## 1

#### 1] Interpretation - Reduce means permanent reduction – it’s distinct from “waive” or “suspend.”

**Reynolds 59** (Judge (In the Matter of Doris A. Montesani, Petitioner, v. Arthur Levitt, as Comptroller of the State of New York, et al., Respondents [NO NUMBER IN ORIGINAL] Supreme Court of New York, Appellate Division, Third Department 9 A.D.2d 51; 189 N.Y.S.2d 695; 1959 N.Y. App. Div. LEXIS 7391 August 13, 1959, lexis)

Section 83's counterpart with regard to nondisability pensioners, section 84, prescribes a reduction only if the pensioner should again take a public job. The disability pensioner is penalized if he takes any type of employment. The reason for the difference, of course, is that in one case the only reason pension benefits are available is because the pensioner is considered incapable of gainful employment, while in the other he has fully completed his "tour" and is considered as having earned his reward with almost no strings attached. It would be manifestly unfair to the ordinary retiree to accord the disability retiree the benefits of the System to which they both belong when the latter is otherwise capable of earning a living and had not fulfilled his service obligation. If it were to be held that withholdings under section 83 were payable whenever the pensioner died or stopped his other employment the whole purpose of the provision would be defeated, i.e., the System might just as well have continued payments during the other employment since it must later pay it anyway.  [\*\*\*13] The section says "reduced", does not say that monthly payments shall be temporarily suspended; it says that the pension itself shall be reduced. The plain dictionary meaning of the word is to diminish, lower or degrade. The word "reduce" seems adequately to indicate permanency.

#### It’s temporary – we read blue

**Meredith 21**. [(Sam Meredith is a Correspondent at CNBC in London, covering international politics, energy and business news) “Rich countries are refusing to waive the rights on Covid vaccines as global cases hit record levels,” CNBC, April 22, 2021. <https://www.cnbc.com/2021/04/22/covid-rich-countries-are-refusing-to-waive-ip-rights-on-vaccines.html>] TDI

LONDON — The U.S., Canada and U.K. are among some of the high-income countries actively **blocking a patent-waiver proposal** designed to **boost the global production of Covid-19 vaccines.** It comes as coronavirus cases worldwide surge to their highest level so far and the World Health Organization has repeatedly admonished a “**shocking imbalance” in the distribution of vaccines amid the pandemic.** Members of the World Trade Organization will meet virtually in Geneva, Switzerland on Thursday to hold informal talks on whether to temporarily waive intellectual property and patent rights on Covid vaccines and treatments. The landmark proposal, which was jointly submitted by India and South Africa in October, has been backed by more than 100 mostly developing countries. It aims to facilitate the manufacture of treatments locally and boost the global vaccination campaign. Six months on, the proposal continues to be **stonewalled by a small number of governments** — including the U.S., EU, U.K., Switzerland, Japan, Norway, Canada, Australia and Brazil. “In this Covid-19 pandemic, we are once again **faced with issues of scarcity**, which can be addressed through diversification of manufacturing and supply capacity and ensuring the **temporary waiver of relevant intellectual property**,” Dr. Maria Guevara, international medical secretary at Medecins Sans Frontieres, said in a statement on Wednesday. “It is about saving lives at the end, not protecting systems.” The **urgency and importance of waiving certain intellectual property rights amid the pandemic have been underscored** by the WHO, health experts, civil society groups, trade unions, former world leaders, international medical charities, Nobel laureates and human rights organizations. Why does it matter? The waiver, if adopted at the General Council, the WTO’s highest-level decision-making body, could **help countries around the world overcome legal barriers** preventing them from producing their own Covid vaccines and treatments. Advocates of the proposal have conceded the waiver is not a “silver bullet,” but argue that **removing barriers** toward the development, production and approval of vaccines is **vital in the fight to prevent, treat and contain the coronavirus.**

#### Plan Text in a Vacuum is a useless guideline since words are contextually defined based on function – the only basis for determining Topicality should be if the implementation of the Plan as per their 1AC solvency evidence follows the directional meaning of the Topic’s intent – anything else allows the 1AR to re-contextualize what the Plan says forcing the 1NC to predict infinite 1AR spin since they’re not tied to their evidence.

#### 3] Vote neg for limits and neg ground – re-instatement under any infinite number of conditions doubles aff ground – every plan becomes either temporary or permanent – you cherry-pick the best criteria and I must prep every aff while they avoid core topic discussions like reduction-based DAs which decks generics like Pharma Innovation and Bio-Tech.

#### 4] Paradigm Issues –

#### a] Topicality is Drop the Debater – it’s a fundamental baseline for debate-ability.

#### b] Use Competing Interps – 1] Topicality is a yes/no question, you can’t be reasonably topical and 2] Reasonability invites arbitrary judge intervention and a race to the bottom of questionable argumentation.

#### c] No RVI’s - 1] Forces the 1NC to go all-in on Theory which kills substance education, 2] Encourages Baiting since the 1AC will purposely be abusive, and 3] Illogical – you shouldn’t win for not being abusive.

#### Reject 1AR theory- A] 7-6 time skew means it’s endlessly aff

## 2

#### CP: Member nations of the World Trade Organization should enter into a prior and binding consultation with the World Health Organization over reducing intellectual property protections for medicines. Member nations will support the proposal and adopt the results of consultation.

#### WHO says yes – it supports increasing the availability of generics and limiting TRIPS

Hoen 03 [(Ellen T., researcher at the University Medical Centre at the University of Groningen, The Netherlands who has been listed as one of the 50 most influential people in intellectual property by the journal Managing Intellectual Property, PhD from the University of Groningen) “TRIPS, Pharmaceutical Patents and Access to Essential Medicines: Seattle, Doha and Beyond,” Chicago Journal of International Law, 2003] JL

However, subsequent resolutions of the World Health Assembly have strengthened the WHO’s mandate in the trade arena. In 2001, the World Health Assembly adopted two resolutions in particular that had a bearing on the debate over TRIPS [30]. The resolutions addressed:

– the need to strengthen policies to increase the availability of generic drugs;

– and the need to evaluate the impact of TRIPS on access to drugs, local manufacturing capacity, and the development of new drugs

#### Consultation displays strong leadership, authority, and cohesion among member states which are key to WHO legitimacy

Gostin et al 15 [(Lawrence O., Linda D. & Timothy J. O’Neill Professor of Global Health Law at Georgetown University, Faculty Director of the O’Neill Institute for National & Global Health Law, Director of the World Health Organization Collaborating Center on Public Health Law & Human Rights, JD from Duke University) “The Normative Authority of the World Health Organization,” Georgetown University Law Center, 5/2/2015] JL

Members want the WHO to exert leadership, harmonize disparate activities, and set priorities. Yet they resist intrusions into their sovereignty, and want to exert control. In other words, ‘everyone desires coordination, but no one wants to be coordinated.’ States often ardently defend their geostrategic interests. As the Indonesian virus-sharing episode illustrates, the WHO is pulled between power blocs, with North America and Europe (the primary funders) on one side and emerging economies such as Brazil, China, and India on the other. An inherent tension exists between richer ‘net contributor’ states and poorer ‘net recipient’ states, with the former seeking smaller WHO budgets and the latter larger budgets.

Overall, national politics drive self-interest, with states resisting externally imposed obligations for funding and action. Some political leaders express antipathy to, even distrust of, UN institutions, viewing them as bureaucratic and inefficient. In this political environment, it is unsurprising that members fail to act as shareholders. Ebola placed into stark relief the failure of the international community to increase capacities as required by the IHR. Guinea, Liberia and Sierra Leone had some of the world's weakest health systems, with little capacity to either monitor or respond to the Ebola epidemic.20 This caused enormous suffering in West Africa and placed countries throughout the region e and the world e at risk. Member states should recognize that the health of their citizens depends on strengthening others' capacity. The WHO has a central role in creating systems to facilitate and encourage such cooperation.

The WHO cannot succeed unless members act as shareholders, foregoing a measure of sovereignty for the global common good. It is in all states' interests to have a strong global health leader, safeguarding health security, building health systems, and reducing health inequalities. But that will not happen unless members fund the Organization generously, grant it authority and flexibility, and hold it accountable.

#### WHO is critical to disease prevention – it is the only international institution that can disperse information, standardize global public health, and facilitate public-private cooperation

Murtugudde 20 [(Raghu, professor of atmospheric and oceanic science at the University of Maryland, PhD in mechanical engineering from Columbia University) “Why We Need the World Health Organization Now More Than Ever,” Science, 4/19/2020] JL

WHO continues to play an indispensable role during the current COVID-19 outbreak itself. In November 2018, the US National Academies of Sciences, Engineering and Medicine organised a workshop to explore lessons from past influenza outbreaks and so develop recommendations for pandemic preparedness for 2030. The salient findings serve well to underscore the critical role of WHO for humankind.

The world’s influenza burden has only increased in the last two decades, a period in which there have also been 30 new zoonotic diseases. A warming world with increasing humidity, lost habitats and industrial livestock/poultry farming has many opportunities for pathogens to move from animals and birds to humans. Increasing global connectivity simply catalyses this process, as much as it catalyses economic growth.

WHO coordinates health research, clinical trials, drug safety, vaccine development, surveillance, virus sharing, etc. The importance of WHO’s work on immunisation across the globe, especially with HIV, can hardly be overstated. It has a rich track record of collaborating with private-sector organisations to advance research and development of health solutions and improving their access in the global south.

It discharges its duties while maintaining a dynamic equilibrium between such diverse and powerful forces as national securities, economic interests, human rights and ethics. COVID-19 has highlighted how political calculations can hamper data-sharing and mitigation efforts within and across national borders, and WHO often simply becomes a convenient political scapegoat in such situations.

International Health Regulations, a 2005 agreement between 196 countries to work together for global health security, focuses on detection, assessment and reporting of public health events, and also includes non-pharmaceutical interventions such as travel and trade restrictions. WHO coordinates and helps build capacity to implement IHR.

## 3

#### The aff’s portrayal of a world with reduced IP protections as an “information commons” where medical inequality is solved by deregulation perpetuates the neoliberal myth of a perfect market Kapczynski 14 [(Amy, a Professor of Law at Yale Law School, Faculty Co-Director of the Global Health Justice Partnership, and Faculty Co-Director of the Collaboration for Research Integrity and Transparency. She is also Faculty Co-Director of the Law and Political Economy Project and cofounder of the Law and Political Economy blog. Her areas of research include information policy, intellectual property law, international law, and global health.) “INTELLECTUAL PROPERTY’S LEVIATHAN” Duke Law, Law & Contemporary problems, 2014. <https://scholarship.law.duke.edu/cgi/viewcontent.cgi?article=4710&context=lcp>] BC

Over the last decade or so, a powerful set of critiques has emerged to contest the dominant account just sketched out as well as the contemporary state of IP law.12 These arguments have come from many directions, some even arising from scholars who previously were champions of the dominant account.13 The most prominent and potent line of theoretical critique in the legal literature has come in the guise of arguments for free culture and the “information commons” and has been most influentially articulated by Lawrence Lessig and Yochai Benkler.14 Both have stressed the problems with expansive exclusive rights regimes in information and have also sketched a set of actually existing alternatives to market-based exclusionary forms of information and cultural production.

Lessig has written a series of influential books that have made him a “rock star of the information age,”15 particularly for young Internet and free-culture activists. He has argued powerfully, for example, that existing copyright law is in deep conflict with the radical new possibilities for creativity in the digital age. As he points out, when a mother posting a video of her toddler dancing to a Prince song on YouTube is threatened with a $150,000 fine for copyright infringement, something has gone seriously awry.16 Lessig also contends that copyright law today is too long, too expansive, and instantiates a “permission culture” that is antithetical to free expression in the age of the remix.17 As he puts it, “the Internet has unleashed an extraordinary possibility for many to participate in the process of building and cultivating a culture that reaches far beyond local boundaries,” creating the possibility of markets that “include a much wider and more diverse range of creators,” if not stifled by incumbents who use IP law to “protect themselves against this competition.”18

Benkler’s work has also been extraordinarily formative in the field, particularly for his insights into the multiplicity of modes of information production. As he has stressed, the conventional justification for IP does not account for the many successful and longstanding modes of market nonexclusionary information production.19 For example, attorneys write articles to attract clients, software developers sell services customizing free and opensource software for individual clients, and bands give music away for free to increase revenues from touring or merchandise.20 More pathbreaking still is Benkler’s account of the importance of “commons-based peer production,” a form of socially motivated and cooperative production exemplified by the volunteer network that maintains Wikipedia or the groups of coders who create open-source software products such as the Linux operating system.21 In the digital networked age, as Benkler describes, the tools of information production are very broadly distributed, “creating new opportunities for how we make and exchange information, knowledge, and culture.”22 These changes have increased the relative role in our information economy of nonproprietary production and facilitate “new forms of production [that] are based neither in the state nor in the market.”23 Because commons-based peer production is not hierarchically organized and is motivated by social dynamics and concerns, it also offers new possibilities for human development, human freedom, a more critical approach to culture, and more democratic forms of political participation.24

This line of critique has been profoundly generative and has helped launch an important new conceptualization of the commons as a paradigm. That paradigm, as a recent book puts it, “helps us ‘get outside’ of the dominant discourse of the market economy and helps us represent different, more wholesome ways of being.”25 Proponents of the commons concept draw upon contemporary articulations of successful commons-based resource management by Elinor Ostrom and her followers.26 They do mobilize retellings of the political and economic history of the commons in land in Europe before enclosure,27 and recent evidence from psychology and behavioral economics that suggests that humans have deep tendencies toward cooperation and reciprocation.28 They argue that A key revelation of the commons way of thinking is that we humans are not in fact isolated, atomistic individuals. We are not amoebas with no human agency except hedonistic “utility preferences” expressed in the marketplace. No: We are commoners—creative, distinctive individuals inscribed within larger wholes. We may have unattractive human traits fueled by individual fears and ego, but we are also creatures entirely capable of self-organization and cooperation; with a concern for fairness and social justice; and willing to make sacrifices for the larger good and future generations.29

This stands, of course, as a powerful rebuke to the neoliberal imaginary, which “constructs and interpellates individuals as . . . rational, calculating creatures whose moral autonomy is measured by their capacity for ‘self-care’— the ability to provide for their own needs and service their own ambitions.”30

III

Given this radical—and, in my view, critically important—attempt to rethink the subject at the core of neoliberal accounts, it is all the more striking that proponents of the commons often appear to adopt a neoliberal image of the state. For example, the introduction to a recently edited volume that gathers writings on the commons from seventy-three authors in thirty countries (entitled, tellingly, The Wealth of the Commons: A World Beyond Market and State) has this to say:

The presumption that the state can and will intervene to represent the interests of citizens is no longer credible. Unable to govern for the long term, captured by commercial interests and hobbled by stodgy bureaucratic structures in an age of nimble electronic networks, the state is arguably incapable of meeting the needs of citizens as a whole.31

The commons, they suggest, is a concept that seeks not only to liberate us from predatory and dysfunctional markets, but also from predatory and dysfunctional states. Something immediately seems incongruous here. If people are inherently cooperative reciprocators, why are states irredeemably corrupt? After all, as Harold Demsetz famously wrote in his 1967 attack on Arrow’s optimism about state production of information, “[g]overnment is a group of people.”32

Lessig, one of the progenitors of the language of the commons in the informational domain, often leads with a similar view of the state:

[I]f the twentieth century taught us one lesson, it is the dominance of private over state ordering. Markets work better than Tammany Hall in deciding who should get what, when. Or as Nobel Prize-winning economist Ronald Coase put it, whatever problems there are with the market, the problems with government are more profound.33

Lessig reveals his own sense of the power of this conception of the state when he seeks to tar IP law with the same brush; we should rebel against current IP law, he suggests, because we should “limit the government’s role in choosing the future of creativity.”34

Benkler is more measured but admits as well to viewing the state as “a relatively suspect actor.”35 We should worry, he suggests, that direct governmental intervention “leads to centralization in the hands of government agencies and powerful political lobbies,”36 a view that echoes the neoliberal account described above.

It should perhaps not surprise us that leading critics of neoliberal information policy embrace a neoliberal conception of the state. After all, neoliberalism is not merely an ideology, but also a set of policy prescriptions that may have helped to call forth the state that it has described. As David Harvey puts it, “[t]he neoliberal fear that special-interest groups would pervert and subvert the state is nowhere better realized than in Washington, where armies of corporate lobbyists . . . effectively dictate legislation to match their special interests.”37

There are, it must be said, few areas of law that better exemplify this problem than IP law. For example, Jessica Litman has documented the astonishing process through which the 1976 Copyright Act was drafted, in which Congress delegated most of the drafting to interest groups that were forced to negotiate with one another.38 Other scholars have offered similarly startling accounts of the genesis of the most important IP treaty today, the TradeRelated Aspects of Intellectual Property Rights (TRIPS) Agreement. TRIPS came into force in 1996, revolutionizing international IP law by both imposing new standards and by rendering them enforceable through the WTO’s disputeresolution system, which authorizes trade retaliation to enforce its judgments. Most countries in the world are members of TRIPS, and the Agreement introduced, for developing countries in particular, substantial new obligations, such as the obligation to grant patents on medicines and food-related inventions. Several excellent histories of the treaty have been written, documenting its beginnings as a brash idea proposed by “twelve chief executive officers (representing pharmaceutical, entertainment, and software industries).”39 As Susan Sell has described, the TRIPS Agreement was a triumph of industry organizing. Through TRIPS, Industry revealed its power to identify and define a trade problem, devise a solution, and reduce it to a concrete proposal that could be sold to governments.

#### The aff’s rhetoric of helping developing economies is the Trojan Horse for neoliberal privatization which destroys healthcare and is a vehicle for imperialism.

Gatwiri et al 19 [(Kathomi Gatwiri, lecturer based at Southern Cross University where she teaches Social Work & Social Policy; Julians Amboko, finance and economics correspondent with the Nation Media Group; and Darius Okolla, Bachelor of Commerce - Finance degree, from Kenyatta University) “The implications of Neoliberalism on African economies, health outcomes and wellbeing: a conceptual argument” Soc Theory Health. 18(1): 86–101. 6-26-19, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7223727/>] TDI

Since the late 1980s, the sub-Sahara has been struggling to address the issues of inequality that have been inflated by neoliberal policies and capitalist development policies that focus on production of labour and little on the health and wellbeing of the “producers” of the said labour. Globally, the rolling out of neoliberal policies has led to a plethora of harmful socioeconomic consequences, including increased poverty, unemployment, and deterioration of income distribution (Rotarou and Sakellariou 2017; Collins et al. 2015). Hartmann (2016, p. 2145) states that “neoliberalism typically refers to minimal government intervention, laissez-faire market policies, and individualism over collectivism [which] has been adopted by—and pressed upon—the majority of national governments and global development institution.” She further states that “neoliberal policies have contributed to the privatization and individualization of healthcare, resulting in growing health inequalities.” By privatising healthcare, education, electricity, water and housing, neoliberals argue that private institutions are more capable, effective and efficient in providing social services. Harvey (2007) states that neoliberalism is “a theory of political economic practices that proposes that human well-being can best be advanced by liberating individual entrepreneurial freedoms and skills within an institutional framework characterized by strong private property rights, free markets, … free trade” and a “hands-off” approach from the government. This is what Friedman referred to as the system of “free market capitalism” (Friedman 2009). However, (Garnham (2017) argues that decreasing public spending and government involvement in the welfare of people through the rhetoric of choice and freedom has a harmful impact on people’s health and wellbeing.

The biggest conceptual challenge is that neoliberal ideology adopts the language of freedom and choice, increased foreign investments, and open markets and trade to progress policies that lead to privatisation of basic needs such as education, healthcare, water, electricity and housing. The rich can often afford these services and can compete “fairly” in the “free market”, but the poor—unable to afford health care, education or decent housing—are left marginalised. Njoya (2017) explored the use of language in promoting inequality in the healthcare system. She argued that “neoliberalism uses the language of social policy and justice but [insidiously] drives a very corporate and unequal agenda.”

Neoliberalism has radically shifted the African public health space in the last two decades. Most sub-Saharan African countries drastically reduced their healthcare budgets following the International Monetary Fund (IMF) and the World Bank Structural Adjustment programs (SAPs) directives. As Hartmann (2016, p. 2146) wrote, it “decentralized health care decision-making and funding, resulting in wide-scale privatization of health care services, delivery, and insurance, which led to structural segmentation and fragmentation.” SAPs have had myriad negative impacts on African economies, including, but not limited to, “inflationary pressures, the marginalization of the poor in the distribution of educational and health benefits and a reduction in employment” (Rono 2002, p. 84). As the main impetus of the SAPs was to reduce and ration expenditure, structural adjustment in the healthcare sector slashed public spending on primary healthcare, and aided the privatisation of health systems and services. In Kenya, for example, The Bamako Initiative of 1987 anchored cost-sharing as a central tenet of public health policy, in which patients were required to pay for nearly all costs of diagnosis and treatment (Rono 2002). Outside of an emergency, patients were required to provide proof of payment before medical services are availed. By channelling funding to narrow medical interests, structural adjustment policies resulted in an uneven medical landscape, with a few prestigious fields surrounded by poorly resourced departments. Clinicians had to tailor their decisions about treatment to the limited medicine, technologies and resources available.

The increased number of private healthcare organisations, coupled with a significant reduction in the role of government in the provision of healthcare services, contributed to extensive negative outcomes on the quality, effectiveness, cost and access of health systems and services, which severely impacted on people’s wellbeing. Rotarou and Sakellariou (2017, p. 497) state that the private institutions, “with their focus on increasing profits, and not on providing affordable and good-quality healthcare, have led to the deterioration of public health systems, increase in urban–rural divide, as well as increase in inequality of access to healthcare services.” Privatisation of healthcare has made services more unaffordable and less available to the population of people that need it the most. As a result, life expectancy has stagnated or fallen in most African countries, and mortality from preventable infections and diseases continues to rise. Further to this, the politics of healthcare through a neoliberal lens are often framed as “individual” issues rather than “structural and ideological” issues. This implies that the neoliberal approach to health has diminished the idea of healthcare as a universal human right.

Reframing, reshaping, rethinking and re-politicising healthcare reveals the colonial attitudes that dictate who “deserves” good healthcare. Njoya (2017) states,

[Politicians in Kenya] come to the rescue of the poor by paying hospital bills but will not have a conversation about the fact that we the taxpayers are paying millions [worth of] medical cover for each of them and will not engage in a conversation about the underfunding of healthcare, and the looting of the little money given to healthcare. When [the] Netherlands and the UN are helping foreign companies purchase Kenyan hospitals, [they are] supporting our government’s deafness to [our right to basic healthcare] and [promoting their] refusal to fund public hospitals.

The privatisation and buying out of African hospitals by foreign companies in an attempt to “help and rescue them” is a capitalist response that undercuts universal healthcare for Africans by appropriating the language of care and inclusion. In reality, this “white saviour approach” is layered with nothing but racism, disempowerment, exploitation of people, and exclusion of those who cannot afford those “privatised” services. Access to health services, therefore, remains both a political as well as a human rights issue that’s closely tied to social justice (Braveman and Gruskin 2003b); but Africa’s colonial history, fuelled by Western greed for her resources, promotes discriminatory policies that continue to impact Africans and their wellbeing.

#### Capitalism is an a priori impact under any framework -- it’s the greatest existential threat and the biggest affront to human rights and causes value to life deprivation.

Ahmed 20 (Nafeez Ahmed -- Visiting Research Fellow at the Global Sustainability Institute at Anglia Ruskin University's Faculty of Science & Technology + M.A. in contemporary war & peace studies + DPhil (April 2009) in international relations from the School of Global Studies @ Sussex University, “Capitalism is Destroying ‘Safe Operating Space’ for Humanity, Warn Scientists”, https://www.resilience.org/stories/2020-06-24/capitalism-is-destroying-safe-operating-space-for-humanity-warn-scientists/, 24 June 2020, EmmieeM)

The COVID19 pandemic has exposed a strange anomaly in the global economy. If it doesn’t keep growing endlessly, it just breaks. Grow, or die.

But there’s a deeper problem. New scientific research confirms that capitalism’s structural obsession with endless growth is destroying the very conditions for human survival on planet Earth.

A landmark study in the journal Nature Communications, “Scientists’ warning on affluence” — by scientists in Australia, Switzerland and the UK — concludes that the most fundamental driver of environmental destruction is the overconsumption of the super-rich.

This factor lies over and above other factors like fossil fuel consumption, industrial agriculture and deforestation: because it is overconsumption by the super-rich which is the chief driver of these other factors breaching key planetary boundaries.

The paper notes that the richest 10 percent of people are responsible for up to 43 percent of destructive global environmental impacts.

In contrast, the poorest 10 percent in the world are responsible just around 5 percent of these environmental impacts:

The new paper is authored by Thomas Wiedmann of UNSW Sydney’s School of Civil and Environmental Engineering, Manfred Lenzen of the University of Sydney’s School of Physics, Lorenz T. Keysser of ETH Zürich’s Department of Environmental Systems Science, and Julia K. Steinberger of Leeds University’s School of Earth and Environment.

It confirms that global structural inequalities in the distribution of wealth are intimately related to an escalating environmental crisis threatening the very existence of human societies.

Synthesising knowledge from across the scientific community, the paper identifies capitalism as the main cause behind “alarming trends of environmental degradation” which now pose “existential threats to natural systems, economies and societies.” The paper concludes:

“It is clear that prevailing capitalist, growth-driven economic systems have not only increased affluence since World War II, but have led to enormous increases in inequality, financial instability, resource consumption and environmental pressures on vital earth support systems.”

Capitalism and the pandemic

Thanks to the way capitalism works, the paper shows, the super-rich are incentivised to keep getting richer — at the expense of the health of our societies and the planet overall.

The research provides an important scientific context for how we can understand many earlier scientific studies revealing that industrial expansion has hugely increased the risks of new disease outbreaks.

Just last April, a paper in Landscape Ecology found that deforestation driven by increased demand for consumption of agricultural commodities or beef have increased the probability of ‘zoonotic’ diseases (exotic diseases circulating amongst animals) jumping to humans. This is because industrial expansion, driven by capitalist pressures, has intensified the encroachment of human activities on wildlife and natural ecosystems.

Two years ago, another study in Frontiers of Microbiology concluded presciently that accelerating deforestation due to “demographic growth” and the associated expansion of “farming, logging, and hunting”, is dangerously transforming rural environments. More bat species carrying exotic viruses have ended up next to human dwellings, the study said. This is increasing “the risk of transmission of viruses through direct contact, domestic animal infection, or contamination by urine or faeces.”

It is difficult to avoid the conclusion that the COVID19 pandemic thus emerged directly from these rapidly growing impacts of human activities. As the new paper in Nature Communications confirms, these impacts have accelerated in the context of the fundamental operations of industrial capitalism.

Eroding the ‘safe operating space’

The result is that capitalism is causing human societies to increasingly breach key planetary boundaries, such as land-use change, biosphere integrity and climate change.

Remaining within these boundaries is essential to maintain what scientists describe as a “safe operating space” for human civilization. If those key ecosystems are disrupted, that “safe operating space” will begin to erode. The global impacts of the COVID19 pandemic are yet another clear indication that this process of erosion has already begun.

“The evidence is clear,” write Weidmann and his co-authors.

“Long-term and concurrent human and planetary wellbeing will not be achieved in the Anthropocene if affluent overconsumption continues, spurred by economic systems that exploit nature and humans. We find that, to a large extent, the affluent lifestyles of the world’s rich determine and drive global environmental and social impact. Moreover, international trade mechanisms allow the rich world to displace its impact to the global poor.”

The new scientific research thus confirms that the normal functioning of capitalism is eroding the ‘safe space’ by which human civilisation is able to survive.

The structures

The paper also sets out how this is happening in some detail. The super-rich basically end up driving this destructive system forward in three key ways.

Firstly, they are directly responsible for “biophysical resource use… through high consumption.”

Secondly, they are “members of powerful factions of the capitalist class.”

Thirdly, due to that positioning, they end up “driving consumption norms across the population.”

But perhaps the most important insight of the paper is not that this is purely because the super-rich are especially evil or terrible compared to the rest of the population — but because of the systemic pressures produced by capitalist structures.

The authors point out that: “Growth imperatives are active at multiple levels, making the pursuit of economic growth (net investment, i.e. investment above depreciation) a necessity for different actors and leading to social and economic instability in the absence of it.”

At the core of capitalism, the paper observes, is a fundamental social relationship defining the way working people are systemically marginalised from access to the productive resources of the earth, along with the mechanisms used to extract these resources and produce goods and services.

This means that to survive economically in this system, certain behavioural patterns become not just normalised, but seemingly entirely rational — at least from a limited perspective that ignores wider societal and environmental consequences. In the words of the authors:

“In capitalism, workers are separated from the means of production, implying that they must compete in labour markets to sell their labour power to capitalists in order to earn a living.”

Meanwhile, firms which own and control these means of production “need to compete in the market, leading to a necessity to reinvest profits into more efficient production processes to minimise costs (e.g. through replacing human labour power with machines and positive returns to scale), innovation of new products and/or advertising to convince consumers to buy more.”

If a firm fails to remain competitive through such behaviours, “it either goes bankrupt or is taken over by a more successful business. Under normal economic conditions, this capitalist competition is expected to lead to aggregate growth dynamics.”

The irony is that, as the paper also shows, the “affluence” accumulated by the super-rich isn’t correlated with happiness or well-being.

Restructure

The “hegemonic” dominance of global capitalism, then, is the principal obstacle to the systemic transformation needed to reduce overconsumption. So it’s not enough to simply try to “green” current consumption through technologies like renewable energy — we need to actually reduce our environmental impacts by changing our behaviours with a focus on cutting back our use of planetary resources:

“Not only can a sufficient decoupling of environmental and detrimental social impacts from economic growth not be achieved by technological innovation alone, but also the profit-driven mechanism of prevailing economic systems prevents the necessary reduction of impacts and resource utilisation per se.”

The good news is that it doesn’t have to be this way.

The paper reviews a range of “bottom-up studies” showing that dramatic reductions in our material footprint are perfectly possible while still maintaining good material living standards.

In India, Brazil and South Africa, “decent living standards” can be supported “with around 90 percent less per-capita energy use than currently consumed in affluent countries.” Similar possible reductions are feasible for modern industrial economies such as Australia and the US.

By becoming aware of how the wider economic system incentivises behaviour that is destructive of human societies and planetary ecosystems critical for human survival, both ordinary workers and more wealthy sectors — including the super-rich — can work toward rewriting the global economic operating system.

This can be done by restructuring ownership in firms, equalising relations with workers, and intentionally reorganising the way decisions are made about investment priorities.

The paper points out that citizens and communities have a crucial role to play in getting organised, upgrading efforts for public education about these key issues, and experimenting with new ways to work together in bringing about “social tipping points” — points at which social action can catalyse mass change.

While a sense of doom and apathy about the prospects for such change is understandable, mounting evidence based on systems science suggests that global capitalism as we know it is in a state of protracted crisis and collapse that began some decades ago. This research strongly supports the view that as industrial civilization reaches the last stages of its systemic life-cycle, there is unprecedented and increasing opportunity for small-scale actions and efforts to have large system-wide impacts.

The new paper shows that the need for joined-up action is paramount: structural racism, environmental crisis, global inequalities are not really separate crises — but different facets of human civilization’s broken relationship with nature.

Yet, of course, the biggest takeaway is that those who bear most responsibility for environmental destruction — those who hold the most wealth in our societies — urgently need to wake up to how their narrow models of life are, quite literally, destroying the foundations for human survival over the coming decades.

#### The alternative is a global socialist movement that ends globalization

Galant 19 [(Michael, a coordinator of the Wire Pillar of the Progressive International, former economics and trade fellow at Young Professionals in Foreign Policy, MPP from Harvard University’s Kennedy School and BA in political economy from Brown University) “The Battle of Seattle: 20 years later, it's time for a revival” Open Democracy, 11/30/2019. <https://www.opendemocracy.net/en/oureconomy/battle-seattle-20-years-later-its-time-revival/>] BC

20 years ago today, the streets of Seattle became front lines in the global class war.

Over the course of five days, some 40,000 individuals, representing unions, environmental groups, and Leftist organizations from around the world came together in an attempt to disrupt the Ministerial Conference of the World Trade Organization (WTO).

Using direct action tactics, activists physically delayed access to the meeting and led marches, rallies, and teach-ins that drew massive crowds. Protesters of all stripes were attacked by a violent police force – attracting international media coverage. The demonstrations outside became a wedge that would help drive the negotiations inside to collapse. The Battle of Seattle was won.

But the war continued. Seattle was about more than any single organization. The WTO was a symbol of the larger project of neoliberal globalization that was, in 1999, well on its way to reshaping the world in the interest of capital. The Battle of Seattle would become an equally potent symbol of resistance. The WTO protests marked the moment that the Alter-Globalization Movement (AGM), also known as the Global Justice, or disparagingly, the Anti-Globalization Movement, was launched into the public consciousness.

Much has changed in the two decades since. The AGM won many meaningful victories and experienced many more profound losses. Eventually, the movement faded. Today’s global economy resembles the neoliberal nightmare the Seattle protesters were fighting against more than the world they were fighting for. But recent years have revealed cracks in the surface. With an opportunity to finish what was started, it’s time to revive the spirit of Seattle.

Globalization and its dissent

Neoliberal globalization is a political project intended to raise the power of capital to the international level – to cement its supremacy as an immutable universal law beyond the reach of political communities. “Free trade” agreements and WTO rules establish the primacy of profit over democracy, labor, environmental, and consumer protections. World Bank and IMF loan conditions impose austerity, privatization, and deregulation on nations of the Global South. An international system of tax havens allows corporations and wealthy individuals to hoard their plundered resources. Global supply chain fragmentation shields multinationals from accountability for their abuses. Investment treaties unleash finance and corporations to cross borders in search of opportunities for exploitation, setting off a regulatory race to the bottom. If there was doubt before that capitalism must be confronted at the global level to be defeated, the power grab that is neoliberal globalization puts those doubts to rest. Capital is global. Labor must be too.

Yet there are forces preventing such global solidarity. Beginning during the Cold War, the majority of Northern labor accepted a compromise: support a foreign policy that enacts the interests of capital, and benefit from a share of the spoils in the form of minor concessions, a tempered welfare state, and cheap consumer goods. This tacit agreement survived largely intact into the neoliberal era – dividing the interests of a global working class and quelling demands for systemic global change.

The Alter-Globalization Movement rejected the compromise. While activists in the Global South had long resisted destructive free trade agreements and World Bank austerity, occasionally with solidarity from the North, the extremity of turn-of-the-century neoliberalism led to the explosion of a movement that refused to accept the mere crumbs of neocolonial extraction, and sought instead to build an alternative global economy for the many, both North and South.

This was a movement that brought together American anarchists with Korean peasants; libertarian socialist indigenous groups in Mexico with US anti-sweatshop activists; the International Confederation of Free Trade Unions with the Industrial Workers of the World; the Brazilian Movement for Landless Workers with Greenpeace; Filipino anti-capitalist scholars with French farmer activists best known for physically dismantling a McDonald’s. Their demands were many and varied – from land redistribution to the abolition of the World Bank, from a renegotiated NAFTA to the protection of indigenous knowledge of seeds from privatization – but all shared a vision of a global solidarity that would overcome the forces of neoliberal globalization.

Organizing under such a big tent, the AGM is better understood as a dispersed, informal network – a “movement of movements” – than a unified political structure. This fluid network manifested in many forms. The flagship World Social Forum regularly convened activists in an alternative to the annual World Economic Forum. Transnational advocacy networks campaigned on issues such as Global South debt relief. Northern activists used their positions of relative privilege to support local campaigns in the South, fighting water privatization in Bolivia and indigenous displacement from hydroelectric dams in India. And, as in Seattle, meetings of international organizations became rallying points for major global demonstrations.

With these organizing methods, the movement achieved substantial victories. The Jubilee 2000 campaign led to significant debt relief for Southern nations. Potentially disastrous trade agreements from the FTAA to TPP have been, at least temporarily, defeated. International Financial Institutions like the IMF and World Bank – while still agents of global capital – have vastly improved their lending practices since the 90’s. But its greatest successes were intangible: the AGM undermined the hegemonic ambitions embodied in Thatcher’s “There Is No Alternative”, slowed neoliberal globalization’s seemingly inexorable onslaught, and kept alive the flame of resistance during an otherwise nadir of Leftist politics.

The AGM should not, however, be romanticized. Emerging in a moment when the failures of 20th century socialist politics weighed heavily on the Left’s imagination, the AGM turned too far in the opposing direction. Big-tentism led to a dilution of demands and paved the way for the NGO-ization of the World Social Fora. A preference for all things decentralized made grabbing headlines easy, but building lasting political structures difficult. Resistance was often treated as an intrinsically valuable ends, rather than a means to taking power. And criticisms of “neoliberalism” typically fell short of identifying the true enemy – capitalism – or advancing a coherent alternative – socialism.

Ultimately, the neoliberal plan for the global economy succeeded more than not. While resistance to neoliberal globalization would rage on in the South, Northern solidarity faded. The September 11th attacks were the beginning of the end. Energy shifted to the anti-war movement, the state expanded its repression of Leftist organizing, and increased pressures toward “patriotism” led some to reconsider the old foreign policy compromise. By the mid-2000’s, little was left of what the AGM once was.

A call for revival

It’s time to rekindle the flame.

The global economy is still structured in the interest of capital. But the neoliberal consensus has begun to waver under the weight of its own contradictions.

The Right has a response to the crisis. Reactionary nationalists like Trump and Johnson seize upon existing systems of oppression to scapegoat the symptoms of a failed economic model. The problem is not that the global working class has lost out to a global capital class. The problem is that “we” – White, Christian, cishet, native-born Americans – have lost out to “them” – People of Color, immigrants, entire foreign countries, feminists, LGBTQ+ folks, and all those who threaten our supremacy in their struggles for liberation.

The Left must offer an alternative vision. The dramatic growth of socialist organizing and rise in popularity of social democratic politicians should offer great hope. But as the AGM understood, social democracy for the North is not enough. Our socialism must not mean merely a greater share of neocolonial extraction for Northern workers. Our socialism must rightly identify the global nature of our challenge, and unite across borders to confront a globalized capital.

That means internationalizing labor organizing to confront multinational corporations. Changing the rules of trade and investment. Ending tax havens. Building alternatives to the existing intellectual property regime. Holding corporations accountable for abuses in their supply chains. Supporting the struggles of peasants, indigenous peoples, and all global subaltern groups. Democratizing global governance. Opening borders to those displaced by the ravages of global capitalism. Advancing alternative models of development. Transforming, if not abolishing and replacing, the Bretton Woods Institutions. And confronting the all-important threat of climate collapse with, to begin with, a global Green New Deal. These are not minor addendums to a socialist platform. Class war is global. Internationalist demands are fundamental.

Organizations that remain from the AGM, international labor, and newcomers like Justice Is Global, the Fight Inequality Alliance, and Bernie Sanders and Yanis Varoufakis’s Progressive International, are already struggling for this vision. But its fruition depends on the backing of a far broader movement.

Like the AGM, we must take a global frame of analysis, and see neoliberal globalization as a concerted effort to undermine our power. Unlike the AGM, we must understand that neoliberalism is merely one manifestation of a greater enemy.

Like the AGM, we must build diverse, anti-racist, anti-sexist, anti-xenophobic movements that transcend borders. Unlike the AGM, we must not allow fears of centralization to undermine a coherent platform.

Like the AGM, we must reject a class compromise that sacrifices the possibility of a better world for the crumbs of colonialism. Unlike the AGM, we must build lasting political structures that back our rejection with political power.

20 years ago, the streets of Seattle echoed with a chant that would become the defining motto of the movement: “another world is possible!” It still is – if we’re willing to fight for it.

## 4

**US dominance is secured in biotech now, but China’s closing the gap fast – that allows geopolitical and economic advantages**

Scott **Moore** **2020** [(Director of the Penn Global China Program at the University of Pennsylvania. Previously, Moore was a Young Professional and Water Resources Management Specialist at the World Bank Group, and Environment, Science, Technology, and Health Officer for China at the U.S.) “China’s Role In The Global Biotechnology Sector And Implications For U.S. Policy” https://www.brookings.edu/wp-content/uploads/2020/04/FP\_20200427\_china\_biotechnology\_moore.pdf]TDI

EXECUTIVE SUMMARY Even by the standards of emerging technologies, **biotechnology has the potential to utterly transform geopolitics, economics**, and society in the 21st century. Yet while the United States has long been the world leader in most segments of the global biotechnology sector, **China is fast becoming a significant player**. This brief assesses the implications of China’s changing role in biotechnology for the United States, which span national security, data security, and economic competitiveness. On current trends the United States is likely to remain the world leader in most biotechnology areas. **However, the gap between China and the U.S. is narrowing in the biotechnology sector,** and U.S. policymakers must boost public investment, liberalize immigration and foreign student visa policies, and enact regulatory reforms to ensure America remains competitive. At the same time, areas like vaccine development and regulation of emerging technologies like synthetic biology present rich opportunities for Sino-U.S. cooperation. INTRODUCTION Thanks to extensive government funding for biomedical research, an unparalleled ability to translate basic research into commercial products and applications, and strong intellectual property protections, the United States has been the dominant global player in developing and commercializing biotechnology for decades.1 This dominance is reflected in the fact that United States accounted for almost half of all biotechnology patents filed worldwide from 1999 to 2013.2 However, in the intervening years, and just as in the case of artificial intelligence and other emerging technologies, other nations, including South Korea and Singapore, have invested heavily in developing their biotechnology sectors and industries. These efforts pale, however, in comparison to those of China, and the sheer size and scale of the Chinese biotechnology industry pose a range of economic, security, and regulatory issues for American policymakers. The determination of China’s one-party state to become a leading player in biotechnology is reflected by the rapid growth in investment in the sector. Some estimates claim that collectively, **China’s** central, local, and provincial **governments have invested over $100 billion in life sciences**

research and development. Regardless of the true figure, official encouragement has led to a torrid place of investment. In just the two-year period from 2015 to 2017, venture capital and private equity investment in the sector totaled some $45 billion.3 The value of commercial deals concluded in the fields of biology, medicine and medical machine technology, meanwhile increased from 25.8 billion renminbi (RMB), or $3.6 billion, in 2011 to over 75 billion RMB ($10.6 billion) in 2017.4 Annual research and development expenditures by Chinese pharmaceutical firms, the foundation of the biotechnology sector, rose from some 39 billion RMB in 2014 ($5.5 billion) to over 53 billion RMB (US$7.5 billion) by 2017. Expenditure on new product development among these firms, an important indicator of future growth potential, increased from just over 40 billion RMB ($5.6 billion) to almost 60 billion ($8.4 billion).5 By Western standards, some of these figures are still low. Swiss drugmaker Roche, the world leader in biotechnology research and development, spent some $11 billion in 2018 alone.6 As these figures suggest, the development of China’s biotechnology sector paints a nuanced picture for U.S. policymakers. On one hand, the sector’s rapid growth, and high-level commitment to continued investment, means that China will inevitably become an increasingly important player in the global biotechnology sector, **with implications for national security, economic competitiveness, and regulation**. An executive from In-Q-Tel, the U.S. government’s inhouse national security venture capital fund, warned Congress in a November 2019 hearing, for example, that China “intends to own the biorevolution… and they are building the infrastructure, the talent pipeline, the regulatory system, and the financial system they need to do that.”7 The CEO of European drugmaker AstraZeneca has similarly opined that “Much of [China’s] innovation in the last three to four years has been ‘me too,’ but now on the horizon we can see firstin-class innovation.”8 Yet on the other hand, while China’s biotechnology sector will almost certainly continue to grow in scale, sophistication, and competitiveness, there is little reason to believe on current trends that the United States will lose its edge in the sector. Indeed, the biggest risk to the global competitiveness of the U.S. biotechnology industry likely comes from the prospect of declining public investment and reduced mobility for world-class researchers and industry professionals. Moreover, the COVID-19 crisis underscores both the importance of continued investment in biotechnology and the many challenges to promoting effective international cooperation on global health security. This brief first examines the key policies and actors in China’s biotechnology sector, then offers an assessment of the sector’s current capabilities and future trends, and finally further explores the implications of developments in Chinese biotechnology for U.S. policy.

**The aff’s waiving of IP doesn’t solve but it does give away sensitive national security information that allows China to lead ahead in biotech**

Josh **Rogin 4-8**. [(Washington Post Columnist covering National Security Issues.) “Opinion: The wrong way to fight vaccine nationalism” https://www.washingtonpost.com/opinions/global-opinions/the-wrong-way-to-fight-vaccine-nationalism/2021/04/08/9a65e15e-98a8-11eb-962b-78c1d8228819\_story.html ] TDI

Americans will not be safe from covid-19 until the entire world is safe. That basic truth shows why vaccine nationalism is not only immoral but also counterproductive. But the simplest solutions are rarely the correct ones, **and some countries are using the issue to advance their own strategic interests**. The Biden administration must reject the effort by some nations to turn our shared crisis into their opportunity. As the inequities of vaccine distribution worldwide grow, a group of more than 50 developing countries led by India and South Africa is pushing the World Trade Organization to dissolve all international intellectual property protections for pandemic-related products, which would include vaccine research patents, manufacturing designs and technological know-how. The Trump administration rejected the proposal to waive the agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) for the pandemic when it was introduced in October. Now, hundreds of nongovernmental organizations and dozens of Democratic lawmakers are pushing the Biden administration to support the proposal. But many warn **the move would result in the United States handing over a generation of advanced research** — much of it funded by the U.S. taxpayer — **to** our country’s greatest competitors, above all **China**. In Congress, there’s justified frustration with the United States’ failure to respond to China’s robust vaccine diplomacy, in which Beijing has conditioned vaccine offers to pandemic-stricken countries on their ignoring security concerns over Chinese telecom companies or abandoning diplomatic recognition of Taiwan. There’s also a lot of anger at Big Pharma among progressives for profiting from the pandemic. “We are in a race against time, and unfortunately Big Pharma is standing in the way of speedily addressing this problem,” Rep. Jan Schakowsky (D-Ill.), who supports the effort to waive intellectual property protections, told me in an interview. “I think the real security issue is that while the United States balks in making sure that we help ourselves, that these adversaries will just jump right in.” Schakowsky argued that alternative measures for helping poor countries manufacture vaccines are simply not moving fast enough to save lives and that the United States has a duty to respond. House Speaker Nancy Pelosi (D-Calif.) personally conveyed her support for the waiver to President Biden, Schakowsky said. But Big Pharma is just one piece of the puzzle. Countries such as India and South Africa have been trying to weaken WTO intellectual property protections for decades. **The mRNA technology that underpins the Pfizer and Moderna vaccines was funded initially by the Defense Advanced Research Projects Agency and has national security implications.** Inside the Biden administration, the National Security Council has already convened several meetings on the issue. The waiver is supported by many global health officials in the White House and at the U.S. Agency for International Development, who believe the United States’ international reputation is suffering from its perceived “America First” vaccine strategy. On Wednesday, U.S. Trade Representative Katherine Tai spoke with WTO Director General Ngozi Okonjo-Iweala about the waiver issue. USTR is convening its own interagency meetings on the issue, which many see as a move to reassert its jurisdiction over WTO matters. If and when this does get to Biden’s desk, he will also hear from national security officials who believe that waiving TRIPS would result in the forced transfer of national security-sensitive technology to China, **a country that strives to dominate the biotechnology** ***field*** as part of its Made in China 2025 strategy. **Once countries such as China have this technology, they will apply their mercantilist industrial models to ensure their companies dominate these strategically important industries, potentially erasing thousands of U.S. jobs.** “We would be delivering a competitive advantage to countries that are increasingly viewed as our adversaries, at taxpayer expense, when there are other ways of doing this,” said Mark Cohen, senior fellow at the University of California at Berkeley Law School. **A preferable approach would be to build more vaccine-manufacturing capacity** in the United States and then give those vaccines to countries in need, said Cohen. The U.S. pharmaceutical industry would surely benefit, but **that’s preferable to being dependent on other countries when the next pandemic hits.** “If there’s anything that the pandemic has taught us, it’s that we need to have a robust supply chain, for ourselves and for the world generally,” Cohen said. What’s more, it’s not clear that waiving the TRIPS agreement for the pandemic would work in the first place. Bill Gates and others involved in the current vaccine distribution scheme have argued that it would not result in more vaccines, pointing out that licensing agreements are already successfully facilitating cooperation between patent-holding vaccine-makers and foreign manufacturers. Critics respond that such cooperation is still failing to meet the urgent needs in the developing world. Vaccine equity is a real problem, but waiving intellectual property rights is not the solution. If the current system is not getting shots into the arms of people in poor countries, we must fix that for their sake and ours. But the pandemic and our responses to it have geopolitical implications, whether we like it or not. **That means helping the world and thinking about our strategic interests at the same time.**

**China will convert biotechnology gains to military advantages, undermining US primacy – specifically true in the context of vaccines**

Mercy A. **Kuo 2017** [(Executive Vice President at Pamir Consulting.) “The Great US-China Biotechnology and Artificial Intelligence Race” <https://thediplomat.com/2017/08/the-great-us-china-biotechnology-and-artificial-intelligence-race/>] TDI

Trans-Pacific View author Mercy Kuo regularly engages subject-matter experts, policy practitioners, and strategic thinkers across the globe for their diverse insights into the U.S. Asia policy. This conversation with Eleonore Pauwels – Director of Biology Collectives and Senior Program Associate, Science and Technology Innovation Program at the Wilson Center in Washington D.C. – is the 104th in “The Trans-Pacific View Insight Series.” Explain the motivation behind Chinese investment in U.S. genomics and artificial intelligence (AI). With large public and private investments inland and in the U.S., China plans to become the next AI-Genomics powerhouse, which indicates that these technologies will soon converge in China. China’s ambition is to lead the global market for precision medicine, **which necessitates acquiring strategic tech**nological and human capital in both genomics and AI. And the country excels at this game. A sharp blow in this U.S.-China competition happened in 2013 when BGI purchased Complete Genomics, in California, with the intent to build its own advanced genomic sequencing machines, therefore securing a technological knowhow mainly mastered by U.S. producers. There are significant economic incentives behind China’s heavy investment in the increasing convergence of AI and genomics. This golden combination will drive precision medicine to new heights by developing a more sophisticated understanding of how our genomes function, leading to precise, even personalized, cancer therapeutics and preventive diagnostics, such as liquid biopsies. By one estimate, the liquid biopsy market is expected to be worth $40 billion in 2017. Assess the implications of iCarbonX of Shenzhen’s decision to invest US$100 million in U.S.-company PatientsLikeMe relative to AI and genomic data collection. iCarbonX is a pioneer in AI software that learns to recognize useful relationships between large amounts of individuals’ biological, medical, behavioral and psychological data. Such a data-ecosystem will deliver insights into how an individual’s genome is mutating over time, and therefore critical information about this individual’s susceptibilities to rare, chronic and mental illnesses. In 2017, iCarbonX invested $100 million in PatientsLikeMe, getting a hold over data from the biggest online network of patients with rare and chronic diseases. If successful, this effort could turn into genetic gold, making iCarbonX one of the wealthiest healthcare companies in China and beyond. The risk factor is that iCarbonX is handling more than personal data, but potentially vulnerable data as the company uses a smartphone application, Meum, for customers to consult for health advice. Remember that the Chinese nascent genomics and AI industry relies on cloud computing for genomics data-storage and exchange, creating, in its wake, new vulnerabilities associated with any internet-based technology. This phenomenon has severe implications. How much consideration has been given to privacy and the evolving notion of personal data in this AI-powered health economy? And is our cyberinfrastructure ready to protect such trove of personal health data from hackers and industrial espionage? In this new race, will China and the U.S. have to constantly accelerate their rate of cyber and bio-innovation to be more resilient? Refining our models of genomics data protection will become a critical biosecurity issue. Why is Chinese access to U.S. genomic data a national security concern? **Genomics** and computing research **is inherently dual-use, therefore a strategic advantage in a nation’s security arsenal.** Using AI systems to understand how the functioning of our genomes impacts our health **is of strategic importance for biodefense.** This knowledge will lead to increasing developments at the forefront of medical countermeasures, **including vaccines**, antibiotics, and targeted treatments relying on virus-engineering and microbiome research. Applying deep learning to genomics data-sets could help geneticists learn how to use genome-editing (CRISPR) to efficiently engineer living systems, but also to treat and, even “optimize,” human health, **with potential applications in military enhancements**.

A $15 million partnership between a U.S. company, Gingko Bioworks, and DARPA aims to genetically design new probiotics as a protection for soldiers against a variety of stomach bugs and illnesses. China could be using the same deep learning techniques on U.S. genomics data to better comprehend how to develop, patent and manufacture tailored cancer immunotherapies in high demand in the United States. Yet, what if Chinese efforts venture into understanding how to impact key genomics health determinants relevant to the U.S. population? **Gaining access to increasingly large U.S. genomic data-sets gives China a knowledge advantage into leading the next steps in bio-military research.** Could biomedical data be used to develop bioweapons? Explain. Personalized medicine advances mean that personalized bio-attacks are increasingly possible. The combination of AI with biomedical data and genome-editing technologies will help us predict genes most important to particular functions. Such insights will contribute to knowing how a particular disease occurs, how a newly-discovered virus has high transmissibility, but also why certain populations and individuals are more susceptible to it. Combining host susceptibility information with pathogenic targeted design, **malicious actors could engineer pathogens that are tailored to overcome the immune system or the microbiome of specific populations.**

**Maintenance of the ILO is key to reduce a host of existential threats – establishes great-power peace.**

**Brands 18**. [(Hal Brands is a Henry Kissinger Distinguished Professor at Johns Hopkins University’s School of Advanced International Studies, Scholar at the American Enterprise Institute. “America’s Global Order Is Worth Fighting For, Bloomberg Opinion, Politics & Policy,” August 14, 2018, Bloomberg. <https://www.bloomberg.com/opinion/articles/2018-08-14/america-s-global-order-is-worth-fighting-for>] TDI

The first argument is **easily disposed** of. Yes, the postwar world has been **thoroughly imperfect**, featuring nuclear arms races, genocides, widespread poverty and other scourges. But the world has **always been** imperfect, and by **any** meaningful **comparison**, the last **seven decades** have been a **veritable golden age**. The **liberal international** economic order has led to an **explosion** of **domestic** and **global prosperity**: According to World Bank data, both U.S. and global **per capita** income have increased **roughly three-fold** (in inflation-adjusted terms) since 1960, with U.S. gross domestic product increasing nearly six-fold. The U.S. **system** of alliances and forward military deployments has **contributed critically** to the **longest period** of **great-power peace** in modern history, and **the incidence of war** and conquest **more broadly** have dropped **dramatically**. The number of **democracies** in the world has **increased** from perhaps a dozen during World War II to well over 100 today; **respect for basic** human rights has also reached **impressive levels**. As a **bevy of scholarship** has shown, the policies that the U.S. has **pursued** and the **international order** it has built have contributed **enormously** and **directly** to these **outcomes**. If the **liberal international order** can’t be considered a **smashing success**, no **international order** could be. The second critique is also overstated. It is true that Washington, like all great powers throughout history, has been willing to bend the rules to get its way. It is hard to reconcile Cold War-era interventions in Guatemala, Chile and other countries with a professed solicitude for human rights and democracy; the Iraq War of 2003 is only one instance in which the U.S. brushed aside the concerns of international organizations such as the U.N. Security Council. Likewise, when the U.S. government determined that the Bretton Woods system of monetary relations no longer suited its interests in the 1970s, it terminated that scheme and insisted on creating a more favorable one. But again, the proper standard here is not sainthood but reality. And the U.S. has **generally** enlisted its power in the **service** of **universal values**

such as **democracy** and **human rights**; it has, more often than not, promoted **a positive-sum** international system in which **like-minded** nations can be **secure** and **wealthy**. This goes back to the very beginning of the liberal order: Washington did not seek to hold its defeated adversaries in subjugation after World War II; it rebuilt Japan and western Germany into thriving, democratic allies that became fierce economic competitors to the U.S. The U.S. has taken this approach not simply because it wanted to do good in the world — powerful as this motivation is — but because of a hard-headed desire to do good for itself. In an interdependent global environment, American officials have long calculated, the U.S. cannot divorce its own well-being from that of the wider world. And in contrast to how other great powers — Imperial Japan, for instance, or the Soviet Union — ruled their spheres of influence, American behavior has been positively enlightened. It is this relatively benign behavior that has convinced so many countries to tolerate American leadership — and it is the emergence of a darker form of U.S. hegemony under the Trump administration that so profoundly worries them today. As for the third critique, the premise is right, but the **conclusion** can easily **go too far**. It is always **dangerous** to become **so enraptured** by past **achievements** that one **loses sight** of the **need for adaptation** in **the future**. This is particularly true today, because the strength of the liberal order is being tested from within and without, by issues ranging from unequal burden-sharing among American allies to the ambivalence of the American people themselves. There is **little evidence** to suggest, however, that either American power or **the liberal order** it supports have **eroded** so **dramatically** that **Washington**’s postwar project cannot be **sustained**. Quite the contrary — the U.S. is likely to remain the **world’s strongest power** for **decades to come**.

## Case

**Restricting IP protections undermines innovation and profit margins – turns case by precluding vaccine distribution to developing countries.**

**Cueni 12/10** [(Thomas, Director General of IFPMA, chair of the AMR Industry Alliance, Industry Co-Chair APEC Biopharmaceutical Working Group on Ethics, MA in politics from the London School of Economics) “The Risk in Suspending Vaccine Patent Rules,” New York Times, 12/10/2020] TDI

It is unclear how suspending patent protections would ensure fair distribution. But what is clear is that if successful, the effort would **jeopardize future medical innovation**, making us more vulnerable to other diseases.

Intellectual property rights, including patents, grant inventors a period of exclusivity to make and market their creations. By affording these rights to those who create intangible assets, such as musical compositions, software or drug formulas — people will invent more useful new things.

Development of a new medicine is **risky** and **costly**. Consider that scientists have spent decades — and billions of dollars — working on Alzheimer’s treatments, but still have little to show for it. The companies and investors who fund research shoulder so much risk because they have a shot at a reward. Once a patent expires, generic companies are free to produce the same product. Intellectual property rights underpin the system that gives us all new medicines, from psychiatric drugs to cancer treatments.

In trying to defend these rights, the drug industry has made mistakes in the past that have lost people’s trust. More than 22 years ago, for example, a group of drug companies sued the South African government for trying to import cheaper anti-AIDS drugs amid an epidemic. With price standing between patients and survival, the suit, which the companies eventually dropped, was a terrible misjudgment. The current situation is not parallel.

**Several major drug companies**, including AstraZeneca, GlaxoSmithKline and Johnson & Johnson, have pledged to **offer their vaccines on a not-for-profit basis** during the pandemic. Others are considering differential pricing for different countries. As of last month, four major pharmaceutical companies had already agreed to eventually produce at least three billion vaccine doses for low- and middle-income nations, according to one analysis.

In South Africa and India, pharmaceutical companies are already working with local partners to make their vaccines available. Johnson & Johnson has entered into a technology transfer partnership for its candidate vaccine with South Africa’s Aspen Pharmacare, and AstraZeneca has reached a licensing agreement with the Serum Institute of India to develop up to 1 billion doses of its vaccine for low and middle-income countries.

**Companies can afford to license patents for free, or sell drugs at cost, precisely because they know that their intellectual property will be protected**. That’s not a flaw in the system; it’s how the system ensures that pharmaceutical research will continue to be funded.

**IP protections are key to pharmaceutical investment in developing countries.**

**Ezell and Cory 19** [(Stephen, vice president, global innovation policy, at the Information Technology and Innovation Foundation, B.S. from the School of Foreign Service at Georgetown University, and Nigel, associate director covering trade policy at the Information Technology and Innovation Foundation, former researcher in the Southeast Asia Program at the Center for Strategic and International Studies, MA in public policy from Georgetown University) “The Way Forward for Intellectual Property Internationally,” Information Technology and Innovation Foundation, 4/25/2019] TDI

Academic research also signals a strong correlation between IPR and technology transfer. Lippoldt showed that **IPR strengthening in countries—particularly with respect to patents—is associated with increased technology transfer via trade and investment**.34 Research has revealed that a country’s level of intellectual property protection considerably affects whether foreign firms will transfer technology into it.35 That matters because the welfare gains from the importation of technology via innovative products, while differing across countries, can be substantial.36 For instance, **foreign sources of technology account for over 90 percent of domestic productivity growth in all but a handful of countries**.37 The research on this matter is clear and consistent. For example, a 1986 United Nations Conference on Trade and Development (UNCTAD) study found that direct investment in new technology areas such as computer software, semiconductors, and biotechnology is supported by stronger intellectual property rights policy regimes.38 (However, as this report later clarifies, subsequent UNCTAD reports have lamentably taken a more skeptical view toward IP.) A 1989 study by the United Nations Commission on Transnational Corporations (UNCTC) found that weak IP rights reduce computer software direct investment; and a 1990 study by UNCTC found that **weak IP rights reduce pharmaceutical investment**.39 Mansfield conducted firm-level surveys and found that perceptions of strong IP rights abroad have a positive effect on incentives to transfer technologies abroad. Likewise, survey research by the World Bank’s International Finance Corporation found that, with variations by sector, country, and technology, **at least 25 percent of American and Japanese high-tech firms refuse to directly invest, or enter into a joint venture, in developing countries with weak intellectual property rights**;

and a later study confirmed those survey findings with actual foreign direct investment data.40 And an Institute for International Economics study of World Bank data concluded that weak intellectual property rights reduce flows of all these commercial activities, regardless of nations’ levels of economic development.41

Studies have also shown how the benefits of intellectual property extend to developing countries. Diwan and Rodrik demonstrated that stronger patent rights in developing countries give enterprises from developed countries a greater incentive to research and introduce technologies appropriate to developing countries.42 Similarly, Taylor showed that **weak patent rights in developing countries lead enterprises from developed countries to introduce less-than-best-practice technologies to developing countries**.43 Interestingly, the relationship goes in both directions. Branstetter and Saggi showed that strengthened IPR protection not only improves the investment climate in the implementing countries, but also leads to increased FDI in the country producing the original innovation.44 They concluded that IPR reform in the “global South” (e.g., developing countries) may be associated with FDI increases in the “global North” (e.g., developed countries). As northern firms shift their production to southern affiliates, this FDI accelerates southern industrial development, creating a cyclical feedback mechanism that also benefits the North. Another study by Liao and Wong, which focused on firm-level analysis, highlights the inter-relationship of IPR reform in developed and developing countries. Their study concluded that **developing countries can entice technology transfer from the North by providing IPR protection for incoming products** (although they note there is a need for redoubled R&D efforts in developed countries to spur needed innovations).45

**A wholesale solution is key---the aff fails.**

**Stone 21**. [(Judy Stone is an Infectious Disease specialist) “Covid Vaccine Equity - Developing Countries Need Our Help,” Forbes, May 11, 2021. <https://www.forbes.com/sites/judystone/2021/05/11/vaccine-equitydeveloping-countries-need-our-help/?sh=10939a363ec8>] TDI

The real problem is that vax is a good retail (one at a time) solution, whereas **in a pandemic you need a wholesale, behavioral semi-solution: masks, ventilation, quarantine.** With its nationalistic approach to global problems the previous administration brokered deals that prohibited donation of supplies, in part due to liability concerns of the manufacturers or shortages of raw materials. There has been a **great deal of debate over whether we should waive intellectual property rights**, given the urgency of the Covid pandemic. Some in industry feel it will stifle their innovation. Others reply that public and non-profits have provided over $10 billion towards research and development of vaccines. Furthermore, the U.S. government holds the patent for a technique for modifying the coronavirus protein used in vaccines produced by the major U.S. manufacturers. Unlike his predecessor, President Biden understands that sharing vaccine with other countries is also in our best interest, and joined the international Covax program. Covax is led by WHO, Gavi (Global vaccine alliance), CEPI (Coalition for Epidemic Preparedness Innovations) and the UN’s Children’s Fund (UNICEF). So far, only 0.3% of the vaccines that have been administered have gone to low-income countries, according to the Director-General of the World Health Organization (WHO) Tedros Adhanom Ghebreyesus. Covax’s goal is vaccinating 20% of the population of poorer countries. Covax had hoped to administer 2 billion vaccine doses in 2021 (that’s more than 25% of the world’s whole population); so far, they’ve only reached 29 million doses. We need at least a 70% vaccination rate to develop herd immunity and stop the pandemic. Another problem is that even if the patent protections are waived, allowing companies to have the “recipe” for producing vaccines, many **lack the technical know-how or experience to do so.** WHO is proposing a technology transfer hub to assist in this process.

#### Unpatented medicine cause counterfeits—

Lynbecker 16 [(Kristina M. L. Acri née, an Associate Professor of Economics at Colorado College in Colorado Springs, where she is also the Associate Chair of the Department of Economics and Business and the Gerald L. Schlessman Professor of Economics. Dr. Lybecker’s research analyzes the difficulties of strengthening intellectual property rights protection in developing countries, specifically special problems facing the pharmaceutical industry.) “Counterfeit Medicines and the Role of IP in Patient Safety,” IPWatchDog, 7/27/16. <https://www.ipwatchdog.com/2016/06/27/counterfeit-medicines-ip-patient-safety/id=70397/>] RR

The threat of counterfeit goods took center stage on June 15th in a hearing convened by Senate Finance Committee Chairman Orrin Hatch (R-Utah). Focusing on trade opportunities and challenges for American businesses in the digital age, Senator Hatch stated:

“The Organization for Economic Co-Operation and Development (OECD) recently released a study that shows that counterfeit products accounted for up to 2.5 percent of world trade, or $461 billion, in 2013. This is a dramatic increase from a 2008 estimate that showed that fake products accounted for less than half that amount. Counterfeits are a worldwide problem, but the OECD estimates that the United States is the hardest hit, followed by Italy and France. Of the estimated $461 billion in counterfeit trade in 2013, goods with registered intellectual property rights in the U.S. represented 20 percent, or $92 billion, of the OECD estimate.”[1]

As the author of the chapter on illicit trade in counterfeit medicines within the OECD report, I worry that global policymakers may be working against each other when it comes to battling counterfeit drugs, especially in the context of intellectual property rights. While the Senate Hearing and the OECD report highlight the importance of strong IP protection in combating the growing threat of counterfeit goods, their efforts coincide with an initiative by the UN Secretary-General that has the potential to greatly worsen the problems of counterfeit pharmaceuticals. UN Secretary General Ban Ki Moon’s High Level Panel on Access to Medicines proposes “to review and assess proposals and recommend solutions for remedying the policy incoherence between the justifiable rights of inventors, international human rights law, trade rules and public health in the context of health technologies.”[2] The High Level Panel is a thinly veiled attempt to undermine the intellectual property rights architecture that incentivizes pharmaceutical innovation and protects patients from counterfeit medicines.

While patents and other forms of intellectual property rights are widely recognized as fostering pharmaceutical innovation, they also serve to inhibit counterfeiting. The World Health Organization has determined that counterfeiting is facilitated where “there is weak drug regulatory control and enforcement; there is a scarcity and/or erratic supply of basic medicines; there are extended, relatively unregulated markets and distribution chains, both in developing and developed country systems; price differentials create an incentive for drug diversion within and between established channels; there is lack of effective intellectual property protection; due regard is not paid to quality assurance”.[3]

[Kristina]

According to INTERPOL estimates, approximately 30 percent of drugs sold worldwide are counterfeit.[4] However, as is the case with many other counterfeit trade statistics, the origins of this figure are somewhat uncertain, as is the methodology used to make the calculation. Perhaps the most widely-cited statistic originates from the World Health Organization, which estimates that 10 percent of the global market for pharmaceuticals is comprised of counterfeits and reports place the share in some developing countries as high as 50-70%.[5]

While difficult to measure, estimates do exist on the extent of the market for counterfeit drugs and the harm done to human health. As noted in my chapter in the OECD report,

“INTERPOL estimates that more than one million people die each year from counterfeit drugs.[6] While counterfeit drugs seem to primarily originate in Asia, Asian patients are also significantly victimized by the problem. A 2005 study published in PLoS Medicine estimate that 192,000 people are killed in China each year by counterfeit medicines.[7] According to work done by the International Policy Network, an estimated 700,000 deaths from malaria and tuberculosis are attributable to fake drugs. [8] The World Health Organization presents a much more modest number noting that malaria claims one million lives annually and as many as 200,000 may be attributed to counterfeit medicines which would be avoidable if the medicines available were effective, of good quality and used correctly.[9] Even this number is double that presented by academic researchers Amir Attaran and Roger Bate who claim that each year more than of 100,000 people around the world may die from substandard and counterfeit medications.[10]” [11]

Given the devastating impact of counterfeit medicines on patients and the importance of intellectual property protection in combating pharmaceutical counterfeiting, it is troubling that the UN High Level Panel seems poised to prevent a series of recommendations that will undermine public health under the guise of enhancing access. Without the assurance of quality medicines, access is meaningless. Moreover, while falsely presenting intellectual property rights as the primary obstacle to global health care, the High Level Panel downplays a host of other factors that prevent developing country patients from getting the drugs they need: inadequate medical infrastructure, insufficient political will, a shortage of clinical trials in nations where neglected diseases are endemic, poverty, and insufficient market incentives.

#### Generic medicine is dangerous—contamination and unsanitary manufacturing conditions.

White 19 [(C. Micheal, Professor and Head of the Department of Pharmacy Practice, University of Connecticut) “Why your generic drugs may not be safe and the FDA may be too lax” The Conversation, 12/4/19. <https://theconversation.com/why-your-generic-drugs-may-not-be-safe-and-the-fda-may-be-too-lax-125529>] RR

This leads to a vital question: Are generics safe? If drug manufacturers followed the FDA’s strict regulations, the answer would be a resounding yes. Unfortunately for those who turn to generics to save money, the FDA relies heavily on the honor system with foreign manufacturers, and U.S. consumers get burned. Eighty percent of the active ingredients and 40% of the finished generic drugs used in the U.S. are manufactured overseas.

As a pharmacist, I know that the safety of prescription medications is vital. My research, recently published in the “Annals of Pharmacotherapy,” raises alarming concerns about our vulnerabilities.

Do experts have something to add to public debate?

Where are your drugs being made?

A pharmacist at a drug plant outside Mumbai in 2012, shortly after a change in patent law allowed production of a generic cancer drug. Rafiq Mugbool/AP Photo

Generic drug manufacturers either make bulk powders with the active ingredient in them or buy those active ingredients from other companies and turn them into pills, ointments or injectable products.

In 2010, 64% of foreign manufacturing plants, predominantly in India and China, had never been inspected by the FDA. By 2015, 33% remained uninspected.

In addition, companies in other countries are informed before an inspection, giving them time to clean up a mess. Domestic inspections are unannounced.

Faking results

The FDA informs manufacturing plants in other countries when it plans to inspect their plants. Andrew Harnik/AP Photo

As I detail in my paper, when announced foreign FDA inspections began to occur in earnest between 2010 and 2015, numerous manufacturing plants were subsequently barred from shipping drugs to the U.S. after the inspections uncovered shady activities or serious quality defects.

Unscrupulous foreign producers shredded documents shortly before FDA visits, hid documents offsite, altered or manipulated safety or quality data or utilized unsanitary manufacturing conditions. Ranbaxy Corporation pleaded guilty in 2013 to shipping substandard drugs to the U.S. and making intentionally false statements. The company had to withdraw 73 million pills from circulation, and the company paid a $500 million fine.

These quality and safety issues can be deadly. In 2008, 100 patients in the U.S. died after receiving generic heparin products

from foreign manufacturers. Heparin is an anticoagulant used to prevent or treat blood clots in about 10 million hospitalized patients a year and is extracted from pig intestines.

Some of the heparin was fraudulently replaced with chondroitin, a dietary supplement for joint aches, that had sulphur groups added to the molecule to make it look like heparin.

One of the heparin manufacturers inspected by the FDA received a warning letter after it was found to have used raw material from uncertified farms, used storage equipment with unidentified material adhering to it and had insufficient testing for impurities.

These issues continue to this day. Dozens of blood-pressure and anti-ulcer drugs were recalled in 2018 and 2019 due to contamination with the potentially carcinogenic compounds N-nitrosodimethylamine or N-nitrosodiethylamine.

One of the major producers of these active ingredient powders used by multiple generic manufacturers was inspected in 2017. The FDA found that the company fraudulently omitted failing test results and replaced them with passing scores.

This raises a critical question: How many more violations would occur with inspections occurring as frequently as they do in the U.S., and more importantly, if they were unannounced? Relatively speaking, the number of drugs proved to be tainted or substandard has been small, and the FDA has made some progress since 2010. But the potential for harm is still great.

#### Turn- All factories safe for making vaccines are producing, aff can’t create new approved factories to solve

Kurt **Schlosser** On **4 26**, 2021 At 12 [Kurt Schlosser On April 26, 2021 At 124-26-2021, "Bill Gates predicts ‘very small numbers’ of COVID by end of 2022, takes heat for vaccine patent defense," GeekWire, accessed at https://www.geekwire.com/2021/bill-gates-predicts-small-numbers-covid-end-2022-takes-heat-vaccine-patent-defense/] SC TA 9-2-2021

Bill Gates predicts “the end will come” for the COVID-19 pandemic, saying in an interview on Sunday that a return to normal will arrive next year. “We won’t have eradicated this disease, but we’ll be able to bring it down to very small numbers by the end of 2022,” Gates told the UK’s Sky News. The Microsoft co-founder and co-chair of the Bill and Melinda Gates Foundation in Seattle has been heavily invested in the response to the pandemic in the U.S. and across the world. Gates has championed the need to make sure vaccines reach the developing world. But Gates is facing criticism for his defense of patent protections on vaccine technologies, telling Sky News that sharing the “recipe” for vaccines would not be helpful. “There’s only so many vaccine factories in the world and people are very serious about the safety of vaccines,” Gates said. “And so moving something that had never been done, moving a vaccine from say a J&J factory into a factory in India, it’s novel. It’s only because of our grants and expertise that that can happen at all. “The thing that’s holding things back in this case is not intellectual property,” Gates continued. “It’s not like there’s some idle vaccine factory, with regulatory approval, that makes magically safe vaccines. You know, you’ve got to do the trial on these things. Every manufacturing process has to be looked at in a very careful way.”