## 1

#### Marxist critique must center around the act of production which lies at the core of the capitalist project.

**Weeks 11** Weeks, Kathi, *The Problem with Work: Feminism, Marxism, Antiwork Politics, and Postwork Imaginaries*. Duke University Press, Durham (2011); DOI: <https://doi-org.ezproxy2.williams.edu/10.1215/9780822394723>; CE

By altering the focus of the study in this way, Marx promises, ‘‘the secret of profit-making’’ will be exposed (280). By changing the site of the analysis from a market-based exchange to wage-based production, the labor-process itself—that is, the activity of labor and the social relations that shape, direct, and manage it—will be revealed as the locus of capitalist valorization. So what are the benefits of this vantage point? What do we see when we shift our angle of vision from the market sphere of exchange to the privatized sphere of production? As the language about revealing secrets suggests, part of what Marx seeks to accomplish by descending into this ‘‘hidden abode’’ is to publicize the world of waged work, to expose it as neither natural precursor nor peripheral byproduct of capitalist production, but rather as its central mechanism (the wage) and lifeblood (work). With this shift in perspective, Marxian political economy recognizes waged labor as central to the capitalist mode of production and claims it as the standpoint from which capitalism’s mysteries can be uncovered and its logics laid bare. This recognition of the significance of work remains, I argue, as relevant now as it was when Marx wrote, and it is this observation that my deployment of the category of the work society is intended, in part, to underscore. Waged work remains today the centerpiece of late capitalist economic systems; it is, of course, the way most people acquire access to the necessities of food, clothing, and shelter. It is not only the primary mechanism by which income is distributed, it is also the basic means by which status is allocated, and by which most people gain access to healthcare and retirement. After the family, waged work is often the most important, if not sole, source of sociality for millions. Raising children with attributes that will secure them forms of employment that can match if not surpass the class standing of their parents is the gold standard of parenting. In addition, ‘‘making people capable of working is,’’ as Nona Glazer notes, ‘‘the central goal of schooling, a criterion of successful medical and psychiatric treatment, and an ostensible goal of most welfare policies and unemployment compensation programs’’ (1993, 33). Helping to make people ‘‘work ready’’ and moving them into jobs are central objectives of social work (Macarov 1980, 12), a common rationale for the prison system, and an important inducement to perform military service. Indeed, enforcing work, as the other side of defending property rights, is a key function of the state (Seidman 1991, 315), and a particular preoccupation of the postwelfare, neoliberal state. But making public the foundational role of work is only part of what Marx achieves with this change in venue. In descending from the sphere of the market—which he satirized as ‘‘a very Eden’’ of equal rights, individual freedom, and social harmony (1976, 280)—into the privatized spaces of work, Marx seeks not only to publicize but also to politicize the world of work. That is to say, the focus on the consumption of labor seeks to expose the social role of work and, at the same time, to pose it as a political problem. Despite Marx’s insistence that waged work for those without other options is a system of ‘‘forced labor’’ (1964, 111), it remains for the most part an abstract mode of domination. In general, it is not the police or the threat of violence that force us to work, but rather a social system that ensures that working is the only way that most of us can meet our basic needs. In this way, as Moishe Postone notes, the specific mechanism by which goods and services are distributed in a capitalist society appears to be grounded not in social convention and political power but in human need (1996, 161). The social role of waged work has been so naturalized as to seem necessary and inevitable, something that might be tinkered with but never escaped. Thus Marx seeks both to clarify the economic, social, and political functions of work under capitalism and to problematize the specific ways in which such world-building practices are corralled into industrial forms and capitalist relations of work. This effort to make work at once public and political is, then, one way to counter the forces that would naturalize, privatize, individualize, ontologize, and also, thereby, depoliticize it.

#### Covid proves ineivtable collapse of capitalism

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The official narrative of COVID-19 states that the pandemic has caused the global capitalist economy to collapse, or at least to enter a deep recession and possibly a great depression, but is that correct? **A more accurate interpretation is that the pandemic has triggered a collapse that was going to happen anyway. For many years, the global capitalist economy has been crisis-ridden, unstable**, and “bubbly...subject to blowups.”1 **In August 2019, the interest yield on a 10-year US Treasury bond fell below that of a twoyear bond.** This inversion, indicating a **marked decline in investors’ confidence in long-term earnings, has preceded every recession since the 1950s.** These and other economic trends led the editors of Monthly Review to predict: “**There is now little doubt that the world economy is on the verge of a recession after a long sluggish recovery from the Great Financial Crisis of 2007– 09**.... In this instance, however, there lurks a bigger fear, the possibility of a financial Armageddon on the level of the Great Financial Crisis of 2008—or worse.”2 Conveniently, **the COVID-19 narrative assigns blame for the economic crash to a virus, taking attention away from the structural contradictions and instabilities that would have led to a crash in any case, as predicted for many months before the pandemic began.** The global capitalist **economy has switched to the expansion of finance capital and away from production of useful goods and services.** Financialization now creates “fictitious capital” such as packages of risk, derivatives, and futures. These fictional financial instruments involve gambles on the future valuation of an imaginary reality that does not correspond to any concrete economic good, service, or property. Global markets in financial instruments therefore become a more elite version of gambling that traditionally takes place in poker games, casinos, and racetracks. Creation of fictitious capital and **accumulation of capital through gambling create a vulnerability to burst financial bubbles and crashes like that of 2008.** That particular crash derived from the collapse of collateralized loan obligations: financial instruments that bundled housing loans for investment in global financial markets. **As the COVID-19 pandemic worsened, large investors spurred the rapid decline in prices of stocks and fictional financial instruments, as they rapidly sold off holdings that had become overvalued.** Later, **global stock markets have become more volatile while economic recession has deepened, throwing millions of people into unemployment, housing insecurity, and hunger. Blaming a virus for the crash mystifies the economic contradictions actually responsible for the abrupt end of the latest capitalist bubble**.3

#### The affirmative invests within capitalism in two way. First, is false liberalism. The plan is representative of the idea that capitalism can be saved- eliminating “intellectual property protections” is a scheme that aims to increase market competition for the purpose of profit.

Gilbert 19 [Geoff Gilbert is a Professor of Law in the School of Law and Human Rights Centre at the University of Essex. He was Head of Department between 2000-2003 and 2011-13. In 2012, he was appointed a Professorial Visiting Fellow at the University of New South Wales in Sydney. He was Editor-in-Chief of the International Journal of Refugee Law from 2002-15 and is co-Editor-in-Chief as of September 2019; he also sits on the Advisory Board., “Free trade” is today’s imperialism by the 1 percent, 1-13-2019,No Publication,https://www.bilaterals.org/?free-trade-is-today-s-imperialism, 8-21-2021 amrita]

As Lawrence Summers, economic adviser to the Clinton and Obama administrations, points out, the GATT/WTO free trade regime has been so successful that today’s free trade agreements aren’t even about the traditional obstacles to free trade, as these obstacles are already effectively eliminated in most countries. **Instead, today’s agreements involve protecting the property rights (especially the intellectual property rights) of multinationals and harmonizing the regulatory regimes across countries with which multinationals must comply. In other words, today’s free trade agreements are about enforcing the unequal economic relationships that global North corporations have continued to enjoy since the times of colonialism. The most egregious example of global North countries using the WTO to codify their colonial unequal economic relationships is the Trade-Related Aspects of Intellectual Property Rights (TRIPs), an agreement that is part of the WTO. TRIPs extend patent, copyright and trademark protections to all WTO members — effectively the entire world economy.** However, **the global North is a net intellectual property producer and the global South is a net intellectual property consumer. TRIPs’ intellectual property protections extend to goods like pharmaceuticals**, digital technology hardware and software, and most art and media entertainment**. Intellectual property protections allow the global North corporations that own the patents, copyrights and trademarks for these products to maintain monopoly control over them. Global North corporations can charge high prices for pharmaceuticals and digital technology to global South consumers, transferring wealth to global North corporations. Further, intellectual property protections make it impossible for global South corporations to compete with global North corporations to produce these goods, meaning that global North corporations can continue to monopolize the profits**. Since the post-WWII restructuring of the international economy, global South countries have needed to find capital to develop their own industries. **The GATT/WTO free trade framework bars global South countries from creating policies that can help their own industries develop their own surplus capital, as described above, so global South countries have resorted to borrowing money from the financial sector**. The IMF and the World Bank have promoted and subsidized global North banks lending to global South countries, and have only made capital available to global South countries if they accept the conditions of the North’s free trade policies, as well as privatization of any state-owned businesses and deregulation of their economies. **Through the work of GATT/WTO, the IMF and the World Bank, global South governments and corporations have been kept in the unequal economic position developed during colonialism.** As Vijay Prashad explains, US and Western militaries have also helped to expand free trade throughout the world by supporting military dictators and military coups throughout Asia, Africa and Latin America. **This economic and military violence is the visible hand the global North governments and corporations have used to concentrate the world’s wealth**. This visible hand explains how global North, and especially US, corporations continue to own and control a disproportionate amount of the most profitable industries in the global economy.

#### Second is WTO legitimacy. The plan is a colonialist revision that re-packages the WTO as a legitimate organization that can overcome its insidious past towards a future of equal free trade—that decks class consciousness.

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Free Trade Imperialism: **Continuing the Unequal Trade of Colonialism With mass global South resistance to colonialism increasing in the early 1900s and intensifying in the aftermath of the world wars, global North corporations and governments no longer needed colonialism.** From their perspective, moving toward the international economic model that would become free trade was much more cost-effective. As the US sociologist Johanna Bockman writes of US government and business elites in the aftermath of the second world war, **“[They] supported neither free trade nor globalization imagined as a level playing field with flows moving evenly around the globe. Instead, they supported the international neocolonial system through the [General Agreement on Tariffs and Trade (GATT)], while using the rhetoric of free trade and modernization to support US national interests.”** Roughly 70 years after the global North created the post-second world war international order, global North corporations continue to own and control a disproportionate amount of the most profitable industries in the global economy. Though many US commentators warn of the rise of Brazil, Russia, India and China, US corporations, in 2013, still had leading positions in 18 of the 25 most profitable industries. Moreover**, US corporations are dominant in the most profitable advanced industries, including banking and financial services, aerospace and defense, chemicals, computer hardware and software, insurance, pharmaceuticals, heavy machinery, and oil and gas.** While the US has roughly 5 percent of the world’s population and 25 percent of the global share of gross domestic product, US corporations likely control far more than 25 percent of the profit-producing capital in the world. **These profits are concentrated among the shareholders of multinationals incorporated in the US, which, according to one estimate, are at least 85 percent owned by US citizens. These profits are not being shared with vast majority of people in the world, most of whom do not own any wealth, let alone shares in corporations.** Global North and US multinational dominance of the world economy is not an accident, as global North governments and multinationals have used the international institutions they created following the second world war to continue to dominate the world economy. **These institutions include the United Nations; the GATT, which has since become the World Trade Organization (WTO); the International Monetary Fund (IMF); and the World Bank. The WTO is the main international institution that makes and enforces trade policies. The core GATT/WTO principles are “non-discrimination” and “national treatment.**” Non-discrimination means that countries will not use their trade policies to discriminate between goods that are produced in different foreign countries. National treatment means that countries will not use their trade policies to favor products produced in their own country over products produced in any other country. As described above, global North countries used their trade policies to promote the products of the corporations based in their countries for centuries. **The free trade principles of non-discrimination and national treatment deny the ability of any country to use those same policies today. This allows global North corporations to ensure that global South governments will not create policies that can help their own corporations develop the wealth they need to compete**. **Additionally, since the GATT/WTO free trade framework facilitates continued global North corporate control over advanced industries, global North corporations are far more likely to develop the high-tech industries of the future, as they own the profits from today’s advanced industries which they can invest in research and development.**

#### Capitalism will, without a doubt, cause us to die by climate change—this card is amazing and also preempts all their “cap solves climate change” answers. #amritaisthebest

Foster 18 [John Bellamy Foster, John Bellamy Foster is a professor of sociology at the University of Oregon and also editor of Monthly Review. He writes about political economy of capitalism and economic crisis, ecology and ecological crisis, and Marxist theory. “Making War on the Planet.” Monthly Review. September 1, 2018. <https://monthlyreview.org/2018/09/01/making-war-on-the-planet/> recut 8-22-2021 amrita]

A short fuse is burning. At the present rate of global emissions, the world is projected to reach the trillionth metric ton of cumulative carbon emissions, breaking the global carbon budget, in less than two decades.[1](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en1) This would usher in a period of dangerous climate change that could well prove irreversible, affecting the climate for centuries if not millennia. Even if the entire world economy were to cease emitting carbon dioxide at the present moment, the extra carbon already accumulated in the atmosphere virtually guarantees that climate change will continue with damaging effects to the human species and life in general. However, reaching the 2°C increase in global average temperature guardrail, associated with a level of carbon concentration in the environment of 450 ppm, would lead to a qualitatively different condition. At that point, climate feedbacks would increasingly come into play threatening to catapult global average temperatures to 3°C or 4°C above preindustrial levels within this century, in the lifetime of many individuals alive today. The situation is only made more serious by the emission of other greenhouse gases, including methane and nitrous oxide. The enormous dangers that rapid climate change present to humanity as a whole, and the inability of the existing capitalist political-economic structure to address them, symbolized by the presence of Donald Trump in the White House, have engendered a desperate search for technofixes in the form of schemes for geoengineering, defined as massive, deliberate human interventions to manipulate the entire climate or the planet as a whole. Not only is geoengineering now being enthusiastically pushed by today’s billionaire class, as represented by figures like Bill Gates and Richard Branson; by environmental organizations such as the Environmental Defense Fund and the Natural Resources Defense Council; by think tanks like the Breakthrough Institute and Climate Code Red; and by fossil-fuel corporations like Exxon Mobil and Shell—it is also being actively pursued by the governments of the United States, the United Kingdom, China, and Russia. The UN Intergovernmental Panel on Climate Change (IPCC) has incorporated negative emissions strategies based on geoengineering (in the form of Bio-energy with Carbon Capture and Storage, or BECCS) into nearly all of its climate models. Even some figures on the political left (where “accelerationist” ideas have recently taken hold in some quarters) have grabbed uncritically onto geoengineering as a deus ex machina—a way of defending an ecomodernist economic and technological strategy—as witnessed by a number of contributions to Jacobin magazine’s Summer 2017 Earth, Wind, and Fire issue.[2](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en2) If the Earth System is to avoid 450 ppm of carbon concentration in the atmosphere and is to return to the Holocene average of 350 ppm, some negative emissions by technological means, and hence geoengineering on at least a limited scale, will be required, according to leading climatologist James Hansen.[3](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en3) Hansen’s strategy, however, like most others, remains based on the current system, that is, it excludes the possibility of a full-scale ecological revolution, involving the self-mobilization of the population around production and consumption. What remains certain is that any attempt to implement geoengineering (even in the form of technological schemes for carbon removal) as the dominant strategy for addressing global warming, subordinated to the ends of capital accumulation, would prove fatal to humanity. The costs of such action, the burden it would put on future generations, and the dangers to living species, including our own, are so great that the only rational course is a long ecological revolution aimed at the most rapid possible reduction in carbon dioxide and other greenhouse gas emissions, coupled with an emphasis on agroecology and restoration of global ecosystems, including forests, to absorb carbon dioxide.[4](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en4) This would need to be accompanied by a far-reaching reconstitution of society at large, aimed at the reinstitution on a higher level of collective and egalitarian practices that were undermined by the rise of capitalism. Geoengineering the Planet Under the Regime of Fossil Capital Geoengineering as an idea dates back to the period of the first discoveries of rapid anthropogenic climate change. Beginning in the early 1960s, the Soviet Union’s (and at that time the world’s) leading climatologist, Mikhail Budyko, was the first to issue a number of warnings on the inevitably of accelerated global climate change in the case of industrial systems based on the burning of fossil fuels.[5](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en5) Although anthropogenic climate change had long been recognized, what was new was the discovery of major climate feedbacks such as the melting of Arctic ice and the disruption of the albedo effect as reflective white ice was replaced with blue seawater, increasing the amount of solar radiation absorbed by the planet and ratcheting up global average temperature. In 1974, Budyko offered, as a possible solution to climate change, the use of high-flying planes to release sulfur particles (forming sulfate aerosols) into the stratosphere. This was meant to mimic the role played by volcanic action in propelling sulfur into the atmosphere, thus creating a partial barrier, limiting incoming solar radiation. **The rationale he offered was that capitalist economies, in particular, would not be able to curtail capital-accumulation-based growth, energy use, and emissions, despite the danger to the climate**.[6](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en6) Consequently, technological alternatives to stabilize the climate would have to be explored. But it was not until 1977 when the Italian physicist Cesare Marchetti proposed a scheme for capturing carbon dioxide emissions from electrical power plants and using pipes to sequester them in the ocean depths that the word “geoengineering” itself was to appear.[7](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en7) Budyko’s pioneering proposal to use sulfur particles to block a part of the sun’s rays, now known as “stratospheric aerosol injection,” and Marchetti’s early notion of capturing and sequestering carbon in the ocean, stand for the two main general approaches to geoengineering—respectively, solar radiation management (SRM) and carbon dioxide removal (CDR). SRM is designed to limit the solar radiation reaching the earth. CDR seeks to capture and remove carbon to decrease the amount entering the atmosphere. Besides stratospheric aerosol injection, first proposed by Budyko, another approach to SRM that has gained influential adherents in recent years is marine cloud brightening. This would involve cooling the earth by modifying low-lying, stratocumulus clouds covering around a third of the ocean, making them more reflective. In the standard scenario, a special fleet of 1,500 unmanned, satellite-controlled ships would roam the ocean spraying submicron drops of seawater in the air, which would evaporate leaving salty residues. These bright salt particles would reflect incoming solar radiation. They would also act as cloud condensation nuclei, increasing the surface area of the clouds, with the result that more solar radiation would be reflected. Both stratospheric aerosol injection and marine cloud brightening are widely criticized as posing enormous hazards on top of climate change itself, while simply addressing the symptoms not the cause of climate change. Stratospheric aerosol injection—to be delivered to the stratosphere by means of hoses, cannons, balloons, or planes—would alter the global hydrological cycle with enormous unpredictable effects, likely leading to massive droughts in major regions of the planet. It is feared that it could shut down the Indian monsoon system disrupting agriculture for as many as 2 billion people.[8](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en8) There are also worries that it might affect photosynthesis and crop production over much of the globe.[9](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en9) The injection of sulfur particles into the atmosphere could contribute to depletion of the ozone layer.[10](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en10) Much of the extra sulfur would end up dropping to the earth, leading to acid rain.[11](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en11) **Most worrisome of all, stratospheric aerosol injection would have to be repeated year after year. At termination the rise in temperature associated with additional carbon buildup would come almost at once with world temperature conceivably rising by 2–3°C in a decade—a phenomenon referred to as the “termination problem.”**[12](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en12) As with stratospheric aerosol injection, **marine cloud brightening would drastically affect the hydrological cycle in unpredictable ways**. For example, it could generate a severe drought in the Amazon, drying up the world’s most vital terrestrial ecosystem with incalculable and catastrophic effects for Earth System stability.[13](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en13) Many of the dangers of cloud brightening are similar to those of stratospheric aerosol depletion. Like other forms of SRM, it would do nothing to stop ocean acidification caused by rising carbon dioxide levels. The first form of CDR to attract significant attention from economic interests and investors was the idea of fertilizing the ocean with iron, thereby boosting the growth of phytoplankton so as to promote greater ocean uptake of carbon. There have been a dozen experiments in this area and the difficulties attending this scheme have proven to be legion. The effects on the ecological cycles of phytoplankton, zooplankton, and a host of other marine species all the way up to whales at the top of the food chain are indeterminate. Although some parts of the ocean would become greener due to the additional iron, other parts would become bluer, more devoid of life, because they would be deprived of the nutrients—nitrate, phosphorus, and silica—needed for growth.[14](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en14) Evidence suggests that the vast portion of the carbon taken in by the ocean would stay on the surface or the intermediate levels of the ocean, with only a tiny part entering the ocean depths, where it would be naturally sequestered.[15](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en15) Among the various CDR schemas, it is BECCS, because of its promise of negative emissions, which today is attracting the most support. This is because it seems to allow nations to overshoot climate targets on the basis that the carbon can be removed from the atmosphere decades later. Although BECCS exists at present largely as an untested computer model, it is now incorporated into almost all climate models utilized by the IPCC.[16](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en16) As modeled, **BECCS would burn cultivated crops in order to generate electricity, with the capture and underground storage of the resulting carbon dioxide. In theory, since plant crops can be seen as carbon neutral—taking carbon dioxide from the atmosphere and then eventually releasing it again—BECCS, by burning biomass and then capturing and sequestering the resulting carbon emissions, would be a means of generating electricity while at the same time resulting in a net reduction of atmospheric carbon. BECCS, however, comes into question the moment one moves from the abstract to the concrete.** The IPCC’s median-level models are projected to remove 630 gigatons of carbon dioxide from the atmosphere, around two thirds of the total emitted between the Industrial Revolution and 2011.[17](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en17) This would occur on vast crop plantations to be run by agribusiness. **To remove a trillion tons of carbon dioxide from the atmosphere as envisioned in the more ambitious scenarios would take up a land twice the size of India (or equal to Australia), about half as much land as currently farmed globally, requiring a supply of freshwater equal to current total global agricultural usage.**[18](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en18) The costs of implementing BECCS on the imagined scales have been estimated by climatologist James Hansen—who critically notes that negative emissions have “spread like a cancer” in the IPCC climate models—to be on the order of hundreds of trillions of dollars, with “minimal estimated costs” ranging as high as $570 trillion this century.[19](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en19) The effects of BECCS—used as a primary mechanism and designed to avoid confrontation with the present system of production—would therefore be a massive displacement of small farmers and global food production. Moreover, the notion that the forms of large-scale, commercial agricultural production presumed in BECCS models would be carbon neutral and would thus result in negative emissions with sequestration has been shown to be exaggerated or false when the larger effects on global land use are taken into account. BECCS crop cultivation is expected to take place on vast monoculture plantations, displacing other forms of land use. Yet, biologically diverse ecosystems have substantially higher rates of carbon sequestration in soil and biomass than does monocrop agriculture.[20](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en20) An alternative to BECCS in promoting carbon sequestration would be to promote massive, planetary ecological restoration, including reforestation, together with the promotion of agroecology modeled on traditional forms of agriculture organized around nutrient recycling and improved soil management methods.[21](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en21)This would avoid the metabolic rift associated with agribusiness monocultures, which are less efficient both in terms of food production per hectare and carbon sequestration. Another commonly advocated technofix, carbon capture and sequestration (CCS), is not strictly a form of geoengineering since it is directed at capturing and sequestering carbon emissions of particular electrical plants, such as coal-fired power plants. However, **the promotion of a CCS infrastructure on a planetary scale as a means of addressing climate change—thereby skirting the necessity of an ecological revolution in production and consumption—is best seen as a form of planetary geoengineering due to its immense projected economic and ecological scale**. Although CCS would theoretically allow the burning of fossil fuels from electrical power plants with no carbon emissions into the atmosphere, **the scale and the costs of CCS operations are prohibitive.** As Clive Hamilton writes in Earthmasters: The Dawn of the Age of Climate Engineering, CCS for a single “standard-sized 1,000 megawatt coal-fired plant….would need 30 kilometers of air-sucking machinery and six chemical plants, with a footprint of 6 square kilometers.”[22](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en22) Energy expert Vaclav Smil has calculated that, “in order to sequester just a fifth of current [2010] CO2 emissions we would have to create an entirely new worldwide absorption-gathering-compression-transportation-storage industry whose annual throughput would have to be about 70 percent larger than the annual volume now handled by the global crude oil industry, whose immense infrastructure of wells, pipelines, compressor stations and storage took generations to build.”[23](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en23) **Capturing and sequestering current U.S. carbon dioxide emissions would require 130 billion tons of water per year, equal to about half the annual flow of the Columbia River. This new gigantic infrastructure would be placed on top of the current fossil fuel infrastructure—all in order to allow for the continued burning of fossil fuels**.[24](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en24) A Planetary Precautionary Principle for the Anthropocene If today’s planetary ecological emergency is a product of centuries of war on the planet as a mechanism of capital accumulation, fossil-capital generated geoengineering schemes can be seen as gargantuan projects for keeping the system going by carrying this war to its ultimate level. Geoengineering under the present regime of accumulation has the sole objective of keeping the status quo intact—neither disturbing the dominant relations of capitalist production nor even seeking so much as to overturn the fossil-fuel industry with which capital is deeply intertwined. Profits, production, and overcoming energy poverty in the poorer parts of the world thus become justifications for keeping the present fossil-capital system going, maintaining at all cost the existing capitalist environmental regime. The Promethean mentality behind this is well captured by a question that Rex Tillerson then CEO of Exxon Mobil Corporation asked—without a trace of irony—at an annual shareholders meeting in 2013: “What good is it to save the planet if humanity suffers?”[25](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en25) The whole history of ecological crisis leading up the present planetary emergency, punctuated by numerous disasters—from the near total destruction of the ozone layer, to nutrient loading and the spread of dead zones in the ocean, to climate change itself—serves to highlight the march of folly associated with any attempt to engineer the entire planet. The complexity of the Earth System guarantees that enormous unforeseen consequences would emerge. As Frederick Engels warned in the nineteenth century, “Let us not…flatter ourselves overmuch on account of our human victories over nature. For each such victory nature takes its revenge on us. Each victory, it is true, in the first place brings about the results we expected, but in the second and third places it has quite different, unforeseen effects which only too often cancel the first.”[26](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en26) In the face of uncertainty, coupled with an extremely high likelihood of inflicting incalculable harm on the Earth System, it is essential to invoke what is known as the Precautionary Principle whenever the question of planetary geoengineering is raised. As ecological economist Paul Burkett has explained, the strong version of the Precautionary Principle, necessarily encompasses the following: (1) The Precautionary Principle Proper, which says that if an action may cause serious harm, there is a case for counteracting measures to ensure that the action does not take place. (2) The Principle of Reverse Onus, under which it is the responsibility of those supporting an action to show that it is not seriously harmful, thereby shifting the burden of proof off those potentially harmed by the action (e.g. the general population and other species occupying the environment). In short, it is safety, rather than potential harm, that needs to be demonstrated. (3) The Principle of Alternative Assessment, stipulating that no potentially harmful action will be undertaken if there are alternative actions available that safely achieve the same goals as the action proposed. (4) All societal deliberations bearing on the application of features 1 through 3 must be open, informed, and democratic, and must include all affected parties.[27](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en27) It is clear that geoengineering promoted in a context of a capitalist regime of maximum accumulation would be ruled out completely by a strong Precautionary Principle based on each of the criteria listed above. There is a near certainty of extreme damage to the human species as a whole arising from all of the major geoengineering proposals. If the onus were placed on status quo proponents of capitalist geoengineering to demonstrate that great harm to the planet as a place of human habitation would not be inflicted, such proposals would fail the test. Since the alternative of not burning fossil fuels and promoting alternative forms of energy is entirely feasible, while planetary geoengineering carries with it immense added dangers for the Earth System as a whole, such a technofix as a primary means of checking global warming would be excluded by that criterion, too. Finally, geoengineering under the present economic and social system invariably involves some entity from the power structure—a single multi-billionaire, a corporation, a government, or an international organization—implementing such action ostensibly on behalf of humanity as a whole, while leaving most affected parties worldwide out of the decision-making process, with hundreds of millions, perhaps billions, of people paying the environmental costs, often with their lives. In short, geoengineering, particularly if subordinated to the capital accumulation process, violates the most sacred version of the Precautionary Principle, dating back to antiquity: First Do No Harm. Eco-Revolution as the Only Alternative As an extension of the current war on the planet, a regime of climate geoengineering designed to keep the present mode of production going is sharply opposed to the view enunciated by Barry Commoner in 1992 in Making Peace with the Planet, where he wrote: “If the environment is polluted and the economy is sick, the virus that causes both will be found in the system of production.”[28](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en28) There can be no doubt today that it is the present mode of production, particularly the system of fossil capital, that needs to change on a global scale. In order to stop climate change, the world economy must quickly shift to zero net carbon dioxide emissions. This is well within reach with a concerted effort by human society as a whole utilizing already existing sustainable technological means—particularly when coupled with necessary changes in social organization to reduce the colossal waste of resources and lives that is built into the current alienated system of production. Such changes could not simply be implemented from the top by elites, but rather would require the self-mobilization of the population, inspired by the revolutionary actions of youth aimed at egalitarian, ecological, collective, and socialized solutions—recognizing that it is the world that they will inherit that is most at stake. Today’s necessary ecological revolution would include for starters: (1) an emergency moratorium on economic growth in the rich countries coupled with downward redistribution of income and wealth; (2) radical reductions in greenhouse gas emissions; (3) rapid phase-out of the entire fossil fuel energy structure; (4) substitution of an alternative energy infrastructure based on sustainable alternatives such as solar and wind power and rooted in local control; (5) massive cuts in military spending with the freed-up economic surplus to be used for ecological conversion; (6) promotion of circular economies and zero-waste systems to decrease the throughput of energy and resources; (7) building effective public transportation, together with measures to decrease dependence on the private automobile; (8) restoration of global ecosystems in line with local, including indigenous, communities; (9) transformation of destructive, energy-and chemical-intensive agribusiness-monocultural production into agroecology, based on sustainable small farms and peasant cultivation with their greater productivity of food per acre; (10) institution of strong controls on the emission of toxic chemicals; (11) prohibition of the privatization of freshwater resources; (12) imposition of strong, human-community-based management of the ocean commons geared to sustainability; (13) institution of dramatic new measures to protect endangered species; (14) strict limits imposed on excessive and destructive consumer marketing by corporations; (15) reorganization of production to break down current commodity chains geared to rapacious accumulation and the philosophy of après moi le déluge; and (16) the development of more rational, equitable, less wasteful, and more collective forms of production.[29](https://monthlyreview.org/2018/09/01/making-war-on-the-planet/#en29) Priority in such an eco-revolution would need to be given to the fastest imaginable elimination of fossil fuel emissions, but this would in turn require fundamental changes in the human relationship to the earth and in the relationship of human beings to each other. A new emphasis would have to be placed on sustainable human development and the creation of an organic system of social metabolic reproduction. Centuries of exploitation and expropriation, including divisions on the basis of class, gender, race, and ethnicity, would have to be transcended. The historical logic posed by current conditions thus points to the necessity of a long ecological revolution, putting into place a new system of sustainable human development aimed at addressing the totality of needs of human beings as both natural and social beings: what is now called ecosocialism.

#### Endorse a dictatorship of the proletariat. A dictatorship is required to solidify our transition to communism and is why you should reject any perm that attempts to preserve the state apparatus.

Revolution 73 Proletarian Dictatorship Vs. Bourgeois “Democracy”; Encyclopedia of Anti-Revisionism On-Line; Revolution; May 1973; Edited by Paul Saba; <https://www.marxists.org/history/erol/ncm-1/pd-v-bd.htm>; CE

This situation can only be reversed by socialist revolution to overthrow capitalist rule. The first task of this revolution is to smash the power of the bourgeois state through the armed might of the workers and their allies. The bourgeoisie and its armed forces are disarmed. The political structure and the courts and bureaucracies of the bourgeois state–and all its rules and regulations aimed at enslaving the people–are abolished. Once in power the working class moves to socialize the ownership of the means of production-making them the common property of society–to resolve the basic contradiction of capitalism, to break down the obstacles capitalism puts in the way of progress, and makes possible the rapid development of society. Socialism is a higher form of society than capitalism, and is bound to replace it all over the world, just as capitalism replaced the feudal system of landlords and serfs. In the process of socialist revolution the working class and its allies builds up their own state machine, the dictatorship of the proletariat. Workers are armed and organized into people’s militias and armed forces. The capitalists and their enforcers are punished for their crimes against the people. This dictatorship imposed by the working class on the former exploiters and over new capitalist elements who arise under socialism is absolutely necessary in order to crush their resistance and prevent them from wrecking socialism and restoring their rule. Although this country’s capitalists like to point to the Soviet Union today and say, “This is what communism means,” the dictatorship of the proletariat is not what exists in the Soviet Union today. The working class was once in power in the Soviet Union and was building a powerful socialist society which was the bright hope of workers around the world. But the capitalist class was able to stage a comeback, when a new bourgeoisie seized power in the mid-’50s and turned the Soviet Union back from a socialist country to a capitalist country. Today the Soviet Union, as well as Cuba and most Eastern European countries under its thumb, are examples of bourgeois dictatorships. They disguise themselves as socialist countries where the working class rules, but in reality a new capitalist class rules and enforces its strict dictatorship over the working class. The dramatic events in China since the death of Mao Tsetung and the arrest of those most closely associated with him are signs of the fact that a new bourgeoisie has seized the reins in China and is attempting to steer this country, too, down the capitalist road. The dictatorship of the proletariat is qualitatively different from the bourgeois state that exists in the U.S. and the Soviet Union and other capitalist countries. Its purpose is not to enforce exploitation and the rule of a tiny minority. The proletarian state for the first time in history means the rule of the majority, the working class, allied with all of the oppressed. At the same time that there is a dictatorship over the former capitalist exploiters there is the unparalleled extension of real democracy for those oppressed by capitalism–the working people. The proletarian state is a million times more democratic than even the most democratic capitalist state. No longer do a handful of parasites run society for their own private profit and the working class sets out to transform all of society. To accomplish this the government is set up and run by workers, and the press, television stations, schools, etc., which the capitalists use to mold public opinion and shore up their rule, are stripped from them and become the common property of the working class and the masses of people. Since the working class and the socialist society built under its leadership represent the interests of the great majority of society, the workers openly proclaim their rule and openly dictate to their former exploiters and tormentors. The rule of the working class cannot be exercised by deceiving the masses of people, but only by their active involvement in every part of the political life of society and raising their political consciousness. But socialism is not a Utopia. It replaces capitalism, but cannot do away in one stroke with the inequalities, the old selfish ideas and the remnants of capitalism. Socialism itself is only the lower stage and transition to a still higher form of society, communism, where there will no longer be any classes, and, therefore, there will no longer be any need for the dictatorship of the proletariat. During this entire transition period, the working class must maintain and strengthen its rule over the former exploiters and the new bourgeois elements that arise under socialism, prevent them from subverting the new society and restoring the old, and overcome the remaining influences of their dog-eat-dog, “look out for number one” philosophy. When everyone in society can share equally in mental and manual work, in producing goods and services and managing the affairs of society; when the outlook of the working class, putting the common good above narrow, individual interests, has become “second nature” to members of society; when goods and services can be produced so abundantly that money is no longer needed to exchange them and they can be distributed to people solely according to their needs; then society will have reached the stage of communism. Classes will have been completely eliminated, and the state as such will be replaced by the common administration of society by all its members. As this happens, throughout the world, mankind will have scaled a great mountain and will look out on a whole new horizon. The experience of the socialist countries, the Soviet Union under the leadership of Lenin and Stalin and the People’s Republic of China during the lifetime of Mao Tsetung, has shown that the working class can overthrow the exploiters and run society in the interests of the masses of people. The fact that the rule of the working class was overthrown in the Soviet Union and now temporarily in China also shows how stubborn the class struggle is under socialism and the need for the proletarian dictatorship to be maintained. Communism will show that the people can do away completely and forever with the institutions and influences of capitalism and all other forms of class society. Karl Marx, founder of communist philosophy and of the revolutionary workers movement, wrote, “The existence of classes is only bound up with particular phases in the development of production . . . the class struggle necessarily leads to the dictatorship of the proletariat. . . [and] this dictatorship itself only constitutes the transition to the abolition of classes and to a classless society. ”

Solves case – a proleterian dictatorship would lead to innovation for communite

## 2

## AT AFF

#### Probability should be contextualized in magnitude and timeframe – otherwise, our actions would always be the safest bet

#### Winter and Leighton concedes the authority of pain/pleasure – the reason structural violence is bad is because it causes pain

#### Price 98 – we’re more particular than you: you definitely don’t solve for all structural violence or imperialism

#### Ballot shouldn’t be viewed as a referendum on mitigating oppression given the nature of debate – there has to be a loser, and in that case you would be saying one debater isn’t doing it good enough, which is incredibly violent

#### Racism being bad doesn’t answer the question of why it’s bad – conceptions of pain

#### Extinction scenarios are much more probable due to Trump – Biden hasn’t done much better – their framing cards are outdated

Javorsky, 18

Emily Javorsky, Emilia Javorsky is a Boston-based physician-scientist focused on the invention, development and commercialization of new medical therapies. She also leads an Artificial Intelligence in Medicine initiative with The Future Society (TFS) at the Harvard Kennedy School of Government. “Why Human Extinction Needs a Marketing Department.” Xconomy. January 15, 2018. <https://www.xconomy.com/boston/2018/01/15/why-human-extinction-needs-a-marketing-department/>, RJP

Experts at Oxford University and elsewhere have estimated that the risk of a global human extinction event this century—[or at least of an event that wipes out 10 percent or more of the world’s population](http://globalprioritiesproject.org/wp-content/uploads/2016/04/Global-Catastrophic-Risk-Annual-Report-2016-FINAL.pdf)— is [around 1 in 10](http://www.existential-risk.org/concept.pdf). The most probable culprits sending us the way of the dinosaur are mostly anthropogenic risks, meaning those created by humans. [These include](http://globalprioritiesproject.org/wp-content/uploads/2016/04/Global-Catastrophic-Risk-Annual-Report-2016-FINAL.pdf) climate change, nuclear disaster, and more emerging risks such as artificial intelligence gone wrong (by accident or nefarious intent) and bioterrorism. A recent search of the scientific literature through [ScienceDirect](http://www.sciencedirect.com/) for “human extinction” returned a demoralizing 157 results, [compared](http://www.existential-risk.org/concept.pdf) to the 1,627 for “dung beetle.” I don’t know about you, but this concerns me. Why is there so little research and action on [existential risks](https://nickbostrom.com/existential/risks.html)(risks capable of rendering humanity extinct)?

A big part of the problem is a lack of awareness about the real threats we face and what can be done about them. When asked to estimate the chance of an extinction event in the next 50 years, [U.S. adults in surveys reported chances ranging from 1 in 10 million to 1 in 100](https://80000hours.org/articles/extinction-risk/#fn-2), certainly not 10 percent. The awareness and engagement issues extend to the academic community as well, where a key bottleneck is a lack of talented people studying existential risks. Developing viable risk mitigation strategies will require widespread civic engagement and concerted research efforts. Consequently, there is an urgent need to improve the communication of the magnitude and importance of existential risks. The first step is getting an audience to pay attention to this issue.

That won’t be easy. Our social media-driven digital echo chambers present us with topics we already care about, so if you don’t already think about existential risk, it is unlikely you’ll come across it. Furthermore, in today’s media environment, research data must compete with a sea of misinformation, spin, and a daily deluge of “breaking” headlines. We have understandably become desensitized to alarms, especially on topics that have been sensationalized like “extinction.” We can only hear “the sky is falling” so much before we stop listening.

To succeed at getting the message across about existential risks, we need to get creative in figuring out how to capture public attention. Just presenting data will likely not be sufficient. Nor do I think the answer is to hyperbolize the evidence, as that dilutes the credibility of the conversation. We need alternative strategies.

One solution is for creative people such as designers, artists, and marketing experts to get involved, as their toolkit extends beyond analyzing data. These people are uniquely equipped to translate information about risks into human wants, needs, values, and aesthetics.

Creative depictions of existential risks are common in science fiction and film but fictional doom-and-gloom isn’t usually designed to build public outcry for change or to spur policy debate. However, translating existential risks into something that people can experience first-hand can effectively engage an audience and entice them to learn more about a topic and, hopefully, into action.

The power of such a personal, creative experience hit home with me at a dinner I attended late last year at the [World Frontiers Forum](https://www.worldfrontiersforum.org/). The dinner, called The Last Supper, was hosted by Sam Kass, a former White House chef, with a menu created by Carolina Curtin of Café ArtScience, a restaurant in Cambridge, MA. The meal featured ingredients that will likely not be available to future generations due to climate change. I was shocked to see coffee and chocolate included in this lineup of endangered ingredients. For me, these aren’t even ingredients, they’re vital food groups. The abstract concept of “climate change” was converted into a direct impact on my basic needs and desires. Imagine if every Chipotle had menu items marked that would not be available in 2075? X’s on a world map showing the areas that will no longer be able to produce your favorite Starbucks single origin brew? The message gets you thinking, and wanting to learn more.

The risk of “AI gone wrong” was similarly translated into a fun, interactive activity thanks to the creativity of game designer Frank Lantz, director of the NYU Game Center. Last year, he released an addictive video game he designed called “[Universal Paperclips](http://www.decisionproblem.com/paperclips/),” which was inspired by an AI thought experiment from Oxford philosopher Nick Bostrom. The game explores in a frightening and engaging way how programming a super-intelligent AI to do a seemingly benign task, making as many paperclips as possible, could lead to the destruction of the universe.

Another striking example is the work of Dan Borelli of Harvard’s Graduate School of Design. He led an art-based project at the U.S. Environmental Protection Agency’s Nyanza Superfund site in his hometown of Ashland, MA, where a chemical dye manufacturing plant contaminated the groundwater and soil for years up until the 1970s. [Borelli placed colored filters on streetlights](http://www.ashlandnyanzaproject.com/thestreetlights/) that corresponded to the contamination levels in that area. Imagine driving through a town where streetlamps eerily change color, from red and orange to blue and purple. You’re likely curious and concerned once you realize the meaning.

Likely the strongest case for creativity as a tool to spur meaningful change is the effort of Tesla. The company’s creative expression comes in the form of beautiful and desirable products that also mitigate climate change risk. Tesla has shaped the future of sustainable transportation by introducing electric cars that are aesthetically and functionally superior to most fossil fuel-based models. Yes, consumers who already care about climate change will want to purchase the product, but others will want cool, sexy cars regardless of the benefits to humanity. By repositioning electric vehicles as high-end products, Tesla managed to increase awareness and put sustainable transportation on the map as a societal value.

While creativity may be able to open the door to curiosity, it must be connected to accurate information and opportunities for actionable change. Although it’s not looking good for our species, there are many ways to intervene and help prevent threats from becoming reality. We can pressure governments to enact policy changes (nuclear disarmament treaties), support triple-bottom line companies (which value environmental and social impact, not just the financial bottom line), invest in technical solutions (novel antibiotics and green energy), divest from companies contributing to risks (fossil fuels), and donate to organizations that are mitigating specific risks ([Machine Intelligence Research Institute](https://intelligence.org/)) and existential risks ([Future of Life Institute](https://futureoflife.org/) and [Future of Humanity Institute](https://www.fhi.ox.ac.uk/)). Employing creativity to raise awareness of existential risks is a vital strategy for engaging new audiences and shifting the tides towards learning and action. The future of our species depends on it.

#### Biological death is the worst evil

Paterson 03 – Department of Philosophy, Providence College, Rhode Island. (Craig, “A Life Not Worth Living?”, Studies in Christian Ethics, <http://sce.sagepub.com>)

Contrary to those accounts, I would argue that it is death per se that is really the objective evil for us, not because it deprives us of a prospective future of overall good judged better than the alter- native of non-being. It cannot be about harm to a former person who has ceased to exist, for no person actually suffers from the sub-sequent non-participation. Rather, death in itself is an evil to us because it ontologically destroys the current existent subject — it is the ultimate in metaphysical lightening strikes.80 The evil of death is truly an ontological evil borne by the person who already exists, independently of calculations about better or worse possible lives. Such an evil need not be consciously experienced in order to be an evil for the kind of being a human person is. Death is an evil because of the change in kind it brings about, a change that is destructive of the type of entity that we essentially are. Anything, whether caused naturally or caused by human intervention (intentional or unintentional) that drastically interferes in the process of maintaining the person in existence is an objective evil for the person. What is crucially at stake here, and is dialectically supportive of the self-evidency of the basic good of human life, is that death is a radical interference with the current life process of the kind of being that we are. In consequence, death itself can be credibly thought of as a ‘primitive evil’ for all persons, regardless of the extent to which they are currently or prospectively capable of participating in a full array of the goods of life.81 In conclusion, concerning willed human actions, it is justifiable to state that any intentional rejection of human life itself cannot therefore be warranted since it is an expression of an ultimate disvalue for the subject, namely, the destruction of the present person; a radical ontological good that we cannot begin to weigh objectively against the travails of life in a rational manner. To deal with the sources of disvalue (pain, suffering, etc.) we should not seek to irrationally destroy the person, the very source and condition of all human possibility.82

## AT:

#### The aff leads to the development of COVID vaccines in underdeveloped regions – that turns the case because it results in unsafe vaccine production that trades off with other important medicines.

\* See previous card’s feedback

Szabo et. Al 21 Liz Szabo et. Al 21 [Liz Szabo (Liz Szabo, a senior correspondent and enterprise reporter who focuses on the quality of patient care, has covered medicine for two decades.)]. "Why Even Presidential Pressure Might Not Get More Vaccine to Market Faster." Kaiser Health News, 1-26-2021, Accessed 8-5-2021. https://khn.org/news/article/ramping-up-covid-vaccine-production-could-take-months-even-with-bidens-best-tool-to-pressure-companies/ // Recut Debatedrills AS

Americans are dying of covid-19 by the thousands, but efforts to ramp up production of potentially lifesaving vaccines are hitting a brick wall. Vaccine makers Moderna and Pfizer-BioNTech are **running their factories full ti**lt and are under enormous pressure to expand production or collaborate with other drug companies to set up additional assembly lines. That pressure is only growing as new viral variants of the virus threaten to launch the country into a deadlier phase of the pandemic. President Joe Biden has said he plans to invoke the Cold War-era authority of the Defense Production Act to provide more vaccines to millions of Americans. Consumer advocates — who had called for Donald Trump to use the Defense Production Act more aggressively as president — are now asking Biden to do the same. But even forcing companies to gear up production won’t **provide much-needed doses anytime soon**. Expanding production lines takes time. Establishing lines in repurposed facilities can take months. “The big problem is that even if you can get the raw material and get the infrastructure set up, how do you get a company that is already producing at maximum capacity to go beyond that maximum capacity?” said Lawrence Gostin, a professor of global health law at Georgetown University. Ordering the companies to work 24/7 “would be a naïve solution,” said Dr. Nicole Lurie, a senior adviser to the CEO of the Coalition for Epidemic Preparedness Innovations, an international group that finances vaccines for emerging diseases. “They’re probably already doing that to the extent they have the raw materials.” Lurie added, “If you completely wear people out, mistakes happen. You **have to balance speed with quality and safety.”** The technological challenges involved are daunting, and the companies haven’t been forthcoming about what’s needed to overcome any supply shortfalls. “We don’t know what the holdup is. Is it capacity? Raw materials? People? Glass vials? We just don’t know what the bottleneck is,” said Erin Fox, senior director of drug information and support services at the University of Utah Health Hospitals. Forcing other companies to start making the vaccines might not work either, Gostin said. “I’m not sure if Biden could require a private company to transfer its technology to another company,” Gostin said. “That is highly questionable legally. … President Biden’s room for maneuvering isn’t as great as people think.” Drug companies define “trade secrets” broadly, Fox said. “In general, drug companies don’t have to tell me who is making their product, where it’s made, the location of the factory. … That’s considered proprietary.” Part of the challenge relates to how these vaccines are made. The first two authorized products use lipid nanoparticles to deliver a snippet of the coronavirus’s genetic material — called messenger RNA, or mRNA — into cells. The viral genes teach our cells how to make proteins that stimulate an immune response to the novel coronavirus. Messenger RNA is fragile and breaks down easily, so it needs to be handled with care, with specific temperatures and humidity levels. The vaccines “are not widgets,” said Lurie, who served as assistant secretary for preparedness and response at the Department of Health and Human Services during the Obama administration. Every step, experts say, to get vaccines to **market has its complexities**: obtaining raw materials; building facilities to precise specifications; buying single-use products, such as tubing and plastic bags to line stainless steel bioreactors; and hiring employees with the requisite training and expertise. Companies also must pass safety and quality inspections and arrange for transportation. The Defense Production Act, for instance, would allow the government to commandeer a plant that already has a fermenter — there are plenty in the biotech industry — to expand production. But that’s just the first stage in making an mRNA vaccine and, even then, it would take about a year to get going, said Dr. George Siber, a vaccine expert who is on the advisory board of CureVac, a German mRNA vaccine company. Companies would first have to do a breathtakingly thorough cleaning to prevent cross-contamination, Siber said. Next, they would need to set up, calibrate and test equipment, and train scientists and engineers to run it. Finally, Siber said, unlike a drug, whose components can be tested for purity, there’s no way to be sure a vaccine produced in a new facility is what it claims to be without testing it on animals and people. “Making vaccines is not like making cars, and quality control is paramount,” said Dr. Stanley Plotkin, a vaccine industry consultant credited with inventing the rubella vaccine. “We are expecting other vaccines in a matter of weeks, so it might be faster to bring them into use.” However, even that will require patience. Johnson & Johnson, expected to announce clinical trial results this month, has said that it won’t be able to deliver as many shots as planned because of manufacturing delays. The company did not confirm a manufacturing delay and declined to respond to questions. AstraZeneca’s vaccine, also funded in part by U.S. taxpayers, is in use already in the United Kingdom and India, but the Food and Drug Administration has raised questions about its late-stage trial, so it may not be available here until the spring. Novavax, another U.S.-funded vaccine maker, has been plagued by delays and only recently began recruiting volunteers for its big trial. Merck, the most recent company to get federal support for covid vaccines, announced Monday it was scrapping its two candidates after they failed to produce adequate immune response in early tests. “None of the vaccine makers are manufacturing at the volume they ultimately want to be at,” Lurie said. “They all have manufacturing delays.” Pfizer, which has committed 200 million doses to the U.S. government by the end of July, said last week it expected “no interruptions” in shipments from its primary U.S. covid manufacturing plant in Kalamazoo, Michigan. Pfizer spokesperson Sharon Castillo said the company has expanded manufacturing facilities and added more suppliers and contract manufacturers. Those efforts, and the company’s announcement that its five-dose vials actually contain an extra dose, mean “we can potentially deliver approximately 2 billion doses worldwide by the end of 2021.” The U.S. government also has an option to acquire another 400 million doses of the Pfizer-BioNTech vaccine, though the company declined to provide details on that option when asked. But countries around the world are competing for the same supplies and raw materials, Gostin said. Biden could use the Defense Production Act “to force Pfizer to prioritize U.S. contracts, but that would be politically risky,” given that other countries could retaliate by hoarding supplies. Although Pfizer is an American company, it has partnered with BioNTech, of Germany, to make its covid vaccine. “That would lead to a global mess.” Trying to corner the world market on vaccine ingredients or supplies would look bad, experts say, given that the United States just this week joined Covax, an international venture to source and distribute vaccines, in an effort to ensure poor countries aren’t left behind. Paradoxically, the rush to get vaccines to market may have resulted in a less efficient manufacturing process. Vaccine companies typically spend months making their factories run as efficiently as possible, as well as finding an ideal dose and the most effective interval between doses, Lurie said. Given the urgency of the pandemic, however, they delayed parts of this process and launched straight into mass production. Pfizer angered European countries last week when it paused vaccine production at a Belgian plant to upgrade its capacity. Pfizer said the weeklong closure would decrease vaccine deliveries to Europe for three to four weeks before boosting supplies in February. The move doesn’t affect U.S. vaccine supplies. “The U.S can’t necessarily readily access stuff that’s being held for vaccines in other countries,” Lurie said. And forcing other companies to make covid vaccines could jeopardize production of **other important shots,** such as measles, said Dr. Amesh Adalja, a senior scholar at the Johns Hopkins Center for Health Security. Routine childhood immunization rates have fallen during the pandemic, raising the risk of epidemics. Using the act to prioritize covid vaccine manufacturing has already disrupted supplies of at least one drug, Fox noted. In December, Horizon Therapeutics warned doctors and patients to expect a shortage of a drug called Tepezza, used to treat thyroid-related eye disease, because its manufacturer was ordered to prioritize covid shots. Lawmakers and consumer advocates such as Public Citizen called on the government to use the Defense Production Act more aggressively. In a letter sent earlier this month, Sen. Elizabeth Warren (D-Mass.) and Rep. Katie Porter (D-Calif.) said Moderna should share its technique for stabilizing its vaccine at normal refrigerator temperatures, without “ultracold” freezers. Moderna officials have said the intrinsic differences in the two companies’ mRNA material make that technology hard to share. Besides, they say, Pfizer has declined to share data with Moderna. Pfizer has declined to comment on the issue. Since Moderna’s effort is federally funded, the government presumably has march-in rights and could take over production, said Mike Watson, former president of Moderna subsidiary Valera, in an email. “The reality is that however far you push production capacity, you sooner or later reach a bottleneck.” Experts say it’s not as simple as demanding that glassmaker Corning step up and make glass vials, for example. Of course, the vials will need to meet rigorous requirements. But there’s also this: The U.S. is facing a shortage of mined sand, the main component needed to make glass vials.

#### Only patented drugs maintain a standard of quality. Generic drugs in developing countries increase microbial resistance, worsening pathogens.

Eban 19 Katherine Eban is an investigative journalist and the author of the New York Times bestseller [Bottle of Lies: The Inside Story of the Generic Drug Boom.](https://www.amazon.com/gp/product/0062338781/ref=as_li_qf_asin_il_tl?ie=UTF8&tag=time037-20&creative=9325&linkCode=as2&creativeASIN=0062338781&linkId=049085a04cf365d3012e00b134291a49)“How Some Generic Drugs Could Do More Harm Than Good”, 17 May 2019, https://time.com/5590602/generic-drugs-quality-risk/ | MU

But many of the generic drug companies that Americans and Africans alike depend on, which I spent a decade investigating, hold a dark secret: they routinely adjust their manufacturing standards depending on the country buying their drugs, a practice that could endanger not just those who take the lower-quality medicine but the population at large.

These companies send their highest-quality drugs to markets with the most vigilant regulators, such as the U.S. and the European Union. They send their worst drugs — made with lower-quality ingredients and less scrupulous testing — to countries with the weakest review.

The U.S. drug supply is not immune to quality crises — over the last ten months, dozens of versions of the generic blood pressure drugs valsartan, losartan and irbesartan have been subject to sweeping recalls. The active ingredients in some, manufactured in China, contained a probable carcinogen once used in the production of liquid rocket fuel. But the patients who suffer most are those in so-called “R.O.W. markets” — the generic-drug industry’s shorthand for “Rest of World.” In swaths of Africa, Southeast Asia and other areas with developing markets, some generic drug companies have made a cold calculation: they can sell their cheapest drugs where they will be least likely to get caught.

In Africa, for instance, pharmaceuticals used to come from more developed countries, through donations and small purchases. So when Indian drug reps offering cheap generics started arriving, the initial feeling was positive. But Africa soon became an avenue “to send anything at all,” said Kwabena Ofori-Kwakye, associate professor in the pharmaceutics department at the Kwame Nkrumah University of Science and Technology in Kumasi, Ghana. The poor quality has affected every type of medication, and the adverse impact on health has been “astronomical,” he told me.

Multiple doctors I spoke to throughout the continent said they have adjusted their medical treatment in response, sometimes tripling recommended doses to produce a therapeutic effect. Dr. Gordon Donnir, former head of the psychiatry department at the Komfo Anokye teaching hospital in Kumasi, treats middle-class Ghanaians in his private practice and says that almost all the drugs his patients take are substandard, leading him to increase his patients’ doses significantly. While his European colleagues typically prescribe 2.5 milligrams of haloperidol (a generic form of Haldol) several times a day to treat psychosis, he’ll prescribe 10 milligrams, also several times a day, because he knows the 2.5 milligrams “won’t do anything.” Donnir once gave ten times the typical dose of generic Diazepam, an anti-anxiety drug, to a 15-year-old boy, an amount that should have knocked him out. The patient was “still smiling,” Donnir said.

Many hospitals also keep a stash of what they call “fancy” drugs — either brand-name drugs or higher-quality generics — to treat patients who should have recovered after a round of treatment but didn’t. Confronted with the ailing boy at the Mulago hospital, Westerberg’s colleagues swapped in the more expensive version of ceftriaxone and added more drugs to the treatment plan. But it was too late. In the second week of his treatment, the boy was declared brain dead

Westerberg’s Ugandan colleagues were not surprised. Their patients frequently died when treated with drugs that should have saved them. And there were not enough “fancy” drugs to go around, making every day an exercise in pharmaceutical triage. It was also hard to keep track of which generics were safe and which were not to be trusted, said one doctor in Western Uganda: “It’s anesthesia today, ceftriaxone tomorrow, amoxicillin the next day.”

Westerberg, shaken by his newfound knowledge, flew back to Canada and teamed up with a Canadian respiratory therapist, Jason Nickerson, who’d had similar experiences with bad medicine in Ghana. They decided to test the chemical properties of the generic ceftriaxone that had been implicated in the Ugandan boy’s death. Another of Westerberg’s colleagues brought him a vial from the Mulago hospital pharmacy. The drug had been made by a manufacturer in northern China, which also exported to the U.S. and other developed markets. But when they tested the ceftriaxone at Nickerson’s lab, it contained less than half the active drug ingredient stated on the label. At such low concentration, the drug was basically useless, Nickerson said. He and Westerberg published a case report in the CDC’s Morbidity and Mortality Weekly Report. Although they couldn’t say with certainty that the boy had died due to substandard ceftriaxone, their report offered compelling evidence that he had.

Some companies claim that, while their drugs are all high-quality, there may be some variance in how they are produced because regulations differ from market to market. But Patrick H. Lukulay, former vice president of global health impact programs for USP (formerly U.S. Pharmacopeia), one of the world’s top pharmaceutical standard-setting organizations, calls that argument “totally garbage.” For any given drug, he says, “There’s only one standard, and that standard was set by the originator,” meaning the brand-name company that developed the product.

It’s not just those in developing markets who should be alarmed. Often, substandard drugs do not contain enough active ingredient to effectively cure sick patients. But they do contain enough to kill off the weakest microbes while leaving the strongest intact. These surviving microbes go on to reproduce, creating a new generation of pathogens capable of resisting even fully potent, properly made medicine. In 2011, during an outbreak of drug-resistant malaria on the Thailand-Cambodia border, USP’s chief of party in Indonesia Christopher Raymond strongly suspected substandard drugs as a culprit. Treating patients with drugs that contain a little bit of active ingredient, as he put it, is like “putting out fire with gasoline.”

#### IP waiver fails to address main issues. Doesn’t solve for access.

* If you don’t want to highlight anything beyond the first paragraph just remove those paragraphs

Nick Bassil 21 (Nick Bassil, Partner of Life Sciences and Chemistry Team for Killburn and Strode, Involved in Patent Applications and IP rights of research institutions) Why a waiver won’t work 6-15-2021 No Publication https://www.kilburnstrode.com/knowledge/european-ip/covid19-vaccine-ip-protection-waiver //DebateDrills TJ

Nick Bassil, Partner in the life science and chemistry team at Kilburn & Strode, believes that the waiver proposal is unlikely to address the desired aim of increasing vaccinations: “The IP issues only scratch the surface of the problem. The bigger issues are knowledge transfer, the availability of raw materials and the education and training of staff.” COVID-19 vaccines are complex and require raw materials and manufacturing equipment that are not easily available, and there are no short cuts: every dose must be safe and effective. This requires skilled scientists and rigorous processes. (Some of the promising leads for vaccines, as well as treatments and diagnostics, were discussed in our previous article “The worldwide pharma response to coronavirus”.)

Tom Leonard, also a Partner in the team, agrees: “Patents are only half the story. Biologics in particular are very complicated to make - growing organisms and living things is inherently unpredictable.” Moreover, he says, the proposal does not specify which IP rights are to be waived: “Any part of the process could be subject to IP rights, so how do you identify which patents to waive? Any manufacturer taking advantage of the waiver would need reassurance that they are not infringing any IP rights.”

The problem is compounded because the technology behind COVID-19 vaccines could be applied in many different areas. For example, research into mRNA, which has led to successful COVID-19 vaccines such as those produced by BioNTech/Pfizer and Moderna, has been underway for years, and is directed towards many different diseases, including malaria and cancer. Waiving patent rights could put research into these diseases at risk.

Tom says the key to ramping up vaccine distribution is cooperation – between governments and businesses. And, contrary to what those supporting a waiver claim, IP rights are likely to facilitate rather than obstruct such cooperation. As Kilburn & Strode Partner Rike Dekker in Maastricht says: “Patents are a tool for licensing. Together with a company’s know how, they provide the information and instructions, which allow businesses to cooperate. You can’t just write the recipe for a vaccine on the back of a drinks coaster!” (Or on the back of a Bierviltje as Rike puts it).

As an article in Nature makes clear, pharmaceutical companies including Sanofi, Merck, GSK, Novartis and the Serum Institute are collaborating to manufacture vaccines as fast as possible: up to 12 billion doses are expected to be made by the end of 2021. ''The waiver proposal assumes there is significant manufacturing capacity going to waste, but how much capacity is there?'' says Tom.

Another argument made in support of the waiver is that private companies should not benefit from public funding. While it’s true that governments and public research organisations have contributed to the development of COVID-19 vaccines, the substantial costs of development, manufacture and testing have generally been borne by the private sector, as shown by the example of Oxford University and AstraZeneca. Moreover, this reflects the history of innovation in many different fields, from nuclear energy to the internet, where public funding has laid a technological platform that the private sector has built on.

Rike, who previously worked in the pharmaceutical sector, says the predictability of the patent system enables companies to absorb the significant risks of development, particularly the costs of clinical trials, which often lead to drug candidates being rejected. “Would governments spend billions of dollars on research with no reward guaranteed? And would taxpayers support it if they did?” she asks. “I don’t think so. But the market exclusivity provided by a patent enables pharmaceutical companies to get a return on successful drugs, which can then be invested in further research.” For every COVID-19 vaccine successfully developed so far, dozens are still in trials – many of which will never make it to the market.

#### Waiving IP rights misses the point of solving for vaccine inequity.

Rachel Silverman (Rachel Silverman, leads policy-oriented research on global health financing and incentive structures, Master’s of Philosophy in public health University of Cambridge) Would Exempting COVID-19 Vaccines from Intellectual Property Rights Improve Global Access and Equity? Center For Global Development https://www.cgdev.org/debate/would-exempting-covid-19-vaccines-intellectual-property-rights-improve-global-access //DebateDrills TJ

With thanks to our contributors and commentators, I think this debate has generated greater clarity and nuance—if not necessarily consensus—about whether IP poses a meaningful barrier to COVID-19 vaccine access. We largely agree that knowledge-sharing and tech transfer are the crux of the IP issue—not patents and legal strictures per se. Moderna, for example, has waived IP enforcement for COVID-19 vaccines but has not widely shared its know-how; without the latter, the former action has not generated any generic production.

We are left, in that case, with two broad areas of disagreement and/or uncertainty.

First, is an IP waiver important as a first step and/or symbolic gesture, even if it will have limited impact without broader knowledge sharing? Some have argued “yes”—that it provides legal clarity to protect generic manufacturers against retribution and signals a shared commitment to human life and health over company profits and wealthy-country interests. From my perspective, I continue to feel largely agnostic on this point. I recognize the symbolic value and I’m not opposed to the