centered condemnation of the white race” and “the Negro seeing red” came to be understood as seditious in the context of modern U.S. racial capitalism. The link between my theory of modern U.S. racial capitalism and Robinson’s catholic theory of racial capitalism, beyond his “suggest[ion] that it was there,” is vivified through the prison abolitionist and scholar Ruth Wilson Gilmore, who writes: “Capitalism…[is] never not racial.… Racial capitalism: a mode of production developed in agriculture, improved by enclosure in the Old World, and captive land and labor in the Americas, perfected in slavery’s time-motion, field factory choreography, its imperative forged on the anvils of imperial war-making monarchs.”30 Racial capitalism, she continues, “requires all kinds of scheming, including hard work by elites and their compradors in the overlapping and interlocking space-economies of the planet’s surface. They build and dismantle and reconfigure states, moving capacity into and out of the public realm. And they think very hard about money on the move.”31 Perhaps more than Gilmore, though, my approach aligns with that of Neville Alexander as described by Hudson.32 Like Alexander, who focused on South Africa, I offer a particularistic understanding of racial capitalism, mine being rooted in the political economy of Blackness and the legitimating architectures of anti-Blackness and antiradicalism in the United States. Gilmore qua Robinson offers a more universalist and transhistorical conception. Like Alexander, my theory of modern U.S. racial capitalism is primarily rooted in (Black) Marxist-Leninists and fellow travelers. This is an important epistemological distinction: whereas Robinson finds Marxism-Leninism to be, at best, inattentive to race, my theory of modern U.S. racial capitalism is rooted in the work of Black freedom fighters who, as Marxist-Leninists, were able to offer potent and enduring analyses and critiques of the conjunctural entanglements of racialism, white supremacy, and anti-Blackness, on the one hand, and capitalist exploitation and class antagonism on the other hand.33 Although Robinson draws on scholars like Fernand Braudel, Henri Pirenne, David Brion Davis, and Eli Heckscher to understand European history, socialist theory, and the European working class, the work of Black Marxists like James Ford, Walter Rodney, Amílcar Cabral, and Paul Robeson offer me those same intellectual, historical, and theoretical resources. Finally, I agree with Alexander that the resolution to racial capitalism is antiracist socialism, not a cultural-metaphysical Black radical tradition. In what remains of this essay, I will draw on the work of Black Marxist-Leninists and anticapitalists to explicate the defining features of modern U.S. racial capitalism—war and militarism, imperialist accumulation, expropriation by domination, labor superexploitation, and property by dispossession. In this, I demonstrate that their critiques and analyses offer a blueprint for theorizing modern U.S. racial capitalism. War and militarism facilitate the endless drive for profit. Military conflicts between imperial powers result in the reapportioning of boundaries, possessions, and spheres of influence that often exacerbate racial and spatial economic subjection. War and militarism also perpetuate the endless construction of “threats,” primarily in racialized and socialist states, against which to defend progress, prosperity, freedom, and security. The manufacturing of conflict legitimates the mobilization of extraordinary violence to expropriate untold resources that produce relations of underdevelopment, dependency, extraversion, and disarticulation in the Global South. Moreover, the ruling elite and labor aristocracy in imperialist countries, not least the United States, wage perpetual war to defend their way of life and standard of living against the racialized majority who, because they would benefit most from the redistribution of the world’s wealth and resources, represent a perpetual threat. Here, Du Bois’s 1915 essay, “The African Roots of War,” is instructive.34 Though he does not directly analyze the United States, he nonetheless demonstrates how racism, white supremacy, and the plunder of Africa underpinned the capitalist imperialist war that engulfed the world from July 1914 to November 1918—a war that catapulted the United States into the center of the capitalist world system. Using Du Bois’s own words, Hubert Harrison, the father of Harlem radicalism, makes the direct link: But since every industrial nation is seeking the same outlet for its products, clashes are inevitable and in these clashes beaks and claws—armies and navies—must come into play. Hence beaks and claws must be provided beforehand against the day of conflict, and hence the exploitation of white men in Europe and America becomes the reason for the exploitation of black and brown and yellow men in African and Asia. And, therefore, it is hypocritical and absurd to pretend that the capitalist nations can ever intend to abolish wars.… For white folk to insist upon the right to manage their own ancestral lands, free from the domination of tyrants, domestic and foreign, is variously described as “democracy” and “self-determination.” For Negroes, Egyptians and Hindus to seek the same thing is impudence.… Truly has it been said that “the problem of the 20th century is the problem of the ‘Color Line.'” And wars are not likely to end; in fact, they are likely to be wider and more terrible—so long as this theory of white domination seeks to hold down the majority of the world’s people under the iron heel of racial oppression.35 For Du Bois, the imperialist rivalry for the booty on offer in Africa drove Berlin’s efforts to consolidate its place in the sun by displacing London in particular. While Vladimir Lenin understood that “the war [was] a product of half a century of development of world capitalism and of billions of threads and connections,” Du Bois expanded this analysis by providing a critique of the racial foundations of capitalist expansion.36 He held that the struggle to the death during the Great War for African resources and labor had begun to “pay dividends” centuries earlier through the enslavement of African peoples, the subsequent conflation of color and inferiority, and the reduction of what was routinely referred to as the “Dark Continent” to a space of backwardness ideally suited for dispossession. He further noted that “with the waning possibility of Big Fortune…at home, arose more magnificently the dream of exploitation abroad,” especially in Africa—a dream shared by white labor and the ruling class.37 In other words, this “democratic despotism” allowed for the white working class to “share the spoil of exploiting ‘chinks and niggers,'” and facilitated the creation of “a new democratic nation composed of united capital and labor” that perpetuated racial capitalism across class lines.38 Moreover, this national unity was strengthened through the disrespect and dehumanization of the racialized toilers and peasants in the plundered colonies that mitigated the exploitation and impoverishment of the white working class in imperial countries. This superexploitation allowed white workers to get a share, however pitiful, of “wealth, power, and luxury…on a scale the world never saw before” and to benefit from the “new wealth” accumulated from the “darker nations of the world” through cross-class consent “for governance by white folk and economic subjection to them”—a consensus solidified through the doctrine of “the natural inferiority of most men to the few.”39 Given the entanglement of racialization and capitalist exploitation, Du Bois averred, “Racial slander must go. Racial prejudice will follow…the domination of one people by another without the other’s consent, be the subject people black or white, must stop. The doctrine of forcible economic expansion over subject people must go.” Insofar as this admonishment applied as much to the United States as to European imperialists, beyond the international proletariat, it was the darker peoples and nations of the world who would challenge racial capitalism, not least “the twenty-five million grandchildren of the European slave trade…and first of all the ten million black folk in the United States.”40

Imperialist accumulation denotes the rapacious conscription of resources and labor for the purpose of superprofits through violent means that are generally reserved for populations deemed racially inferior. On the precipice of the Great Depression, the prominent Black communist James Ford beautifully explicated imperialist accumulation. In his 1929 report on the Second World Congress of the League Against Imperialism, he explained that the extant political economy constituted the consolidation of Africa’s partition and the “complete enslavement of its people”; the arresting of its industrialization, which hindered the development of the “toiling masses”; and the relegation of the continent to a source of raw material, a market for European goods, and a dumping ground for accumulated surplus capital. In the U.S. South, the Black poor were dehumanized by Wall Street, “white big business,” and the “rising Negro bourgeoisie” whose condition of possibility was the subjection of the Black working class. This oppression was exacerbated by rigid racial barriers, disenfranchisement, and lynching. Ford further argued that the West Indies, subjected to U.S. militarism and occupation on behalf of Wall Street, were largely transformed into a marketplace for U.S. goods. Moreover, throughout Africa, the U.S. South, and the Caribbean, Black workers were impressed into forced labor, laying railroads, building roads and bridges, and working in mines; were entrapped on plantations through peonage; and were subjected to convict leasing. In addition, they suffered intolerable working conditions and routinized violence.41 Expropriation by domination designates the seizure and confiscation of land, assets, property, bodies, and other sources of material wealth set to work by relations of economic dependence. This relationship exists both between nations and between groups. A quintessential enunciation of expropriation by domination between groups is We Charge Genocide: The Historic Petition to the United Nations for Relief from a Crime of the United States Government Against the Negro People, edited by the Black Communist William Patterson (with significant help from his wife and comrade Louise Thompson Patterson) and submitted to the United Nations by the Civil Rights Congress in 1951.42 The petition meticulously documented the past and present expropriation of Black people by the ruling class of modern U.S. racial capitalism through consistent and persistent discrimination in employment, unfair wages, forced ghettoization, inequitable and inferior accommodation and services, and the denial of justice in the courts. It further argued that this process was sustained by genocidal terror, white supremacist law, and the drive of monopoly capitalists for superprofits. Importantly, We Charge Genocide noted that, for primarily economic reasons, the historical and geographical locus of anti-Black genocide was the “Black Belt” of the Southern United States, a region expropriated by the Northern industrial capitalists and by Southern landowners alike. This was due in large part to plantation systems of sharecropping and peonage—legacies of slavery—in which Black political and economic rights were virtually nonexistent, Black laborers were inexorably tied to the land through debt, and the threat of violence and death precluded demands for justice. For Patterson, such expropriation by domination was the basis of “racist contamination that has spread throughout the United States.”43 We Charge Genocide further conveyed that expropriation by domination, a central element of modern U.S. racial capitalism, was more than a domestic concern because such practices “at home must inevitably create racist commodities for export abroad—must inevitably tend toward war.”44 Labor superexploitation can be understood as an economic relationship in which the intensity, form, and racial basis of exploitation differs little from slavery. Its effects are so extreme that it pushes racialized, particularly Black, labor effectively below the level of sheer physical subsistence. As Harrison explained, in the context of modern U.S. racial capitalism, Black workers “form a group that is more essentially proletarian than any other American group” because enslaved Africans were brought to the “new world” to be ruthlessly exploited. This reality fixed their social status as the most despised group, which in turn intensified their subjection.45 Likewise, organizations like the American Negro Labor Congress and the Anti-Imperialist League analyzed that the racial capitalist superexploitation of Black nations like Haiti in the first quarter of the twentieth century for the purposes of consolidating Wall Street control over land, commercial relations, and production was accompanied by the brutalization of Black labor, the export of Jim Crow practices, military occupation, and political repression.46 In effect, superexploitation results from the conjuncture of white supremacy, racialization, and the “badge of slavery,” which exacerbates the conditions of exploitation to which white working classes are subjected. As the Black Marxist Harry Haywood argued in 1948, “the stifling effects of the race factor are most strikingly illustrated by the drastic differences in the economic and cultural status of Negroes and whites.… Beyond all doubt, the oppression of the Negro, which is the basis of the degradation of the ‘poor whites,’ is of separate character demanding a special approach.”47 Superexploitation, he explained further, constitutes a combination of direct exploitation, outright robbery, physical violence, legal coercion, and perpetual indebtedness. It stifles “the free economic and cultural development” of the Black masses “through racist persecution as a basic condition for maintaining” virtual enslavement.48 The entrapment of Black women in domestic labor throughout the twentieth century—a function of their “triple oppression”—is perhaps the most glaring example of labor superexploitation under modern U.S. racial capitalism. In 1936, the lifelong Black radical Louise Thompson explained that Black women’s superexploitation in the capitalist mode of production was based on their race, sex, and subordination in the labor market.49 That same year, Black militants Marvel Cooke and Ella Baker published an article titled “The Bronx Slave Market” in which they studied triple oppression as it related to Black domestic workers. Cooke and Baker explained that the entanglements of racism, sex-based labor subordination, and structural poverty were deeply intensified by the Great Depression and forced Black domestic workers to pauperize their labor for the abysmal wage of less than thirty cents an hour. This form of labor exploitation was unique to the female sex because domestic work was conventional “women’s work,” and it was racialized insofar as the denigration of Black people fitted this group of women for low-wage, unprotected, and contingent labor.50

#### Reject the aff and critically interrogate neoliberal discourse ⁠— resisting capitalist pedagogy in educational spaces is a prerequisite towards anti-capitalist political projects; COVID-19 provides a unique transition opportunity

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As educators, it is crucial for us to examine how we talk, teach, and write about inequality as an object of critique in an age of precarity, uncertainty and the current pandemic crisis. This is especially true at a time when a growing number of authoritarian regimes around the globe substitute replace thoughtful dialogue and critical engagement with the suppression of dissent and a culture of forgetting r. How do we situate our analysis of education as part of a broader discourse and mode of analysis that interrogates the promises, ideals, and claims of a substantive democracy? How do we fight against iniquitous relations of power and wealth that empty power of its emancipatory possibilities, and as Hannah Arendt has argued, “makes most people superfluous as human beings”? How might we understand how neoliberal ideology, with its appropriation of market-based values, regressive notions of freedom and agency, uses language to infiltrate daily life? How does a pandemic pedagogy in the service of neoliberalism produce identities defined by market values, and normalize a notion of responsibility and individuality that convinces people that whatever problem they face they have no one to blame but themselves? Repeated endlessly on right-wing media platforms, the underlying conditions that disproportionately produce chronic illness among poor people of color disappear among a public distracted, if not persuaded, by a pandemic pedagogy that celebrates unchecked self-interest, disdains social responsibility, and turns away from the reality of a society with deep-seated institutional rot and unravelling of social connections and the social contract. Pandemic pedagogy thrives on inequality and becomes a militarized and heartless normalizing tool to convince the broader public that the lives of the elderly, sick, and vulnerable should be valued according to how much they contribute to the economy. And if they are willing to die in order not to be a drain on the economy, all well and good. Nothing escapes the cruel logic of neoliberalism with its arrogance and hubris on full display as it bathes in the glow of right-wing populism, ultra-nationalism, and neofascism. Its accoutrements of dictatorship are everywhere and can be seen in the swagger of militia that storm state capitals, in police who punch and pepper spray protesters and push elderly men to the ground, and in military forces on the streets without badges reinforcing a climate of fear, repression, and unaccountability. There is more at work here than a lack of humanity on the part of the Trump administration. As the Irish journalist Fintan O’Toole observes, there is also the deepening grip of a culture of cruelty and dehumanization. He writes: “As a society the American people are being habituated into accepting cruelty on a wide scale. Americans are being taught by Trump and his administration not to see other people as human beings whose lives are as important as their own. Once that line has been crossed – and it is not just Trump and the people around him, but many of Trump’s supporters as well – then we know where that all leads, what the ultimate destination is. There is no mystery about it. We know what happens when a government and its leaders dehumanize large numbers of people.”

Depoliticization and the Authoritarian Turn

Neoliberalism is not only an economic system, it is also an ideological apparatus that relentlessly attempts to structure consciousness, values, desires, and modes of identification in ways that align individuals with its governing structures. Central to this pedagogical project is the attempt to prevent individuals from translating private issues and troubles into broader systemic considerations. By doing this, it becomes difficult for individuals to grasp the historical, social, economic, and political forces at work in shaping a social order as a human activity deeply immersed in specific relations of power. Neoliberalism’s attempt to erase or rewrite historical and social forces makes it difficult for individuals to imagine alternative notions of society, with themselves as collective actors, or view their problems as more than the limitations of faulty character, moral failure, or a problem of personal responsibility. Reducing individuals to isolated, discrete, hermetically-sealed human beings whose lives are shaped only by notions of self-reliance and self-sufficiency is a pedagogical strategy that utterly depoliticizes people, leading them to believe that however a society is shaped, it is part of a natural order. President Trump echoed this “no alternative” narrative when asked about celebrities and rich people having special access to being tested for the coronavirus while few others had access. He replied, “Perhaps that’s been the story of life.” This individualization of the social with its mounting privatization, gated communities, and social atomization undermines collective action, any viable notion of solidarity, and weakens the notion of global connectivity. The philosopher Byung-Chul Han has rightly argued that contemporary neoliberal society is shaped by a dysfunctional notion of solitude and hermitically-sealed notions of agency, all of which undermine the values and social connections vital to a democracy. He writes: “Those subject to the neoliberal economy do not constitute a we that is capable of collective action. The mounting egoization and atomization of society is making the space for collective action shrink… The general collapse of the collective and the communal has engulfed it. Solidarity is vanishing. Privatization now reaches into the depths of the soul itself. The erosion of the communal is making all collective efforts more and more unlikely.” This panoptical nature of hyper-individualism is more aligned with shared fears than shared responsibilities. Under such circumstances, trust and the notion that all life is related become difficult to grasp as the myopic language of private self-interest inures individuals to wider social problems such as extreme inequality. There is no understanding in this discourse of the damage fanatical entrepreneurialism does to our embodied collectivity. Nor is there any value attributed to the important responsibilities, social values, and notion of the common good that exceeds who we are as individuals, or how we have been shaped by diverse social forces in particular ways. It should be clear that questions of economic and social justice cannot be addressed by a neoliberal pedagogy that enshrines self-interest and privatization while converting every social problem into individualized market solutions or regressive matters of personal responsibility. Under neoliberalism’s disimagination machine, individual responsibility is coupled with an ethos of greed, avarice, and personal gain. One consequence is the tearing up of social solidarities, public values, and an almost pathological disdain for democracy. This radical form of privatization is also a powerful force for the rise of fascist politics because it depoliticizes individuals, immerses them in the logic of social Darwinism, and makes them susceptible to the dehumanization of those considered a threat or disposable. Just as the spread of the pandemic virus in the United States was not an innocent act of nature, neither is the rise and pervasive grip of inequality. What is clear is that neoliberal support for unbridled individualism has weakened democratic pressures and eroded democracy and equality as governing principles. Moreover, as a mode of public pedagogy, it has undercut social provisions, the social contract, and support for public goods such as education, public health, essential infrastructure, public transportation, and the most basic elements of the welfare state. As a form of pedagogical practice, neoliberalism has morphed into a form of pandemic pedagogy that sacrifices social needs and human life in the name of an economic rationality that values reviving economic growth over human rights. As a lived system of meaning and values, self-reliance and rugged individualism are the only categories available for shaping how individuals view themselves, and their relationship to others and to the planet. The individualization of everyone and the reduction of social problems to private troubles is paralleled by sanctioning a world marked by borders, walls, racism, hate, and a rejection of government intervention in the interest of the common good. Most importantly, neoliberal individualization personalizes power, creating a depoliticized subject whose only obligation as a citizen is defined by consuming and living in a world free from ethical and social responsibilities. In many ways, it does not just empty politics of any substance, it destroys its emancipatory prospects. The neoliberal strategists use education not only to mask their abuses and the effects of their criminogenic policies, they also – in a time of crisis, when dissatisfaction of the masses might lead to chaos, revolts, and dangerous levels of resistance – move dangerously close to creating the conditions for a fascist politics. The noted theologian Frei Betto is right in stating that under such conditions, “…they cover up the causes of social ills and cover up their effects with ideologies that, by obscuring causes, fuel mood in the face of the effects. That’s why neoliberalism is now showing its authoritarian face – building walls that divide countries and ethnic groups, executive power over legislature and judiciary, disinformation about digital networks, the cult of the homeland, the brazen offensive against human rights.” Neoliberalism and its regressive notion of individualism and individual responsibility has undermined the belief that human beings both make the world and can change it. The pandemic has ushered in a crisis that undermines that belief and opens the door for rethinking what kind of society and notion of politics will be faithful to the creation of a socialist democracy that speaks to the core values of justice, equality and solidarity. Under such circumstances, private resistance must give way to collective resistance, and personal and political rights must include economic rights. If inequality is to be defeated, the social state must replace the corporate state and social rights must be guaranteed for all. There can be no adequate struggle for economic justice and social equality unless economic inequality on a global level is addressed along with a movement for climate justice, the elimination of systemic racism and a halt to the spiraling militarism that has resulted in endless wars. This can only take place if the anti-democratic ideology of neoliberalism, with its collapse of the public into the private and its institutional structures of domination, are fully addressed and discredited. Étienne Balibar is right in stating that the triumph of neoliberalism has resulted in the “death zones of humanity.” Following Balibar, what must be made clear is that neoliberal capitalism is itself a pandemic and a dangerous harbinger of an updated fascist politics.

Overcoming Pandemic Pedagogy

The kind of societies that will emerge after the pandemic is up for grabs. In some cases, the crisis will give way to authoritarian regimes such as Chile, Hungary and Turkey, all of which have used the urgency of COVID-19 as an excuse to impose more state control and surveillance, squelch dissent, eliminate civil liberties and concentrate power in the hands of an authoritarian political class. As is well documented, history in a time of crisis also has the potential to change dominant ideologies, rethink the meaning of governance, and enlarge the sphere of justice and equality through a vision that fights for a more generous and inclusive politics. It is crucial to rethink the project of politics in order to imagine forms of resistance that are collective, inclusive and global, capable of producing new democratic arrangements for social life, more radical values and a “global economy which will no longer be at the mercy of market mechanisms.” This is a politics that must move beyond siloed identities and fractured political factions in order to build transnational solidarities in the service of an alternative radically democratic society. Making the pedagogical more political means challenging those forms of pandemic pedagogy that turn politics into theater, a favorite tactic of Trump. In this case, the performance works to suspend disbelief, hold power accountable and unravel one’s sense of critical agency. Pandemic pedagogy does more than undermine critical thinking and informed judgments, it dissolves the line between the truth and lies, fantasy and reality, and in doing so, destroys the foundation for understanding, engaging and promoting that social and economic justice. The endgame under the rubric of a pandemic pedagogy is not simply the destruction of the truth, but the elimination of democracy itself. Central to developing an alternative democratic vision is development of a language that refuses to look away and be commodified. Such a language should be able to break through the continuity and consensus of common sense and appeals to the natural order of things. At stake here is the need to reclaim both critical and redemptive elements of a radical democracy in order to address the full spectrum of violence that structures institutions and everyday life in the United States. This is a language connected to the acquisition of civic literacy, and it demands a different regime of desires and identifications to enable us to move from “shock and stunned silence toward a coherent visceral speech, one as strong as the force that is charging at us.” Of course, there is more at stake here than a struggle over meaning; there is also the struggle over power, over the need to create a formative culture that will produce informed critical agents who will fight for and contribute to a broad social movement that will translate meaning into a fierce struggle for economic, political and social justice. Agency in this sense must be connected to a notion of possibility and education in the service of radical change. Reimagining the future only becomes meaningful when it is rooted in a fierce struggle against the horrors and totalitarian practices of a pandemic pedagogy that falsely claims that it exists outside of history. Václav Havel, the late Czech political dissident-turned-politician, once argued that politics follows culture, by which he meant that changing consciousness is the first step toward building mass movements of resistance. What is crucial here in the age of multiple crises is a thorough grasp of the notion that critical and engaged forms of agency are a product of emancipatory education. Moreover, at the heart of any viable notion of politics is the recognition that politics begins with attempts to change the way people think, act and feel with respect to both how they view themselves and their relations to others. There is more to agency than the neoliberal emphasis on the “empire of the self,” with its unchecked belief in the virtues of a form of self-interest that despises the bonds of sociality, solidarity and community. The U.S. is in the midst of a political and pedagogical crisis. This is a crisis defined not only by a brutalizing racism and massive inequality, but also a constitutional crisis produced by a growing authoritarianism that has been in the making for some time. The recent attacks by the police on journalists, peaceful protesters and even elderly people marching for racial justice echoes the violence of the Brownshirts in the 1930s. Let’s stop the futile debate about whether or not the U.S. is in the midst of a fascist state and shift the register to the more serious question of how to resist it and restore a semblance of real democracy. Under such circumstances, education should be viewed as central to politics, and it plays a crucial role in producing informed judgments, actions, morality and social responsibility at the forefront not only of agency, but politics itself. In this scenario, truth and politics mutually inform each other to erupt in a pedagogical awakening at the moment when the rules are broken. Taking risks becomes a necessity, self-reflection narrates its capacity for critically engaged agency and thinking the impossible is not an option, but a necessity. Without an informed and educated citizenry, democracy can lead to tyranny, even fascism. Trump represents the malignant presence of a fascism that never dies and is ready to remerge at different times in different context in sometimes not-so-recognizable forms. The COVID-19 crisis and the pandemic of inequality and racism have revealed elements of a fascist politics that are more than abstractions. The struggle against a fascist politics is now visible in the rebellions taking place across the United States. While there are no political guarantees for a victory, there is a new sense that the future can be changed in the image of a just and sustainable society. There is a new energy for reform taking place in the aftermath of the killing of George Floyd. Massive protests for racial, economic and social justice are emerging all over the globe. As I have argued in The Terror of the Unforeseen, at stake here is the need for these protests to transition from a pedagogical moment and collective outburst of moral anger to a progressive international movement that is well organized and unified. Such a movement must build solidarity among different groups, imagine new forms of social life, make the impossible possible, and produce a revolutionary project in defense of equality, social justice and popular sovereignty. The racial, class, ecological and public health crisis facing the globe can only be understood as part of a comprehensive crisis of the totality. Immediate solutions such as defunding the police and improving community services are important, but they do not deal with the larger issue of eliminating a neoliberal system structured in massive racial and economic inequalities. David Harvey is right in arguing that the “immediate task is nothing more nor less than the self-conscious construction of a new political framework for approaching the question of inequality, through a deep and profound critique of our economic and social system.” This is a crisis in which different threads of oppression must be understood as part of the general crisis of capitalism. The various protests now evolving internationally at the popular level offer the promise of new global anti-fascist and anti-capitalist movements. In the current moment, democracy may be under a severe threat and appear frighteningly vulnerable, but with young people and others rising up across the globe — inspired, energized and marching in the streets — the future of a radical democracy is waiting to breathe again.

#### That legitimizes violent neoliberal governance AND masks structural violence

Nieto 11, Professor at University of Icesi (Diego Nieto, 2011, “Neoliberalism, Biopolitics, and the Governance of Transnational Crime,” Colombia Internacional, 76, pp. 137-165)

CONCLUSION: SECURITY BEYOND NEOLIBERALISM

In the context of biopolitics, crime has a significant place to make sense of what is at stake in global governance. Crime discloses at least two very important dimensions: first, how the idea of a transnational governmentality is thought of through defining threats to the global society; and second, that power over subjects is exercised through various mechanisms derived from these “racist” discourses of criminal threats. Many of us have experienced these mechanisms of control exposed in the last part of the article, where the “fear” of terror and crime**—**typical biopolitical discourses—triggers forms of regulations and surveillance that go well beyond the fight against organized crime and terrorism itself. These mechanisms discipline subjects and control populations, devise policies targeting and classifying “dangerous” places and people, and in the end divide the world between the “respectable” and the outlaw and reckless populations. This last point is critical, and the place of neoliberalism in this discourse cannot be underestimated. Neoliberalism has a very specific definition of the ethos of the respectable individual, and therefore, of the valuable ways of enjoying freedom. For all neoliberalism’s defense of individual freedom, it is significant to see how, whereas entrepreneurs and millionaires are welcomed to enjoy the “benefits" of globalization (and accordingly policing mechanisms are designed), the vast majority of the population suffers all these controls and the severe consequences of diffuse wars such as those on drugs and terror. This is the great paradox of biopolitical power in neoliberal politics: to enhance individual freedom, neoliberalism must deploy many forms of power over subjects. As Foucault says about the interplay in liberalism between freedom and apparatuses of security: “The problems of what I shall call the economy of power peculiar to liberalism are internally sustained, as it were, by this interplay of freedom and security... the horsemen of the Apocalypse disappear and in their place everyday dangers appear, emerge, and spread everywhere... there is no liberalism without a culture of danger” (Foucault 2008, 65, 67). The neoliberal rationality of crime control epitomizes this paradox, illustrating how the homo economicus has become the grid and interface between the individual and the technologies of power designed for governing the population. In this way, thanks to this fundamental connection between the problems of the market and the problems of security and crime, a re-territorialization of forms of power takes place. The global assemblage for governing crime constitutes the extension of a political imagination of freedom to the production of subjects and populations through security apparatuses. My contention is that if we consider there is something questionable, normatively and in the practical consequences brought about by the mechanisms of policing and securitization developed over the last few decades (let alone the wars on drugs and terror), we cannot separate our criticism from a profound examination of the neoliberal rationality underlying them. This also demands we must re-imagine the interplay between freedom and security beyond neoliberalism.

#### Focus on healthcare entrepreneurship atomizes care and precludes collective responses to public health crises.

Viana & da Silva 19, \*Ana Luiza d’Ávila Viana, Departamento de Medicina Preventiva, Faculdade de Medicina, Universidade de São Paulo. \*\*Hudson Pacifico da Silva, Institut de Recherche en Santé Publique, Université de Montréal. (“Neoliberal meritocracy and financial capitalism: consequences for social protection and health”, *Ciência & Saúde Coletiva*, 23(7), pg. 2108, DOI: 10.1590/1413-81232018237.07582018)

Ten years after the publication of the article entitled Economia política da saúde: introduzindo o debate (Political economy of health: introducing the debate)1 , written by the authors of the present article and professor Paulo Elias, there are obvious tensions between healthcare understood as a right and collective (or public) good and healthcare as a private good in the wake of the rapid global advance of the commodification of both funding and provision of healthcare services. These tensions – over healthcare services, which are increasingly delivered by multinational corporations with business activities in various sectors and dependent on the financial cycle, and over funding, given that individuals are having to take increasing responsibility for ensuring they have access to health actions and services – are being transformed into antagonism and threat. In the abovementioned article, we talked exactly about the tensions inherent in the idea of health as a right and universal collective/public good and health as a private good. From the latter perspective, health service provision is brought closer to the logic of ownership and funding ceases to be a collective responsibility in the form of general taxation, becoming dependent upon ability to pay, without solidarity between different segments of society – the healthy and the sick, the rich and the poor, the young and the old. As highlighted by the World Health Organization (WHO), out-of-pocket payments (OPP) are the least equitable way to finance health systems and one of the major causes of impoverishment, particularly in low and middle-income countries, where OPP remain the primary source of funding2. This amounts to an abrogation of the collective responsibility for health, whereby responsibility for individual health and risk is left solely with the individual and access to health services is held hostage to the numerous purchasing mechanisms (paying up front, installments, and individual and group payment schemes), according to individual and family income, in a confusing mosaic of individual and collective forms, both belonging to the market cycle. The entrepreneurization of public sector healthcare provision3 and financialization and internationalization of healthcare (health insurance companies, health plan operators and service providers)4,5 are a major move away from the provision of free health services as a public good (in the case of national health systems) and social security as a public policy (in the case of contributory health systems) towards ownership-individual, production-rentier logic (market-based health systems).

#### Notions of US legal prestige and modeling solidify global inequality by replacing political violence with legal violence---that subordinates effective domestic systems to predatory rule of law models.

Ugo Mattei 3, Alfred and Hanna Fromm Professor of International and Comparative Law, ¶ U.C. Hastings; Professore Ordinario di Diritto Civile, Università di Torino A Theory of Imperial Law: A Study on U.S. Hegemony and the Latin Resistance, ic.ucsc.edu/~rlipsch/pol160A/Mattei.pdf

This essay attempts to develop a theory of imperial law that is able to explain postCold War changes in the general process of Americanization in legal thinking. My claim is that “imperial law” is now a dominant layer of world-wide legal systems.1 Imperial law is produced, in the interest of international capital, by a variety of both public and private institutions, all sharing a gap in legitimacy, sometimes called the “democratic deficit.” Imperial law is shaped by a spectacular process of exaggeration, aimed at building consent for the purpose of hegemonic domination. Imperial law subordinates local legal arrangements world-wide, reproducing on the global scale the same phenomenon of legal dualism that thus far has characterized the law of developing countries. Predatory economic globalization is the vehicle, the all-mighty ally, and the beneficiary of imperial law. Ironically, despite its absolute lack of democratic legitimacy, imperial law imposes as a natural necessity, by means of discursive practices branded “democracy and the rule of law,” a reactive legal philosophy that outlaws redistribution of wealth based on social solidarity.2 At the core of imperial law there is U.S. law, as transformed and adapted after the Reagan-Thatcher revolution, in the process of infiltrating the huge periphery left open after the end of the Cold War. A study of imperial law requires a careful discussion of the factors of penetration of U.S. legal consciousness world-wide, as well as a careful distinction between the context of production and the context of reception3 of the variety of institutional arrangements that make imperial law. Factors of resistance need to be fully appreciated as well.

I. AMERICAN LAW: FROM LEADERSHIP TO DOMINANCE The years following the Second World War have shown a dramatic change in the pattern of world hegemony in the law. Leading legal ideas, once produced in Continental Civilian Europe and exported through the periphery of the world, are now for the first time produced in a common law jurisdiction: the United States.4 There is little question that the present world dominance of the United States has been economic, military, and political first, and legal only in a more recent moment, so that a ready explanation of legal hegemony can be found with a simple Marxist explanation of law as a superstructure of the economy.5 Nevertheless, the question of the relationship between legal, political, and economic hegemony is not likely to be correctly addressed within a cause-and-effect paradigm.6 Ultimately, addressing this question is a very important area of basic jurisprudential research because it reveals some general aspects about the nature of law as a device of global governance.

Observing historical patterns of legal hegemony allows us to critique the distinction between two main patterns of governance through the law (and of legal transplants).7 Scholars of legal transplants have traditionally distinguished two patterns. The first is law as dominance without hegemony, in which the legal system is ultimately a coercive apparatus asserting political and economic power without consent. This area of inquiry and this model have been used to explain the relationship between the legal system of the motherland and that of the colonies within imperialistic colonial enterprises. The opposing pattern, telling a story of consensual voluntary reception by an admiring periphery of legal models developed and provided for at the center, is usually considered the most important pattern of legal transplants. It is described by stressing on the idea of consent within a notion of “prestige.”8

Little effort is necessary to challenge the sufficiency of this basic taxonomy in introducing legal transplants. Law is a detailed and complex machinery of social control that cannot function with any degree of effectiveness without some cooperation from a variety of individuals staffing legal institutions. These individuals usually consist of a professional elite which either already exists or is created by the hegemonic power. Such an elite provides the degree of consent to the reception of foreign legal ideas that is necessary for any legal transplant to occur. Hence, the distinction between imperialistic and non-imperialistic transplants is a matter only of degree and not of structure. In order to understand the nature of present legal hegemony, it is necessary to capture the way in which the law functions to build a degree of consent to the present pattern of international economic and political dominance.9

In this essay I suggest that a fundamental cultural construct of presumed consent is the rhetoric of democracy and the rule of law utilized by the imperial model of governance, 10 triumphant worldwide together with the neo-American model of capitalism developed by the Reagan and Thatcher revolution early in the 1980s. I argue that the last twenty years have produced the triumph in global governance of reactive, politically irresponsible institutions, such as the courts of law, over proactive politically accountable institutions such as direct administrative apparatuses of the State.11

This essay attempts to open a radical revision of some accepted modes of thought about the law as they appear today, at what has been called “the end of history.”12 Its aim is to discuss some ways in which global legality has been created in the present stage of world-wide legal development. It will show how democracy and the rule of law, in the present legal landscape, are just another rhetoric of legitimization of a given international dynamic of power. It will also denounce the present unconscious state in which the law is produced and developed by professional “consent building” elites. The consequences of such unconsciousness are creating a legal landscape in which the law is “naturally” giving up its role of constraining opportunistic behavior of market actors. This process results in the development of faked rules and institutions that are functional to the interests of the great capital and that dramatically enlarge inequality within society. I predict that such a legal environment is unable to avoid tragic results on a global scale such as those outlined in the well-known parable of the tragedy of the commons.13

My object of observation is a legal landscape in transition. I wish to analyze this path of transition from one political setting (the local state) to another political setting (world governance) in which American-framed reactive institutions are asserting themselves as legitimate and legitimating governing bodies, which I call imperial law. Imperial law is the product of a renowned alliance between state and economic institutions, a cooperative game in which a very limited number of powerful players are at play.14 While in the ages of colonialism such political battles for international hegemony were mostly carried on with an open use of force and political violence (in such a way that final extensive conflict between superpowers was unavoidable), in the age of globalization and of economic Empire political violence has been transformed into legal violence.

## Innovation

#### COVID thumps — proves healthcare is resilient

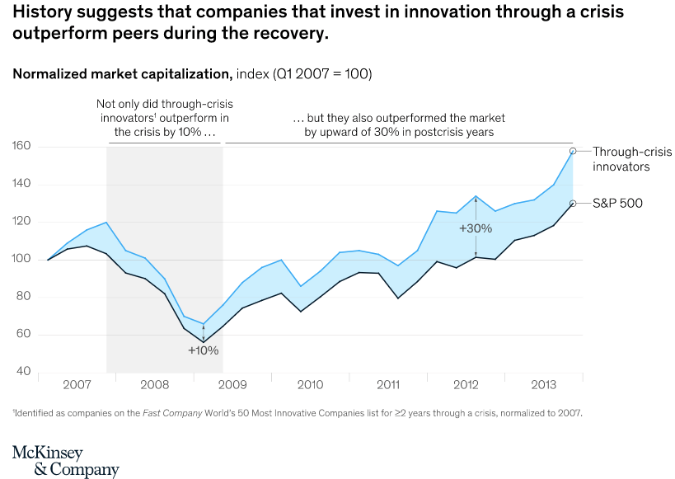
Jansen et al ’20 — Leigh Jansen (Associate Partner, McKinsey & Company); “Industry innovation: How has COVID-19 changed global healthcare?;” World Economic Forum; November 25th, 2020; <https://www.weforum.org/agenda/2020/11/healthcare-innovation-covid-coronavirus-pandemic-response-health>

[TITLE]: Industry Innovation: How has COVID-19 changed global healthcare?

While the COVID-19 pandemic has placed unparalleled demands on modern healthcare systems, the industry’s response has vividly demonstrated its resilience and ability to bring innovations to market quickly.

The effects of the pandemic on the industry continue to be profound. The shifts in consumer behavior, an [acceleration of established trends](https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/the-great-acceleration), and the likely deep and lasting economic impact will potentially affect healthcare companies no less—and quite possibly more—than those in other sectors. Around the world, more than [90 percent of executives](https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/innovation-in-a-crisis-why-it-is-more-critical-than-ever) we polled believe COVID-19 will fundamentally change their businesses, and 85 percent predict lasting changes in customers’ preferences. Among healthcare leaders, two-thirds expect this period to be the most challenging in their careers.1

To meet both the humanitarian challenge and the obligation to their stakeholders, leaders of healthcare organizations need to meet the innovation imperative. History tells us that organizations that invest in innovation during a crisis [outperform their peers in the recovery](https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/the-great-acceleration) (exhibit). What’s more, a crisis can create an urgency that rallies collaborative effort, breaks through organizational silos, and overcomes institutional inertia.



During the course of this year, the healthcare industry has produced inspiring examples of innovation in products, services, processes, and business and delivery models, often in partnership with other sectors. For example, Sheba Medical Center in Israel is working with TytoCare to keep COVID-19 patients in their homes by supplying them with special stethoscopes that both listen to their hearts and transmit images of their lungs to a care team that can intervene as appropriate.2 In the United States, Zipline, which specializes in delivering medical supplies to remote areas, quickly formed a partnership with Novant Health in North Carolina to distribute supplies to hospitals via drones.3 The adoption of telehealth has exploded, from 11 percent of consumers using it in 2019 to [46 percent in April 2020](https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/telehealth-a-quarter-trillion-dollar-post-covid-19-reality), and well more than half of healthcare providers polled indicate higher comfort with this care-delivery method than before.

#### No extinction from pandemics.

Barratt 17, PhD in Pure Mathematics, Lecturer in Mathematics at Oxford, Research Associate at the Future of Humanity Institute. (Owen Cotton-Barratt et al, “Existential Risk: Diplomacy and Governance”, pg. 9, <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

#### ABR is gradual, slow, and will be addressed---reject scary-sounding headlines

Smith 16, PhD molecular biologist, former R&D director at MicroPhage and SomaLogic. (Drew, 6-14-16, “The Myth Of The Post-Antibiotic Era”, <https://www.forbes.com/sites/quora/2016/06/14/the-myth-of-the-post-antibiotic-era/#db027696fa83>)

Right now, drug resistant infections are mainly a threat to those that are already sick and/or in medical facilities. But, if we continue down this path, mundane infections in the otherwise healthy could someday morph into life-threatening ordeals, and simple medical procedures and surgeries may be skipped to avoid risk of infection. However, while this threat is real, it’s important to keep in mind that this is an ongoing, gradual challenge; it’s extremely unlikely that a single event will herald with complete certainty the abrupt end of modern medicine as we know it. In this context, those scary headlines are inappropriate, if not numbing and counterproductive. In May, Ars wrote about some alarmist and inaccurate news stories dealing with a newly identified type of drug resistance—one that makes bacteria resistant to a last-resort antibiotic called colistin and can spread between bacteria easily. The headlines blared that it was the “first” time such a dastardly microbe had seeped into the US—which is not true. And they suggested that it would certainly mark the end of antibiotics—also not true. This week, scientists provided updates on tracking that type of resistance, and of course some alarmist headlines followed. Yet, the new data actually suggests that a tempering of concerns about this particular resistance may be in order. It turns out that this “dreaded,” “scary,” “nightmare” of a drug-resistant microbe has been in the US for more than a year and elsewhere in the world since as far back as 2005—it’s just that nobody noticed it. And nobody noticed it because so far it hasn’t been the dreaded, scary nightmare some have feared. “It’s not a huge cause for concern,” Mariana Castanheira, lead author of one of this week’s resistance updates, told Ars. Castanheira is the director for Molecular and Microbiology at JMI Laboratories, a private company that monitors drug resistance microbes in hospitals and medical settings. They and others are finding this new type of resistance now simply because they’re looking for it, she said. Castanheira explains that people initially started digging for this new type of drug resistance—a gene called mcr-1—out of concern that it makes bacteria resistant to the antibiotic colistin, which is a relatively toxic drug used only when nearly all others have failed against a multi-drug resistant infection. Bacteria have shown up with colistin resistance before—in fact, many times in the US and elsewhere around the world. But in those cases, the genes were embedded in the bacteria’s chromosomes and generally passed down through generations. The mcr-1 resistance gene, on the other hand, seems to always sit on a plasmid, a small loop of DNA that bacteria can readily pass around to neighbors. If colistin-resistant bacteria shared their mcr-1 plasmid with others that are already resistant to lots of antibiotics, they could create a long-feared invincible germ—a “pan-resistant” bacteria. “Doesn’t scare me” So far that doesn’t seem to be happening, though, Castanheira said. In more than a decade of skulking around, mcr-1 has made its way into bacteria in animals, people, and soil all over the world. Yet, all of the mcr-1 carrying microbes examined have been susceptible to at least one antibiotic—and often several.

#### Pandemics solve climate change, biodiversity, and income inequality --- they’re also inevitable. BUT --- they don’t cause extinction because of genetic immunity AND isolated populations

**Vince 13**. (Gaia Vince – freelance British environmental journalist, broadcaster and non-fiction author. Her Adventures in the Anthropocene: A Journey to the Heart of the Planet We Made won the 2015 Royal Society Winton Prize for Science Books. "Global transformers: What if a pandemic strikes?," BBC. July 11, 2013. DOA: 4/2/19. http://www.bbc.com/future/story/20130711-what-if-a-pandemic-strikes)

Over the past century, humans have been transforming the planet so profoundly that we are pushing it into a new geological era, the Anthropocene (the Age of Man). But how will the Anthropocene unfold? Will we continue on a path of global climate change, land-use change, resource depletion, biodiversity loss and population expansion? Or will something happen to push us off this trajectory – perhaps back into Holocene-like conditions? As I mentioned before, over the next few columns I’ll be looking at technologies or events that have the potential to radically alter our planet. The first one is a pessimistic one for humans: what if our species were hit by a global pandemic? In the Anthropocene we are encroaching on wild lands, bringing us closer to monkeys and apes, for example, which are traded internationally for bushmeat and pets. We are also living in close proximity to domestic creatures like pigs, chickens and ducks. It means that diseases that infect animals have an unprecedented chance to jump across species to us. Humans are so genetically alike that pathogens easily spread between individuals and across populations. And because we are living in greater numbers and densities than ever before, and because so many of us travel internationally – and so much faster – there’s a greater opportunity for pathogens to spread. If a virus can infect someone in one part of the world, it is unlikely to be contained. Few places are truly remote in the Anthropocene. Epidemics are certainly not new or unpredictable. A new strain of influenza virus occurs every 1-2 years, for example. But the sudden global explosion of an epidemic that infects a large number of the population – a pandemic – is harder to predict. We know a pandemic has occurred every 10-50 years for the past few centuries, and the last one was in 1968, so we're overdue one. Epidemiologists do not talk of whether there will be a new pandemic, but of when it will occur. Pandemics, which kill a significant proportion of the population have acute and lasting effects on society. The Black Death, a bubonic plague during the Middle Ages caused by the bacterium Yersinia pestis, killed 30%-60% of Europeans (80% of people in the south of France and Spain) and reduced global population from 450 million to around 350 million. In a single province of China, more than 4 million people died (90% of the population) in 1334 alone. Such a toll was socially transformative. Entire cities were depopulated, world trade declined, but so did wars. In some countries witch hunts rooting out the unknown cause of the plague resulted in minority groups being massacred, including lepers and Jews. For plague survivors life generally improved, especially for those at the bottom of the ladder. Peasants benefited from the scarcity of labour to gain better wages (often through revolt), and their crops and cattle spread into unoccupied land giving most people a richer diet. The Black Death also had an environmental impact – loss of agricultural activity allowed forests to regrow, and their photosynthetic activity sucked so much carbon from the air it contributed to the regional cooling event known as the Little Ice Age. Economic slump More recently, the Spanish Flu of 1918 killed one in five of those infected, some 40-50 million people worldwide, which was more than the guns of World War I. The impacts of this pandemic should have been especially severe because unusually, more than half of those who died were young working-age adults, aged 20-40 (most flu outbreaks kill the very old and young first). However, the global economic slump that resulted from incapacitation or deaths among the workforce melded into the dramatic effects of the war. The HIV/Aids epidemic, which also disproportionately effects young, working age men and women, can give some idea of economic impact – in hard-hit sub-Saharan African countries the economies were estimated to be on average 22% smaller in 2010, due to the virus's effects. So what would be the result of a global pandemic in the 21st Century? The world’s population in the Middle Ages was just a few hundred million; in 1918, it was 1.8 billion – now it is more than 7 billion. The numbers of people infected and killed could run into the hundreds of millions. Industry, food production, and the trappings of our modern world economy would all suffer, but this could be to the benefit of the environment. Poverty in HIV-hit southern Africa means it has the lowest per capita greenhouse gas emissions on the planet. During the global financial crisis that began in 2008, annual emissions from the energy sector fell from 29.3GT to 29GT. Fewer people would mean less production of everything from food to plastics. That could mean fewer industrial emissions, agricultural and residential land reverting back to forest perhaps, few polluting journeys, and less freshwater extractions. But what if the pandemic was really severe – killing 80%-90% of our species? Aside from a few people with immunity, densely populated cities would be worst hit – small remote islands may be spared through quarantine. It could mean an end to our advanced human civilization for a time, at least. Our species impact on the planet would diminish substantially as a result of our few numbers and global capability. Although greenhouse gas emissions may drop suddenly, the effect on temperature would take centuries to perceive because of how long carbon dioxide persists in the air. Nevertheless, temperatures would fall. Biodiversity would recover in many cases, due to reduced human encroachment on habitats, hunting and pollution.

#### Turns conflict

Posen 20, Ford International Professor of Political Science at MIT, Director Emeritus of the MIT Security Studies Program (Barry Posen, 4-23-2020, "Do Pandemics Promote Peace?," Foreign Affairs, https://www.foreignaffairs.com/articles/china/2020-04-23/do-pandemics-promote-peace?utm\_source=twitter\_posts&utm\_medium=social&utm\_campaign=tw\_daily\_soc)

As the novel coronavirus infects the globe, states compete for scientific and medical supplies and blame one another for the pandemic’s spread. Policy analysts have started asking whether such tensions could eventually erupt into military conflict. Has the pandemic increased or decreased the motive and opportunity of states to wage war? War is a risky business, with potentially very high costs. The historian Geoffrey Blainey argued in The Causes of War that most wars share a common characteristic at their outset: optimism. The belligerents usually start out sanguine about their odds of military success. When elites on both or all sides are confident, they are more willing to take the plunge—and less likely to negotiate, because they think they will come out better by fighting. Peace, by contrast, is served by pessimism. Even one party’s pessimism can be helpful: that party will be more inclined to negotiate and even accept an unfavorable bargain in order to avoid war. When one side gains a sudden and pronounced advantage, however, this de-escalatory logic can break down: the optimistic side will increase its demands faster than the pessimistic side can appease. Some analysts worry that something like this could happen in U.S.-Chinese relations as a result of the new coronavirus. The United States is experiencing a moment of domestic crisis. China, some fear, might see the pandemic as playing to its advantage and be tempted to throw its military weight around in the western Pacific. What these analysts miss is that COVID-19, the disease caused by the coronavirus, is weakening all of the great and middle powers more or less equally. None is likely to gain a meaningful advantage over the others. All will have ample reason to be pessimistic about their military capabilities and their overall readiness for war. For the duration of the pandemic, at least, and probably for years afterward, the odds of a war between major powers will go down, not up.

PAX EPIDEMIA?

A cursory survey of the scholarly literature on war and disease appears to confirm Blainey’s observation that pessimism is conducive to peace. Scholars have documented again and again how war creates permissive conditions for disease—in armies as well as civilians in the fought-over territories. But one seldom finds any discussion of epidemics causing wars or of wars deliberately started in the middle of widespread outbreaks of infectious disease. (The diseases that European colonists carried to the New World did weaken indigenous populations to the point that they were more vulnerable to conquest; in addition, some localized conflicts were fought during the influenza pandemic of 1919–21, but these were occasioned by major shifts in regional balances of power following the destruction of four empires in World War I.) That sickness slows the march to war is partly due to the fact that war depends on people. When people fall ill, they can’t be counted on to perform well in combat. Military medicine made enormous strides in the years leading up to World War I, prior to which armies suffered higher numbers of casualties from disease than from combat. But pandemics still threaten military units,

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as those onboard U.S. and French aircraft carriers, hundreds of whom tested positive for COVID-19, know well. Sailors and soldiers in the field are among the most vulnerable because they are packed together. But even airmen are at risk, since they must take refuge from air attacks in bunkers, where the virus could also spread rapidly. Ground campaigns in urban areas pose still greater dangers in pandemic times. Much recent ground combat has been in cities in poor countries with few or no public health resources, environments highly favorable to illness. Ground combat also usually produces prisoners, any of whom can be infected. A vaccine may eventually solve these problems, but an abundance of caution is likely to persist for some time after it comes into use. The most important reason disease inhibits war is economic. Major outbreaks damage national economies, which are the source of military power. COVID-19 is a pandemic—by definition a worldwide phenomenon. All great and middle powers appear to be adversely affected, and all have reason to be pessimistic about their military prospects. Their economies are shrinking fast, and there is great uncertainty about when and how quickly they will start growing again. Even China, which has slowed the spread of the disease and begun to reopen its economy, will be hurting for years to come. It took an enormous hit to GDP in the first quarter of 2020, ending 40 years of steady growth. And its trading partners, burned by their dependence on China for much of the equipment needed to fight COVID-19, will surely scale back their imports. An export-dependent China will have to rely more on its domestic market, something it has been attempting for years with only limited success. It is little wonder, then, that the International Monetary Fund forecasts slower growth in China this year than at any time since the 1970s. Even after a vaccine is developed and made widely available, economic troubles may linger for years. States will emerge from this crisis with enormous debts. They will spend years paying for the bailout and stimulus packages they used to protect citizens and businesses from the economic consequences of social distancing. Drained treasuries will give them one more reason to be pessimistic about their military might.

LESS TRADE, LESS FRICTION

How long is the pacifying effect of pessimism likely to last? If a vaccine is developed quickly, enabling a relatively swift economic recovery, the mood may prove short-lived. But it is equally likely that the coronavirus crisis will last long enough to change the world in important ways, some of which will likely dampen the appetite for conflict for some time—perhaps up to five or ten years. After all, the world is experiencing both the biggest pandemic and the biggest economic downturn in a century. Most governments have not covered themselves with glory managing the pandemic, and even the most autocratic worry about popular support. Over the next few years, people will want evidence that their governments are working to protect them from disease and economic dislocation. Citizens will see themselves as dependent on the state, and they will be less inclined to support adventures abroad. At the same time, governments and businesses will likely try to reduce their reliance on imports of critical materials, having watched global supply chains break down during the pandemic. The result will probably be diminished trade, something liberal internationalists see as a bad thing. But for the last five years or so, trade has not helped improve relations between states but rather fueled resentment. Less trade could mean less friction between major powers, thereby reducing the intensity of their rivalries. In the Chinese context, less international trade could have positive knock-on effects. Focused on growing the domestic economy, and burdened by hefty bills from fighting the virus, Beijing could be forced to table the Belt and Road Initiative, an ambitious trade and investment project that has unnerved the foreign policy establishments of great and middle powers. The suspension of the BRI would soothe the fears of those who see it as an instrument of Chinese world domination. Interstate wars have become relatively rare since the end of World War II. The United States and the Soviet Union engaged in a four-decade Cold War, which included an intense nuclear and conventional arms race, but they never fought each other directly, even with conventional weapons. Theorists debate the reasons behind the continued rarity of great-power conflict. I am inclined to believe that the risk of escalation to a nuclear confrontation is simply too great. COVID-19 does nothing to mitigate such risks for world leaders—and a great deal to feed their reasonable pessimism about the likely outcome of even a conventional war.

## Federalism

#### The Eleventh Amendment thumps — it grants immunity from suits in general, including from federal administrative agencies like the FTC

Page & Lopatka ’19 — William H. Page (Marshall M. Criser Eminent Scholar, University of Florida Levin College of Law); John E. Lopatka (A. Robert Noll Distinguished Professor of Law, Penn State Law); “Parker v. Brown, The Eleventh Amendment, and Anticompetitive State Regulation;” William & Mary Law Review, Vol. 60, Issue 4, Article 10; <https://scholarship.law.wm.edu/cgi/viewcontent.cgi?article=3804&context=wmlr>

B. The Eleventh Amendment

Now consider Eleventh Amendment immunity, and how it differs from Parker immunity. The express language of the Amendment excepts from the “[j]udicial power of the United States” actions against a state “by Citizens of another State, or by Citizens or Subjects of any Foreign State.”60 On its face, and in the view of some modern Justices61 and scholars,62 this language only eliminates one category of diversity jurisdiction conferred by Article III of the Constitution.63 But, under the Supreme Court’s interpretation, the immunity is not simply a limitation on the federal courts’ subject matter jurisdiction,64 even though courts often resolve the issue on a motion to dismiss under Federal Rule of Civil Procedure 12(b)(1).65 According to the Court, “Eleventh Amendment immunity” is actually a misnomer, because the amendment itself is just one expression of an expansive doctrine of sovereign immunity that

neither derives from, nor is limited by, the terms of the Eleventh Amendment. Rather, as the Constitution’s structure, its history, and the authoritative interpretations by this Court make clear, the States’ immunity from suit is a fundamental aspect of the sovereignty which the States enjoyed before the ratification of the Constitution, and which they retain today (either literally or by virtue of their admission into the Union upon an equal footing with the other States) except as altered by the plan of the Convention or certain constitutional Amendments.66

This amorphous immunity applies to far more than the single category of diversity jurisdiction the Eleventh Amendment describes. It applies to actions in federal court under any source of Article III jurisdiction—federal question,67 diversity,68 or admiralty.69 It applies to actions under federal law by citizens of a state against the same state in the state’s own courts.70 Indeed, it applies to actions under either state or federal law in any forum, including federal administrative agencies.71 Other characteristics of the immunity distinguish it from limitations on subject matter jurisdiction. States may lose the immunity by waiver or by consenting to suit, explicitly or implicitly,72 which would not be possible for other categories of federal subject matter jurisdiction.73 A court is also not required to consider an Eleventh Amendment defense if it has not been raised,74 though the court may do so in its discretion.75

Eleventh Amendment immunity limits not only adjudicative power but also congressional legislative power. It is a constitutional attribute of state sovereignty that Congress cannot abrogate under its Commerce Clause power,76 as Congress can do with state action immunity.77 The only mechanisms open to Congress to abrogate Eleventh Amendment immunity have no practical application to antitrust.78 This limitation on congressional power has significance for our argument because it means that Congress cannot limit the Eleventh Amendment’s restrictions on private antitrust enforcement—although it can add new, legislative immunities in circumstances in which the Eleventh Amendment does not apply.

According to some courts, although Eleventh Amendment immunity protects the state from suit, state action immunity only protects it from liability.79 Whether a court makes this distinction has important procedural implications. An interlocutory decision by a district court to deny a motion to dismiss on grounds of immunity from suit is immediately appealable under the collateral order doctrine;80 a denial of a motion to dismiss on grounds of immunity from liability is only appealable after the court issues a final order, at which point the decision will usually have become moot.81 In addition, under this distinction, the filing of a motion to dismiss on Eleventh Amendment grounds, but not one on state action grounds, justifies an immediate stay of discovery.82

As broadly as the Court has described the Eleventh Amendment immunity, and as jealously as the Court has guarded it, the immunity is subject to crucial limitations. First, as mentioned earlier, the state can waive Eleventh Amendment immunity, just as it can waive state action immunity.83 Second, it applies only to actions by private plaintiffs, because the states are thought to have consented to suit by the federal government and other states as a condition of joining the union.84 By contrast, as we have seen, the state action immunity applies to both public and private plaintiffs because it limits the substantive reach of the antitrust statutes.85

Third, and perhaps most important for our purposes, Eleventh Amendment immunity is limited by the peculiar doctrine of Ex parte Young, 86 which permits private suits under federal law against state agency officials acting in their official capacity, even if the agency itself is immune from suit.87 The Young exception applies only to actions for prospective relief, such as an injunction or declaratory judgment, against an official with authority to enforce the relevant state law;88 the Young exception does not apply if the relief sought is “tantamount to an award of damages for a past violation of federal law, even though styled as something else.”89 Although the Young doctrine is based on a dubious, if not incoherent, view of the role of agency officials, it is considered necessary to prevent state officials from acting unconstitutionally.90 It implies that the Eleventh Amendment functionally, if not formally, is a remedial doctrine that limits the means of asserting federal challenges to the policy choices of states, but “does not bar all judicial review of state compliance with the Constitution and valid federal law,”91 even in private litigation.

Eleventh Amendment immunity applies only if the agency acts as an “arm of the State.”92 The Court has suggested that this characterization depends primarily on whether any judgment against the agency would have to be satisfied out of the state treasury,93 but it also depends on whether requiring the agency to litigate would offend the state’s “dignity.”94 Lower courts have formulated multifactor tests to determine whether an entity qualifies as an arm of the state under these standards. For example, the Fifth Circuit analyzed several factors, such as:

(1) whether the state, through statutes or case law, views the entity as an arm of the state; (2) the source of the entity’s funding; (3) whether the entity is concerned with local or statewide problems; (4) the entity’s degree of authority independent from the state; (5) whether the entity can sue and be sued in its own name; and (6) whether the entity has the right to hold and use property.95

These criteria can differ significantly from the various requirements for state action immunity. A county or municipality, for example, may be immune under Parker if it acts pursuant to a clearly articulated state policy to regulate sewage96 or billboards,97 even if it would be too autonomous to be considered an arm of the state for Eleventh Amendment purposes.98 The standards are closer for entities entitled to ipso facto state action immunity under Hoover. 99

We are left with a mix of similarities and differences between the two immunities that make generalizing about them difficult. One might ask, having read thus far, which immunity is the greater barrier to the use of federal judicial or legislative power as a check on states’ authority. On the one hand, the Eleventh Amendment immunity appears to be stronger, because it shields states from claims under all federal (and state) statutes;100 Congress cannot alter it under its commerce power,101 and it immunizes the state from suit, not simply liability.102 None of these characteristics are true of Parker immunity. On the other hand, Eleventh Amendment immunity is weaker, because it only applies to private lawsuits, although it allows an exception for prospective relief in a suit against agency officials;103 Parker immunity, in contrast, forecloses all public and private plaintiffs from any type of relief.104 These latter distinctions are the reason we suggest that the Eleventh Amendment is primarily a remedial doctrine. Nevertheless, given the importance of private damage actions in the enforcement of antitrust policy, the limitations of the Eleventh Amendment are worthy of closer examination.

#### Emerging tech regulation fails and aff can’t solve

Marchant 20

Gary E. Marchant (Regents Professor and Lincoln Professor of Emerging Technologies, Law & Ethics, and Faculty Director, Center for Law, Science & Innovation, Sandra Day O’Connor College of Law, Arizona State University). GOVERNING EMERGING TECHNOLOGIES, VANDERBILT LAW REVIEW, Vol. 73(6), 2020, p. 1863-1865.

I. THE WICKED PROBLEM OF EMERGING TECHNOLOGY GOVERNANCE

Emerging technologies—such as synthetic biology, gene editing, nanotechnology, artificial intelligence, internet of things, 3D printing, drones, applied neurotechnologies, and blockchain and cryptocurrencies—present a common set of governance challenges.5 Perhaps most significant is the “pacing problem,” where the pace of technology development far outstrips the capability of regulatory systems to keep up.6 Powered by growing market demand and intense business competition, new technologies are being developed, deployed, and commercialized faster than ever before.7 At the same time, traditional governmental processes of legislation, regulation, and judicial review have been slowed by increasing bureaucratic requirements and the increasing politicization of technological disputes.8 The result of accelerating technology and decelerating regulatory oversight is a growing governance gap. Any new statutes or regulations affecting these new technologies are likely to be outdated before the ink dries. As technology governance expert David Rajeski has noted, “[i]f you think that any existing regulatory framework can keep pace with this rate of change, think again.”9 Facing such a bleak prospect, regulators often sensibly defer regulation, waiting for a more stable technology plateau that may or may not ever come.

A second regulatory challenge of many emerging technologies is that they present risks and concerns outside the scope of existing regulatory agency jurisdictions.10 Regulatory agencies, such as the U.S. Food and Drug Administration, are restricted to regulating the safety and efficacy of products. But many applications of emerging technologies raise broader ethical and social concerns relating to human enhancement, “playing God,” autonomy, dignity, fairness, equitable access, privacy, and longer-term impacts on society.11 These issues are largely outside the safety and efficacy scope of current agency jurisdictions and thus often escape any regulatory oversight.

Yet another challenge to the regulation of emerging technologies is their breadth of application. Technologies such as artificial intelligence, nanotechnology, and blockchain span the entire industry spectrum, as well as many nonindustrial activities and sectors. They are sometimes referred to as “enabling” or “platform” technologies that, like computers or the internet, have the potential to affect virtually every industry sector.12 There are thousands, if not tens or hundreds of thousands, of ways these core technologies are used, each with their own context of risks and benefits. These broad applications not only involve many different types of industries and businesses, but also affect many other types of stakeholders and nongovernmental organizations with particular interests in specific applications. The broad applications of these technologies also span many different regulatory agencies, each with their own organic statutes with different requirements, criteria, and goals. The end result of this multitude of applications, regulated parties, stakeholders, and regulators is tremendous regulatory diversity and complexity. Further complicating the regulatory challenge, emerging technologies are inherently international in application, creating the need for some type of international coordination.13

Finally, the unprecedented uncertainty about emerging technologies also impedes effective regulation.14 Because the technologies are so new and moving forward so quickly, there is enormous uncertainty about the trajectories, benefits, and risks of these technologies.15 Given these uncertainties, it is possible to paint unrealistically optimistic or pessimistic visions of the technology at issue, thus fostering public controversy, conflict, and unease.16

In summary, the governance of emerging technologies is characterized by complexity, diversity, and uncertainty. These same characteristics—complexity, diversity, and uncertainty—are the defining characteristics of a wicked problem.17 As a wicked problem, the governance of emerging technologies is unlikely to be solved by a single or simple solution. Traditional government regulation will not be sufficient, or many times even appropriate, for emerging technologies.18 Rather than traditional regulation—consisting of enforceable rules unilaterally imposed by a regulatory agency—emerging technologies will require a “governance” approach that expands the categories of responsible parties beyond government to include the private sector, nongovernmental organizations, and think tanks and also expands the relevant oversight mechanism beyond enforceable government regulations.19 Four alternative governance approaches for emerging technologies are discussed and evaluated in the next Part.

#### No emerging tech impact.

Sechser et al. 19, \*Todd S., Pamela Feinour Edmonds and Franklin S. Edmonds, Jr. Discovery Professor of Politics and Public Policy at the University of Virginia and Senior Fellow at the Miller Center of Public Affairs, \*\*Neil Narang, Associate Professor of Political Science at the University of California, Santa Barbara, \*\*\*Caitlin Talmadge, Associate Professor of Security Studies in the School of Foreign at Georgetown University. ( “Emerging technologies and strategic stability in peacetime, crisis, and war”, *Journal of Strategic Studies*, 42:6, pg. 728-729)

Yet the history of technological revolutions counsels against alarmism. Extrapolating from current technological trends is problematic, both because technologies often do not live up to their promise, and because technologies often have countervailing or conditional effects that can temper their negative consequences. Thus, the fear that emerging technologies will necessarily cause sudden and spectacular changes to international politics should be treated with caution. There are at least two reasons to be circumspect. First, very few technologies fundamentally reshape the dynamics of international conflict. Historically, most technological innovations have amounted to incremental advancements, and some have disappeared into irrelevance despite widespread hype about their promise. For example, the introduction of chemical weapons was widely expected to immediately change the nature of warfare and deterrence after the British army first used poison gas on the battlefield during World War I. Yet chemical weapons quickly turned out to be less practical, easier to counter, and less effective than conventional high-explosives in inflicting damage and disrupting enemy operations.6 Other technologies have become important only after advancements in other areas allowed them to reach their full potential: until armies developed tactics for effectively employing firearms, for instance, these weapons had little effect on the balance of power. And even when technologies do have significant strategic consequences, they often take decades to emerge, as the invention of airplanes and tanks illustrates. In short, it is easy to exaggerate the strategic effects of nascent technologies.7 Second, even if today’s emerging technologies are poised to drive important changes in the international system, they are likely to have variegated and even contradictory effects. Technologies may be destabilising under some conditions, but stabilising in others. Furthermore, other factors are likely to mediate the effects of new technologies on the international system, including geography, the distribution of material power, military strategy, domestic and organisational politics, and social and cultural variables, to name only a few.8 Consequently, the strategic effects of new technologies often defy simple classification. Indeed, more than 70 years after nuclear weapons emerged as a new technology, their consequences for stability continue to be debated.9

#### \*No impact to superintelligence, nano, or grey goo

Edward Moore Geist 15, MacArthur Nuclear Security Fellow at Stanford University’s Center for International Security and Cooperation, 8/9/15, “Is artificial intelligence really an existential threat to humanity?,” <http://thebulletin.org/artificial-intelligence-really-existential-threat-humanity8577>

Superintelligence: Paths, Dangers, Strategies is an astonishing book with an alarming thesis: Intelligent machines are “quite possibly the most important and most daunting challenge humanity has ever faced.” In it, Oxford University philosopher Nick **Bostrom**, who has built his reputation on the study of “existential risk,” argues forcefully that **a**rtificial **i**ntelligence might be the most apocalyptic technology of all. With intellectual powers beyond human comprehension, he prognosticates, self-improving **a**rtificial **i**ntelligences could effortlessly enslave or destroy Homo sapiens if they so wished. While he expresses skepticism that such machines can be controlled, Bostrom claims that if we program the right “human-friendly” values into them, they will continue to uphold these virtues, no matter how powerful the machines become. These views have found an eager audience. In August 2014, PayPal cofounder and electric car magnate Elon Musk tweeted “Worth reading Superintelligence by **Bostrom**. We need to be super careful with AI. Potentially more dangerous than nukes.” Bill Gates declared, “I agree with Elon Musk and some others on this and don’t understand why some people are not concerned.” More ominously, legendary astrophysicist Stephen Hawking concurred: “I think the development of full artificial intelligence could spell the end of the human race.” Proving his concern went beyond mere rhetoric, Musk donated $10 million to the Future of Life Institute “to support research aimed at keeping AI beneficial for humanity.” Superintelligence is propounding a **solution that will not work** to a **problem that** probably **does not exist**, but Bostrom and Musk are right that now is the time to take the ethical and policy implications of artificial intelligence seriously. The extraordinary claim that machines can become so intelligent as to gain demonic powers requires **extraordinary evidence**, particularly since artificial intelligence (AI) researchers have struggled to create machines that show much evidence of intelligence at all. While these investigators’ ultimate goals have varied since the emergence of the discipline in the mid-1950s, the fundamental aim of AI has always been to create machines that demonstrate intelligent behavior, whether to better understand human cognition or to solve practical problems. Some AI researchers even tried to create the self-improving reasoning machines Bostrom fears. Through decades of bitter experience, however, they learned not only that creating intelligence is more difficult than they initially expected, but also that it grows increasingly harder the smarter one tries to become. Bostrom’s concept of “superintelligence,” which he defines as “any intellect that greatly exceeds the cognitive performance of humans in virtually all domains of interest,” builds upon similar **discredited assumptions about the nature of thought** that the pioneers of AI held decades ago. A summary of Bostrom’s arguments, contextualized in the history of artificial intelligence, demonstrates how this is so. In the 1950s, the founders of the field of artificial intelligence assumed that the discovery of a few fundamental insights would make machines smarter than people within a few decades. By the 1980s, however, they discovered fundamental limitations that show that there will always be diminishing returns to additional processing power and data. Although these technical hurdles pose no barrier to the creation of human-level AI, they will likely **forestall the sudden emergence of an unstoppable “superintelligence**.” The risks of self-improving intelligent machines are **grossly exaggerated** and ought not serve as a **distraction from the existential risks we already face**, especially given that the limited AI technology we already have is poised to make threats like those posed by nuclear weapons even more pressing than they currently are. Disturbingly, little or no technical progress beyond that demonstrated by self-driving cars is necessary for artificial intelligence to have potentially devastating, cascading economic, strategic, and political effects. While policymakers ought not lose sleep over the technically implausible menace of “superintelligence,” they have every reason to be worried about emerging AI applications such as the Defense Advanced Research Projects Agency’s submarine-hunting drones, which threaten to upend longstanding geostrategic assumptions in the near future. Unfortunately, Superintelligence offers little insight into how to confront these pressing challenges.

#### \*“Existential risks first!” is shouted by academic frauds.

Knutsson 19 – Simon Knutsson, PhD student in philosophy at Stockholm University, master’s degree in economics at New York University. [Problems in effective altruism and existential risk and what to do about them, published 10-16-19, republished with updates on 2-1-20, <https://www.simonknutsson.com/problems-in-effective-altruism-and-existential-risk-and-what-to-do-about-them/>]//BPS

Some in the effective altruism (EA) and existential risk circles seem to behave in problematic ways. The pattern that I think I see is that they want to have influence and therefore act in problematic and unusual ways. I bring up things that I would have wanted to be aware of if I had not already made the observations. The broad theme is acting in ways that appear one-sided, misleading, manipulative, opaque or to lack integrity, or doing things behind the scenes that seem troublesome. Not everything I list fits all these descriptions, but this is the general pattern. I perceive the behaviours as undermining and having a negative effect and corrupting influence on the research and writing landscape, public debate, and teaching. An important point is that what I see in EA and existential risk circles look abnormal to me. For example, here are some of the troublesome-looking things that I have not seen outside of EA and existential risk circles (at least I have not seen them to nearly this extent): First, behind-the-scenes coordination, guidelines and outreach that encourage writers and researchers to mention some ideas and texts about moral philosophy and values and to keep quiet about some such ideas. This behind-the-scenes work coincides with a lot of money being granted, and neither the organisation awarding the grant or the recipient will answer my questions. Second, an organisation (the Centre for Effective Altruism, CEA) whose trustees or board members are mainly philosophers compiles a syllabus “to provide inspiration for lectures and professors” which amounts to a one-sided promotion of these philosophers’ (and a closely affiliated philosopher’s) texts and ideas to students. Third, the citation practices by some in EA and existential risk circles are problematic beyond what I have seen elsewhere. The pattern is to mention and cite ideas one agrees with, avoid mentioning competing ideas and texts, and cite one’s allies’ or colleagues’ work (maybe to promote those ideas, texts, allies and colleagues). Fourth, an Associate Professor in Philosophy at Oxford University who is also a team member of the Future of Humanity Institute (FHI) at the same university and a trustee of CEA has used at least one ghostwriter. This can, but need not, be substantially problematic, depending on what was written. Fifth, another philosopher who is Professor at Oxford University and founding Director of FHI makes a seemingly misleading and perhaps false claim on his CV (it seems no one knows whether it is false, including the philosopher himself). It may be common to exaggerate on a CV but this is at a level I have not seen before. In general, the writings I often see in these circles remind me of lobbying and political advocacy but in EA and existential risk circles, it is done by university faculty and people with PhDs and with a veneer of being scientific and open, while my impression is that it is not. If someone asked me which people in the whole world with a PhD in philosophy appear to behave in the most troublesome ways and which philosophers I trust the least,

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I would rank some of the philosophers in EA and existential risk circles around the top of my list. My aim is not to attack specific people or point fingers and say ‘look at what that person did,’ which would be fairly uninteresting. I think people should be aware of what I write in this essay, be very critical of what they hear and read in EA and existential risk circles, and, importantly, scrutinise what is going on. My most important point is my call for ongoing investigations and scrutiny. A remedy to the kind of behaviour I describe is to have more scrutiny so that it is in people’s interest to avoid such behaviour, and so that the public is aware of what is going on. To be clear, I do not claim to have conclusive evidence for every seemingly problematic behaviour I bring up here. Some of the things I bring up because they appear problematic and warrant further scrutiny. I hope I provide enough of my observations and impressions to show that there is a need for ongoing scrutiny. I hope others will scrutinise more, and that some people who are aware of problematic things happening, especially behind the scenes, will speak up. However, I understand if few in EA and existential risk circles will speak publicly about problems they have observed because by doing so one may harm one’s chances of being employed or funded in this sector. Also, the philosophy world is small and, for example, by writing this text I may harm my academic career. Anyway, my key message is that some things in EA and existential risk circles seem to be highly problematic and abnormal and I hope people will be critical, scrutinise, fact check and speak in public about what goes on, especially about what goes on behind the scenes. The reactions to what I write in this text have been mixed. Some find my points weak, that I behave badly by writing as I do, or that I give a bad impression. One philosopher didn’t have an opinion on the behind-the-scenes activities I describe. Others react with statements such as that some behaviour I describe is ‘totally unacceptable’ or ‘This is very troubling… You (or someone else) should probably post this on the EA forum.’ One philosopher thought the behind-the-scenes activities I describe sound corrupt, another thought the EA and existential risk circles sound like a sect, a third thought I seem to point to improper things and that it was good that I wrote. One person found some of the behaviours I describe ‘manipulative.’ My background related to effective altruism and existential risk Around 2004–2005, I recall thinking about how to have an impact. I thought that instead of becoming a medical doctor, one should work on a large scale, for example, by training medical doctors to improve a health care system. I gave to a charity project in Uganda. I was interested in information about charities’ impact, but what I had seen was mainly unhelpful numbers about how much of expenses goes to administration, fundraising and programs. In the summer of 2008, I interned for the United Nations in Stockholm, and that summer I attended a lecture by Peter Singer in Stockholm who mentioned a new project called GiveWell. In July 2008, I talked to GiveWell about volunteering for the organisation, which I started doing soon thereafter. In 2010, I became a Research Analyst at GiveWell. Elie, Holden, Natalie and I were the four staff members at the time if I recall correctly. I have a good impression of all of them. They seemed nice and genuine. Most people I have worked with in EA seem nice. A few years later, I became the chair of the board of Animal Charity Evaluators. (I have donated to GiveWell, Animal Charity Evaluators and other organisations.) I then worked as a Researcher at the Foundational Research Institute (FRI) and I was the leader of the political party for animals in Sweden. FRI works, at least partly, on risks of astronomical future suffering (s-risks). There is some but not complete overlap between s-risks and existential risks: some, but not all, s-risks are also existential risks, and vice versa. I have worked on s-risks at and outside of FRI. Now I am a PhD student in philosophy. Problems Troublesome work behind the scenes, including censoring research and suppressing ideas and debates A lot seems to happen behind the scenes in EA and existential risk circles. My perhaps most important example in this essay concerns a $1,000,000 grant by the Open Philanthropy Project and two non-public communication guidelines. I provide details right below, but here is a summary. Nick Beckstead works at the Open Philanthropy Project, has a PhD in philosophy, is a trustee of CEA, and is listed as a Research Associate at FHI’s website (FHI is a research institute at Oxford University led by Nick Bostrom). Beckstead was one of the grant investigators for the $1,000,000 grant and the author of a non-public document with communication guidelines. The grant recipient was the Effective Altruism Foundation (EAF). Managers at EAF also wrote non-public communication guidelines meant both for people employed at or funded by EAF and others including university employees like me. I understand the two documents with guidelines as a pair. For example, the guidelines by Beckstead says, “EAF has written its own set of guidelines intended for people writing about longtermism from a suffering-focused perspective.” When a manager at EAF presented the two guidelines to me, he used phrases such as a “coordinated effort” and “it means that we will promote future pessimism … to a lesser extent.” A manager at EAF also communicated that they worked on this with Beckstead who wrote guidelines in turn. The guidelines by EAF encourage the reader to not write about or promote the idea that the future will likely contain more disvalue than value. I gather from a conversation that Beckstead was involved when it comes to this part of the content in the EAF guidelines. Beckstead has defended essentially the opposite idea that if humanity may survive for many years, the expected value of the future is astronomically great.1 The EAF guidelines also encourage referencing Beckstead’s PhD dissertation, as well as several texts by his colleagues (at FHI and CEA) who are also philosophers. Around the time and after the two guidelines were shared with me, management at EAF did non-public outreach to encourage people to follow the guidelines. One manager at EAF also expressed a disposition to maybe silence online discussion of an argument in my paper The World Destruction Argument. This argument is, roughly speaking, against the kinds of views Beckstead has written favourably about. I think the public should be aware of these coordinate efforts behind the scenes that are partly aimed to influence which ideas about ethics and value are written about in public. That the $1,000,000 grant was made around the time the communication guidelines were shared makes the situation look even worse. A question is whether the function of the large grant was partly to silence certain pessimistic views on ethics or value. Based on a conversation with a manager at EAF, I gather the grant might not have been made if EAF did not write their guidelines. Important questions include whether there are other cases like this in which agreements have been made that include which views on morality or value to mention and not to mention and which texts to reference and whether money has changed hands in connection with such agreements. I find all this to undermine research and public intellectual debate, and to be deceptive to those who are unaware of what goes on behind the scenes. I hope future scrutiny will reveal if there have been other agreements and behaviours like this and prevent future such behaviour. On July 18, 2019, Stefan Torges, one of the Co-Executive Directors of EAF, shared with me two communication guidelines in Google document format. One of the two documents says, Written by Nick Beckstead with input and feedback from various community members and several EA organizations. These guidelines are endorsed by the following organizations and individuals: 80,000 Hours, CEA, CFAR, MIRI, Open Phil, Nick Bostrom, Will MacAskill, Toby Ord, Carl Shulman…. This document was originally shared with staff members at the above organizations and a handful of other individuals writing on these topics. The document is intended to be shared with individuals where it seems useful to do so, but was not intended for publication. To share the document with additional people, please request permission by emailing Bastian Stern (bastian@openphilanthropy.org). The other document says, Written by the Effective Altruism Foundation (EAF) and the Foundational Research Institute (Jonas Vollmer, Stefan Torges, Lukas Gloor, and David Althaus) with input and feedback from various community members and several EA organizations. First written: March 2019; last updated: 10 September 2019. Please ask Stefan (stefan.torges@ea-foundation.org​) before sharing this document further This is, of course, a quote from a later version updated September 10 and not the version I was shown in July, which I can no longer access and which EAF is not willing to share with me now. To be clear, I do not mean to ascribe any malicious intentions to anyone at EAF or FRI. In particular, I will mention Torges often in this section, but that is merely because he is the person I was mainly in touch with regarding these guidelines and the coordination. My impression is that he is a nice guy, wants to help others, especially those who suffer, and he thinks that this is the best way to do so. I will also mention Beckstead often, but what the Open Philanthropy Project and its funders do is more important. The guidelines by EAF/FRI have been shared with people who do not work at EAF or FRI like me (I am employed by Stockholm University). Based on my conversation with Stefan, I understand the guidelines by EAF/FRI to be binding for those employed or funded by EAF/FRI, but they are also meant for independent researchers and university employees. The scope of the guidelines is wide. The EAF guidelines from Sep. 2019 say, We encourage you to follow these guidelines for all forms of public communication, including personal blogs, social media, essays, books, talks, meetups, and scholarly publications. Among other things, the guidelines by EAF/FRI encourage the reader to not write about or promote the idea that the future will likely contain more disvalue than value.2 The guidelines by EAF/FRI also lists literature that the reader may want to reference, including Beckstead’s PhD dissertation, and texts by Carl, William, and Bostrom. The guidelines also encourage the reader to mention and emphasise various ideas. For example, the EAF guidelines say, For ​normative​ questions, you could consider referencing ​Beckstead: On the Overwhelming Importance of Shaping the Far Future​, ​Pummer: The Worseness of Nonexistence​, or ​Shulman: Moments of Bliss​ for alternative views. Consider emphasizing normative uncertainty (or the anti-realist equivalent of ​valuing further reflection​), e.g. by referencing ​Bostrom (2009): Moral uncertainty – towards a solution?​, ​EA Concepts: Moral uncertainty​, ​MacAskill (2014): Normative uncertainty​, Greaves & Ord: Moral uncertainty about population axiology​. [Links to texts got lost when pasting.] Several of these authors whose texts the reader is encouraged to reference either wrote or endorsed the other guidelines (​Beckstead, Bostrom, MacAskill, Ord, and Shulman), and almost all of the authors are listed online as colleagues of Beckstead. Beckstead, Bostrom, Greaves, MacAskill, Ord, and Shulman are listed on the FHI team page. Beckstead, Greaves, MacAskill, and Ord are listed as trustees or board members of CEA. I spoke with Stefan and wrote to him, David, Jonas and Lukas, and criticised the guidelines and the whole deal. On July 29, I proposed that I be removed from the FRI website, which I have been now, and I am no longer affiliated with EAF or FRI. The same month, in July 2019, EAF was awarded $1,000,000 by the Open Philanthropy Project (whose website says , “Our main funders are Cari Tuna and Dustin Moskovitz, a co-founder of Facebook and Asana”). The grant web page says “Grant investigators: Nick Beckstead and Claire Zabel.” Claire Zabel is also a trustee of CEA. I am also troubled by what influence those behind the guidelines have had and will have by direct communication with researchers and others about what to say or publish. A while back, I mentioned to Stefan Torges a seminar with a philosophy professor. The seminar was titled Pessimism about the Future, and the abstract on the web page says, It is widely believed that one of the main reasons we should seek to decrease existential risk arising from global warming, bioterrorism, and so on is that it would be very bad overall were human and other sentient beings to become extinct. In this presentation, I shall argue that it is not unreasonable to believe that extinction would be good overall. Stefan then reached out to the professor, which may be problematic. I do not know what Stefan said or tried to say to the professor. It would be fine if he said roughly “beware of how you write so that no extremists try to kill a lot of people.” But I worry that in this case or future cases, those behind the guidelines will reach out to those who write about pessimism and related topics in ethics to try to silence them or see to that they edit their work so that it is more in line with what Beckstead would like to see published or said in public. Another such case relates to a post on the EA forum on September 6, 2019. The post asks ‘How do most utilitarians feel about “replacement” thought experiments?’ The post quotes my paper The World Destruction Argument. In that paper, I challenge moral views of the kind that Beckstead, MacAskill, Ord and Bostrom seem to hold. Jonas Vollmer wrote me and said he spoke with the poster one or few days before the post was published, and that Jonas might have discouraged the poster from making the post if the poster had used a “world destruction” framing. In other words, the organisation where Jonas is Co-Executive Director receives 1 million in a grant for which Beckstead is a grant investigator, and then Jonas may discourage public discussion of my academic work that challenges moral views similar to Beckstead’s. Similarly, Torges wrote me on July 26, 2019, wondering if I had considered changing the title and/or abstract of my paper on the world destruction argument, which had recently been accepted for publication in a journal. He said he would be happy to help with this. I said no and that I react negatively to his question.3 Actually, someone else also suggested that I make a change after the paper had been accepted, but I didn’t perceive that as especially problematic. When Stefan wrote to me, the circumstances make it seem like it was not just a friendly improvement suggestion. I mean, Stefan and others had just made an agreement with Beckstead, who was a grant investigator for a recent large grant to Torges’ organisation. I think Beckstead would like to see my paper not published at all or at least edited in certain ways. And then it seems like Stefan carried out that work of trying to influence this publication. That’s what I don’t like. It is fine for people, in general, to give improvement suggestions at any stage of a paper. A problem with the communication guidelines and behaviours just described is that they go against scientific ideals about freedom to pursue ideas and about pitting ideas against one another. The situation in effective altruism and existential risk circles seems to rather be that some people use power, money, resources and connections in troublesome ways to promote themselves and their ideas and values. On Oct. 31 and Nov. 5, 2019, I wrote questions to the Open Philanthropy Project, including Has the Open Philanthropy Project recommended a grant and, without saying so in public, conditioned the grant on the following or encouraged the grant recipient to do the following: not publicly endorse or not publicly write favourably about the ideas that the future will be bad overall or likely contain more disvalue than value? • Was the grant to EAF explicitly or implicitly conditioned on EAF writing guidelines and/or distributing them? • Did Beckstead or someone else at the Open Philanthropy Project communicate to anyone at EAF that a grant would be more likely or larger if EAF wrote guidelines? • I wonder whether Beckstead influenced or tried to influence what Jonas Vollmer, Stefan Torges, Lukas Gloor, and David Althaus wrote in their guidelines, or the fact that they wrote guidelines at all. If so, was any such activity by Beckstead a part of his work for the Open Philanthropy Project, or was he, for example, acting only as a private person? I also asked whether I may share the replies in public. A person at the Open Philanthropy Project replied that they do not have anything to add beyond the grant page, which does not answer my questions. I also wrote similar questions to Stefan Torges, one of the Co-Executive Directors of EAF, on Nov. 2 and 5, 2019, including the following questions: • Did Nick Beckstead express a wish that the guidelines encourage referencing his PhD dissertation? • Did he edit the document [with the EAF the guidelines] or make comments in it? • Did the Open Philanthropy Project condition the grant to EAF on the following or encourage EAF to do the following: not publicly endorse or not publicly write favourably about the ideas that the future will be bad overall or likely contain more disvalue than value? • May I share my questions and your replies in public? Stefan Torges replied on Nov. 4 and 7, 2019, with no answers to any of my questions and essentially saying that they will not reply to my questions (see this page for essentially our entire exchange). I tried to contact Nick Beckstead but I did not find any contact information online. Later, on 2 Jan. 2020, I wrote Beckstead on Messenger and LinkedIn (we are 1st-degree connections on LinkedIn), but as of 29 Jan. 2020 I do not see any reply. According to the website of the Open Philanthropy Project, “Openness is a core value of the Open Philanthropy Project…. We believe philanthropy could have a greater impact by sharing more information. Very often, key discussions and decisions happen behind closed doors…” EAF writes on its website that “Effective Altruism Foundation (EAF) strives for full transparency.” These organisations appear to go against their own statements about openness or transparency given their activities and reluctance to answer questions. I think those who help these organisations with donations, work, or promotion should demand replies to the kind of questions I have asked and demand that they be open about the activities I describe. The guidelines written by Beckstead say they are endorsed by 80,000 Hours, CEA, CFAR, MIRI, Open Phil, Nick Bostrom, Will MacAskill, Toby Ord, and Carl Shulman. One may ask about all of these organisations and individuals how and to what extent they were involved in the deal. For example, why did they endorse the guidelines? Did they influence the formulation of the EAF guidelines? Were they aware that EAF also wrote and would distribute guidelines (behind the scenes) that encourage readers to not publicly endorse or not publicly write favourably about the ideas that the future will be bad overall or likely contain more disvalue than value? Did they know or encourage that the EAF guidelines encourage referencing texts by these authors? For example, when Torges shared both documents with guidelines with me on July 18, 2019, he wrote the following in the same message right below the links to two the documents: We’re excited about this coordinated effort. Even though it means that we will promote future pessimism and s-risks to a lesser extent, we think the discourse about these topics will still be improved due to other more widely-read texts taking our perspective into account more. We already saw some concrete steps in this direction: For example, we’ve been able to give input on key 80k content and Toby Ord’s upcoming book on x-risk, which are and will be among the most widely read EA-related resources on long-termism. There will be more such content in the future, and we’ll continue to give input. Nick also invited a number of people to the research retreat that we hosted in May. All of that makes us confident that this will be a win-win outcome. And on July 26, 2019, Torges wrote to me, I also wanted to check back regarding our communication with Nick. Is it okay if I told him that you don’t feel comfortable endorsing the guidelines because of your current position as an academic, similar to GPI’s reservations? A part of my reply from the same day was, It is okay that you tell Nick that a part of the reason why I don’t endorse the guidelines is that I don’t feel comfortable endorsing the guidelines because of my current position as an academic. I had many reasons for not endorsing the guidelines, and one of them was that I do not think a university employee should do so. I presume the Nick we were talking about is Nick Beckstead. One can wonder why Torges would be telling Nick about whether I, a PhD student in practical philosophy in Stockholm, endorse the guidelines, which, among other things, essentially encourage the reader to stay silent about an idea about value that Nick Beckstead seems opposed to, and that encourage referencing texts by Beckstead and his colleagues? One can guess based on this that Nick had an interest in knowing whether people like me endorse the guidelines (at least Torges seemed to think so). The official justification for the guidelines and the related cooperation or agreement by some of those involved would presumably be that they worry that talking about the future being bad or pessimistic ethics may cause some extremist to kill people. I do not believe this is the whole story for several reasons. First, Beckstead, MacAskill, Ord and Bostrom have done a lot to promote views like traditional consequentialism and utilitarianism, and Ord has written, “I am very sympathetic towards Utilitarianism, carefully construed.” One can also accuse them of contributing to what one might call far-future fanaticism, according to which what happens nowadays, even violence and suffering, is essentially negligible as long as the far-future is very good. So I do not find it credible that they are so worried about talk of ethics or value leading to killings. More likely they have several other motives including that they are worried about the specific kind of killing that would prevent the existence of vast numbers of beings and purported value in the far future (killing everyone to replace them might even be morally obligatory, according to the moral views they promote). The following is some background. A standard objection to utilitarianism and consequentialism is that they imply that it would be right to kill if doing so would lead to the best results. Classical utilitarian Torbjörn Tännsjö thinks that a doctor ought to kill one healthy patient to give her organs to five other patients who need them to survive if there are no bad side effects. Philosopher Dale Jamieson wrote as early as 1984 that many philosophers have rejected TU [total utilitarianism] because it seems vulnerable to the Replacement Argument and the Repugnant Conclusion.… The Replacement Argument purports to show that a utilitarian cannot object to painlessly killing everyone now alive, so long as they are replaced with equally happy people who would not otherwise have lived. Tännsjö writes (my translation), “Suppose that we really can replace humans with beings who are … I think that it is clear that this is what in this situation should happen.… Let us rejoice with all those who one day hopefully … will take our place in the universe.” (For sources, see my web page). Years ago a young effective altruist asked me for career advice. The person self-identified as a classical utilitarian and the person’s goal was a hedonic shockwave, which I gather would fill the reachable part of the universe with pleasure. I don’t know if the person pictured that Earth would be destroyed in the process. The moral advocacy by Beckstead, William, Toby and Bostrom may already have resulted in violence and killings because people who are very concerned about ensuring that the far future has much value in it seem to be more prone to eat animals or animal products. A reason why they seem more prone to eat animal products is plausibly that they think the suffering and death they thereby cause is negligible compared to the vast value that could be created in the future, so they prioritise trying to make such a future more likely. Second, if Beckstead had the power to influence the grant to EAF, he may have seen it as an opportunity to make some people at EAF write and spread communication guidelines to silence people and affect what people say so that Beckestead’s own ethical views and priorities get more widespread, while suppressing ethical views and values that compete with his own. He and others behind the guidelines may exaggerate their worry that, for example, what I write will lead to some extremist killing people, in order to get EAF to write and disseminate their guidelines. This point can also be made about the Open Philanthropy Project as an organisation, rather than merely Beckstead as an individual. The following is an older, related example of potentially problematic behaviour behind the scenes. If I recall correctly, some years ago, Lukas Gloor and William MacAskill talked about the ethics of effective altruists. Roughly, speaking Gloor’s moral view appears pessimistic and MacAskill’s appears optimistic. They discussed a compromise (roughly a middle position), according to which effective altruists would have a moral view of the kind that suffering is twice as morally important as happiness (or, e.g., three times as important; I don’t recall exactly). I do not know if any agreement was reached or if they just discussed the idea. In any case, I do not think one should make such agreements behind the scenes. Systematically problematic syllabi, reading lists, citations, writings, etc. The activities described in the previous section seem to be just another instance of a pattern that has been going on for years involving to a large extent the same people and organisations, although not every person or organisation mentioned so far. Historically, a large part of the leadership of the two closely affiliated organisations CEA and FHI have been philosophy PhDs with a specific group of similar moral views, according to which, roughly speaking, it is overwhelmingly important to ensure that there will be vast amounts of value in the future. People at and around CEA and FHI seem to try to present to the public and students the part of the ethics literature that fits their specific view about the importance of ensuring the existence of very many beings and a lot of value in the future. They tend to avoid mentioning other views, and to cite and refer the reader to a small number of authors, often themselves and their colleagues, who essentially all agree with them. Another method appears to be for a philosopher at Oxford Univesity and CEA with a PhD to write an attack on a competing view in a way that is so biased and misleading that I do not recall seeing such problematic writing in ethics by an academic philosopher outside of this cluster of people at and around CEA and FHI. Importantly, many of these texts are not directed at professional philosophers who know about other views and can immediately tell how one-sided the texts are, but the texts seem to be about convincing non-philosophers, often students and young people. All this seems to be done in different troublesome ways, which I describe below. It seems to partly be done through trying to create syllabi with writings by themselves and those who agree with them and trying to establish such courses at universities. Perhaps the overall strategy is to influence the values of students, increase the citation count and prominence of one’s own researchers and allies, while avoid mentioning opposing views. The EA syllabi I’ve read are so one-sided that I would feel dishonest to teach a course with such a syllabus. For example, one syllabus which says it is compiled by CEA (quote from Nov. 2, 2019): …this course syllabus, compiled by the Centre for Effective Altruism. The aim of this syllabus is not to give detailed instructions for how to run a course, but rather to provide inspiration for lectures and professors with an interest in teaching effective altruism. This syllabus is primarily intended to be used in courses in philosophy or political theory, but could also be given, in part or wholly, in courses in other subjects. The syllabus includes the following section: 10) The far future and existential risk Many effective altruists think that the lives of future people are highly ethically significant. A natural conclusion from that view is to focus one’s efforts on shaping the far future and, in particular, to reduce the risk of human extinction, posed by, e.g. synthetic biology and artificial intelligence. This module treats a number of themes related to these issues, from population ethics to strategies to reduce existential risk. Beckstead, Nicholas. On the Overwhelming Importance of Shaping the Far Future. Ph.D Thesis, Rutgers University. (Especially ch. 1.) Bostrom, Nick (2013). Existential Risk Prevention as Global Priority. Global Policy, 4, pp. 15-31. Bostrom, Nick (2002). Astronomical Waste: the Opportunity Cost of Delayed Technological Development. Utilitas 15, pp. 308-314. Greaves, Hilary. Population Axiology. (Unpublished survey manuscript.) Matheny, Jason Gaverick (2007). Reducing the Risk of Human Extinction. Risk Analysis, 27, pp. 1335-1344. Ord, Toby (2014). The Timing of Labour Aimed at Reducing Existential Risk. Blog post at Future of Humanity Institute. Rees, Martin (2015). This Crime Against Future Generations. The Times, 15 August 2015. All texts listed essentially agree on the ethics. Well, Greaves’ text is as an introduction to population axiology so it is not about defending a view, but it still excludes pessimistic publications on population ethics/axiology like works by professors David Benatar, Christoph Fehige and Clark Wolf. Half of the texts are by CEA trustees (Beckstead, Greaves and Ord). Bostrom leads FHI and Matheny lists FHI as a past affiliation on his CV. According to CEA’s organisation chart in a post from 2017, Pablo Stafforini was one of the people located directly below William MacAskill. In September 2016, Stafforini wrote in an e-mail that Will asked him to create a list of EA readings for a wealthy philanthropist, and after doing that Stafforini decided to expand it (here is the perhaps now broken link to the list). Pablo explained kindly that he felt GiveWell was overrepresented and EAF underrepresented so he asked for feedback before making it public and sharing it in the public Facebook EA group. As usual, the section on the long-term future, which I paste right below, was one-sided and referred only to people who agree and who are mainly at or around CEA and FHI (Sandberg is also a team member at FHI). I replied that Pablo should at least add Brian Tomasik’s https://foundational-research.org/risks-of-astronomical-future-suffering/ in this section. He replied that he added it, but when I checked later and then even later in March 2018 I did not see it. I am not saying Pablo removed it, but I did not see it so someone may have. The organisation 80,000 Hours, where MacAskill is President, is a part of CEA. The essay “Presenting the long-term value thesis” from late 2017 by Benjamin Todd, the CEO and co-founder of 80,000 Hours, was shared in the main Facebook EA group by Robert Wiblin, who works for 80,000 Hours. I agree with then philosophy PhD student Michael Plant’s comment, I found this woefully one-sided and uncharitable towards person-affecting views (i.e. the view we should ‘make people happy, not make happy people’). I would honestly have expected a better quality of argument from effective altruists…. 1. Your ‘summary of the debate’ was entirely philosophers who all agree with your view. This is poor academic form. A one-sided part of the essay is that the further reading section at the end only lists texts by or podcasts with Bostrom, Beckstead and Ord, i.e., two trustees of CEA and Bostrom who leads FHI which 80,000 Hours is affiliated with. They all agree, and none of the other views out there are mentioned. Another problem is that Benjamin claims to be arguing for a broad thesis about the importance of the future, but actually argues for a specific version of that view that he and all the people just mentioned at CEA and FHI seemingly endorse (see my comment). Ord is a trustee at CEA and part of the team at FHI. His 2013 essay against negative utilitarianism (NU) is a one-sided and misleading attempt to convince lay people away from negative utilitarianism. I try to be polite in my response to it, but I will try to be blunter here. His text is so bad partly for the following reasons: Toby writes in the role of a university researcher with a PhD in philosophy, and he writes for non-experts. He spends the whole essay essentially trashing a moral view that is opposite to his own. He does little to refer the reader to more information, especially information that contradicts what he writes. He describes the academic literature incorrectly in a way that benefits his case. He writes that “A thorough going Negative Utilitarian would support the destruction of the world (even by violent means)” without mentioning that for many years, a published objection to his favoured view (classical utilitarianism) is that it implies that one should kill everyone and replace us, if one could thereby maximize the sum of well-being (see my paper The World Destruction Argument). Ord’s text fits very well with the overall pattern I describe, and the moral theory NU that Ord attacks is a typical example of the kind of view that the guidelines from 2019 mentioned above encourage the reader to not advocate or write favourably about. In CEA’s Effective Altruism Handbook, 2nd ed. (2017), there is a chapter titled “The Long-Term Future” by Jess Whittlestone, who seemingly has interned for 80,000 Hours, which is a part of CEA. That chapter also contains one-sided framings, citations, objections, etc. (e.g., the ethics discussion on p. 76.) The only text besides Whittlestone’s in “The Long-Term Future”-part of the EA handbook is Beckstead’s “A Proposed Adjustment to the Astronomical Waste Argument.” The decision to make these two texts make up the “The Long-Term Future” part of the book is one-sided. Let’s turn to the text Farquhar et al. (2017) “Existential Risk Diplomacy and Governance,” by the Global Priorities Project, which is or was a part of CEA. The FHI logo is also on the publication. It has a section “1.2. The ethics of existential risk,” which starts with Parfit’s (1984) idea about the importance of a populated future. Then it cites only papers by Bostrom and Beckstead, who are both affiliated with the same organisations as the authors when it makes the case that “because the value of preventing existential catastrophe is so vast, even a tiny probability of prevention has huge expected value.67” It then admirably acknowledges that there is disagreement about this: Of course, there is persisting reasonable disagreement about ethics and there are a number of ways one might resist this conclusion.68 Therefore, it would be unjustified to be overconfident in Parfit and Bostrom’s argument. But where do they point the reader to in note 68? Only to Beckstead’s dissertation, which argues, sometimes uncharitably, for the ethical view Bostrom and Farquhar et al. favour. A 2017 paper by two authors from FHI called “Existential Risk and Cost-Effective Biosecurity” was published in the journal Health Security. The paper has a section “How Bad Would Human Extinction Be?“ which has a one-sided and dubious take on the literature: Human extinction would not only end the 7 billion lives in our current generation, but also cause the loss of all future generations to come. To calculate the humanitarian cost associated with such a catastrophe, one must therefore include the welfare of these future generations. While some have argued that future generations ought to be excluded or discounted when considering ethical actions,50 most of the in-depth philosophical work around the topic has concluded that future generations should not be given less inherent value.51-55 Therefore, for our calculations, we include future lives in our cost-effectiveness estimate. The references in this passage are by Parfit, an Oxford philosopher who was broadly in line with FHI’s ethics; Ng, a classical utilitarian; Beckstead; Broome, an Oxford philosopher who seems to have an optimistic moral philosophy; Cowen; and a science paper by Lenton and von Bloh, which does not seem especially related to the value of future generations. As further reading, the authors point to the text by Matheny mentioned in syllabus above. As mentioned, Matheny has been affiliated with FHI. No mention of opposing views or the many philosophers who have done in-depth work arguing against the authors’ view here (see, e.g., Wikipedia entry on the Asymmetry or my essay). By the way, this publication Matheny (2007) “Reducing the Risk of Human Extinction” that people at CEA and FHI keep pointing to is also one-sided and inaccurate in a biased way. Section 5 is about discounting and touches on population ethics. See, for example, the problematic first paragraph of the section, which gives an inaccurate picture of the state of the philosophical debate in a way that favours his view. See also the one-sided reasoning and references in note 6, which include traditional utilitarians Hare and Ng, Holtug who has argued against the Asymmetry in population ethics, and Sikora who presents an argument for classical utilitarianism. In the end, Matheny acknowledges, among others, Nick Bostrom and Carl Shulman for comments on an earlier draft. Potentially dishonest self-promotion On MacAskill’s profiles at ted.com and theguardian.com, and on the cover of his book Doing Good Better it says “cofounder of the effective altruism movement.” But unless I have missed some key information, he is not a cofounder of effective altruism or the effective altruism movement. When I volunteered for GiveWell in 2008–2009, the ideas of being altruistic and having an impact effectively were already established and there was a community or movement around GiveWell. Then Giving What We Can launched in November 2009. From the time I worked for GiveWell in 2010, I recall MacAskill (last name Crouch at the time) as a student who commented on the GiveWell blog. Then, in 2011, CEA was founded. Perhaps he and others started using the phrase ‘effective altruism’ but it does not really matter because using a potentially new phrase for something that already exists does not make someone a cofounder. My impression of MacAskill’s role over the years is that he has done a lot to grow the effective altruist community, movement and brand (and maybe was one of those who created the brand; I don’t know), and has spread related ideas. He has perhaps also contributed with new ideas. Importantly, he and his colleagues mentioned above, especially at CEA and Oxford University, also seem to have systematically put in a lot of effort to enter and try to shape this movement or community so that people and organisations in it share their particular moral views and priorities, and, for example, donate to the kind of activities they want to see funded (to a substantial extent because of their specific and controversial moral views). Nick Bostrom’s CV says he set a national record for undergraduate performance in Sweden, but I doubt he set such a record (I think no one knows, including Bostrom himself), and I think he presents the situation in a misleading way. His CV says, Imaged omitted for formatting. He also used to bring up the purported record at the landing page of his website (current link https://nickbostrom.com/old/). I have a bachelor’s and two master’s degrees from the same university in Gothenburg, Sweden, and I have lived almost all of my life in Sweden. I have never heard of any national record related to undergraduate performance. I mentioned his statement ‘Undergraduate performance set national record in Sweden’ to a few people in Sweden who are familiar with the university system in Sweden. One person laughed out loud, another found his claim amusing, and a third found it weird. I called the University of Gothenburg on Oct. 21, 2019, but the person there was not aware of any such records. On Oct. 21, 2019, I wrote Bostrom and asked him about his record. On Oct. 23, 2019, he replied and gave me permission to share his reply in public, the relevant part of which reads as follows: The record in question refers to the number of courses simultaneously pursued at one point during my undergraduate studies, which – if memory serves, which it might not since it is more than 25 years ago – was the equivalent of about three and a half programs of full time study, I think 74 ’study points’. (I also studied briefly at Umea Univ during the same two-year period I was enrolled in Gothenburg.) The basis for thinking this might be a record is simply that at the time I asked around in some circles of other ambitious students, and the next highest course load anybody had heard of was sufficiently lower than what I was taking that I thought statistically it looked like it was likely a record. A part of my e-mail reply to Bostrom on Oct. 24, 2019: My impression is that it may be difficult to confirm that no one else had done what you did. One would need to check what a vast number of students did at different universities potentially over many years. I don’t even know if that data is accessible before the 1990s, and to search all that data could be an enormous task. My picture of the situation is as follows: You pursued unusually many courses at some point in time during your undergraduate studies. You asked some students and the next highest course load anyone of them had heard of was sufficiently lower. You didn’t and don’t know whether anyone had done what you did before. (I do not know either; we can make guesses about whether someone else had done what you did, but that would be speculation.) Then you claim on your CV “Undergraduate performance set national record in Sweden.” I am puzzled by how you can think that is an honest and accurate claim. Will you change your CV so that you no longer claim that you set a record? Information about university studies seems publicly available in Sweden. When I called the University of Gothenburg on Oct. 21, 2019, the person there said they have the following information for Niklas Boström, born 10 March 1973: Two degrees in total (one bachelor’s and one master’s degree). The bachelor’s degree (Swedish: fil. kand.) from University of Gothenburg was awarded in January 1995. Coursework included theoretical philosophy. The master’s degree (Swedish: magister or fil. mag.) is from Stockholm University, and, according to my notes from the call, in theoretical philosophy (although I guess coursework in some other subject could perhaps be included in the degree). He also did some additional coursework. He started to study at university in Lund in fall 1992. I asked Bostrom whether this is him but he did not reply. More information that I noted from my call with the university include that the person could see information from different universities in Sweden, and there are in total 367.5 higher education credits in the system (from different Swedish universities) for Boström, according to the current method for counting credits. 60 credits is a normal academic year (assuming one does not, e.g., take summer courses). Boström bachelor’s degree corresponds to 180 credits, which is the exact requirement for a bachelor’s degree. The total number of credits (367.5) corresponds to 6.125 years of full-time study (again, assuming, e.g., no summer courses or extra evening courses). According to the university, he started studying in 1992 and, according to Bostrom’s CV, he studied at Stockholm University until 1996. I asked Bostrom and I gather he confirmed that he only has one bachelor’s degree.

# 2NC

### T/ Case

#### Capitalism causes unethical AI development that feeds neoliberalism.

Gurumurthy 20 (Anita Gurumurthy works for IT for Change, an NGO that works at the intersection of digital technologies and social change, and is engaged in research and policy advocacy on network society, with a focus on governance, democracy and gender justice. “How to make AI work for people and planet” , <https://www.opendemocracy.net/en/oureconomy/how-make-ai-work-people-and-planet/> , 10 March 2020, date accessed 9/17/21)

The human body is asserting itself more than as a performative spectacle on the streets. From Hong Kong to India, Catalonia, Lebonan, Chile and many more, the body is a signifier of bio-power and hope, defeating surveillance, courting arrest and deliberately seeking the system’s panoptic gaze. The proliferation of protests suggests a tipping point – but systematic change is harder work. And in this regard, we know enough about what the building blocks to dismantle and recreate social structures in their entirety may look like. After all, democracy was born out of the churn that political and economic structures were put through in history. The AI (artificial intelligence) moment as we know it presents a frightening challenge – it is born of and continually feeds a global crisis of gross injustice of a deep state that is led on by a deeper corporation. Sonia Correa, the Brazilian feminist scholar, calls attention to the wider process of de-democratisation that confronts us. The collusion of the neoliberals and the neoconservatives is ravaging the rights of the majority everywhere, constantly creating the un-deserving other. Human rights activists in the digital domain are broadly of the view that the existing human rights regime is still relevant to the challenges of the 21st century. However, a complete failure of twentieth century institutions in promoting global democracy and the rapid evolution of the AI era seem to bring in an unforeseen complexity. A normative crisis characterises the systems that work the techno-economic structures of the world. Carrying the DNA of cyber-libertarian and tech-utopian ambitions of Silicon Valley entrepreneurs, these structures point to the crying need for norms-building for a new data epoch, acknowledging the strengths and limitations of the human rights framework. The fourth industrial revolution demands that the creaking institutions of twentieth century democracy be dismantled. This is not a romantic call for revolution, but an assertion that is historically aware and grounded in the continuities of capitalism. We are compelled to look at time-space and scalar relationships afresh. We are forced to rearticulate institutional values and norms as if data is real; the data economy, the real economy. And we need to acknowledge that the virtual is institutional. Incremental approaches will not work. In the long march of capitalism, this moment of discontinuity has produced hegemonic discourses of AI that serve neoliberal capitalism. The bi-polar geoeconomic order in which US and China are carving up the rest of the world into their economic dominion requires to be countered by an ‘ideas revolution’ for data and AI. The planet’s very sustenance is at stake. The intelligent corporation with its virtualized production and distribution networks can no longer be contained by the rulebook for place-bound operations. Its ceaseless data accumulation needs a new institutional framework for economic rights in data. The datafication and algorithmic management of citizenship cannot be mended by making technical choices. Citizenship rights need to be reimagined as nested, multi-scalar and essentially political. The future of work built on the present of AI-led labour substitution and worker surveillance is but a new era of bondage. It epitomises capital’s ‘final freedom’ from labour. Worker data rights need to be the cornerstone of a new social contract, not to be left to the benevolence of capital. A virulent patriarchy is on the upsurge globally. The fourth industrial revolution is blatantly sexist and mainstream public spheres are inherently misogynistic. Women need a different world order, and they need the power to vision and create it.

### Framework ⁠— 2NC

#### Their perm card votes for the alt and proves their conception of fiat is flawed

Schram 15 – Sanford F. Schram, Visiting Professor of Social Work and Social Research at Bryn Mawr College, Professor of Political Science at Hunter College, PhD and MA in Political Science from St. Lawrence University, The Return of Ordinary Capitalism: Neoliberalism, Precarity, Occupy, p. 178-186 [language modified]

The Movement of Movements: The Occupy Left Versus the Organized Left

In the current era, there is much intellectual, if not political, credibility to be gained by refusing to practice the multilevel mobilizing of an Occupy Left and subsequent efforts like Black Lives Matter. There is a growing consensus that Occupy was a failure and its current extensions just fritter away energy that should be concentrated on building an organized Left that can push successfully for wholesale change.16 Some on the left refuse to work with diverse groups on their different issues in real time. Instead, they insist on taking the long view that says such work is a distraction to the larger and critical cause of organizing for fundamental transformation of the existing political economic system.

A major concern for this faction is maintaining the purity of the Left, striving to remain uncontaminated by the compromises of coalitional politics that are necessary when addressing the myriad of specific issues associated with the inequities of neoliberalism.17 In this way, activism remains true to the tradition of radical politics as it was practiced during the age of revolution and especially the heyday of communist organizing. Sometimes this nostalgia for the history of radical politics can lead to blaming the victim, this time not so much blaming the poor for their own poverty but blaming the subordinated for their failure to organize effectively to enact fundamental change.18 Sometimes, the nostalgia for “one big union” to challenge the capitalist power structure is born of letting historical understanding crowd out the exigencies of the moment. In discussing the problem of combining scholarship and activism among leftist academics in the humanities, Bruce Robbins makes a point that has direct relevance to the academics of the organized Left as I am characterizing it. He asserts: “One trap the Left faces, at least to the extent that that Left is located in the academy, is an overemphasis on making a political program out of what it already does for a living.”19 Robbins is talking about bringing too much history into efforts to mobilize people who are focused on immediate concerns. Knowing about the history of the labor movement surely could help members of the precariat think about how to address their plight; from the perspective of ordinary citizens, they may not be all that open to hearing all that history when they are mostly concerned about landing a job once their unemployment has been cut off and they have had to declare bankruptcy. The bottom-up perspective encourages us to see things the way they do. And that might mean pushing to raise the minimum wage rather than holding out for the demise of capitalism or the adoption of a basic income.

Too much history can be matched with too much theory.20 Too often today, the organized Left is joined by the theoretical Left. An overemphasis on theory produces what John Gunnell calls “epistemic privilege,” that is, the idea that theory comes first and underwrites and authorizes the action that follows. Exercising epistemic privilege involves unquestioned acceptance of the cliché that without a sound theory there can never be effective political action.21 Yet it is questionable to what extent we need to be able to theorize why things are the way they are to be able to do something about them. Theory is undoubtedly important for placing political action in context, deepening meaning, and clarifying the conditions of political possibility.22 Yet an overemphasis on theory can be politically [destructive] ~~paralyzing~~. The preoccupation with theory can undermine the needed focus on strategy,23 especially when theory is concerned with the big picture of understanding the current situation overall and over time, and strategy is more narrowly focused on what will connect with ordinary people’s immediate concerns as they struggle to cope with the effects of a neoliberalizing economy.24

In other words, being an academic can get in the way of being an activist. A preoccupation with theory can distract us from working to achieve modest but worthwhile reforms that directly address people’s immediate concerns. This is doubly unfortunate if those reforms actually work to lay the groundwork for larger, transformational change in the future. Epistemic privilege can lead us away from the radical incrementalism of making small, realistic changes now that can lay the groundwork for larger ones down the road.

In fact, the very idea of modest reform can be dismissed by those seeking more dramatic change because it poses the real possibility that it will defuse anger among the politically diverse precariat and thereby forestall the more dramatic systemic change that is needed to put the inequities of the new normal of neoliberalism safely behind us. While largely limited to the ruminations of bloggers, it seems that many on the left have their own crisis strategy that is premised on the idea that if things get bad enough, spreading from the lower to the middle classes, mass mobilization against the existing structure of power will finally gain traction and political transformation will result. Yet this crisis strategy is indebted to the very same dichotomous thinking that prevents some on the left from appreciating the value, and even the need, to mobilize on multiple levels. It is a crisis strategy that trades off addressing people’s immediate needs in the short run for building up popular support for more dramatic change in the long run. It pits a “politics of survival” against a “politics of social change,” seeing them as mutually exclusive.25

This bloggers’ crisis strategy, however, seems at best an imagined strategy that no one is really actively working to execute (especially since it would impose growing hardship on the very people whom the Left wants to help). Yet even those among the Occupy Left are vulnerable to this type of misplaced crisis thinking. Chris Hayes, in his otherwise thoughtful examination of U.S. politics in the current age of hyperinequality, looks to a radicalized middle class that has become frustrated with its ability to move ahead.26 Hayes writes:

Crisis is not something to be longed for or embraced: as we’ve seen, war, financial crisis, natural disaster visit their most punitive blows upon the weakest, the poorest, the least powerful members of society. But political crises, moments when the keystone of authority of some major governing institution is whisked away like a Jenga block, can produce a tumbling cascade of new forms of politics. We’ve been looking at the tower for so long we forget it’s made of blocks; we forget it can be put back together in a different way.27

Hayes sees the economic malaise spreading upward to the point that the privileged with resources can now be mobilized to redress the situation and push for dramatic change. While the middle classes can indeed be a source of change, especially today (see chapter 2), this type of top-down, elite-driven political mobilization is vulnerable to being defused by concessions for those higher up at the expense of those below them.

Yet a better crisis strategy actually was implemented. It was made famous by Richard Cloward and Frances Fox Piven as the central means of mobilizing support in the 1960s for reform of the welfare system and transition to a guaranteed income.28 It was premised on a win-win that saw a politics of survival and a politics of social change as working synergistically. Piven and Cloward premised their strategy on their research, which estimated that about half of those eligible for welfare nationwide were not receiving it. If everyone who was eligible enrolled it would overload the system, create a crisis, and force elites to consider moving to a better system such as a guaranteed income (now called a basic income). The strategy worked in good part, with millions of people getting public assistance and Congress twice voting on a guaranteed income plan that was proposed by President Richard Nixon. While the plan was never adopted, many people got aid in the process. Signing up people for welfare helped address their immediate needs while growing membership in the cause for welfare rights intensified concern in the public that something had to be done to transform the broken system of aiding the poor. A politics of survival and a politics of social change were not pitted against each other; choosing one over the other was not required. Instead, the real crisis strategy was premised on the idea the two could work together synergistically.

This confusion about what is an effective crisis strategy is premised on overly dichotomous thinking that leads many on the left away from multilevel mobilizing. It also might explain why they are often better at resisting anything less than total transformation to a new society than in finding ways to support improvements that reduce people’s suffering in the here and now. This resistance to reform also reflects nostalgic preoccupations with a lost past, when the revolution by the laboring classes was a real possibility. In contrast today the diverse people whose economic condition is made precarious by the changing economy are less available to be organized for mass mobilization on behalf of a fundamental transformation of the inequitable neoliberal political economy. As a result, many on the left are at risk of passing up on politics as it actually occurs today and instead contenting themselves with perfecting theoretical purity. Even left-leaning alternative political parties, such as the initially quite successful Working Families Party, get dismissed as not deserving of support as soon as the party makes questionable compromises as part of the effort to leverage power within the existing system.29 In the hothouse environment born of frustration over the Left’s inability to make a concerted and effective effort for transformational change, any misstep potentially becomes an excuse for continued inaction. Sometimes it seems the only political action the purists would support is a coup. They long for days when revolution was a real option. In this way, the Left continues to practice one of its more dominant forms of melancholia.

We may, however, come to look nostalgically on the academic Left, regardless of its disabling preoccupations. Today, that group is rapidly being replaced by academics fortunate enough to secure appointments but too insecure in them to dare to think of combining activism and scholarship.30 This new generation is not even positioned to freely protest its own plight in the face of the ongoing corporatization of the academy, let alone start to work with ordinary Americans outside the academy who suffer the worst effects of the inequitable neoliberal economy. Confronting growing professional and institutional pressures from performance measurement schemes to publish in “high-impact” journals (i.e., highly cited, not highly influential politically), many academics now must publish constantly; however, their work is often assiduously theoretical and methodically arcane, as well as apolitical and disconnected from ongoing political struggle. Many of these younger academics are of the Left in their hearts and minds, but not on the printed page or in the streets.

Too often an insistence on organizing only for dramatic change can lead to immobilization on the grounds that proposed actions are less than entirely consistent with some blueprint about what is to be done to produce long-term structural change of society. Instead activism should be more humble, accepting that not all contingencies can be anticipated and social movement mobilization is not entirely predictable and cannot be planned out before it occurs.31 In particular, the Left needs to stop making political action an either/or proposition and begin to think seriously about how political mobilization on multiple levels—protests, parties, policy, and program administration—can be made to work together to bring into being a better world for those suffering on the bottom of the socioeconomic ladder. Radical movement politics in a variety of forms is what is needed today. Efforts focused on dramatic regime change still have their place, especially when there is a gnawing need to call out injustice and identify its structural sources embedded in the very foundations of the existing neoliberalized society. Yet what are we to do in the meantime? Is it possible to help alleviate suffering even while we work for more fundamental change? The ongoing resistance to anything less than wholesale societal change stems from the fact that it poses a falsely stark choice between radical movement politics and more conventional electoral and policy politics. This kind of thinking is overly dichotomous and fails to appreciate that mobilizing for change to redress the injustices of the neoliberalized economy does not always involve seeing the options as mutually exclusive.32

In fact, many activists today appreciate and participate in the diversity of movements involved in creating noteworthy changes in cultural practices, social relations, economics and politics.33 Much of the energy of these movements comes from outside the academy where people are not weighed down with theoretical preoccupations. When big ideas, theory included, get to matter are when ordinary people confronting their difficulties in their everyday lives come to see the relevance of those ideas.34 Today, there is a veritable movement of movements where change efforts take a diversity of forms, with some even working with, rather than against, the market system in ways that create more freedom and less oppression for ordinary people.35 Just as we should not see protest politics and electoral politics as mutually exclusive, so should we learn to appreciate the value of a radical incrementalism that works to address people’s problems in the here and now, while laying the groundwork for larger political transformation in the future. The protest politics of Occupy Wall Street has contributed to creating a context for the electoral successes of candidates such as Bill de Blasio, who became mayor of New York City with the support of the Working Families Party, which has strong ties to Occupy movement participants.36 How de Blasio works with protest groups, including those that have become embroiled in the volatile issue of racialized policing, suggests real challenges but also hope for change.37 Radical incrementalism suggests just this kind of synergy. It combines a politics of survival with a politics of social change to get significant improvements in state policy, following the successful model of welfare mobilization in the 1960s.38

The Road to Radical Incrementalism

Radical incrementalism is not really an option: it is the prevailing reality of politics. It realistically recognizes the economic, social, and political constraints that limit mobilization on behalf of radical change. It also is based on an appreciation often shared by proponents for radical change that efforts at sustained political mobilization are not something that happen overnight. Instead, it works to help people in the short run within existing constraints but in ways that make more dramatic political transformation eventually more likely.

As much as people on the left hope for a radical swing away from neoliberal social welfare programming in the current era, the arc of history under U.S. capitalism suggests a more modest process of incrementalism. Incrementalism is defined in the public policy literature as a process of policymaking where a series of small remedial, corrective steps enable change in existing policy.39 Yet the criticism of incrementalism is that it amounts to no more than tinkering with the existing system in ways that do nothing more than fine-tune the status quo. Perfecting neoliberalism means little more than making the ascendant disciplinary regime more effective in managing the poverty population and by extension everyone else who is made economically precarious by the transformed economy.40 Incremental changes in neoliberal policies can result in nothing more than improving the system for embedding market logic more deeply into society and our daily lives.41 It could amount to no more than perfecting the system for incentivizing market-consonant behavior in ways that end up leaving most people having to make do with the inadequate resources and opportunities afforded them in a changing economy.

Nonetheless, especially in an age of extreme political polarization that begets policy gridlock, incrementalism may be the prevailing reality more than ever. Under these conditions, it may be that ideas about more dramatic change need to be tempered with the reality of working for more limited changes that nonetheless do more than reinforce the existing system.42 The issue then becomes how to practice a radical incrementalism.43 By “radical incrementalism,” I mean a process in which people push for change recognizing it will not necessarily be as large as they might like but also in which small changes can do more than fine-tune the existing system. Radical incrementalism is not about tweaking what is already in place to help perpetuate the status quo and the existing structure of power. It rejects changes that in all likelihood are going to lead to the continuation of the very problems that people are trying to address. Instead, the small changes of radical incrementalism lay the groundwork for further changes that over time can help build to a transformation of the existing structure of power, the source of the problems being attacked.44 The key then is that when pushing for change as activists we must be able to distinguish radical incrementalism from the status-quo-reinforcing incrementalism most often offered by elites. This is often not easy but the goal is to try as much as possible to resist the cooptation elites will seek to gain by making minimal concessions. That is the focus we need today in an era of political gridlock born of polarization that stems in no small part from the wealthy using their wealth to block constructive responses to address the problems extreme inequality creates.

André Gorz highlighted the challenge in distinguishing between status quo incrementalism and radical incrementalism in his own terms when he distinguished what he called “non-reformist reform” from “reformist reform.”45 Gorz recognized that what distinguished progressive reform from statusquo-reinforcing reform was not easy to always identify, but nonreformist reforms are the progressive reforms that are essentially laying the groundwork to get beyond the inequities of capitalism by restructuring power relations. More recently David Harvey has called for appreciating the value of what he calls “revolutionary reforms” that provide the basis for challenging capitalist power over time.46 Radical incrementalism similarly involves making small changes that lay the basis for restructuring embedded power relations that prevent more ambitious changes from happening.47

Radical incrementalism is focused on changing power relationships but it is not against the use of power, and it is focused on finding ways for government and the governance of populations to work to improve the lives of ordinary people. It does not simply resist oppressive state power, it seeks to bend it toward enhancing the conditions under which people live with, participate in, and benefit from state power. Radical incrementalism works to offer constructive answers to such questions as: what type of governance is appropriate for ordinary people today and how can we rework power relations to realize it?48

Radical incrementalism can be practiced on multiple levels and across different dimensions of the policy process. It can involve protest movements adroitly deciding to accept particular concessions elites offer to quell dissent.49 It can also involve participating in electoral campaigns for candidates who resist capitulating to conventional politics as usual. It can involve pushing for changes in public policy that redistribute power and lay the foundation for broader changes in the future. Reallocating resources, such as to improve wages so that people can do more than just survive but also be better positioned to participate in the political process, is but one example.

### AT: Util ⁠— 2NC

#### Their framing causes genocide AND links

Santos 3, Professor of Sociology at the University of Coimbra (Boaventura de Souza Santos, 2003, “Collective Suicide?”, Bad Subjects, Issue # 63, http://www.ces.fe.uc.pt/opiniao/bss/072en.php)

According to Franz Hinkelammert, the West has repeatedly been under the illusion that it should try to save humanity by destroying part of it. This is a salvific and sacrificial destruction, committed in the name of the need to radically materialize all the possibilities opened up by a given social and political reality over which it is supposed to have total power. This is how it was in colonialism, with the genocide of indigenous peoples, and the African slaves. This is how it was in the period of imperialist struggles, which caused millions of deaths in two world wars and many other colonial wars. This is how it was in Stalinism, with the Gulag and in Nazism, with the holocaust. And now today, this is how it is in neoliberalism, with the collective sacrifice of the periphery and even the semiperiphery of the world system. With the war against Iraq, it is fitting to ask whether what is in progress is a new genocidal and sacrificial illusion, and what its scope might be. It is above all appropriate to ask if the new illusion will not herald the radicalization and the ultimate perversion of the western illusion: destroying all of humanity in the illusion of saving it. Sacrificial genocide arises from a totalitarian illusion that is manifested in the belief that there are no alternatives to the present-day reality and that the problems and difficulties confronting it arise from failing to take its logic of development to its ultimate consequences. If there is unemployment, hunger and death in the Third World, this is not the result of market failures; instead, it is the outcome of the market laws not having been fully applied. If there is terrorism, this is not due to the violence of the conditions that generate it; it is due, rather, to the fact that total violence has not been employed to physically eradicate all terrorists and potential terrorists. This political logic is based on the supposition of total power and knowledge, and on the radical rejection of alternatives; it is ultra-conservative in that it aims to infinitely reproduce the status quo. Inherent to it is the notion of the end of history. During the last hundred years, the West has experienced three versions of this logic, and, therefore, seen three versions of the end of history: Stalinism, with its logic of insuperable efficiency of the plan; Nazism, with its logic of racial superiority; and neoliberalism, with its logic of insuperable efficiency of the market. The first two periods involved the destruction of democracy. The last one trivializes democracy, disarming it in the face of social actors sufficiently powerful to be able to privatize the State and international institutions in their favour. I have described this situation as a combination of political democracy and social fascism. One current manifestation of this combination resides in the fact that intensely strong public opinion, worldwide, against the war is found to be incapable of halting the war machine set in motion by supposedly democratic rulers. At all these moments, a death drive, a catastrophic heroism, predominates, the idea of a looming collective suicide, only preventable by the massive destruction of the other. Paradoxically, the broader the definition of the other and the efficacy of its destruction, the more likely collective suicide becomes. In its sacrificial genocide version, neoliberalism is a mixture of market radicalization, neoconservatism and Christian fundamentalism. Its death drive takes a number of forms, from the idea of "discardable populations", referring to citizens of the Third World not capable of being exploited as workers and consumers, to the concept of "collateral damage" , to refer to the deaths, as a result of war, of thousands of innocent civilians. The last, catastrophic heroism, is quite clear on two facts: according to reliable calculations by the Non-Governmental Organization MEDACT, in London, between 48 and 260 thousand civilians will die during the war and in the three months after (this is without there being civil war or a nuclear attack); the war will cost 100 billion dollars, enough to pay the health costs of the world's poorest countries for four years. Is it possible to fight this death drive? We must bear in mind that, historically, sacrificial destruction has always been linked to the economic pillage of natural resources and the labor force, to the imperial design of radically changing the terms of economic, social, political and cultural exchanges in the face of falling efficiency rates postulated by the maximalist logic of the totalitarian illusion in operation. It is as though hegemonic powers, both when they are on the rise and when they are in decline, repeatedly go through times of primitive accumulation, legitimizing the most shameful violence in the name of futures where, by definition, there is no room for what must be destroyed. In today's version, the period of primitive accumulation consists of combining neoliberal economic globalization with the globalization of war. The machine of democracy and liberty turns into a machine of horror and destruction.

### Link ⁠— 2NC

#### Link turns case---Biden’s DOJ is full of neoliberal shills who will systematically underenforce anti-trust law.

Alsbergas & Moran 21, Research assistants at the Revolving Door Project at the Center for Economic and Policy Research (Elias & Max, February 23rd, “It’s Looking Like the Department of Justice Under Biden Will Have Major Influence from Corporate Law,” *Jacobin Magazine*, <https://www.jacobinmag.com/2021/02/corporate-power-amazon-big-law-department-of-justice-biden>, Accessed 10-16-2021)

It’s kind of trite, but personnel is policy. That goes doubly for the people you keep around you who aren’t on the books. People like Gorelick thrive because their relationships and their work are not scrutinized. This is how Biden is able to get away with the fact that unions helped put him in the Oval Office but some of his highest-level appointees have deep long-standing relationships with people who are anathema to labor’s agenda.

Biden is clearly signaling — and in some cases, moving — in a more left-wing direction on issues including labor, the environment, and so on. He’s certainly moving to the left of where Obama was at this point in his presidency. But a great number of the people who are staffing his administration across the board are still part of the same neoliberal groups that came up under Bill Clinton. They got their start in Democratic Party politics during the Reagan years, and that is still the frame through which they view a lot of these issues.

You’re seeing some of that, maybe, a little bit, begin to change. But absent significant pressure, the path of least resistance, and the path which Biden and his people are going to take, is to bring back the same people who have been doing and failing at these jobs for the last forty years.

### Hc

#### Pandemics are inevitable and accelerating because of the neoliberal pharma industry---it creates breeding grounds for pathogenic spread and undermines global preparedness.

Attard 20, Socialist Appeal activist and writer for Marxist.com, (Joe, March 24th, 2020, “Pandemics, profiteering and big pharma: how capitalism plagues public health”, https://www.marxist.com/pandemics-profiteering-and-big-pharma-how-capitalism-plagues-public-health.htm)

“Outbreaks are inevitable, pandemics are optional”

In 1994, Pulitzer-winning journalist Laurie Garrett wrote The Coming Plague: Newly Emerging Diseases in a World Out of Balance. This was followed in 2001 by Betrayal of Trust: The Collapse of Global Public Health. Over these two books, she explained that “human disruption of the global environment, coupled with behaviors that readily spread microbes between people and from animals to humans, guaranteed a global surge in epidemics, even an enormous pandemic. [These] outbreaks were aided and abetted by inept health systems, human behavior, and the complete lack of consistent political and financial support for disease-fighting preparedness everywhere in the world.”[[74]](https://www.marxist.com/pandemics-profiteering-and-big-pharma-how-capitalism-plagues-public-health.htm" \l "_ftn74) Though she didn’t put it in these terms, these books were a damning indictment of capitalism and its corrosive effects on public health. Garrett’s warnings were corroborated in a 2018 report by the Global Preparedness Monitoring Board, which warned that “there is a very real threat of a rapidly moving, highly lethal pandemic of a respiratory pathogen killing 50 to 80 million people and wiping out nearly 5% of the world’s economy”.[[75]](https://www.marxist.com/pandemics-profiteering-and-big-pharma-how-capitalism-plagues-public-health.htm" \l "_ftn75)

The report continues:

“Between 2011 and 2018, WHO tracked 1,483 epidemic events in 172 countries. Epidemic-prone diseases such as influenza, severe acute respiratory syndrome (SARS), Middle East respiratory syndrome (MERS), Ebola, Zika, plague, yellow fever and others, are harbingers of a new era of high-impact, potentially fast-spreading outbreaks that are more frequently detected and increasingly difficult to manage… Any country without basic primary health care, public health services, health infrastructure and effective infection control mechanisms faces the greatest losses, including death, displacement and economic devastation.”[[76]](https://www.marxist.com/pandemics-profiteering-and-big-pharma-how-capitalism-plagues-public-health.htm" \l "_ftn76) In other words, the current COVID-19 crisis is part of a new era in which pandemics will become more common, for the reasons I have described. The world is underprepared for this, and the poorest countries are going to suffer the most. Aside from the emergence of new pathogens, there are other threats on the horizon, including antibiotic-resistant strains of microbes like streptococcus and staphylococcus, cultivated in hospitals in the advanced capitalist countries, due to an over-reliance on antibiotics developed in the post-war period.[[77]](https://www.marxist.com/pandemics-profiteering-and-big-pharma-how-capitalism-plagues-public-health.htm" \l "_ftn77) Illnesses of the 19th and 20th century, like TB, are returning with a vengeance in poor communities like Harlem in New York City – and developing antibiotic resistance.[[78]](https://www.marxist.com/pandemics-profiteering-and-big-pharma-how-capitalism-plagues-public-health.htm" \l "_ftn78) In the 1990s, a forecast by the University of California predicted that by 2070 the world would have exhausted all antimicrobial drug options, as viruses, bacteria, parasites and fungi would have evolved complete resistance to the human pharmaceutical arsenal.[[79]](https://www.marxist.com/pandemics-profiteering-and-big-pharma-how-capitalism-plagues-public-health.htm" \l "_ftn79) This apocalyptic scenario could be avoided, if more was invested in R&D for vaccines and alternative treatments. But as explained, this is not a profitable avenue for big pharma. Responding to the aforementioned GPMB report, Garrett was sceptical that any of its proposals (which amount to lobbying governments and private enterprise to cooperate more effectively on funding and research) would amount to anything. She wrote: “With no intention of degrading the GPMB’s effort, I must sadly say that this core message has been shouted from the rafters many times before, with little discernible impact on tone-deaf political leaders, financial enterprises, or multinational institutions. There’s no reason to think this time will be any different.”[[80]](https://www.marxist.com/pandemics-profiteering-and-big-pharma-how-capitalism-plagues-public-health.htm" \l "_ftn80) Indeed, on a capitalist basis, it is unlikely that the situation will improve. These diseases have been conjured up by the system itself, and the living patterns of modern capitalist societies create ideal conditions for them to spread. Urbanisation has concentrated the vast majority of the planet’s 8bn people into dense populations, where disease can run rampant. And the dramatic increase in worldwide movement of people and goods (facilitated by modern transport, and exacerbated by war and climate change) creates viable channels for microbes to rage across the planet. It only took a matter of days before COVID-19 had spread from one end of the earth to the other. Such a global problem requires an international solution. But, as described, antagonism between different capitalist nations, the private property rights of the major pharmaceutical companies and the profit-based mode of production prevents the kind of coordinated response necessary to fight pandemics.

### modeling

#### Nanotech regulation serves as a mode of maximizing industry profits and preserving US leadership – their 1AC ev

Dennis 6 (Lindsay V., JD Candidate – Temple University School of Law, “Nanotechnology: Unique Science Requires Unique Solutions”, Temple Journal of Science, Technology & Environmental Law, Spring, 25 Temp. J. Sci. Tech. & Envtl. L. 87, Lexis)

Nanotechnology, a newly developing field merging science and technology, promises a future of open-ended potential. [6](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n6) Its scientific limits are unknown, and its myriad uses cross the boundaries of the technical, mechanical and medical fields. [7](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n7) Substantial research [8](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n8) has led scientists, [9](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n9) politicians [10](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n10) and academicians [11](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n11) to believe that nanotechnology has the potential to profoundly change the economy and to improve the national standard of living. [12](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n12) In addition, nanotechnology may touch every facet of human life because its products cross the boundaries of the most important industries, including electronics, biomedical and pharmaceutical  [\*89]  industries, and energy production. [13](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n13) In the future, nanotechnology could ensure longer, healthier lives with the reduction or elimination of life-threatening diseases, [14](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n14) a cleaner planet with pollution remediation and emission-free energy, [15](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n15) and the innumerable benefits of increased information technology. [16](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n16) However, certain uses, such as advanced drug delivery systems, [17](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n17) have given rise to an ethical debate similar to that surrounding cloning and stem cell research. [18](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n18) Moreover, some analysts have theorized that nanotechnology may endanger humankind with more dangerous warfare and weapons of terrorism, [19](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n19) and that nanotechnology may lead to artificial intelligence beyond human control. [20](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n20) The widespread use of nanotechnology far in the future threatens to alter the societal framework and create what has been called "gray goo." [21](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n21) Because nanotechnology has the potential to improve the products that most of us rely on in our daily lives, but also imperil society as we know it, we should research, monitor and regulate nanotechnology for the public good with trustworthy systems, and set up pervasive controls over its research, development, and deployment. In addition, its substantial impacts on existing regulations should be ascertained, and solutions incorporated into the regulatory framework. This paper addresses these concerns and provides potential solutions. Part I outlines the development of nanotechnology. Parts II and III explore the current and theoretical future applications of nanotechnology, and its potential side-effects. Then, Part IV analyzes the government's current role in monitoring nanotechnology, and the regulatory mechanisms available to manage or eliminate the negative implications of nanotechnology. Part V considers the creation of an Emerging Technologies Department as a possible solution to maximize the benefits and minimize the detrimental effects of nanotechnology. Lastly, Part VI examines certain environmental regulations to provide an example of nanotechnology's impact on existing regulatory schema.  [\*90]  Part I: Nanotechnology Defined   Nanoscience is the study of the fundamental principles of molecules and structures with at least one dimension roughly between 1 and 100 nanometers (one-billionth of a meter, or 10[su'-9']), otherwise known as the "nanoscale." [22](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n22) Called nanostructures, these are the smallest solid things possible to make. [23](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n23) Nanofabrication, or nanoscale manufacturing, is the process by which nanostructures are built. [24](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n24) Top-down nanofabrication creates nanostructures by taking a large structure and making it smaller, whereas bottom-up nanofabrication starts with individual atoms to build nanostructures. [25](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n25) Nanotechnology applies nanostructures into useful nanoscale devices. [26](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n26) The nanoscale is distinctive because it is the size scale where the properties of materials like conductivity, [27](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n27) hardness, [28](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n28) or melting point [29](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n29) are no longer similar to the properties of these same materials at the macro level. [30](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n30) Atom interactions, averaged out of existence in bulk material, give rise to unique properties. [31](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n31) In  [\*91]  nanotech research, scientists take advantage of these unique properties to develop products with applications that would not otherwise be available. [32](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n32) Although some products using nanotechnology are currently on the market, [33](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n33) nanotechnology is primarily in the research and development stage. [34](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n34) Because nanoparticles are remarkably small, tools specific to nanotechnology have been created to develop useful nanostructures and devices. [35](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n35) Two techniques exclusive to nanotechnology are self-assembly, and nanofabrication using nanotubes and nanorods. [36](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n36)  [\*92]  In self-assembly, particular atoms or molecules are put on a surface or preconstructed nanostructure, causing the molecules to align themselves into particular positions. [37](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n37) Although self-assembly is "probably the most important of the nanoscale fabrication techniques because of its generality, its ability to produce structures at different length-scales, and its low cost," [38](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n38) most nanostructures are built starting with larger molecules as components. [39](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n39) Nanotubes [40](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n40) and nanorods, [41](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n41) the first true nanomaterials engineered at the molecular level, are two examples of these building blocks. [42](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n42) They exhibit astounding physical and electrical properties. [43](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n43) Certain nanotubes have tensile strength in excess of 60 times high-grade steel while remaining light and flexible. [44](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n44) Currently, nanotubes are used in tennis rackets and golf clubs to make them lighter and stronger. [45](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n45) Part II: Nanotechnology's Uses   Researching and manipulating the properties of nanostructures are important for a number of reasons, including, most basically, to gain an understanding of how matter is constructed, and more practically, to use these unique properties to develop unique products. [46](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n46) Nanoproducts can be divided into four general categories: [47](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n47) smart materials, [48](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n48) sensors, [49](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n49) biomedical applications, [50](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n50) and optics and electronics. [51](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n51)  [\*93]  A "smart" material incorporates in its design a capability to perform several specific tasks. [52](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n52) In nanotechnology, that design is done at the molecular level. [53](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n53) Clothing, enhanced with nanotechnology, is a useful application of a smart material at the nanoscale. Certain nano-enhanced clothing contains fibers that have tiny whiskers that repel liquids, reduce static and resist stains without affecting feel. [54](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n54) Nano-enhanced rubber represents another application of a nanoscale smart material. [55](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n55) Tires using nanotech-components increase skid resistance by reducing friction, which reduces abrasion and makes the tires last longer. [56](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n56) The tires may be on the market "in the next few years" according to the National Nanotechnology Initiative (NNI). [57](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n57) Theoretically, this rubber could be used on a variety of products, ranging from tires to windshield wiper blades to athletic shoes. [58](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n58) A more complex nanotechnology smart material is a photorefractive polymer. [59](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n59) Acting as a nanoscale "barcode," these polymers could be used as information storage devices with a storage density exceeding the best available magnetic storage structures. [60](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n60) Nano-sensors may "revolutionize much of the medical care and the food packaging industries," [61](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n61) as well as the environmental field because of their ability to detect toxins and pollutants at fewer than ten molecules. [62](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n62) As the Environmental Protection Agency (EPA) recognizes: Protection of human health and ecosystems requires rapid, precise sensors capable of detecting pollutants at the molecular level. Major improvements in process control, compliance monitoring, and environmental decision-making could  [\*94]  be achieved if more accurate, less costly, more sensitive techniques were available. Nanotechnology offers the possibility of sensors enabled to be selective or specific, detect multiple analytes, and monitor their presence in real time. [63](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n63) Examples of research in sensors include the development of nano-sensors for efficient and rapid biochemical detection of pollutants; sensors capable of continuous measurement over large areas; integration of nano-enabled sensors for real-time continuous monitoring; and sensors that utilize "lab-on-a-chip" technology. [64](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n64) All fundamental life processes occur at the nanoscale, making it the ideal scale at which to fight diseases. [65](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n65) Two quintessential examples of biomedical applications of nanotechnology are advanced drug delivery systems and nano-enhanced drugs. [66](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n66) The promise of advanced drug delivery systems lies in that they direct drug molecules only to where they are needed in the body. [67](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n67) One example is focusing chemotherapy on the site of the tumor, instead of the whole body, thereby improving the drug's effectiveness while decreasing its unpleasant side-effects. [68](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n68) Other researchers are working to develop nanoparticles that target and trick cancer cells into absorbing certain nanoparticles. [69](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n69) These nanoparticles would then kill tumors from within, avoiding the destruction of healthy cells, as opposed to the indiscriminate damage caused by traditional chemotherapy. [70](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n70) Nano-enhanced suicide inhibitors [71](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n71) limit enzymatic activity by forcing naturally occurring enzymes to form bonds with the nanostructured molecule. [72](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n72) This may treat conditions such as epilepsy and depression because of the enzyme action component involved in these conditions. [73](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n73) Lastly, nanotechnology has the potential to revolutionize the electronics and optics fields. [74](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n74) For instance, nanotechnology has the potential to produce clean,  [\*95]  renewable solar power. [75](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n75) Through a process called artificial photosynthesis, solar energy is produced by using nanostructures based on molecules which capture light and separate positive and negative charges. [76](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n76) Certain Swiss watches and bathroom scales are illuminated through a nanotech procedure that transforms captured sunlight into an electrical current. [77](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n77) In the electronics field, nanostructures offer many different ways to increase memory storage by substantially reducing the size of memory bits and thereby increasing the density of magnetic memory, increasing efficiency, and decreasing cost. [78](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n78) One example is storing memory bits as magnetic nanodots, which can be reduced in size until they reach the super-paramagnetic limit, the smallest possible magnetic memory structure. [79](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n79) Advances in electronics and computing brought on by nanotechnology could allow reconfigurable, "thinking" spacecraft. [80](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n80) Some uses of nano-products already on the market include suntan lotions and skin creams, tennis balls that bounce longer, faster-burning rocket fuel additives, and new cancer treatments. [81](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n81) Solar cells in roofing tiles and siding that provide electricity for homes and facilities, and the prototypic tires, supra, may be on the market in the next few years. [82](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n82) The industry expects advanced drug delivery systems with implantable devices that automatically administer drugs and sensor drug levels, and medical diagnostic tools such as cancer-tagging mechanisms to be on the market in the next two to five years. [83](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n83) It is nearly impossible to foresee what developments to expect in nanotechnology in the decades to come. [84](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n84) Nonetheless, the book Engines of Creation presented one vision of the possibilities of advanced nanotechnology. [85](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n85) Nano-machines could be designed to construct any product, from mundane items such as a chair, to exciting items such as a rocket engine. [86](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n86) These "assemblers" could also be programmed to build copies of themselves. [87](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n87) Known as "replicators," these nano-machines could alter the world by producing an exponential quantity of themselves that are to be put to work as assemblers. [88](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n88) The development of assemblers could advance the space  [\*96]  exploration program, [89](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n89) biomedical field, [90](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n90) and even repair the damage done to the world's ecological systems. [91](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n91) Over time, production costs may sharply decrease because the assemblers will be able to construct all future products from an original blueprint at virtually no additional cost. [92](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n92) Part III: Nanotechnology's Side-Effects   With the good, however, comes the bad. The "gray goo problem," the most well-known unwanted potential consequence of the spread of nanotechnology, [93](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n93) arises when replicators and assemblers produce almost anything, and subsequently spread uncontrolled, obliterating natural organisms and replacing them with nano-enhanced organisms. [94](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n94) A more foreseeable issue is environmental contamination. [95](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n95) The EPA noted   As nanotechnology progresses from research and development to commercialization and use, it is likely that manufactured nanomaterials and nanoproducts will be released into the environment... . The unique features of manufactured nanomaterials and a lack of experience with these materials hinder the risk evaluation that is needed to inform decisions about pollution prevention, environmental clean-up and other control measures, including regulation. Beyond the usual concerns for most toxic materials ... the adequacy of current toxicity tests for chemicals needs to be assessed ... . To the extent that nanoparticles  [\*97]  ... elicit novel biological responses, these concerns need to be accounted for in toxicity testing to provide relevant information needed for risk assessment to inform decision making. [96](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n96)   In addition, nanotechnology could change the face of global warfare and terrorism. [97](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n97) Assemblers could be used to duplicate existing weapons out of superior materials, and chemical and biological weapons could be created with nano-enhanced components. [98](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n98) Modern detection systems would be inadequate to detect nano-enhanced weapons built with innocuous materials such as carbon. [99](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n99) Luckily, nanotechnology offers responses to these problems, and researchers are already tackling these issues. [100](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n100) "Labs-on-a-chip," a sensor system the size of a microchip, could be woven into soldiers' uniforms to detect toxins immediately. [101](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n101) Adding smart materials could make soldiers' uniforms resistant to certain chemical and biological agents. [102](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n102) Nanotechnology also enhances threats against citizens. Drugs and bugs (electronic surveillance devices) could be used by police states to monitor and control its citizenry. [103](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n103) Viruses could be created that target specific genetic characteristics. [104](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n104) Not only is the development of technologically advanced, devastating weaponry itself a hazardous effect of nanotechnology, but also, millions of dollars have already been spent researching potential uses of nanotechnology in the military sphere, [105](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n105) thus diverting funds from more beneficial uses such as biomedical applications and clean energy. However, these negative effects are not inevitable. By analyzing the scope of potential drawbacks accompanying these research investments, lawmakers can institute regulatory controls that could mitigate these problems.  [\*98]  Part IV: Maximizing Benefits, Minimizing Catastrophe   To minimize or eliminate the problems associated with nanotechnology, while maximizing the beneficial effects, nanotechnology research and development should be monitored and regulated by "trustworthy systems." [106](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n106) Currently, the federal government oversees a massive funding and research program with the purpose of "ensuring United States global leadership in the development and application of nanotechnology." [107](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n107) Nonetheless, as nanotechnology becomes more prevalent, more thorough regulation may be necessary. [108](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n108) Nanotechnology may greatly impact some of the largest revenue producing industries in the United States, such as the pharmaceutical and medical fields, utilities and power generation, and computer electronics. [109](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n109) Thus, it is clear that nanotechnology will likely touch every facet of human life. In addition, these powerful industries have been known to promote profits over human safety, [110](http://www.lexis.com/research/retrieve?cc=&pushme=1&tmpFBSel=all&totaldocs=&taggedDocs=&toggleValue=&numDocsChked=0&prefFBSel=0&delformat=XCITE&fpDocs=&fpNodeId=&fpCiteReq=&brand=&_m=82ab008e42cdd5d1d23cfd1d96b430bb&docnum=5&_fmtstr=FULL&_startdoc=1&wchp=dGLbVtz-zSkAb&_md5=f86737f923f2df1de12147f84a019421&focBudTerms=Nanotechnology%3A+Unique+Science+Requires+Unique+Solutions&focBudSel=all#n110) one of the reasons for their stringent regulation.  [\*99]

### AT: Double Turn

### 2NC ⁠— Alternative

### AT: sustainability

#### Can’t solve warming ⁠— ignores regressions, outsourcing emissions, AND our ev assumes best-case scenarios

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Can Economies Grow as Carbon Emissions Fall?

All economic activity requires energy; to the extent, this energy comes from fossil fuels, the energy use results in emissions of CO2.8 This linkage implies that deep emissions reduction will constrain economic growth unless there is decoupling—meaning that drastic emission reductions are possible with little or no effect on growth. An instructive device for analyzing the linkage (or decoupling) of growth and CO2 emissions is the well-known Kaya identity (Kaya and Yokobori 1997), which decomposes global CO2 emissions (in million tonnes), denoted by C, into measurable “drivers” directly relevant to climate and energy policy: C=P×YP×CE×EY=P×y×c×e (1) where P = world population (billions of persons), Y = world GDP (in 2010 US$), E = total primary energy supply or TPES (in PJ), y = global per-capita income (in 2010 US$), c = C/E = carbon intensity of primary energy supply, or CO2 emissions per TPES, and e = E/Y = energy intensity of GDP. External factors influence the variables that make up the identity, and the variables interact with one another in various ways. Whatever the underlying causal mechanisms, the identity has to be satisfied ex-post. Carbon emissions rise, ceteris paribus when world population increases and/or when per-capita income rises. Emissions decline when energy intensity declines, for example, when higher energy prices cause firms to make energy efficiency investments that reduce the amount of energy needed to produce output. Carbon intensity declines when the share of renewable energy sources in electricity generation increases and the share of fossil-fuel energy goes down. In the growth-rate from the Kaya identity can be approximated by: Global carbon emissions growth is driven by population growth Pˆ, per-capita income growth yˆ, the growth of the carbon intensity of energy cˆ, and the growth of energy intensity of GDP eˆ. Table 1 shows the results of a decomposition of global CO2 emissions for the period 1971–2017 and our projection for the period 2017–2050, which satisfies Equation (2). We focus on CO2 emissions from the energy system which represent more than 70% of global GHG emissions in 2010.9 [Table 1 omitted] Let us first consider historical changes during 1971–2017 when global CO2 emissions increased by 1.88% yr−1. Growth in the population (at 1.52% yr−1) and in per capita real GDP (at 1.49% yr−1) exerted upward pressure on CO2 emissions, which was only partially offset by downward pressure from higher energy efficiency (energy intensity declined by 0.96% yr−1) and lower carbon intensity (which declined by 0.17% yr−1).10 These downward trends in energy and carbon intensity are still insufficient to delink economic growth and carbon emissions. Table 1 signals some improvement over time however, as energy intensity has begun to decline appreciably faster post-1990, recording a decline of 1.05% yr−1 during 1991–2017 as compared to 0.86% during 1971–1990. There is no similar sign of declining carbon intensity—the carbon intensity declined by 0.41% yr−1 during 1971–1990 but did not decline further during 1991–2017 Global average changes are the net outcomes of underlying regional changes. Table 2 shows the Kaya decomposition results for the OECD countries and the non-OECD countries, as well as separately for the U.S.A., the E.U.-28, China, India, and Indonesia, for the period 1971–2017. Country trajectories differ, but there are four general developments that are of critical importance to changes in emission trajectories. First, population growth has been lower during 1991-2017 compared to 1971-1990, leading to lower CO2 emissions growth; this declining trend will continue during the rest of this century. Second, all countries experienced negative energy intensity growth—in the OECD countries during 1991–2017, the improved energy efficiency more than offset the upward pressure on carbon emissions coming from per capita income growth. Third, the E.U.-28 and the U.S.A. exhibit negative carbon intensity growth, but somewhat worryingly, the rate of de-carbonization in the OECD has been slowing down during 1991–2017 compared to the years 1971–1990. The E.U. carbon intensity decline recorded during 1991–2017 is dominated by the growing share of (zero-carbon) renewables in total energy use, particularly due to Germany’s Energiewende (cf. Peters et al. 2017, 120). The non-OECD countries as a whole experienced somewhat lower carbon intensity growth during 1971–2017, as China, India, and Indonesia managed to substantially lower their (still high) carbon intensity growth rates. For instance, China brought down carbon intensity growth from 0.85% yr−1 during 1971–1990 to 0.27% yr−1 during 1991–2017, mostly because it reduced the share of fossil fuels in total energy use, and especially of coal (Grubb et al. 2015; Peters et al. 2017, 119; Guan et al. 2018). Finally, neither in the OECD nor in the non-OECD countries are the negative energy intensity growth and the declining carbon intensity growth large enough to ensure a decoupling of growth of CO2 emissions and growth of real GDP. The world as a whole has achieved only relative decoupling but no absolute decline in carbon emissions during 1971–1990 and 1991–2017. [Table 2 omitted] The greatest potential for drastic cuts in emissions lies in the deep de-carbonization of energy systems (Geels et al. 2017), which is exactly what emission scenarios consistent with COP21 indicate (Peters et al. 2017). The potential is largest in the non-OECD countries, where “low-hanging fruit” could be harvested by means of a rapid phasing out of coal, an equally rapid “phasing in” of renewable energies, enhancing the biosphere and carbon sinks, and the large-scale deployment of CCS. But most models cannot identify emission pathways consistent with the 66% “below 2 °C” goal without a large-scale ramp-up of CCS facilities (Peters et al. 2017, 121). It should be obvious that past and current trends in energy and carbon intensity are woefully inconsistent with future pathways that would stabilize the climate at temperature rises well below 2 °C—continuing with business-as-usual will irreversibly put the Earth System onto a “Hothouse Earth” pathway (Steffen et al. 2018). “The challenge that humanity faces,” write Steffen et al. (2018, 3), “is to create a “Stabilized Earth” pathway that steers the Earth System away from its current trajectory toward the threshold beyond which is Hothouse Earth.” The key issue is what the deep emissions reductions will mean for economic growth. Can we stabilize the climate system while growing the economy? A tentative growth projection for the period 2017–2050 is provided in the last two columns of Table 1. We use the transparent Kaya identity in growth rate form to explore the scope for economic growth in a climate-constrained world: yˆ=Cˆ−Pˆ−cˆ−eˆ (3) We assign values to the right side of Equation (3) to determine per-capita real income growth. First, we adopt the United Nation’s population projection (the “medium variant” from UN DESA 2015), which implies Pˆ = 0.79% yr−1 until 2050. Next, in line with the “2050 Low Carbon Economy Roadmap” adopted by the E.U., we assume that global CO2 emissions in 2050 will be 85% lower than in 1990; this implies an annual average reduction in global carbon emissions Cˆ by 6.92% yr−1. Our numbers refer to CO2 emissions caused by the combustion of fossil fuels in the energy sector. The latest IPCC target—net zero emissions by 2050—refers to all climate-relevant GHGs (IPCC 2018). CO2 emissions from land-use changes and the transport sector, as well as other GHG emissions, are probably harder to reduce or more expensive to reduce than energy-sector CO2 emissions; and it is doubtful that negative-emission technologies can be ramped up to the equivalent of 15% of the 1990 global emissions level. Therefore the 85% reduction target is a soft one (the IPCC target is stricter). Next, we borrow from the OECD (2017, Table 2.18) the projected decreases in energy intensity and carbon intensity: eˆ = −2.69% yr−1 and cˆ = −3.68% yr−1. These ambitious intensity reductions originally come from the IEA-IRENA 66% 2 °C scenario (IEA-IRENA 2017), which refers to the G20, and we assume they apply to the whole world. Based on the assumptions made, the climate-constrained growth rate of global real per-capita income is found to be negative (−1.34%yr−1) during the next three decades: yˆ=Cˆ−Pˆ−cˆ−eˆ=−6.92%−0.79%+3.68%+2.69%=−1.34% (4) Even with a relatively “soft” emission-reduction target, climate-constrained growth is not just well below the historical income growth rate (of 1.49%yr−1 during 1971–2017), but negative—which means there is a conflict between growing the world economy and keeping global warming from becoming dangerous and unstoppable. The sobering bottom line is this: taking the 85% reduction target as given, even under the techno-optimistic assumption that we manage to bring about historically unprecedented reductions in carbon intensity and energy intensity, the climate constraint is binding in the sense that future global economic growth would have to be not just significantly lower than historical growth, but even negative.11 An argument in favor of greater scope for economic growth has to rely on even more optimistic assumptions concerning technological progress—even more potent climate policies would have to be adopted to bring about even sharper reductions in carbon intensity and energy intensity. The growth implications of uncompromising climate policies are not obvious. Our plea is that we do whatever it takes to force through the technological, structural and societal changes needed to reduce carbon emissions so as to stabilize warming at 1.5 °C (Grubb 2014; Steffen et al. 2018) and just accept whatever consequences this has in terms of economic growth.

Is Obama Right about Decoupling?

The only way the world can meet the COP21 target is by a permanent absolute decoupling of growth and CO2 emissions (de Bruyn and Opschoor 1997; Ward et al. 2016). As shown in Tables 1 and 2 absolute decoupling over long periods remains elusive both in the OECD and non-OECD countries (as a whole). But what about recent individual country experiences: is there a group of leading high-income countries, including the U.S., that are growing their GDP while at the same time reducing their carbon emissions? Can we indeed put to rest the argument that halting warming requires accepting lower growth, as Obama argues? We systematically investigate the hypothesis that today’s high-income countries have crossed the turning point of the ubiquitous “inverted U-shaped” CKC (see Dinda 2004; Kaika and Zervas 2013a, 2013b; Stern 2017). The CKC hypothesis holds that CO2 emissions per person do initially increase with rising per capita income (due to industrialization), then peak and decline after a threshold level of per capita GDP, as countries arguably become more energy-efficient, more technologically sophisticated and more inclined to and able to reduce emissions by corresponding legislation and enforcement. The large empirical and methodological literature12 on the CKC does not provide unambiguous and robust evidence of a CKC peaking for carbon dioxide, if only because of well documented but yet unresolved econometric problems concerning the appropriateness of model specification and estimation strategies (e.g., Wagner 2008). We will leave these econometric issues aside however and instead focus on the fact that the majority of empirical CKC studies use territorial or PB emissions data to test the CKC hypothesis (Mir and Storm 2016)—and hence overlook the emissions embodied in international trade and in global commodity chains (Peters et al. 2011). Based on IPCC guidelines, GHG emissions are counted as the national emissions coming from domestic production. This geographical definition hides the GHG emissions embodied in international trade. Rich countries including the EU-27 and the United States. with high average consumption levels are known to be net carbon importers as the CO2 emissions embodied in their exports are lower than the emissions embodied in their imports (Nakano et al. 2009; Boitier 2012; Agrawala et al. 2013). Vice versa, most developing (and industrializing) countries are net carbon exporters. What this implies is that, because of cross-border carbon leakages, CB emissions are higher than PB emissions in the OECD countries but lower in the developing countries (Aichele and Felbermayr 2012). This indicates that while there may well be a Kuznets-like delinking between per-capita income and per-capita PB emissions, it is as yet unclear whether such delinking is also occurring in terms of CB emissions (e.g., Rosa and Dietz 2012; Knight and Schor 2014; Jorgenson 2014; Mir and Storm 2016).13 If not, the notion of “carbon decoupling” has to be rethought—in terms of a delinking between income and CB emissions. After all, it is no great achievement to reduce domestic per capita carbon emissions by outsourcing carbon-intensive activities to other countries and by being a net importer of GHG, while raising consumption and living standards (e.g., Rothman 1998; Bagliani, Bravo, and Dalmazzone 2008).

Estimating the Turning Points of Production-Based and Consumption-Based CKCs

Method

To evaluate the CKC hypothesis we run standard panel data regressions of per-capita CO2 emissions on per-capita income and per-capita income squared. The data and replication files are available as part of the supplementary materials on the article webpage. The population model includes country-specific effects and time-specific effects: lnco2=β0+β1⋅ln y+β2⋅(ln y)2+αt+ai+u (5) The dependent variable, co2, is either PB per-capita CO2 emissions or CB per-capita CO2 emissions. y is “real” per-capita GDP, and u is the unobserved disturbance term. t = 1, 2, …, T indexes time periods, and i = 1, 2, …, n indexes countries. αt is a time-specific effect, and ai is a country-specific effect (the population model, as written here, includes a regression constant, so ∑tαt=0 and ∑iai=0). The model restricts all countries to have a common turning point while allowing the level of emissions at the turning point to differ across countries. Turning points TP are calculated as TP=exp(−βˆ12βˆ2) (6) where the hat “∧” from now on denotes an estimate of the corresponding population parameter. The country-specific effect captures, for instance, a country’s endowment with fossil fuels. This interpretation immediately suggests that ai correlates with y; after all, a large resource endowment can be expected to increase a country’s income. The fixed-effect estimator (FE) addresses this endogeneity problem. The cross-country panel is short (large n, small T). The time-specific effects are estimated by the inclusion of dummy variables in the regressor vector. Equation (5) represents the “standard EKC regression model” (Stern 2017, 13), relating the log of per-capita emissions to the log of per-capita income. With the fixed-effects estimator, we are using the most common, tried, and tested estimation method. Alternative estimation methods including non-parametric ones tend to produce similar results (Stern 2017). The fixed-effects estimator exploits the variation over time to estimate the parameters of the model in Equation (5). Over a time period of one or two decades, the within-variation is relatively small compared to the variation across countries. Consequently, the standard errors will be relatively large. This is the price to pay for the ability to control for country-specific effects. Structural change means that the parameters of the model (5) will in general not be constant over time, but given our time horizon of one or two decades, there is no point in testing for structural breaks. When predicting the level of per-capita CO2 emissions for the average country, we use Duan’s smearing estimate to address the re-transformation bias (Duan 1983). Simply re-transforming the estimated conditional expectation would lead to underestimation of the per-capita emission level. We predict the per-capita emissions level at the mean of the estimated time-specific effects and the mean of the (implicitly) estimated country-specific effects: co2ˆ0=h⋅exp(βˆ0+βˆ1⋅ln y0+βˆ2⋅(ln y0)2+1T∑Tt=2aˆt) (7) where h=N−1∑i∑t exp(aˆi+uˆit) is the adjustment factor. aˆi+uˆit is the combined residual, the sum of the implicitly estimated country-specific effect and the idiosyncratic residual. Duan’s assumptions (homoscedasticity and i.i.d. data) are not satisfied here (heteroscedasticity and possible dependence across time), but it is better to make the adjustment than to knowingly underestimate the per-capita emission level.

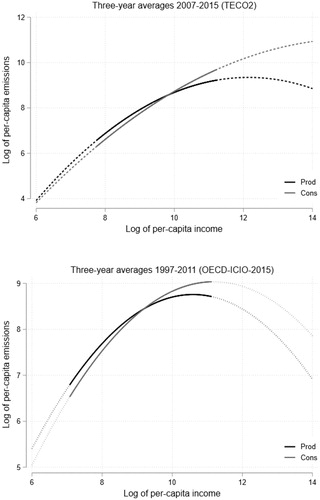
Data

Our primary CO2 emissions data come from TECO2, the OECD’s Trade-in Embodied CO2 Database (OECD, 2019).14 The database, described in Wiebe and Yamano (2016), provides county-level estimates of CO2 emissions caused by the combustion of fossil fuels. This emissions concept excludes CO2 emissions from land-use change and forest fires, fugitive emissions, and emissions from industrial processes. The independent variable, co2, is defined as either PB emissions divided by population or CB emissions divided by population (kg CO2 per person). TECO2 covers 64 countries between 2005–2015. The GDP and population variables come from the Penn World Table (PWT) 9.1 (Feenstra, Inklaar, and Timmer 2015). The income variable, y, is defined as expenditure-side real GDP at chained PPPs in 2011 US$ (PWT variable code “rgdpe”) divided by population (“pop”). We simply write “dollars” or “dollars per person” to refer to this unit. We work with non-overlapping three-year averages to reduce measurement error and focus on structural relationships. We exclude small countries from our main estimation sample; more specifically, we exclude countries with a 1990–2015-average population below the first quartile in the PWT (fewer than 1.92 million people). The main estimation sample has N = 174 observations with n = 58 and T = 3. Table 3 reports descriptive statistics of the main sample (based on TECO2) and the other two samples. The mean per-capita income level in the main sample is $28,000, the minimum income is $2300 (Cambodia), and the maximum income is $75,000 (Singapore). The majority of countries in the main sample are high-income countries; income at the first quartile is $15,000. PB emissions range from 310 to 23,105 kg CO2 per person, and CB emissions range from 527 to 20,867 kg CO2 per person. The 58 countries account for 85% of global emissions in 2015 (both in terms of PB accounting and in terms of CB accounting). [Table 3 omitted]

Robustness

We adjust the baseline regressions in a number of ways to assess the robustness of the results. We include linear and quadratic time trends; we vary the observation frequency by switching from three-year non-overlapping averages to annual data; we include the small countries that are excluded from the main estimation sample; and finally, we use several sources for the CO2 emission data. This last robustness check is particularly important because the literature documents how country-level CB emission estimates vary with the underlying input-output table (Wiedmann et al. 2011; Moran and Wood 2014; Rodrigues et al. 2018; Wieland et al. 2018). Therefore, we source alternative CO2 emission data from Eora15 and the OECD-ICIO-201516. Both databases provide country-level estimates of PC and CB CO2 emissions caused by the combustion of fossil fuels. Eora (Lenzen et al. 2013) covers 190 countries between 1990 and 2015. The OECD-ICIO-2015 (OECD 2015) covers 61 countries between 1995 and 2011.

Regression Results

Figure 1 plots CKCs for the “average country” and “average time period,” that is, it shows predicted emissions at varying income levels at the mean of the country-specific effects and the mean of the time-specific effects (the country-specific effects and the time-specific effects shift the intercept, moving the curves up or down). The curves in the upper panel are derived from regressions based on the main estimation sample. The regressions provide no evidence for the existence of a CKC, neither for PB emissions nor for CB emissions. Over the sample range, emissions monotonically increase with income. There is no turning point. Figure 1. The Carbon-Kuznets-Curve. Note: Based on calculations by the authors as described in the Method section. For the underlying fixed-effect estimations results, see Table 4, column 1, and Table 5, column 1. The CKCs are drawn as solid lines inside the range of observed per-capita incomes and as dotted lines outside the sample range (dotted when higher than the sample maximum or lower than the sample minimum).  The claim that eventually emissions will fall as income grows—there are turning points, but they are outside the sample range—would require a willingness to extrapolate the statistical relationship beyond the extreme values in the sample to an unobserved domain. The data determines the shape of the curve in the sample range, but it cannot tell us whether the population parameters and the functional form are stable at unobserved income levels. The statistical analysis of historical data cannot justify extrapolation. The fixed-effect regression that underpins Figure 1 is summarized in Table 4. Columns 1 and 4 report results from the baseline specification that includes time period dummies in the regressor vector. A Wald test for the joint significance of the time period dummies suggests that they should be included in the regression model (it rejects the null that the coefficients on the time period dummies are jointly zero). The signs of the regression coefficients are consistent with the existence of a CKC, but their magnitude implies turning points far outside the estimation sample range. In the case of CB emissions, the coefficient on the log of income squared is not statistically significant at the 5% level, suggesting a linear positive relationship between emissions and income.17 Replacing the time period dummies with a linear time trend (columns 2 and 5) or with a quadratic time trend (columns 3 and 6) changes little: coefficient signs, magnitudes, and their statistical significance are essentially the same as in the specification with time period dummies. [Table 4 omitted] A different source for emissions data gives different results. We postulate the same statistical model and use the same estimation method but switch the emissions data source. The use of the OECD-ICIO-2015 database leads to the CKCs shown in the lower panel of Figure 1—now the turning points fall inside the estimation sample range. The turning point for PB emissions is at $39,000–$41,000 and the turning point for CB emissions is at nearly twice that level at $71,000–$78,000, near the estimation sample’s maximum. The underlying regressions are summarized in Table 5. In general, the OECD-ICIO-2015 yields more precise coefficient estimates (in the sense that the t ratios are higher than in the baseline regressions) because it covers a longer stretch of time and the fixed-effects estimator relies on time variation. The table reports six regressions that all support the existence of a CKC: the coefficients have the “right” signs and magnitudes and are statistically significant at the 0.1% level. [Table 5 omitted] The appendix presents the results of several robustness tests. Table 6 replicates the analysis from Table 4 and 5, this time using Eora as the source for emissions data. The Eora sample contains more developing countries than the other two samples, which introduces additional variation in the dependent variable. The income variables and time dummies capture only a small fraction of this variation. The coefficients have the “right” signs, but are not statistically significant, even after excluding potential outliers (quantitative outlier tests could support the exclusion of observations from Belarus, Moldova, and Ethiopia). The lack of statistical significance stems in part from the high correlation between the log of income and the log of income squared. When either variable is included alone, its regression coefficient becomes statistically significant and indicates a positive relationship between income and emissions (regressions not reported). Table 7 adds six small countries that were excluded from the main estimation sample, meaning it uses data for all 64 countries covered by TECO2. The results are basically the same as in Table 4 and need no further commenting. Table 8 moves from the three-year non-overlapping averages to annual observations. Exploiting the high-frequency variation does improve the precision of the coefficient estimates, and the coefficient on the log of income squared turns up statistically significant. Changes to the size of the coefficients are minor. Overall TECO2 suggests that emissions monotonically increase with income, for the database produces no evidence of turning points inside the sample range, neither for PB emissions nor for CB emissions. [Tables 6-8 omitted] In the case of CB emissions, the regression coefficients vary with the source data (compare the columns 4–6 in Table 4 and Table 5). In the case of PB emissions, the coefficients hardly change. Yet even small changes in the coefficients generate large changes in the turning points (e.g., compare the columns 1–3 and 4–6 in Table 5) because the turning points are calculated as an exponential function of the ratio of the regression coefficients. Given this non-linearity, an innocuous switch of the source for emissions data has dramatic implications for the turning points. Therefore, the exact quantitative implications of the CKC analysis are to be interpreted with caution. Robust quantitative interpretations would presume a level of precision that no statistical analysis can deliver. The implied turning points, whether inside the sample range or outside, are higher for CB emissions than for PB emissions—this qualitative finding is robust and holds across all specifications.

Summing Up

Our econometric analysis yields three conclusions. First, the evidence in support of a CKC pattern for PB emissions is fragile at best. Only the OECD-ICIO-2015 database generates the inverted-U-shaped pattern. In any case, global economic development along the CKCs would not be compatible with the IPCC (2018) pathway consistent with keeping global warming below 1.5 °C. If China developed along the path of the production-based CKC, it would exhaust a third of the global carbon budget before even reaching the turning point.18 The production-based inverted U-shaped CKC is, in other words, not a relevant framework for climate change mitigation. Second, our results suggest that economic growth has not decoupled from CB emissions.19 Some of the OECD countries have managed to some extent to delink their production systems from CO2 emissions by relocating and outsourcing carbon-intensive production activities to the low-income countries. The generally used production-based GHG emissions data ignore the highly fragmented nature of global production chains (and networks) and are unable to reveal the ultimate driver of increasing CO2 emissions: consumption growth (Rosa and Dietz 2012; Knight and Schor 2014; Mir and Storm 2016). Corroborating evidence is provided by Jorgenson (2014) who finds that in North America, Europe, and Oceania, increases in human well-being (measured as life expectancy) are associated with a rising carbon intensity of well-being. Third, and most importantly, what the statistical analysis shows is that to avoid environmental catastrophe, the future must be different from the past. However, the dominant “green growth” approaches remain squarely within the realm of “business-as-usual” economics, proposing solutions which rely on technological fixes on the supply side and voluntary or “nudged” behavior change on the demand side, and which are bound to extend current unsustainable production, consumption and emission patterns into the future. The belief that any of this half-hearted tinkering will lead to drastic cuts in CO2 emissions in the future is altogether too reminiscent of Saint Augustine’s “Oh Lord, make me pure, but not yet.” If past performance is relevant for future outcomes, our results should put to bed the complacency concerning the possibility of “green growth.” We have to stop the self-deception.

#### Poverty is increasing because of capitalism---they put a happy face on colonialism.

Hickel 19, An academic at the University of London and a fellow of the Royal Society of Arts (Jason, January 29th, “Bill Gates says poverty is decreasing. He couldn’t be more wrong,” *The Guardian*, <https://www.theguardian.com/commentisfree/2019/jan/29/bill-gates-davos-global-poverty-infographic-neoliberal>, Accessed 07-12-2021)

There are a number of problems with this graph, though. First of all, real data on poverty has only been collected since 1981. Anything before that is extremely sketchy, and to go back as far as 1820 is meaningless. Roser draws on a dataset that was never intended to describe poverty, but rather inequality in the distribution of world GDP – and that for only a limited range of countries. There is no actual research to bolster the claims about long-term poverty. It’s not science; it’s social media.

What Roser’s numbers actually reveal is that the world went from a situation where most of humanity had no need of money at all to one where today most of humanity struggles to survive on extremely small amounts of money. The graph casts this as a decline in poverty, but in reality what was going on was a process of dispossession that bulldozed people into the capitalist labour system, during the enclosure movements in Europe and the colonisation of the global south.

Prior to colonisation, most people lived in subsistence economies where they enjoyed access to abundant commons – land, water, forests, livestock and robust systems of sharing and reciprocity. They had little if any money, but then they didn’t need it in order to live well – so it makes little sense to claim that they were poor. This way of life was violently destroyed by colonisers who forced people off the land and into European-owned mines, factories and plantations, where they were paid paltry wages for work they never wanted to do in the first place.

In other words, Roser’s graph illustrates a story of coerced proletarianisation. It is not at all clear that this represents an improvement in people’s lives, as in most cases we know that the new income people earned from wages didn’t come anywhere close to compensating for their loss of land and resources, which were of course gobbled up by colonisers. Gates’s favourite infographic takes the violence of colonisation and repackages it as a happy story of progress.

But that’s not all that’s wrong here. The trend that the graph depicts is based on a poverty line of $1.90 (£1.44) per day, which is the equivalent of what $1.90 could buy in the US in 2011. It’s obscenely low by any standard, and we now have piles of evidence that people living just above this line have terrible levels of malnutrition and mortality. Earning $2 per day doesn’t mean that you’re somehow suddenly free of extreme poverty. Not by a long shot.

Scholars have been calling for a more reasonable poverty line for many years. Most agree that people need a minimum of about $7.40 per day to achieve basic nutrition and normal human life expectancy, plus a half-decent chance of seeing their kids survive their fifth birthday. And many scholars, including Harvard economist Lant Pritchett, insist that the poverty line should be set even higher, at $10 to $15 per day.

So what happens if we measure global poverty at the low end of this more realistic spectrum – $7.40 per day, to be extra conservative? Well, we see that the number of people living under this line has increased dramatically since measurements began in 1981, reaching some 4.2 billion people today. Suddenly the happy Davos narrative melts away.

Moreover, the few gains that have been made have virtually all happened in one place: China. It is disingenuous, then, for the likes of Gates and Pinker to claim these gains as victories for Washington-consensus neoliberalism. Take China out of the equation, and the numbers look even worse. Over the four decades since 1981, not only has the number of people in poverty gone up, the proportion of people in poverty has remained stagnant at about 60%. It would be difficult to overstate the suffering that these numbers represent.

This is a ringing indictment of our global economic system, which is failing the vast majority of humanity. Our world is richer than ever before, but virtually all of it is being captured by a small elite. Only 5% of all new income from global growth trickles down to the poorest 60% – and yet they are the people who produce most of the food and goods that the world consumes, toiling away in those factories, plantations and mines to which they were condemned 200 years ago. It is madness – and no amount of mansplaining from billionaires will be adequate to justify it.

## ADV 1

### 2NC---!D---Emerging Tech

### 2NC---!D---Superintelligence

#### No AI extinction---it’s impossible and centuries away at best.

Oren Etzioni, 16 - CEO of the Allen Institute for Artificial Intelligence and Professor of Computer Science at the University of Washington; "Most experts say AI isn’t as much of a threat as you might think," MIT Technology Review, 9-20-2016, https://www.technologyreview.com/s/602410/no-the-experts-dont-think-superintelligent-ai-is-a-threat-to-humanity/

To get a more accurate assessment of the opinion of leading researchers in the field, I turned to the Fellows of the American Association for Artificial Intelligence, a group of researchers who are recognized as having made significant, sustained contributions to the field.

In early March 2016, AAAI sent out an anonymous survey on my behalf, posing the following question to 193 fellows:

“In his book, Nick Bostrom has defined Superintelligence as ‘an intellect that is much smarter than the best human brains in practically every field, including scientific creativity, general wisdom and social skills.’ When do you think we will achieve Superintelligence?”

Over the next week or so, 80 fellows responded (a 41 percent response rate), and their responses are summarized below:

In essence, according to 92.5 percent of the respondents, superintelligence is beyond the foreseeable horizon. This interpretation is also supported by written comments shared by the fellows.

Even though the survey was anonymous, 44 fellows chose to identify themselves, including Geoff Hinton (deep-learning luminary), Ed Feigenbaum (Stanford, Turing Award winner), Rodney Brooks (leading roboticist), and Peter Norvig (Google).

The respondents also shared several comments, including the following:

“Way, way, way more than 25 years. Centuries most likely. But not never.”

“We’re competing with millions of years’ evolution of the human brain. We can write single-purpose programs that can compete with humans, and sometimes excel, but the world is not neatly compartmentalized into single-problem questions.”

“Nick Bostrom is a professional scare monger. His Institute’s role is to find existential threats to humanity. He sees them everywhere. I am tempted to refer to him as the ‘Donald Trump’ of AI.”

Surveys do, of course, have limited scientific value. They are notoriously sensitive to question phrasing, selection of respondents, etc. However, it is the one source of data that Bostrom himself turned to.

Another methodology would be to extrapolate from the current state of AI to the future. However, this is difficult because we do not have a quantitative measurement of the current state of human-level intelligence. We have achieved superintelligence in board games like chess and Go (see “Google’s AI Masters Go a Decade Earlier than Expected”), and yet our programs failed to score above 60 percent on eighth grade science tests, as the Allen Institute’s research has shown (see “The Best AI Program Still Flunks an Eighth Grade Science Test”), or above 48 percent in disambiguating simple sentences (see “Tougher Turing Test Exposes Chatbots’ Stupidity”).

There are many valid concerns about AI, from its impact on jobs to its uses in autonomous weapons systems and even to the potential risk of superintelligence. However, predictions that superintelligence is on the foreseeable horizon are not supported by the available data. Moreover, doom-and-gloom predictions often fail to consider the potential benefits of AI in preventing medical errors, reducing car accidents, and more.

Finally, it’s possible that AI systems could collaborate with people to create a symbiotic superintelligence. That would be very different from the pernicious and autonomous kind envisioned by Professor Bostrom.

# 1NR

## Innovation

### 1NR---Thumper

### 1NR---AT: DA

### 1NR---!D---Disease

#### No antibiotic apocalypse---it’s slow and research solves.

Cox 17, Lecturer in Microbiology, Aston University. PhD, Molecular Microbiology and Drug Discovery. (Jonathan, 3-21-2017, "It’s the age of the antibiotic revolution, not apocalypse", *Conversation*, https://theconversation.com/its-the-age-of-the-antibiotic-revolution-not-apocalypse-73476)

Bad news sells papers. Or as Elliot Carver, the media mogul set on world domination in the Bond film Tomorrow Never Dies put it: “There’s no news like bad news.” As a scientist, my responsibility is to separate fact from fiction, to follow evidence, not instinct. So when I read doomsday reports of a coming “antibiotic apocalypse”, I question their legitimacy. Are we really all standing on the edge of the medical precipice, about to tumble into an oblivion of death-by-superbug? We most certainly are not. The end of the world may well be on the horizon, but it surely won’t be due to antibiotic resistance. In order to understand why, you need to understand resistance: where it comes from, what it can do, and crucially, what scientists are doing about it. Predominantly, antibiotic resistance is a man-made problem. Since the discovery of penicillin in 1928, we have consistently provided the opportunity for resistance to evolve, persist and spread through the mismanagement and incorrect administration of antibiotics. We have also learned major lessons in the last decade as to where antibiotic resistance comes from and what measures we can take to control it. Some of these, such as the C-reactive protein (CRP) test – which can help detect if patients actually need antibiotic drugs or not – are proving to be highly effective, while others haven’t been and have occasionally even exacerbated the problem. Sensitivity testing before use The point is, scientists all over the world are working tirelessly to think up new and innovative solutions to the problem. Despite their best efforts, and a growing understanding of antibiotic resistance, we still sometimes get it wrong. A woman in the US recently died of an infection so incredibly resistant that “there were no antibiotics left” to treat her. Some hysterical headlines described the deadly bacteria as a “superbug resistant to all available antibiotics”, because 26 different types failed to work. But was her infection resistant to all of these before she was given the very first antibiotic? The answer is undoubtedly, no. Fundamentally, bacteria are given an opportunity to develop resistance. Sensitivity testing allows infections to be tested against different antibiotics in a lab to see if they will be effective. While this was carried out on the woman’s infection, it was already too late – somewhere along the line, she’d had too much exposure to inappropriately used antibiotics and the infection had become resistant. Sensitivity testing at the start of an infection should be standard practice. The first questions doctors should be asking are “What antibiotics will actually work against this?” and “What am I up against?” so that any prescription will be effective in the first instance. More progressive hospitals with microbiology labs are beginning to do this as a matter of course to better control and manage antibiotic resistance. There isn’t always time, for example with sepsis, which moves very fast, but for chest, skin, and urinary tract infections the results can be available within 24 hours. Treatment is then based on fact rather than a guess. If you get it wrong enough times, you get resistance. Failing to test for bacterial sensitivity early on in the infection, waiting instead until it is known that the infection is resistant, makes the scenario much worse. Claims that the use of colistin, a “last hope” antibiotic, is soaring in English hospitals is true. But this is driven by a failure to test for antibiotic sensitivity before it is too late, leading to a need to turn to colistin. Clinicians often assume everyone’s urinary, respiratory or other infection is the same, and will respond in the same way to tried and tested antibiotics. Scientifically speaking, everyone’s infection is different and should be treated as such. No apocalypse in sight Sad as the death of the woman in the US is, it is not uncommon for a death to result from resistance. Reports suggest that around 700,000 people die from antibiotic resistant infections globally each year, the majority in underdeveloped countries with poor access to healthcare. This number is predicted to rise to 10m deaths a year by 2050 if nothing is done about the problem. But “apocalypse” is the wrong word for this. The global population has doubled since World War II, when around 10m people a year died. Humankind certainly won’t be wiped out. Even if we were to face the worst case scenario by 2050, antibiotic resistance would affect about 1% of people on the planet. And that is assuming we sit back and do nothing. In fact, 1,618 scientific research papers were published on antibiotic resistance in 2015. There is lots of funding into resistance and scientists are doing lots to tackle the problem. Schemes such as the Longitude Prize – a prize for scientists that has currently set a challenge for creating a cost-effective, accurate, rapid and easy-to-use test for bacterial infections – are pushing the momentum of discovery in this area.

#### ABR won’t get close to extinction, and intervening actors solve it.

Cara 17, science writer for The Atlantic, Newsweek, and Vocativ. (Ed, 1-27-2017, “The Attack Of The Superbugs”, http://www.vocativ.com/394419/attack-of-the-superbugs/)

Antibiotic-resistant infections kill at least 700,000 people worldwide a year right now, according to an exhaustive report commissioned by the UK in 2014, and without any substantial medical breakthroughs or policy changes that slow down resistance, they may claim some 10 million deaths annually by 2050 — eclipsing cancer in general as a leading cause. These deaths largely won’t come from pan-resistant infections, just tougher ones. A preventable death there, a preventable death here. Leaving that aside, antibiotics, along with proper sanitation and nutrition, gird our entire way of living. Most every invasive surgery, pregnancy, organ transplant and chemotherapy session we go through will become riskier. Other diseases like HIV, malaria or influenza will become deadlier, since bacteria often exploit the opening in our immune system they leave behind. And already precarious populations like those living with cystic fibrosis, prisoners, and the poor will lose years off their lives. For all the warranted gloom, though, Farewell does think there are reasons to be hopeful. “I don’t think we are doing enough, but the scientific community along with many governmental and private foundations are very actively involved in finding not only new antibiotics, but new solutions to this problem,” she said. There’s been a noticeable change in attitude and increased urgency surrounding antibiotic resistance, she said, one that she hadn’t seen even five years ago, let alone twenty. Until recently, that attitude change could be seen from places as high up as the U.S. federal government. In 2014, former President Obama issued an executive order aimed at addressing antibiotic resistance, the first real acknowledgement of the problem from an administration, devoting funding and outlining a national action for combatting resistance. Through its federal agencies, the administration pushed to reduce antibiotic use on farms and encouraged doctors to stop using them in excess. “There has been a lot of work done the last couple of years, much of it spurned by [Obama’s] National Action Plan,” said Dr. David Hyun, a senior officer for Pew Charitable Trusts’ Antibiotic Resistance Project. The CDC, in particular, has used its funding to open up regional labs that allow them to better detect and respond to antibiotic-resistant outbreaks like the Nevada case, he said. They ultimately hope to create an expansive surveillance system that can easily keep track of resistance rates on a national, state and regional level. A parallel system also exists for monitoring resistance in the food chain, shepherded by the CDC and the U.S. Department of Agriculture. In fact, it was this sort of cooperation between national and local health agencies that enabled Nevada doctors to stop the worst from happening, said Dr. Lei Chen. The swift identification of a possible CRE strain by the hospital, coupled with the woman’s medical history, led to a precautionary quarantine, while also prompting Chen’s public health department and eventually the CDC into action. And it may help prevent future cases from spilling into the public. According to Chen, the CDC has allocated funding this year to all of Nevada’s state public health departments so they can better detect CRE and other dangerous resistant strains. Under the Trump administration, there’s no telling how these small victories will hold up or whether they will advance. All references to antibiotics once found on the Whitehouse.gov site have been removed, including a link to the Obama administration’s national action plan, and the fact that they’re already tried to bar USDA scientists from discussing their work with the public while stripping funding from other public health agencies isn’t encouraging. Even with the best public policy, however, there’s no clear light at the end of the tunnel. Antibiotic resistance has gradually been worsening, even within the last 15 to 20 years, when superbugs like methicillin-resistant Staphylococcus aureus (MRSA) first became widely known, said Hyun. The effort needed to develop new drugs has been in short supply, hamstrung by pharmaceutical companies’ inability to recoup the costs of bringing new antibiotics to market. That’s because, unlike the latest heart medication, any new antibiotics will have to be treated like the last drops of water during a drought, used as little as possible — the exact opposite way to make money off a new product. Yet, much like climate change, the financial toll of not doing anything will total in the trillions years down the road. And it already numbers in the billions now, according to the CDC. Of course, we need bacteria to survive. And most need or pay no mind to us in return. Even pan-resistant bacteria don’t really mean harm. Some have been found in perfectly healthy people, a fact that’ll either comfort you or keep you awake at night, only causing problems when our immune system wavers. There’s no army of sentient E. coli that will rise up and someday overthrow the human race. But barring the calvary showing up, a new fear of ours will learn to settle in, almost unnoticed. It’ll creep in when we pick our heads up from a nasty fall that scrapes our skin open or breaks our bones; when we wave goodbye to our loved ones before they enter an operating room, or when we cradle our newborns into a world teeming with the living infinitesimal, wishing there was still a way to shield them from it as our parents once could for us. A fear of naked vulnerability. The antibiotic apocalypse will be gentle, if it fully arrives, but it won’t be any less devastating to the human spirit.

## T

### 1NR---AT---W/M

#### The court does not recognize a distinction because it is an unanswered question

Safvati 16 [KU Yellow] [Sina Safvati, J.D., University of California, Los Angeles, School of Law, with honors, 2016 B.A., University of California, Los Angeles, summa cum laude, 2012 CLERKSHIPS U.S.C.A., 9th Circuit U.S.D.C., Southern District of Florida, https://www.uclalawreview.org/wp-content/uploads/2019/09/Safvati-63-4-update.pdf]

The public-private distinction has caused much uncertainty in the field of Parker immunity from federal antitrust laws.1 Due to federalism concerns, the U.S. Supreme Court held in Parker v. Brown that states as sovereigns are exempt from federal antitrust law.2 The question of when other entities acting under the auspices of state power are similarly exempt, however, remains largely unanswered. At which point does an entity gain sufficient “publicness” to obtain Parker immunity?3 [Footnote 3] See IA PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW: AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION ¶ 226b (3d ed. 2006) (“[D]etermining whether an actor is sufficiently ‘public’ so as not to require supervision has often proven difficult.”). In North Carolina Board of Dental Examiners v. FTC, the Supreme Court recently attempted to bring clarity to this question in the context of a state occupational licensing board, labeled a state agency under state law.4 The Court held that the board, a decisive coalition of whose members were active members of the industry they were charged with regulating, was a private entity for purposes of Parker immunity.5 In 1950, about 5 percent of the American workforce occupied a job that required a state license.6 Today, that figure has skyrocketed to about one-third of the American workforce.7 Current market participants have incentives to lobby state legislatures to create these highly specialized licensing boards.8 The vast majority of state occupational boards consist of financially interested market participants.9 That anticompetitive policies have been on the rise can hardly be a surprise given the makeup of these boards.10 The role of Parker immunity for state occupational licensing boards therefore becomes a pivotal question. Are such entities exempt from federal antitrust law? To arrive at an answer, two threshold questions must be asked. First, does a particular state occupational licensing board fall under the “private” or “quasipublic” category in Parker immunity analysis? Second, if a board falls under the “private” category, what type of showing will suffice to satisfy the active state supervision requirement? The Court’s decision in North Carolina Board of Dental Examiners has reinvigorated antitrust suits against state licensing boards. For example, Teladoc, a company within the telehealth industry that is committed to using telecommunication technologies to provide health care services, has brought claims against the Texas Medical Board, asserting that it had committed a violation of antitrust law for its formal rulemaking that required face-to-face visitation before a physician could issue a prescription to a patient.11 The parties stipulated that because the board was “largely composed of market participants,” the Texas Medical Board was a private entity, subject to the active state supervision requirement.12 In addition, state bar associations are now under attack from businesses like LegalZoom that offer legal document-preparation services and present a threat to licensed attorneys.13 In light of the North Carolina Board of Dental Examiners decision, the North Carolina Bar, controlled by active market participants, was forced to settle an antitrust suit brought by LegalZoom, permitting the online provider of legal services to continue operating in the state.14 States have scrambled to make recommendations and issue administrative rules and executive orders to adjust to this new antitrust reality. Oklahoma’s Governor issued an executive order concluding that sufficient statutory safeguards were in place for boards’ rulemaking powers but that procedural safeguards were insufficient to show active supervision for licensure or prohibition actions.15 Accordingly, the Governor ordered all non-rulemaking actions proposed by any state board controlled by active market participants to submit licensure or prohibition actions to the Office of the Attorney General for review.16 The Alabama State Board of Medical Examiners has issued an emergency rule suspending enforcement of telehealth rules immediately and seeking passage of a telehealth statute in light of the litigation brought against the Texas Medical Board.17 The Office of the Attorney General in California has issued an opinion examining the active state supervision requirement and identifying measures the legislature should take to reduce the risk of antitrust claims.18 Amid these developments, however, confusion in Parker immunity doctrine persists. The uncertainty stems from the Court’s failure to formally adopt the two principles that have shaped Parker immunity jurisprudence since its inception: financial disinterest and political accountability. In pursuit of much-needed doctrinal clarity, this Comment makes a descriptive case, inspired by Professor Einer Elhauge’s seminal article on Parker immunity,19 that Parker immunity jurisprudence has been shaped by inquiring into the functional purposes the public-private distinction serves in the context of delegating state power to municipalities, prototypical state agencies, and private entities. Two principles have shaped Parker immunity jurisprudence: (1) delegation of state power compromises political accountability, and (2) delegation of regulatory authority sacrifices the essential attribute of states as disinterested government agencies looking to the public good, rather than private gain.20

### 1NR---AT: Plan in Vacuum

#### First

Allensworth 16 [KU Yellow] [Rebecca Haw Allensworth, Associate Professor of Law, Vanderbilt Law School; J.D., Harvard Law School; M.Phil, University of Cambridge; B.A., Yale University, October 2016, ARTICLE: THE NEW ANTITRUST FEDERALISM, 102 Va. L. Rev. 1387]

Introduction IN just three relatively obscure antitrust cases, 1 [Footnote 1] N.C. State Bd. of Dental Exam'rs v. FTC, 135 S. Ct. 1101 (2015) [hereinafter NC Dental]; FTC v. Phoebe Putney Health Sys., Inc., 133 S. Ct. 1003 (2013); FTC v. Ticor Title Ins. Co., 504 U.S. 621 (1992). the U.S. Supreme Court has quietly revolutionized how states and the federal government share power. These cases addressed a doctrine - unfamiliar to those outside of the field of antitrust law - that grants "state action" immunity from federal antitrust liability 2 and thus marks the thin line that insulates state regulation from wholesale invalidation through federal antitrust lawsuits. 3 For decades, the Court conceived of this line, and the "antitrust federalism" it effected, as a formal question about where the state ended and antitrust liability began. This was the old antitrust federalism: a boundary-drawing exercise that gave strong deference to state regulation. The Court's state action revolution ushers in a new antitrust federalism, one that all but dispenses with the notion of separate spheres in favor of something less deferential to the states - procedural review of state regulation. Antitrust federalism may be less familiar than its constitutional cousin, but it is just as important - if not more so - to the state-federal balance of power. The Sherman Act forbids anticompetitive restraints of trade and monopolization of markets, and it does not seem to limit these prohibitions to private citizens and corporations. 4 Because regulation often tinkers with the free market economy and tends to create competitive winners and losers, Sherman Act liability for state conduct would severely restrict a state's ability to regulate within its borders. 5 So when [\*1390] the Court extended the reach of the Sherman Act - along with all federal regulation passed under the Commerce Clause - during the New Deal, 6 it became necessary to define an exemption for "state action" or risk the demise of state regulatory autonomy altogether. And state action immunity from the Sherman Act was born. 7

#### Second

Kobayashi 20 [KU Yellow] [Bruce H. Kobayashi, George Mason University, Antonin Scalia Law School Professor, 10-4-2020 https://gaidigitalreport.com/2020/10/04/exemptions-and-immunities/#\_ftn92]

B. Spillover Effects and Antitrust Federalism The current state action doctrine does not enable jurisdictional competition or promote the principles of federalism because it does not account for the spillover effects of anticompetitive state regulation. Judge Easterbrook examined the Court’s state action holdings and found that the Court’s rulings were indifferent as to whether the effects of the regulation were actually internalized by the regulating state.[91] Allowing states to enact anticompetitive legislation reduced the extent and effectiveness of competition among the states, and thereby increased the cost of exit and relocation.[92] This nature of the spillover effect is exemplified in Parker v. Brown.[93] The state action doctrine was used to uphold a California regulation which authorized a raisin cartel. California raisin growers benefited greatly from that ability to price fix. However, over 90% of the grapes were exported outside of California—nationally and internationally—making the impact of the California raisin regulation reach beyond state lines.[94] The regulation harmed a large number of consumers outside of California while only benefiting a small number of private interest parties within the state. State action doctrine, although meant to preserve that state’s independence, actually allows the state to reap the benefits of the anticompetitive regulation while displacing the costs onto other states.[95] Therefore, it is worth considering if the current state action doctrine should be thought of differently, in a way that fully takes into accounts issues of federalism. Judge Easterbrook proposes a state action rule which considers the spillover effect of anticompetitive state regulation. Instead of examining clear articulation and active supervision, the Court would uphold an anticompetitive state regulation as long as its anticompetitive effects are internalized by that state’s residents.[96] Aligning state action doctrine with the economics of federalism will not only maintain states’ roles in antitrust, but also ensure that state antitrust exemptions have a diminished negative impact on consumer welfare. Analyzing the anticompetitive overcharge of regulations is also more administrable than attempting to analyze the regulations under the dormant Commerce Clause.[97] Considered under Easterbrook’s approach, Parker’s California raisin prorate program would be subject to antitrust scrutiny because the regulation’s costs were not internalized. State regulation of seemingly local competition is likely to effect more than just the economy of that specific state. When states grant antitrust immunities in situations involving interstate commerce, the state is exporting the anticompetitive effects of its regulations to citizens outside its own borders. Without accounting for the federal interest in an integrated national economy, state action doctrine far surpasses its narrow purpose of supervising local competition. C. The Appropriate Role of State Attorneys General in Federal Antitrust Disputes Federalism most often refers to the vertical relationship between the federal government and the states. Divergent viewpoints among antitrust enforcers can strain the system, thus comity and deference are crucial to efficient antitrust enforcement. A merger or acquisition is often scrutinized by multiple enforcers with multi-dimensional relationships. For example, the Sprint/T-Mobile merger involved the Antitrust Division and Federal Communications Commission, who share a horizontal relationship, and state attorneys general, with which the federal agencies share a vertical relationship. Disagreement between enforcers may occur at either level.[98] The merger between the two telecommunications firms was cleared by the FCC, the Antitrust Division, and ten state attorneys general.[99] Although a settlement agreement—which required divestitures—was in the process of being approved, several other state attorneys general filed a lawsuit to block the merger anyway.[100] Assistant Attorney General Makan Delrahim questioned the relief sought by the states,[101] citing the federal agencies’ expertise in the matter.[102] He noted that “a minority of states and the District of Columbia” were “trying to undo [the nationwide settlement],” a situation he believed was “odd.”[103] Delrahim reaffirmed states’ rights to sue for antitrust violations but criticized their attempt to seek relief inconsistent with the federal government’s settlement.[104] States may also enter settlement agreements with merging parties that are repugnant to sound antitrust enforcement. For example, in UnitedHealth Group/Sierra Health Services, the Nevada Attorney General required the merged firm to submit $15 million in charitable contributions which were not related to any antitrust violation.[105] Similarly, Massachusetts entered a settlement agreement with two hospitals that required increased spending on select programs and the creation of other projects and programs unrelated to antitrust concerns.[106] On the other hand, state antitrust enforcement can play a useful role in supplementing federal antitrust enforcement. First, the use of state autonomy within a federal system allows state and local governments to act as social “laboratories,” where laws and policies are created and tested at the state level of the democratic system, in a manner similar (in theory, at least) to the scientific method.[107] Thus, even if states enter into agreements with merging parties that the federal authorities view as anticompetitive or that impose ineffective remedies for the anticompetitive effects that would be generated by the merger, the information generated by such actions can be invaluable inputs into retrospective analyses of the competitive effects of mergers. These analyses are based on causal empirical designs which require both observation of post-merger price and quality effects from consummated mergers and the ability to compare these effects with a credible control group.[108] For example, state interventions such as COPA or Certificate on Need Laws that allow hospital mergers that generate competitive effects in local geographic markets facilitate retrospective studies of hospital mergers that can be used to validate and improve the economic models and other tools used to predict merger effects.[109] Second, in a system of federalism, the state enforcement of both the state and federal antitrust laws can be a valuable complementary resource that supplements scarce federal resources. Conflicts between the federal and state antitrust authorities are generated by the use of a cooperative or “marble cake” approach to federalism, where the tasks of the state and federal agencies are relatively undefined, overlapping, and imperfectly coordinated. In contrast, a “dual” or “layer cake” federalism approach, where power is divided ex-ante between the federal and state governments in clearly defined terms, can mitigate direct conflicts between state and federal authorities discussed above.

#### The plan would make state legislatures unable to apply state exemptions

Weber 16 [KU Yellow] [Jayme Weber, University of Arizona, James E. Rogers College of Law, J.D., 2016 https://www.cato.org/sites/cato.org/files/pubs/pdf/teladoc-285th-cir-29.pdf]

III. REFUSING SELF-INTERESTED BOARDS IMMUNITY FROM ANTITRUST LIABILITY IS FULLY CONSISTENT WITH FEDERALISM

“Federal antitrust law . . . is ‘as important to the preservation of economic freedom and our free-enterprise system as the Bill of Rights is to the protection of our fundamental personal freedoms.’” Dental Exam’rs, 135 S. Ct. at 1109 (quoting United States v. Topco Assocs., Inc., 405 U.S. 596, 610 (1972)). Every business, regardless of its size, is guaranteed the freedom “to assert with vigor, imagination, devotion, and ingenuity whatever economic muscle it can muster.” Topco, 405 U.S. at 610. Antitrust laws—particularly the Sherman Act—are “the Magna Carta of free enterprise,” and play a crucial role in upholding the national policy of economic freedom for anyone wishing to compete in the marketplace. Id.

In line with this national policy, the states clearly have an interest in preventing anticompetitive behavior and fostering robustly competitive markets within and across their borders. State governments also have an interest in reserving the ability to create regulatory subdivisions to which they can delegate some of their authority to accomplish specific tasks. At times, the states may deem it appropriate to design a regulatory body to deliberately exempt it from antitrust laws to achieve a specialized purpose.

States may confer antitrust liability on regulatory bodies—but only under certain conditions. Applying the state-action immunity doctrine too broadly and giving private actors a limitless ability to claim antitrust immunity for themselves would empower state-created cartels to “make economic choices counseled solely by their own parochial interests and without regard to their anticompetitive effects,” disrupting the free enterprise system that protects the national policy of economic freedom. Lafayette, 435 U.S. at 408.

Furthermore, broad application of the Parker-immunity doctrine would actually undermine the states’ ability to effectively delegate authority to specialized or local regulatory bodies by endowing these bodies with an antitrust immunity that state governments may have never meant to give them. “Neither federalism nor political responsibility is well-served by a rule that essential national policies are displaced by state regulations intended to achieve more limited ends.” Ticor, 504 U.S. at 636. The doctrine enables states to create regulatory subdivisions that do not interfere with the interest in preserving the benefits of competition. By “adhering in most cases to fundamental and accepted assumptions about the benefits of competition within the framework of the antitrust laws,” courts actually increase rather than diminish the states’ regulatory flexibility. Id. State legislatures may wish to make broad delegations of authority to their political subdivisions in order to maximize the benefits of the specialized governance those bodies offer— but that does not necessarily mean that state legislatures always want to give those entities the ability to violate the federal antitrust laws.

“When a state grants power to an inferior entity, it presumably grants the power to do the thing contemplated, but not to do so anticompetitively.” Phillip E. Areeda & Herbert Hovenkamp, Antitrust Law ¶ 225a, at 131 (3d ed. 2006). Relying on the backdrop of the national policy favoring competition, states may enact such broad delegations that are nevertheless intended to create specific and narrow, rather than general and wide-reaching, regulatory schemes. Giving regulatory agencies state-action immunity too readily would undermine states’ ability to do so, creating the hazard that legislatures will inadvertently authorize anticompetitive conduct. State legislatures cannot possibly anticipate every potential anticompetitive consequence of these delegations of authority and explicitly disavow antitrust immunity for every one. “‘No legislature . . . can be expected to catalog all of the anticipated effects’ of a statute delegating authority to a substate governmental entity.” Phoebe Putney, 133 S. Ct. at 1012 (quoting Hallie, 471 U.S. at 43).

If a state intends a specific anticompetitive result, it may clearly articulate that result—or make it plainly foreseeable, see id. at 1011—giving voters the chance to oppose immunity-creating legislation before it becomes law and making it easier to hold legislators accountable. Otherwise, states would be impeded in their freedom of action because they would have to act “in the shadow of state-action immunity whenever they enter[ed] the realm of economic regulation.” Ticor, 504 U.S. at 636. The limited and careful application of the state-action immunity doctrine gives states the most freedom in delegating power and crafting regulatory entities, ensuring legislatures that they will not accidentally confer immunity and allow regulatory bodies to go rogue with anticompetitive conduct that deviates from the states’ interest of preserving robust marketplace competition for the benefit of their residents.

### 1NR---T---Businesses

#### They also violate business---it’s commercial activity in the economy, not state regulations

Wisconsin Supreme Court 94 (SHIRLEY S. ABRAHAMSON, J. Opinion in Sprangers v. Greatway Ins. Co., 514 N.W.2d 1, 182 Wis. 2d 521 (1994). Google scholar caselaw. Date accessed 7/20/21).

In Newell-Blais Post No. 443 v. Shelby Mutual Insurance, 487 N.E.2d. 1371 (Mass. 1986), the Massachusetts Supreme Judicial Court was called upon to determine the meaning of the policy exclusion "engaged in the business of ... selling ... alcoholic beverages." 534\*534 Without careful analysis, the court concluded that the term "business" should be given its ordinary and usual meaning which is, according to a dictionary, a "usually commercial or mercantile activity customarily engaged in as a means of livelihood." Thus, the court concluded, the common meaning of the word "business" necessarily includes a purpose of gain or profit. Because the post was a non-profit veterans organization, it could not be considered to be engaged in the business of selling or serving alcohol.

### 1NR---AT: Overlimiting

#### 3---Here’s a case list. It could affect every private business with advantages a private health care and emerging tech!

WTO No Date (“FACTUAL PRESENTATION AGREEMENT BETWEEN SINGAPORE AND THE SEPARATE CUSTOMS TERRITORY OF TAIWAN, PENGHU, KINMEN AND MATSU ON ECONOMIC PARTNERSHIP (GOODS AND SERVICES) Report by the Secretariat” , <https://docsonline.wto.org/dol2fe/Pages/SS/DirectDoc.aspx?filename=t%3A%2Fwt%2Freg%2F350-1.doc&> , 19 January 2015, date accessed 8/28/21)

5.34. Chapter 10 deals with competition. Anti-competitive practices are defined as business conduct or transactions that adversely affect competition, such as: abuse of market power; anti-competitive mergers and acquisitions; and anti-competitive horizontal arrangements between competitors. The Parties agree to cooperate on matters relevant to competition policy in order to further effective competition law (Article 10.2). The Parties agree to notify each other of any enforcement activity regarding anti-competitive practices if such activity is liable to substantially affect the other Party's trade interests; relates to restrictions on competition which are liable to have a direct and substantial effect in the other Party; or concerns anti-competitive acts taking place principally in the other Party (Article 10.3).