## 1AC

### FW

#### Ethics must begin a priori

#### 1] Empirical uncertainty: evil demon could deceive us and inability to know others experience make empiricism unreliable—outweighs since it would be escapable because people could say they don’t experience the same.

#### 2] Constitutive authority: I could infinitely question any ethical theory by asking “why” but only practical reason solves because asking “why” concedes the authority of reason.

#### 3] Naturalistic fallacy: experience only tells us what is, not what ought to be, but it’s impossible to derive an ought from descriptive premises so there needs to be a priori premises.

#### 4] Action theory: reason is key to evaluate intent and unify actions – otherwise we could infinitely divide actions. For example, if I was brewing tea, I could break up that action into multiple actions. If we were never able to unify action, we could never classify actions as moral or immoral since those actions would be divisible.

#### That justifies universality – a priori principles apply to everyone since they are independent of experience and any non-universalizable norm justifies someone’s ability to impede on your ends i.e. if I want to eat ice cream, I must recognize that others may affect my pursuit of that end.

#### Thus, the standard is consistency with the categorical imperative.

#### Prefer:

#### 1] Resource disparities—focusing on evidence privileges debaters with the most prep excluding lone-wolfs. A debater under my framework can easily be won without any prep since minimal evidence is required. That pre-req to accessing the activity.

#### 2] Practical identities – we find our lives worth living under practical identities such as student but that presupposes agency.

**Korsgaard 92** CHRISTINE M. Korsgaard 92 [I am a Professor of Philosophy at Harvard University, where I have taught since 1991. From July 1996 through June 2002, I was Chair of the Department of Philosophy. (The current chair is Sean Kelly.) From 2004-2012, I was Director of Graduate Studies in Philosophy. (The current DGS is Mark Richard.) Before coming here, I held positions at Yale, the University of California at Santa Barbara, and the University of Chicago, as well as visiting positions at Berkeley and UCLA. I served as President of the Eastern Division of the American Philosophical Association in 2008-2009, and held a Mellon Distinguished Achievement Award from 2006-2009. I work on moral philosophy and its history, practical reason, the nature of agency, personal identity, normativity, and the ethical relations between human beings and the other animals], “The Sources of Normativity”, THE TANNER LECTURES ON HUMAN VALUES Delivered at Clare Hall, Cambridge University 16-17 Nov 1992, BE

The Solution: Those who think that the human mind is internally luminous and transparent to itself think that the term “self-consciousness” is appropriate because what we get in human consciousness is a direct encounter with the self. Those who think that the human mind has a reflective structure use the term too, but for a different reason. The reflective structure of the mind is a source of “self-consciousness” because it forces us to have a conception of ourselves. As Kant argues, this is a fact about what it is like to be reflectively conscious and it does not prove the existence of a metaphysical self. From a third person point of view, outside of the deliberative standpoint, it may look as if what happens when someone makes a choice is that the strongest of his conflicting desires wins. But that isn’t the way it is for you when you deliberate. When you deliberate, it is as if there were something over and above all of your desires, something that is you, and that chooses which desire to act on. This means that the principle or law by which you determine your actions is one that you regard as being expressive of yourself. To identify with such a principle or law is to be, in St. Paul’s famous phrase, a law to yourself.6 An agent might think of herself as a Citizen in the Kingdom of Ends. Or she might think of herself as a member of a family or an ethnic group or a nation. She might think of herself as the steward of her own interests, and then she will be an egoist. Or she might think of herself as the slave of her passions, and then she will be a wanton. And how she thinks of herself will determine whether it is the law of the Kingdom of Ends, or the law of some smaller group, or the law of the egoist, or the law of the wanton that is the law that she is to herself. The conception of one’s identity in question here is not a theoretical one, a view about what as a matter of inescapable scientific fact you are. It is better understood as a description under which you value yourself, a description under which you find your life to be worth living and your actions to be worth undertaking. So I will call this a conception of your practical identity. Practical identity is a complex matter and for the average person there will be a jumble of such conceptions. You are a human being, a woman or a man, an adherent of a certain religion, a member of an ethnic group, someone’s friend, and so on. And all of these identities give rise to reasons and obligations. Your reasons express your identity, your nature; your obligations spring from what that identity forbids.

#### 3] Performativity—freedom is the key to argumentation—willing we abide by their theory presupposes we own ourselves. Thus, it is logically incoherent to justify a standard without first willing that we can pursue ends free from others.

#### 4] Only universalizable reason can effectively explain the perspectives of agents – that’s the best method for combatting oppression.

Farr 02 Arnold Farr (prof of phil @ UKentucky, focusing on German idealism, philosophy of race, postmodernism, psychoanalysis, and liberation philosophy). “Can a Philosophy of Race Afford to Abandon the Kantian Categorical Imperative?” JOURNAL of SOCIAL PHILOSOPHY, Vol. 33 No. 1, Spring 2002, 17–32.

One of the most popular criticisms of Kant’s moral philosophy is that it is too formalistic.13 That is, the universal nature of the categorical imperative leaves it devoid of content. Such a principle is useless since moral decisions are made by concrete individuals in a concrete, historical, and social situation. This type of criticism lies behind Lewis Gordon’s rejection of any attempt to ground an antiracist position on Kantian principles. The rejection of universal principles for the sake of emphasizing the historical embeddedness of the human agent is widespread in recent philosophy and social theory. I will argue here on Kantian grounds that although a distinction between the universal and the concrete is a valid distinction, the unity of the two is required for an understanding of human agency. The attack on Kantian formalism began with Hegel’s criticism of the Kantian philosophy.14 The list of contemporary theorists who follow Hegel’s line of criticism is far too long to deal with in the scope of this paper. Although these theorists may approach the problem of Kantian formalism from a variety of angles, the spirit of their criticism is basically the same: The universality of the categorical imperative is an abstraction from one’s empirical conditions. Kant is often accused of making the moral agent an abstract, empty, noumenal subject. Nothing could be further from the truth. The Kantian subject is an embodied, empirical, concrete subject. However, this concrete subject has a dual nature. Kant claims in the Critique of Pure Reason as well as in the Grounding that human beings have an intelligible and empirical character.15 It is impossible to understand and do justice to Kant’s moral theory without taking seriously the relation between these two characters. The very concept of morality is impossible without the tension between the two. By “empirical character” Kant simply means that we have a sensual nature. We are physical creatures with physical drives or desires. The very fact that I cannot simply satisfy my desires without considering the rightness or wrongness of my actions suggests that my empirical character must be held in check by something, or else I behave like a Freudian id. My empiri- cal character must be held in check by my intelligible character, which is the legislative activity of practical reason. It is through our intelligible character that we formulate principles that keep our empirical impulses in check. The categorical imperative is the supreme principle of morality that is constructed by the moral agent in his/her moment of self-transcendence. What I have called self-transcendence may be best explained in the following passage by Onora O’Neill: In restricting our maxims to those that meet the test of the categorical imperative we refuse to base our lives on maxims that necessarily make our own case an exception. The reason why a universilizability criterion is morally signiﬁcant is that it makes our own case no special exception (G, IV, 404). In accepting the Categorical Imperative we accept the moral reality of other selves, and hence the possibility (not, note, the reality) of a moral community. The Formula of Universal Law enjoins no more than that we act only on maxims that are open to others also.16 O’Neill’s description of the universalizability criterion includes the notion of self-transcendence that I am working to explicate here to the extent that like self-transcendence, universalizable moral principles require that the individ- ual think beyond his or her own particular desires. The individual is not allowed to exclude others as rational moral agents who have the right to act as he acts in a given situation. For example, if I decide to use another person merely as a means for my own end I must recognize the other person’s right to do the same to me. I cannot consistently will that I use another as a means only and will that I not be used in the same manner by another. Hence, the universalizability criterion is a principle of consistency and a principle of inclusion. That is, in choosing my maxims I attempt to include the perspective of other moral agents.

### Offense

#### Resolved: The member nations of the World Trade Organization ought to reduce intellectual property protections for medicines—we’ll defend the resolution as a general principle so PICs and CPs don’t negate since they don’t deny the general principle.

Baker 16 Brook Baker (Professor of Law, Northeastern University. He is a senior policy analyst for Health GAP (Global Access Project) and is actively engaged in campaigns for universal access to treatment, prevention, and care for people living with HIV/AIDS, especially expanded and improved medical treatment. He has written and consulted extensively on intellectual property rights, trade, access to medicines and medicines regulatory policy, including with the African Union, NEPAD, Uganda, ASEAN, Thailand, Indonesia, Venezuela, CARICOM, UK DfID, the World Health Organization, the Millennium Development Goals Project, the Global Fund to Fight AIDS, Tuberculosis and Malaria, Open Society Institute, UNDP, UNITAID, the Medicines Patent Pool, the Global Commission on HIV and the Law, and others).  and Health GAP, Contribution to the United Nations Secretary-General's High-Level Panel on Access to Medicines, February 26, 2016, http://www.unsgaccessmeds.org/inbox/2016/2/26/z73kpodxk4jw96mhqe2tivq0sdl g3v/

This contribution explicitly supports and is supplemental to the R&D Agreement contribution submitted by MSF, KEI, and others that focuses on rationalizing and strengthening incentives, and legal frameworks for R&D, that promote innovation and access to health technologies. However, this contribution focuses primarily on access and calls for the dismantling of global, regional, bilateral, and national IP regimes that negatively impact the global community’s access needs. It focuses on patents, the most obvious and important source of exclusivity for right holders, but also on data and regulatory market exclusivities and linkages, trade secret law, and trademark and copyright protections, which are increasingly embedded in operating systems of diagnostics and other health technologies. At present, the vast majority of countries are members of the World Trade Organization. As members, they are subject to the minimum standards of IP protections set forth in the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS). Although there are transition periods that still apply to least developed country members, most WTO members are now subject to the whole panoply of IPRs and IP enforcement mechanisms set forth in TRIPS. As such, for IP barriers to be dismantled on health technologies, it will be necessary to amend or otherwise supersede TRIPS’s application to those technologies. The proposed non-application of TRIPS to medical technologies could be accomplished as follows: Article 6bis: Exhaustion and Non-Application to Medical Technologies 1. For the purposes of dispute settlement under this Agreement, subject to the provisions in Articles 3 and 4 nothing in this Agreement shall be used to address the issue of exhaustion of intellectual property rights. 2. Nothing in this Agreement shall apply to medical technologies as defined. Definition of medical technologies: pharmaceutical and biologic products, vaccines, diagnostics, and related health technologies. Article 7bis Right to health and other objectives The protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare and to the fulfillment of the human right to health, and to a balance of rights and obligations. Members shall not implement the Agreement in a manner that weakens the promotion or protection of the right to health and of access to health technologies. Article 13 bis Exemptions, limitations and exceptions Members shall confine limitations and exceptions to exclusive rights to certain special cases which do not conflict with a normal exploitation of the work and do not unreasonably prejudice the interests of the right holder. This section shall not apply to copyrights, trademarks and related rights embedded in health technologies, including the systems of internet or other transmission of health-related information from a health technology elsewhere. Article 27(1) bis Subject to the provisions of paragraph 2, 3, 6, and 7, patents shall be available, whether for products or processes, in all fields of technology, except health technologies, provided that they are new, involve an inventive step and are industrially applicable. Article 27(4) bis Members shall exclude health technologies. Article 39.3bis 3. Members, when requiring, as a condition of approving the marketing of pharmaceutical or of agricultural chemical products which utilize new chemical entities, the submission of undisclosed test or other data, the origination of which involves considerable effort, shall protect such data against unfair commercial use. In addition, Members shall need not protect such data against disclosure, except where such disclosure is necessary to protect the public in the public interest, or unless steps are taken to ensure that the data are protected from unfair commercial use. In addition to amending the TRIPS Agreement, it will be necessary to formally amend multiple regional and bilateral trade and economic partnership agreements and investment treaties/provisions. Many regional and bilateral trade agreements contain IPR provisions similar to those in the TRIPS Agreement and/or provisions that are TRIPS-plus. These agreements are binding on parties, so to achieve the desired IPR reform, such agreements need to be amended to remove IPR protections on health technologies. There are far too many such agreements to list or discuss, but reform must be undertaken. Similarly, it will be necessary to reform the WIPO Patent Cooperation Treaty to exempt health technologies from patent filings and to do the same with respect to the Harare Protocol (relating to the African Regional Intellectual Property Organization), the Bangui Agreement (relating to the African Intellectual Property Organization), the Eurasian Patent Convention (affecting the Eurasian Patent Organization), and any other relevant regional patent processing entities. Addressing agreements on IPRs is not enough unless investment agreements are also amended to remove investor protections on health technologies. Just as there was a carve-out for Tobacco in the recently negotiated Trans-Pacific Partnership Agreement (however imperfect), there could be a new and stronger carve out for health technologies. At present, more and more investment agreements directly cover IPRs and give foreign investor rights to bring private investor-state-dispute-settlement (ISDS) claims directly to private arbiters. These new IPR enforcement rights are particularly dangerous as they give right holders powers to directly challenge government IP policy and decisions that adversely impact their expectation of unbridled profits, as is currently claimed in the US$500 million Eli Lilly v. Canada ISDS case. To complete the reform process, it will be necessary to revise IP laws at the national level to incorporate the health technology exclusion. This will be an enormous undertaking technically and politically, even more so where IP is constitutionally protected. Even in these circumstances, if the interests of inventors and creators are adequately protected under a new R&D incentive system, then constitutional requirements may well be satisfied. Similarly, protecting the interests of creators and sometimes inventors under international human rights regimes does not require resort to IPRs. The economic and attributional interests of inventors and creators can be met through other means.

#### Affirm:

#### 1] IPP minimizes the opportunity of innovation and limits individual freedom through creating monopolies. They also limit the use of tangible objects such as medicines for good purposes.

Cernea and Uszkai 12 Cernea, Mihail-Valentin, and Radu Uszkai. *The Clash between Global Justice and Pharmaceutical Patents: A Critical Analysis*. 2012, the-clash-between-global-justice-and-drug-patents-a-critical-analysis.pdf. SJEP

To make this point clearer, we regard property as an ethical institution which emerged in the context of reiterated conflict between agents for tangible goods. A useful analogy would be, for example, the particular way in which David Hume discusses the emergence of justice in the context of scarcity in which agents pursue their own interests4 . As a result, the purpose of property rights would be that of avoiding or minimizing the possibility of conflict and that of increasing the costs of free-riding or trespassing. Let’s take the following example which will illustrate better our point. Assume that X is a philosophy student and has a copy of Immanuel Kant’s Groundwork of the Metaphysics of Morals. Y is a college of him but he does not have the book. They both have to write an essay on Kant’s categorical imperative. Because Y does not have the book, let’s assume that he decides, whether by the use of coercion or fraud to take his book. As a result, the theft leaves X without his property because tangible goods are rivalrous in consumption. Both student can’t, at the same time but in a different place read about Kant’s categorical imperative from the same copy. Now a different example: suppose X invents a new way of harvesting corn and Y harvests his corn accordingly. This situation is quite different in comparison to the case we presented earlier, because Y does not leaves X without either his new harvesting mechanisms which he created but neither without the idea behind the mechanism. It would be hard to say that Y stole something from X because the consumption of intangible goods such as ideas does not have the same rivalrous property as a copy of a book written by Kant. Actually, the existence of the patent system fosters the scarcity of ideas. In this context patents represent unjustified state-granted monopolies. Moreover, intellectual property rights have another profound immoral consequence: it limits the use of tangible objects which we acquired fully in line with market rules.

#### 2] IPP is inconsistent with free market principles.

**Kinsella 11** (Stephan Kinsella, 5-25-2011, accessed on 8-23-2021, Foundation for Economic Education, "How Intellectual Property Hampers the Free Market | N. Stephan Kinsella", <https://fee.org/articles/how-intellectual-property-hampers-the-free-market/>) BHHS AK

But are they? There are good reasons to think that IP is not actually property—that it is actually antithetical to a private-property, free-market order. By intellectual property, I mean primarily patent and copyright. It’s important to understand the origins of these concepts. As law professor Eric E. Johnson notes, “The monopolies now understood as copyrights and patents were originally created by royal decree, bestowed as a form of favoritism and control. As the power of the monarchy dwindled, these chartered monopolies were reformed, and essentially by default, they wound up in the hands of authors and inventors.” Patents were exclusive monopolies to sell various goods and services for a limited time. The word patent, historian Patricia Seed explains, comes from the Latin patente, signifying open letters. Patents were “open letters” granted by the monarch authorizing someone to do something—to be, say, the only person to sell a certain good in a certain area, to homestead land in the New World on behalf of the crown, and so on. It’s interesting that many defenders of IP—such as patent lawyers and even some libertarians—get indignant if you call patents or copyright a monopoly. “It’s not a monopoly; it’s a property right,” they say. “If it’s a monopoly then your use of your car is a monopoly.” But patents are State grants of monopoly privilege. One of the first patent statutes was England’s Statute of Monopolies of 1624, a good example of truth in labeling. Granting patents was a way for the State to raise money without having to impose a tax. Dispensing them also helped secure the loyalty of favorites. The patentee in return received protection from competition. This was great for the State and the patentee but not for competition or the consumer. In today’s system we’ve democratized and institutionalized intellectual property. Now anyone can apply. You don’t have to go to the king or be his buddy. You can just go to the patent office. But the same thing happens. Some companies apply for patents just to keep the wolves at bay. After all, if you don’t have patents someone might sue you or reinvent and patent the same ideas you are using. If you have a patent arsenal, others are afraid to sue you. So companies spend millions of dollars to obtain patents for defensive purposes. Large companies rattle their sabers or sue each other, then make a deal, say, to cross-license their patents to each other. That’s fine for them because they have protection from each other’s competition. But what does it do to smaller companies? They don’t have big patent arsenals or a credible countersuit threat. So patents amount to a barrier to entry, the modern version of mercantilist protectionism. What about copyright? The roots literally lie in censorship. It was easy for State and church to control thought by controlling the scribes, but then the printing press came along, and the authorities worried that they couldn’t control official thought as easily. So Queen Mary created the Stationer’s Company in 1557, with the exclusive franchise over book publishing, to control the press and what information the people could access. When the charter of the Stationer’s Company expired, the publishers lobbied for an extension, but in the Statute of Anne (1710) Parliament gave copyright to authors instead. Authors liked this because it freed their works from State control. Nowadays they use copyright much as the State originally did: to censor and ban books. (More below.) IP, American Style The American system of IP began with the U.S. Constitution. Article 1, Section 8, Clause 8 authorizes (but doesn’t require) Congress “To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.” Despite modern IP proponents’ claims to the contrary, the American founders did not view intellectual property as a natural right but only as a policy tool to encourage innovation. Yet they were nervous about monopoly privilege, which is why patents and copyrights were authorized only for a limited time. Even John Locke, whose thought influenced the Founding Fathers, did not view copyright and patent as natural rights. Nor did he maintain that property homesteading applied to ideas. It applied only to scarce physical resources. Granted, some state constitutions had little versions of copyright before the American Constitution. (See Tom W. Bell, Intellectual Privilege: Copyright, Common Law, and the Common Good, part 1, chapter 3, section B.1.) On occasion, the language of natural rights was used to defend it, but this was just cover for the monopolies they granted to special interests. Natural rights do not expire after 15 years. Natural rights are not extended to Americans only. Natural rights wouldn’t exclude many types of innovation and intellectual creativity and cover only a few arbitrary types. And what is the result of this system? In the case of patents we have a modern statute administered by a huge federal bureaucracy that grants monopolies on the production and trade of various things, which means holders may ask the federal courts to order the use of force to stop competitors. But the competitors have not done anything that justifies force. They merely have used information to guide their actions with respect to their own property. Is that compatible with private property and the free market?

#### That affirms: free market economies allow people to pursue their own interests.

**Richman 12** [Sheldon Richman, 8-5-2012, "The Free Market Doesn't Need Government Regulation," Reason, <https://reason.com/2012/08/05/the-free-market-doesnt-need-government-r/>] // SJ AME

What regulates the conduct of these people? Market forces. (I keep specifying "in a freed market" because in a state-regulated economy, competitive market forces are diminished or suppressed.) Economically speaking, people cannot do whatever they want—and get away with it—in a freed market because other people are free to counteract them and it's in their interest to do so. That's part of what we mean by market forces. Just because the government doesn't stop a seller from charging $100 for an apple doesn't mean he or she can get that amount. Market forces regulate the seller as strictly as any bureaucrat could—even more so, because a bureaucrat can be bribed. Whom would you have to bribe to win an exemption from the law of supply and demand? (Well, you might bribe enough legislators to obtain protection from competition, but that would constitute an abrogation of the market.) It is no matter of indifference whether state operatives or market forces do the regulating. Bureaucrats, who necessarily have limited knowledge and perverse incentives, regulate by threat of physical force. In contrast, market forces operate peacefully through millions of cooperating participants, each with intimate knowledge of her own personal circumstances and looking out for her own well-being. Bureaucratic regulation is likely to be irrelevant or (more likely) inimical to what people in the market care about. Not so regulation by market forces.

### Advantage

#### COVID is getting worse and the upcoming ‘Twindemic’ disproves contrary models.

Roberts and Zimmerman 10/9 [Mark and Richard; 10/9/21; Mark S. Roberts is a distinguished professor of health policy and management at the University of Pittsburgh. Richard K. Zimmerman is a professor of family medicine at the University of Pittsburgh; “Opinion: Flu season could be worse this winter; paired with COVID, the U.S. risks a dangerous ‘twindemic’,” Market Watch, <https://www.marketwatch.com/story/flu-season-could-be-worse-this-winter-paired-with-covid-we-risk-a-dangerous-twindemic-11633708362>] Justin

No precedent exists for a ‘twindemic’ Given the limited spread of influenza in the general U.S. population last year, our research suggests that the U.S. could see a large epidemic of flu this season. Paired with the existing threat of the highly infectious delta variant, this could result in a dangerous combination of infectious diseases, or a “twindemic.” Models of COVID-19 and other infectious diseases have been at the forefront of predictions about the COVID-19 pandemic, and have often proved to be predictive of cases, hospitalizations and death. But there are no historical examples of this type of dual and simultaneous epidemics. As a result, traditional epidemiological and statistical methods are not well suited to project what may occur this season. Therefore, models that incorporate the mechanisms of how a virus spreads are better able to make predictions. We used two separate methods to forecast the potential impact from last year’s decrease in influenza cases on the current 2021-2022 flu season. In recent research of ours that has not yet been peer-reviewed, we applied a modeling system that simulates an actual population’s interactions at home and work, and in school and neighborhood settings. This model predicts that the U.S. could see a big spike in flu cases this season. In another preliminary study, we used a traditional infectious disease modeling tool that divides the population into people who are susceptible to infection, those infected, those recovered and those who have been hospitalized or have died. Based on our mathematical model, we predict that the U.S. could see as many as 102,000 additional hospitalizations above the hundreds of thousands that typically occur during flu season. Those numbers assume that there is no change from the usual flu vaccine uptake and effectiveness starting this fall and lasting through the flu season. Individual behaviors and vaccination matter A typical flu season usually produces 30 million to 40 million cases of symptomatic disease, between 400,000 and 800,000 hospitalizations and from 20,000 to 50,000 deaths. This prospect, paired with the ongoing battle against COVID-19, raises the possibility of a twindemic overwhelming the health care system as hospitals and ICUs in some parts of the country overflow with critically ill COVID-19 patients. Our research also highlighted how young children could be particularly at risk since they have lower exposure to previous seasons of influenza and thus haven’t yet developed broad immunity, compared with adults. In addition to the burden on children, childhood influenza is an important driver of influenza in the elderly as kids pass it on to grandparents and other elderly people. However, there is reason for optimism, since people’s behaviors can change these outcomes considerably. For instance, our simulation study incorporated people of all ages and found that increasing vaccination among children has the potential to cut infections in children by half. And we found that if only 25% more people than usual are vaccinated against influenza this year, that would be sufficient to reduce the infection rate to normal seasonal influenza levels. Across the U.S., there is a lot of variability in vaccination rates, adherence to social distancing recommendations and mask-wearing. So it is likely that the flu season will experience substantial variation state to state, just as we have seen with patterns of COVID-19 infection. All of this data suggests that although vaccination against influenza is important every year, it is of utmost importance this year to prevent a dramatic rise in influenza cases and to keep U.S. hospitals from becoming overwhelmed.

#### Only the plan can solve—every delay alters the trajectory of case numbers and causes uneven development.

Kelly 9/23 [Christine; 9/23/21; Infectious diseases doctor, clinical fellow in public health virology and founding member of Doctors for Vaccine Equity; “Government must support waiver of Covid vaccine patents,” The Irish Times, <https://www.irishtimes.com/opinion/government-must-support-waiver-of-covid-vaccine-patents-1.4682160>] Justin

The World Health Organisation (WHO) has set a global vaccination targets, starting with 10 per cent coverage by the end of September 2021. This is the level required to protect the most vulnerable people in populations – these groups that we worried about in Ireland at the start of the pandemic such as the elderly. In low-income countries alone, achieving even this first critical target requires the administration of about 52 million vaccine courses. In Ireland we have learned that delays can markedly alter the trajectory of virus case numbers and deaths. Those of us working in infection specialities have seen this before. Hesitancy in the rollout of HIV treatment to Africa in the early 2000s led to millions of extra infections and associated deaths, the legacy of which we are still dealing with today. History is repeating itself with Covid-19, where we now have an intervention that is extremely effective at preventing death but is not accessible in low-income countries. Healthcare workers – already a scarce resource in the Global South – are risking their own health going to work each day, in the knowledge that their colleagues in richer countries have long been afforded the protection of a vaccine. Leaving a large proportion of the world’s population unvaccinated, with ensuing viral replication and transmission, creates ideal circumstances for the generation of viral mutations. In a world which is increasingly interconnected economically, politically and socially, allowing transmissions and deaths to continue exacerbates the impact of the global pandemic for everyone. The opportunity to access vaccines has been unequal for countries in the Global South from the outset. Those wanting to buy vaccines were outcompeted by large Global North powers. Covax was set up with the aim of supporting equitable vaccine distribution, but donations from participating nations (who may have received vaccines from Covax themselves) have fallen markedly short of their pledges. Vaccine hoarding by wealthy nations is part of the problem; the British Medical Journal reported in August that just 10 countries could have an accumulated surplus of 3.8 billion doses of Covid-19 vaccines by the end of the year. Many countries have already begun to roll out booster doses to the general population, often with a perspective that neglects international priorities. Medical practitioners know that choosing not to act is a conscious decision. We call upon the Government to choose to act in this global health crisis. Current levels of donations will not provide the number of vaccines needed and will serve only to deepen a power imbalance between rich and poor countries built on paternalism and dependence; the foundations of colonialism. It is essential that booster programmes take into consideration the risk of diverting vaccines from global populations who have not already been vaccinated Strict international intellectual property rules are currently blocking vaccine production. The Trips waiver (trade-related aspects of intellectual property rights) is a temporary suspension of intellectual property designed for use in situations such as this, where global security is threatened and is already being backed by many countries including the United States. As highlighted in Nature in March: “Arguably the strongest argument for a temporary waiver is that patents were never designed for use during global emergencies such as wars or pandemics.”

#### The patent system is adept at a game of colonialism – the affirmative is a radical reorganization of instruments of power.

Ahmed 20 [Kavum; 6/24/20; Division Director for Access and Accountability at the Open Society Public Health Program in New York and teaches at Columbia University Law School; "Decolonizing the vaccine," Africa’s Country, <https://africasacountry.com/2020/06/decolonizing-the-vaccine>] Elmer Re-Cut Justin

Reflecting on a potential COVID-19 vaccine trial during a television interview in April, a French doctor stated, “If I can be provocative, shouldn’t we be doing this study in Africa, where there are no masks, no treatments, no resuscitation?” These remarks reflect a colonial view of Africa, reinforcing the idea that Africans are non-humans whose black bodies can be experimented on. This colonial perspective is also clearly articulated in the alliance between France, The Netherlands, Germany and Italy to negotiate priority access to the COVID-19 vaccine for themselves and the rest of Europe. In the Dutch government’s announcement of the European vaccine coalition, they indicate that, “… the alliance is also working to make a portion of vaccines available to low-income countries, including in Africa.” In the collective imagination of these European nations, Africa is portrayed as a site of redemption—a place where you can absolve yourself from the sins of “vaccine sovereignty,” by offering a “portion of the vaccines” to the continent. Vaccine sovereignty reflects how European and American governments use public funding, supported by the pharmaceutical industry and research universities, to obtain priority access to potential COVID-19 vaccines. The concept symbolizes the COVID-19 vaccine (when it eventually becomes available) as an instrument of power deployed to exercise control over who will live and who must die. In order to counter vaccine sovereignty, we must decolonize the vaccine. Africans have a particular role to play in leading this decolonization process as subjects of colonialism and as objects of domination through coloniality. Colonialism, as an expansion of territorial dominance, and coloniality, as the continued expression of Western imperialism after colonization, play out in the vaccine development space, most notably on the African continent. So what does decolonizing the vaccine look like? And how do we decolonize something that does not yet exist? For Frantz Fanon, “Decolonization, which sets out to change the order of the world, is, obviously, a program of complete disorder.” Acknowledging that the COVID-19 vaccine has been weaponized as an instrument of power by wealthy nations, decolonization requires a Fanonian program of radical re-ordering. In the context of vaccine sovereignty, this re-ordering necessitates the dismantling of the profit-driven biomedical system. This program starts with de-linking from Euro-American constructions of knowledge and power that reinforce vaccine sovereignty through the profit-driven biomedical system. Advocacy campaigns such as the “People’s Vaccine”, which calls for guaranteed free access to COVID-19 vaccines, diagnostics and treatments to everyone, everywhere, are a good start. Other mechanisms, such as the World Health Organization’s COVID-19 Technology Access Pool, similarly supports universal access to COVID-19 health technologies as global public goods. Since less than 1% of vaccines consumed in Africa are manufactured on the continent, regional efforts to develop vaccine manufacturing capacity such as those led by the Africa Center for Disease Control and Prevention, as well as the Alliance of African Research Universities, must be supported. These efforts collectively advance delinking and move us closer toward the re-ordering of systems of power. The opportunity for disorder is paradoxically enabled by the COVID-19 pandemic, which has permitted moments of existential reflection in the midst of the crisis. A few months ago, a press release announcing the distribution of “a portion of the vaccines” to Africans, may have been lauded as European benevolence. But in the context of a pandemic that is more likely to kill black people, Africa’s reliance on Europe for vaccine handouts is untenable, necessitating a re-examination of the systems of power that hold this colonial relationship in place. The Black African body appears to be good enough to be experimented on, but not worthy of receiving simultaneous access to the COVID-19 vaccine as Europeans. Consequently, Africans continue to feel the effects of colonialism and white supremacy, and understand the pernicious nature of European altruism. By reinforcing the current system of vaccine research, development and manufacturing, it has become apparent that European governments want to retain their colonial power over life and death in Africa through the COVID-19 vaccine. Resistance to this colonial power requires the decolonization of the vaccine.

#### Vaccines are easy to make.

Gostin 9/27 [Lawrence; 9/27/21; Professor of global health law, Georgetown University, and directs the World Health Organization Center on Global Health Law; “Biden’s plan to vaccinate the world won’t work. Here’s a better one,” Washington Post, <https://www.washingtonpost.com/outlook/2021/09/27/biden-vaccines-globe-inequity-donations/>] Justin

The most likely vaccine candidates for regional production also happen to be the most technologically advanced. That’s because mRNA vaccines can be manufactured more rapidly, and at larger scale, more easily than traditional vaccine technologies, such as that used in the Johnson & Johnson vaccine. (MRNA vaccines are produced by small chemical reactions and don’t need living components, like the weakened or inactivated viruses used in traditional vaccines). They are also more easily adapted to target emerging variants, because it’s possible to replace one sequence of mRNA in the vaccine for another in a matter of weeks. But Pfizer-BioNTech and Moderna have thus far kept their intellectual property and trade secrets close to the chest. (Moderna has said it will not enforce its patents related to its coronavirus vaccine, but that doesn’t mean it will share its patented information with others, let alone its manufacturing know-how.)

#### Objections are wrong—expert models indicate a waiver would expand production within months.

Ravelo and Byatnal 10/7 [Jenny Lei and Amruta; 10/7/21; Jenny Lei Ravelo is a Devex Senior Reporter based in Manila. She covers global health, with a particular focus on the World Health Organization, and other development and humanitarian aid trends in Asia Pacific. Prior to Devex, she wrote for ABS-CBN, one of the largest broadcasting networks in the Philippines, and was a copy editor for various international scientific journals. She received her journalism degree from the University of Santo Tomas. Amruta Byatnal is an Associate Editor at Devex based in New Delhi. She reports on global health, gender and human rights. Previously, she worked for News Deeply and The Hindu. She is a graduate of Cornell University where she studied international development; “Devex CheckUp: Could an IP waiver have averted millions of deaths?,” Devex, <https://www.devex.com/news/devex-checkup-could-an-ip-waiver-have-averted-millions-of-deaths-101774>] Justin

A year has passed since India and South Africa submitted a proposal to the World Trade Organization to temporarily waive intellectual property protections for COVID-19 products. But despite the support of over 100 countries, including the United States, the proposal has yet to be adopted.

COVID-19 has caused 3.5 million deaths since the waiver was put forward at the WTO. We wondered: What might have happened if the proposal had been quickly approved?

• Some experts say additional investments — such as in the workforce — would still be needed in addition to IP. But others argue there are ways to address those. There are many potential manufacturing plants that can be retrofitted to produce COVID-19 vaccines, and there’s a retired corps of engineers globally that could provide expertise in the interim, Andrew Green reports.

• If facilities were in place, the production process for a messenger RNA vaccine could begin within three or four months, says Suhaib Siddiqi, former director of chemistry at Moderna. With a $127 million investment and some expansion, existing facilities for injectable medicines could be producing up to 100 million mRNA vaccine doses in a 10-month period, according to modeling by Médecins Sans Frontières and Imperial College London.

• These timelines are contingent on vaccine developers' willingness to share technology. But experts say there are ways to get companies to cooperate, such as tax breaks. Had steps been taken a year ago, “a lot of countries would be in a better spot,” Rachel Thrasher, a trade expert at Boston University’s Global Development Policy Center, tells Andrew.

• But persistent calls to increase local manufacturing of COVID-19 vaccines in Africa have started to bear fruit. Moderna says it will build an mRNA vaccine manufacturing plant in the continent.

#### Yes scale-up for COVID—hubs, quality control, collaboration.

Kavanagh 7/1 [Matthew, Lawrence, and Madhavi; 7/1/21; PhD, JD, JD, Georgetown University Law Center, Washington, DC, Department of International Health, Georgetown University, Washington, DC; “Sharing Technology and Vaccine Doses to Address Global Vaccine Inequity and End the COVID-19 Pandemic,” JAMA, <https://jamanetwork.com/journals/jama/article-abstract/2781756>] Justin

Sharing Technology and Expanding Manufacturing Capacity On June 21, South Africa, the World Health Organization (WHO), and the Africa Centers for Disease Control (CDC) announced an important new hub for producing mRNA vaccines for the African continent and asked the US and Europe to share the technology to make these vaccines. Waiving IP removes legal barriers, but sharing knowledge on how to make vaccines, including ingredients, methods, sourcing, and technologies, is a justice-oriented move that would help LMIC manufacturers move quickly. When Moderna needed added manufacturing capacity, it contracted Swiss company Lonza and transferred technology confidentially. Production started within a few months, showing that arguments suggesting local manufacturing will take too long are unfounded. But exclusive contract manufacturing agreements limit access. Sharing technology more openly could enable manufacturers in Africa, Asia, and Latin America to make vaccines for themselves. WHO created a platform for such technology transfer; however, US-based companies have thus far not shared vital information. The Biden administration has leverage to incentivize sharing, given extensive public funding. mRNA vaccines are a prime target for sharing because manufacturing advantages make them rapidly scalable.6 The Moderna mRNA vaccine was developed jointly with the National Institutes of Health, which also holds key patents. Operation Warp Speed allocated Moderna $2.5 billion, covering development and clinical trials. Public funding should come with ethical obligations to share knowledge for the global public good. If necessary, the Biden administration could use the Defense Production Act and government-owned patents to compel technology sharing or could pay companies to share technology. If technology is shared, Senegal’s Pasteur Institute has plans to make hundreds of millions of viral vector doses. Companies in South Africa, Vietnam, Brazil, India, and other countries could make mRNA vaccines with appropriate support for specialized processes involved. A Thai government-run manufacturer, which could be a model, is already working on mRNA vaccine production. A Chinese company will produce BioNTech’s vaccine, although only for Chinese markets. Far more is achievable. Quality control is critical, but arguments that LMIC producers cannot produce quality vaccines are misplaced. Many are global companies and government-run facilities with excellent records and strong oversight. WHO’s prequalification/emergency use process can help ensure quality. Sharing technologies openly could also allow scientists worldwide to collaborate on innovations; for example, on mRNA vaccine formulations stored at room temperature for lower-resource settings. The US, WHO, and partners could support hubs to teach manufacturers how to make approved vaccines and fund expanded production in Africa, Asia, and Latin America, learning from efforts after influenza A (H1N1) outbreaks. Imperial College researchers estimate a cost of $2.2 billion to retrofit factories to produce 8 billion doses of COVID-19 vaccine.7 Expanding production of components such as disposable bioreactor bags to speed sterile production will also be needed.

#### Err AFF—capabilities are underestimated.

Erfani et al. 8/3 [Parsa Erfani, Agnes Binagwaho, Mohamed Juldeh Jalloh, Muhammad Yunus, Paul Farmer, Vanessa Kerry; 8/3/21; Harvard Medical School, Boston, USA 2 University of Global Health Equity, Rwanda 3 Sierra Leone 4 Yunus Centre, Bangladesh 5 Global Health and Social Medicine, Harvard Medical School, Boston, USA 6 Division of Global Health Equity, Brigham and Women’s Hospital, USA 7 Partners In Health, USA 8 Seed Global Health, USA 9 Program in Global Public Policy and Social Change, Harvard Medical School, Boston, USA 10 Division of Pulmonary and Critical Care Medicine, Massachusetts General Hospital, USA; “*Intellectual property waiver for covid-19 vaccines will advance global health equity*,” BMJ, <https://www.bmj.com/content/bmj/374/bmj.n1837.full.pdf>] Justin

What effect would a waiver have? Contrary to detractors’ concerns about the possible effect of a temporary TRIPS waiver, global health analyses suggest that it will be vital to equitable and effective action against covid-19. LMIC’s manufacturing capabilities have been underestimated, even though several LMICs have the scientific and manufacturing capacity to produce complex covid-19 vaccines. India, Egypt, and Thailand are already manufacturing viral vector or mRNA-based covid-19 vaccines,8 -10 and vaccine production lines could be established within months in some other LMICs,11 offering substantial benefit in a pandemic that will last years.11 Companies in India and China have already developed complex pneumococcal and hepatitis B recombinant vaccines, challenging existing vaccine monopolies.12 The World Health Organization launched an mRNA technology transfer hub in April 2021 to provide the logistical, training, and know-how support needed for manufacturers in LMICs to repurpose or expand existing manufacturing capacity to produce covid-19 vaccines and to help navigate accessing IP rights for the technology.13 Twenty five respondents from LMICs expressed interest, and South Africa was selected as the first hub, with plans to start producing the vaccine through the Biovac Institute in the coming months.14 Removing IP barriers through the waiver will facilitate these efforts, more rapidly enable future hubs, engage a greater number of manufacturers, and ultimately yield more doses faster. Moreover, as the waiver facilitates vaccine production, demand for raw materials and active ingredients will increase. Coupled with pre-emptive planning to anticipate and expand raw material production, the waiver—which encompasses the IP of all covid-19 vaccine-related technology— can offer a path to overcome bottlenecks and expand production of necessary vaccine materials. Current licensing mechanisms inadequate Voluntary licences have not and will not keep pace with public health demand. Since companies determine the terms of voluntary licences, they are often granted to LMICs that can afford them, leaving out poorer regions.10 For example, in South Asia, AstraZeneca has voluntarily licensed its vaccine to the Serum Institute of India, even though the region has multiple capable vaccine manufacturers.9 Many covid-19 vaccine developers have not taken steps towards licensing their technologies, simply because there is limited financial incentive to do so.11 To date, none have shared IP protected vaccine information with the WHO Covid-19 Technology Access Pool (C-TAP) established last year.15 Relying on the moral compass of companies that answer to shareholders to voluntarily license their technologies will have limited effect on vaccine equity. Their market is driven by profit margins, not public health. Compulsory licensing by LMICs will also be insufficient in rapidly expanding vaccine production, as each patent licence must be negotiated separately by each country and for each product based on its own merit. From 1995 to 2016, 108 compulsory licences were attempted and only 53 were approved.6 The case-by-case approach is slow and not suitable for a global crisis that requires swift action. In addition, TRIPS requires compulsory licences to be used predominantly for domestic supply, limiting exports of the licensed goods to nearby low income countries without production capacity.5 Although a “special” compulsory licence system was agreed in the Doha declaration to allow for expeditious exportation and importation (formalised as the article 31bis amendment to TRIPS in 2017), the provision is limited by cumbersome logistical procedures and has been rarely used.16 Governments may also be hesitant to pursue compulsory licences as high income countries have previously bullied them for doing so. Since India first used compulsory licensing for sorafenib tosylate in 2012 (reducing the cancer drug’s price by 97%), the US has consistently pressured the country not to use further compulsory licences.17 During this pandemic, Gilead sued the Russian government for issuing a compulsory licence for remdesivir.18 Furthermore, while compulsory licences are primarily for patents, covid-19 vaccines often have other types of IP, including trade secrets, that are integral for production.19 The emergency TRIPS waiver removes all IP as a barrier to starting production (not just patents) and negates the prolonged time, inconsistency, frequent failure, and political pressure that accompany voluntary licensing and compulsory licensing efforts. It also provides an expeditious path for new suppliers to import and export vaccines to countries in need without bureaucratic limitations. Finally, there is no compelling evidence that the proposed TRIPS waiver would dismantle the IP system and its innovation incentives. The waiver is restricted to covid-19 related goods and is time limited, helping to protect future innovation. It would, however, reduce profit margins on current covid-19 vaccines. With substantial earnings in the first quarter of 2021, many drug companies have already recouped their research and development costs for covid-19 vaccines.20 However, they have not been the sole investors in vaccine development, and they should not be the only ones to profit. Most vaccines received a substantial portion of their direct funding from governments and not-for-profit organisations—and for some, such as Moderna and Novavax, nearly all.21 Decades of publicly funded research have laid the groundwork for current innovations in the background technologies used for vaccines.22 Given that companies were granted upfront risk protection for covid-19 vaccine research and development, a waiver that advances global public health but reduces vaccine profits in a global crisis is reasonable. Knowledge transfer An IP waiver for covid-19 vaccines is integral to boosting vaccine supply, breaking vaccine monopolies, and making vaccines more affordable in LMICs. It is, however, only a first, but necessary, step. Originator companies must transfer vaccine technology and share know-how with C-TAP, transfer hubs, or individual manufacturers to help suppliers begin production.23 In addition, governments must leverage domestic law, private sector incentives, and contract terms with pharmaceutical companies to compel companies to cooperate with such transfers.24 If necessary, governments can require technology transfers in exchange for continuing enterprise in a country or avoiding penalties. Politicians and leaders are at a critical juncture: they will either take the necessary steps to make vaccine technology available to scale production, stimulate global collaboration, and create a path to equity or they will protect a hierarchical system based on an economic bottom line. The former will not only build a vaccination trajectory that puts equal value on the lives of the rich and the poor, but will also help stem the pandemic’s relentless momentum and quell the emergence of variants. We are in the middle of one of the largest vaccination efforts in human history. We cannot rely on companies to thread the needle of corporate social and moral responsibility with shareholder and stock value returns nor expect impacted governments to endure lengthy bureaucratic licensing processes in this time of crisis. It will be a legacy of apathy and unnecessary death. As the human impact of the proposed IP waiver becomes clear, consensus behind it is growing. Countries that previously opposed the waiver—such as the US and Brazil—now support written text based negotiations.7 Opposing countries must stop blocking the waiver, engage in transparent text negotiations, and commit to reaching consensus swiftly. The longer states stall, the more people die needlessly. Covid-19 has repeatedly shown that people without access to resources such as strong health systems, health workers, medicines, and vaccines will preferentially fall ill and die. For too long, this cycle has been “other people’s” problem. It is not. It is our problem.

#### Independently, strategic patenting harms innovation during pandemics—encourages reproduction of generics and decrease breakthroughs.

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As the COVID-19 pandemic is sweeping through the world, thousands of people urgently need access to affordable medicines. Based on past experience of treatments for other life-threatening diseases, there is a fear that access to any vaccines and treatment that may be developed in the future will be affected by patents, leading to unaffordably high prices. However, the problem of high drug prices is not new. It had been inflating healthcare budgets and posing a serious risk to the affordability and accessibility of medicines for society well before the pandemic.Footnote3 This problem is further exacerbated by the fact that, despite the alleged surge in investments into pharmaceutical R&D, current statistics indicate that the number of new breakthrough medicines is decreasing.Footnote4 On the other hand, the number of drugs that contain modifications of existing medicines is growing, demonstrating that pharmaceutical companies have been increasingly focusing their research on incremental drug development, rather than on breakthrough innovation.Footnote5 Various reasons for high drug prices and the growing focus on incremental innovation are put forward by pharmaceutical companies, including the complexity of drug discovery and development, as well as the expensive and lengthy regulatory procedures involved.Footnote6 While these reasons play an important role in this regard, some practices by pharmaceutical companies substantially contribute to this problem.Footnote7 In particular, pharmaceutical companies have been increasingly engaging in strategic patenting to delay or even block generic competition.Footnote8 These practices attracted the attention of the European Commission, which discussed them more than a decade ago in its 2009 Pharmaceutical Sector Inquiry Report.Footnote9 The Commission identified a series of patent strategies which it described as aiming “to extend the breadth and duration of [originators’] patent protection”Footnote10 and “to delay or block the market entry of generic medicine”.Footnote11 Such findings have fuelled debates as to whether these strategies may be deemed unlawful and violate EU competition rules, while also being justifiable business practices under patent law. Until today, no agreement has been reached either on the legality of these practices, or on an efficient legal tool to assess them. As a result, despite there being solid evidence that such strategies may block generic competition, allowing originators to maintain artificially high drug prices and preventing patients from accessing cheaper generics, they remain outside the ambit of the Commission’s activities. Instead, the Commission has been focusing on more straightforward patent-related practices, such as reverse payment agreements. This article argues that strategic patenting by pharmaceutical companies requires a long-overdue intervention by competition authorities. It aims to attract their attention to the harmful effects of strategic patenting. Specifically, it will contest the argument traditionally put forward by originator pharmaceutical companies that the intervention of competition law into patenting practices will reduce their incentives to innovate. The paper will argue to the contrary that, along with a more immediate negative effect in the form of high drug prices that is widely explored in the literature,Footnote12 strategic patenting also affects dynamic competition by stifling innovation. Importantly, it will be explained that the assessment of the effect of this practice should focus not only on innovation by originators, but should also take a wider market perspective by assessing its effect on follow-on innovation by generic companies. The latter argument is often overlooked. The paper will outline the current approach to strategic patenting that considers this practice lawful, and will provide arguments for the intervention of competition law. This, in turn, will open the possibility for competition authorities to investigate this practice in order to prevent its harmful effect on innovation and consumer welfare. Moreover, while patent law may provide certain mechanisms to deal with strategic patenting, such as raising the bar for patentability of pharmaceutical follow-on inventions,Footnote13 these tools may not be effective in all cases. Therefore, as will be explained further, competition law may be a more suitable tool to address the negative effects of strategic patenting.Footnote14 The article will be organised as follows. It will first discuss the complex structure of the pharmaceutical industry, focusing on its key players for the purpose of this article: originators and generic companies. It will further explore patenting practices employed by pharmaceutical companies and will define the notion of strategic patenting. The article will then argue that the latter strategy is against the rationale of patent and competition laws, as it stifles competition by impairing incentives to innovate of both originators and generic companies. Finally, it will discuss the current approach to strategic patenting that considers this practice lawful, and will argue that it should be subject to scrutiny under the rules of competition law, to address its negative effects. Pharmaceutical Innovation and Generic Competition in the Pharmaceutical Industry The pharmaceutical industry is unique in its complexity. It is characterised by heavy state regulation and, sometimes, by the competing interests of the pharmaceutical business and society. It also involves multiple actors, including originators,Footnote15 marketing authorisation bodies, generic companies,Footnote16 doctors, pharmacies and patients. Each of them plays their part in the lengthy and complicated process of transforming a chemical compound into an effective and affordable medicine, which is then prescribed, dispensed and consumed. In these complex relationships, the two key players have crucial roles. On the one hand, originators play an important role in developing new and improved medicines for the benefit of society. On the other hand, generic companies benefit society by supplying cheaper equivalents of the originators’ medicines, which leads to the reduction of drug prices and facilitates access to affordable medicines. When the interests of these two players are kept in balance, benefits are maximised for society, which receives innovative and improved medicines, as well as timely access to generic drugs. However, if the balance swings towards one of the players, then society loses out, as there will be insufficient access to either innovative or affordable medicines. Therefore, both pharmaceutical innovation and generic competition must be duly incentivised and protected. Moreover, these two elements of the pharmaceutical industry are constantly interacting and have a profound impact on each other. In particular, pharmaceutical innovation is the backbone of the pharmaceutical industry, in which originators play an important role. The process of drug development is long and complicated, requires significant investments, and bears considerable commercial risks.Footnote17 It is also highly regulated, including, among other things, the requirement for originators to obtain a special authorisation from a designated state authority to market a drug. Such marketing authorisations are granted to the originators only if they can prove that the drug is safe and effective, which typically requires lengthy and expensive clinical trials.Footnote18 In order to protect these significant efforts and investments, pharmaceutical companies rely heavily on the exclusivity granted by intellectual property rights, and in particular, patents.Footnote19 Patents provide a 20-year monopoly right, during which a pharmaceutical company enjoys market exclusivity and can charge a monopoly price for its products. Originators argue that strong patent protection is essential in order to recoup investments, as well as to incentivise them to engage in further innovation.Footnote20 Once such patent protection expires, however, other companies may develop generics of a branded drug, and start competing with the originator for the market. This is called generic competition. Generic drugs are bioequivalent versions of a branded drug that has lost its patent protection.Footnote21 It is estimated that the generic entry typically leads to, on average, an 80 per cent market share loss and a 20–30 per cent reduction of a drug price, with further price decreases with each additional generic entrant, leading, in some instances, to a fall in price of up to 90 per cent.Footnote22 A representative example of the effect of generic competition on the originators’ drug prices is the significant decrease in price and dramatic loss of profits by Eli Lilly. The expiration of a patent protecting its blockbusterFootnote23 antidepressant Prozac in 2001 resulted in a loss of almost 70 per cent of its market and $2.4 billion in annual U.S. sales.Footnote24 This effect of generic competition is beneficial for society, as it reduces the financial pressure on healthcare budgets and increases the accessibility of drugs. Patenting Practices by Pharmaceutical Companies As was mentioned above, generic competition is prevented during the life of a patent protecting an active compound of a drug (a so-called “basic” or “primary” patent).Footnote25 Such a basic patent covers an active ingredient itself and, therefore, provides the strongest protection for the product. Therefore, generic competition normally starts only after the basic patent expires, or if a generic company succeeds in invalidating it. While in the past pharmaceutical companies mainly protected their products with a single patent covering an active compound,Footnote26 they now increasingly seek additional patent protection on various aspects of a drugFootnote27 in order to protect their market position.Footnote28 Such additional patents are often called secondary patents.Footnote29 A pharmaceutical company may want to obtain secondary patents, which protect such aspects of a drug as, for example, its process of manufacture, formulation and/or specific form, etc. Therefore, even after the basic patent protecting an active compound expires, a drug may still be protected by other secondary patents. This may result in the extension of the scope and length of the protection of a product, especially if secondary patents have a later expiration date than a basic patent.Footnote30 This, in particular, may occur if, for example, the process of producing an active compound disclosed in the basic patent is sufficient only for reproducing this compound in a laboratory, but it is unsuitable for producing it on a large commercial scale.Footnote31 If the originator was able to secure a secondary patent that protects such a large scale manufacturing process, it would prevent generics from using this process for producing their generic versions of a drug; otherwise they would risk infringing this secondary patent.Footnote32 However, a unique feature of pharmaceuticals is that an active ingredient can be manufactured using different methods and processes, can exist in different forms or can be used in different formulations. Therefore, when a basic patent on an active ingredient expires, other companies can develop alternative methods of production, forms or formulations of this active compound and start competing with the originator company.Footnote33 While such patenting strategies by originators are lawful in principle, some of them may be problematic. In particular, in anticipation of the loss of patent protection, originators may engage in strategic patenting which artificially prevents generic competition and results in an extension of their market monopoly.Footnote34 Defining Strategic Patenting In its Sector Inquiry Report, the European Commission explained that the drug development process consists of three main stages: (i) the R&D stage, which ends with the launch of a drug on the market; (ii) the period between the launch and the patent expiry; and (iii) the period after the patent expiration, when generics can enter the market.Footnote35 During the second stage, i.e. after the launch of a drug, originators seek to maximise their income from the product in order to recoup their R&D investments and earn profits before the commencement of generic competition.Footnote36 It is also during this stage that pharmaceutical companies seek to prolong their market exclusivity. In recent years, pharmaceutical companies have been increasingly relying on the strategic use of the patent system to combat the pressure of generic competition. Such practices are often called “life cycle management” by originators and proponents of the practice. For example, as Burdon and Sloper explained, “[a] key element of any life cycle management strategy … is to extend patent protection beyond the basic patent term for as long as possible, by filing secondary patents which are effective to keep generics off the market”.Footnote37 However, critics have characterised the practice as “evergreening”,Footnote38 as it essentially evergreens the patent protection and the exclusivity of a product.Footnote39 For instance, Bansal et al. explain that evergreening “refers to different ways wherein patent owners take undue advantage of the law and associated regulatory processes to extend their IP monopoly, particularly over highly lucrative ‘blockbuster’ drugs, by filing disguised/artful patents on an already patent-protected invention shortly before expiry of the ‘parent’ patent”.Footnote40 During its investigation into the pharmaceutical industry, the European Commission found that the number of patents granted and pending applications significantly increases with the value of a drug, i.e. “blockbuster medicines can even be protected by up to nearly 100 INNFootnote41-specific EPO patented bundles and applications …, which in one particular case led to 1,300 patents and applications across all the EU Member States”.Footnote42 The Commission also found that the ratio of primary to secondary patents is 1:7, where the latter “mostly concern formulations, processes and non-formulation products…, such as salts, polymorphic forms, particles, solvates and hydrates”.Footnote43 As a result, the Commission concluded that the practice of “maximising patent coverage in such a way is the creation of a web of patents”, which affects the generics’ ability to “develop a generic version of the medicine in form of a salt, crystalline or amorphous form”, because it “would inevitably infringe a patent (for example, a patent for the relevant salt, crystalline or amorphous form of the medicine)”.Footnote44 Each of such patents would typically have a later expiration date, which effectively extends a period of market exclusivity beyond the expiration of a basic patent.Footnote45 In addition, most of these patents that protect such follow-on modifications are so-called “sleeping” patents, i.e. patents which a company has no intention of commercialising.Footnote46 Moreover, such modifications may provide little or no therapeutic benefits to the patient compared to the original drug.Footnote47 Nevertheless, such patents allow originators to secure the most efficient, broadest and longest possible protection for their successful products.Footnote48 The denser the web of secondary patents, the more difficult it is for generics to develop their generic equivalents, even if they know that only a few patents of a large portfolio would, in fact, be valid and infringed by their products.Footnote49 Despite such knowledge, it is impossible to be certain before introducing a generic whether this will be the case and, thus, whether the generic company will be subject to injunctions preventing the sale of their generic products.Footnote50 Such practice, therefore, provides an appreciable competitive advantage for originators by creating a significant legal and commercial uncertainty for generics in relation to the possibility of their market entry.Footnote51 This paper argues that such a strategic use of the patent system by pharmaceutical companies is against the shared goal of patent and competition laws of facilitating innovation for the benefit of society. As will be explained further, in addition to a more immediate negative effect in the form of high drug prices, strategic patenting may also impair innovation by reducing originators’ incentives to innovate, and affecting generics’ ability to develop alternative generic products. Strategic patenting, therefore, may enable originators to avoid competitive pressures by preventing generic competition without a need to engage in genuine innovation. Strategic Patenting Contradicts the Rationale of the Patent System and Competition Law In the competitive markets, the success of a company is based on its business performance.Footnote52 In order to compete on performance by “offering better quality and a wider choice of new and improved goods and services”Footnote53 firms must innovate. Realising the importance of protecting innovation, which is considered to be the main driver of economic growth,Footnote54 states have put in place various mechanisms to ensure a suitable environment for its advancement. These include granting the property rights to the results of innovation in the form of patents, as well as implementing competition law rules to stimulate dynamic competition.Footnote55 Specifically, one of the main justifications for the patent system is the encouragement of innovationFootnote56 that serves as an engine for economic growth and development.Footnote57 The patent system pursues this aim by offering the patent owners a period of exclusive rights as a reward for their innovative efforts and an incentive to engage in further innovation.Footnote58 Therefore, intellectual property rules, and patents in particular, are seen as an essential element of undistorted competition on the internal market.Footnote59 These exclusive rights are considered to be a necessary incentive to invest in R&D and innovation, particularly in such sectors as pharmaceuticals, where the R&D costs are high, but the costs of copying the R&D results are marginal.Footnote60 At the same time, the “innovation theory”, embodied in the EU competition law rules and policy, is designed to stimulate innovation by fostering competition on the markets.Footnote61 The competition law rules keep markets innovative by maintaining effective competition through preventing the foreclosure of markets and maintaining access to them.Footnote62 The rationale is that firms react to pressures of competition by continuously seeking to innovate.Footnote63 Therefore, patent and competition laws complement each other, as on the one hand, existing competition creates pressures on firms, forcing them to innovate, the so-called “stick”, while on the other hand, patent law provides a “carrot” in the form of the exclusive right, thus inducing innovators to innovate.Footnote64 These two bodies of laws are seen as “complementary efforts to promote an efficient marketplace and long-run, dynamic competition through innovation”.Footnote65 As the European Commission noted “both intellectual property rights and competition are necessary to promote innovation and ensure a competitive exploitation thereof”.Footnote66 These two bodies of laws, therefore, have the same fundamental goal of enhancing innovation for the benefit of consumer welfare. Importantly, patent and competition laws are designed to stimulate not only innovation of “pioneer” innovators, but they are also aimed at facilitating follow-on innovation.Footnote67 Patent law contains provisions that require inventors to disclose information about their inventions, as well as providing exceptions such as experimental use and compulsory licensing, which allow third parties to access the inventions still under patent protection.Footnote68 Therefore, along with pioneer innovators, the rationale of incentives to innovate in patent law also applies to follow-on innovators, balancing the interests of these two types of inventors.Footnote69 Similarly, competition law aims at stimulating all types of innovation, including follow-on innovation. On the other hand, EU competition law proscribes practices that reduce incentives to innovate both for “pioneer” and follow-on innovators. This is enshrined in Art. 102(b) TFEU, which prohibits abuses that consist of, inter alia, limiting technological development. For example, in AstraZeneca the General Court considered that the company’s practice of misusing the patent system had the potential of reducing its incentives to innovate and was anticompetitive.Footnote70 In MagillFootnote71 and Microsoft,Footnote72 the courts found that the IP rights owners abused their dominant positions by blocking innovation of their potential competitors. More recently, several decisions by the European Commission also emphasised the importance of protecting innovation. In January 2018, the Commission fined QualcommFootnote73 €997 million for abusing its market dominance in LTEFootnote74 baseband chipsets.Footnote75 The Commission considered that the exclusivity payments that Qualcomm paid to Apple denied rivals the possibility to compete on the merits, and deprived European consumers of genuine choice and innovation.Footnote76 Furthermore, in July 2018, the Commission found in Google Android that Google abused its dominant position, and fined the company €4.34 billion for anticompetitive restrictions it had imposed on mobile device manufacturers and network operators to strengthen its dominant position in general internet search.Footnote77 The Commission considered that Google’s restrictive practices denied other companies the chance to compete on the merits and innovate.Footnote78 Finally, in 2017 the Commission issued its decision, in which it took the view that Amazon abused its dominant positions on the markets for the retail distribution of e-books by inserting the so-called “parity clauses” in the agreements with its e-book suppliers.Footnote79 It concluded that these clauses had the potential of reducing the incentives to innovate both by e-book suppliers and retailers.Footnote80 These decisions demonstrate that the European Commission recognises the fundamental importance of protecting innovation. They confirm that strategies that are capable of stifling innovation and reducing the incentives to innovate may constitute an abuse of dominance under Art. 102 TFEU. It is argued in this article that, along with the practices condemned by the Commission in the decisions discussed above, strategic patenting can also harm innovation by impairing incentives to innovate of both originators and generic companies, and therefore should raise competition law concerns. Strategic Patenting Impairs Originators’ Incentives to Innovate While originator companies typically argue that the competition law intervention into their patenting practices will reduce their incentives to innovate,Footnote81 this article asserts that strategic patenting itself reduces originators’ incentives. Thus, in a properly functioning system, when a patent protecting a product is close to expiration the originator would be encouraged to innovate further in order to introduce a new product on the market and maintain its competitive position. However, by engaging in strategic patenting, the originator’s incentive to innovate diminishes as it enjoys its monopoly position by merely procuring numerous secondary patents that shield its current product from generic competition. Therefore, when companies engage in such strategic patenting, they are merely protecting themselves from the competitive pressures that competition law aims to establish. Maintaining that this practice is lawful, originators argue that strong patent protection is essential for recouping their investments, as well as for incentivising them to engage in further innovation.Footnote82 Such a position may find some support in the arguments put forward by Joseph Schumpeter and his followers, who claimed that since monopoly increases the reward of the innovator, monopolists are more prone to innovation.Footnote83 However, as Lowe noted:Footnote84 the empirical evidence of the past few decades has worked against Schumpeter and in favor of Kenneth Arrow, who contends that in favoring monopolies Schumpeter underestimated the incentives for innovation that competition can offer. Monopolists tend to want to keep their monopolies by resorting to any measures that can keep new entrants out. Firms under competitive pressure from actual or potential competition, on the other hand, are less complacent and know that inventing a new product is their best strategy for maintaining and increasing their market share. In the same vein, the Commission emphasises the importance of competition for the incentives to innovate, stating that: “[r]ivalry between undertakings is an essential driver of economic efficiency, including dynamic efficiencies in the form of innovation. In its absence the dominant undertaking will lack adequate incentives to continue to create and pass on efficiency gains.”Footnote85 Evidence from the pharmaceutical industry confirms that strategic patenting reduces incentives to engage in genuine and meritorious innovation. In many cases, strategically accumulated secondary patents are of marginal quality and are typically the result of routine research activities.Footnote86 For example, in Perindopril the European Commission revealed that most of the secondary patents, procured as part of the originator company’s anti-generic strategy, were seen by the company as “blocking” or “paper”, some of which it considered involved “zero inventive step”Footnote87 and a purely editorial task.Footnote88 Moreover, these follow-on pharmaceutical inventions are specifically timed around the expiration of the basic patent and can be developed on demand.Footnote89 In AstraZeneca the Commission noted that the company designed to “[f]ile a patent-cloud of mixtures, uses, formulations, new indications, and chemistry” in relation to its blockbuster product omeprazole to slow down generic entry at a specifically defined time, close to the expiration of the basic patent.Footnote90 The main aim of these patents is to increase uncertainty for generic companies as to the possibility of their market entry.Footnote91 Therefore, while many of these secondary patents may be trivial and potentially invalid, the originator pursues them to protect its current successful product from generic competition.Footnote92 Even if a company continues to engage in innovation in parallel to pursuing strategic patenting, it still protects itself from the pressures of competition, which would have forced the company to innovate faster and would thus provide consumers with better products and/or access to cheaper generic versions earlier. As Ullrich argues:Footnote93 A slowdown in the transition of the new medicines from the protected status of a proprietary medicine to the status of generic products manufactured and distributed in open competition does not simply mean a loss of static efficiency, namely a loss of consumer well-being due to a slowdown in the reduction of process. Rather, such a slowdown also involves the risk of a loss of dynamic efficiency in that it extends the duration of a monopoly rent situation, thus reducing the pressure to innovate more quickly. Following the rationale of the General Court’s statement in AstraZeneca, the practice of the originator that extends its market monopoly by relying on the patent system “potentially reduces the incentive to engage in innovation, since it enables the company in a dominant position to maintain its exclusivity beyond the period envisaged by the legislator”.Footnote94 Such practices, according to the Court, act “contrary to the public interest”.Footnote95 Therefore, the practice of strategic patenting that protects originators’ monopolies from competitive pressures and significantly reduces their incentives to engage in genuine innovation is contrary to the rationale of the patent system, has a significant negative effect on competition and should raise competition law concerns. Strategic Patenting Impairs Follow-on Innovation of Generic Companies Strategic patenting also has a chilling effect on follow-on innovation by generic competitors in the form of developing alternative versions of an off-patent compound. As was discussed earlier, the expiry of a basic patent that protects an active compound facilitates generic competition. This is because even if the product is still protected by process, specific form or formulation patents, generic companies may develop alternative ways of producing or formulating the product and start competing with the originator. In the absence of strategically accumulated patents by the originator, generic companies are typically open to innovating to launch alternative generic products as soon as the basic patent expires. However, by pursuing strategic patenting, originators may discourage generics from engaging in follow-on innovation because of the uncertainty about the patent protection and a fear of infringing on one of the numerous patents.Footnote96 In its Sector Inquiry Report, the Commission cited the following quote from one of the originators: The entire point of the patenting strategy adopted by many originators is to remove legal certainty. The strategy is to file as many patents as possible on all areas of the drug and create a “minefield” for the generics to navigate. All generics know that very few patents in that larger group will be valid and infringed by the product they propose to make, but it is impossible to be certain prior to launch that your product will not infringe and you will not be the subject of an interim injunction.Footnote97 Therefore, as a result of creating an impenetrable ring of patent protection by the originator,Footnote98 generic competitors may be prevented from developing alternative generic versions of an off-patent compound. One of the examples revealed by the Commission during its Pharmaceutical Sector Inquiry was the filing by an originator company of “more than 30 patent families translating into several hundreds of patents in the Member States in relation to one product”, many of which were filed after the introduction of the product.Footnote99 This affected the intentions of several generic companies that planned to develop and bring their generic versions of the original product to the market.Footnote100 As a result, in addition to the already high barriers to entry into the pharmaceutical market due to patents that protect an existing product and the need to obtain a marketing authorisation, strategic patenting raises these entry barriers further, making it very difficult for generic companies to overcome them. This strategy, therefore, “may without further enforcement action by originator companies, … delay generic entry until the patent situation is clearer or even discourage more risk-sensitive generic companies from entering altogether”.Footnote101 Consequently, the fact that actual or potential competitors of originators would not be able to develop alternative generic products means that no one could enter the market and challenge originators’ monopoly positions. This results in a weakening of competition in the relevant market and a strengthening of the originator’s already dominant position. As Maggiolino put it, “patent accumulation … may work as a pre-emptive entry-deterrence strategy to protect monopoly power and … lower consumer welfare by allowing dominant firms to keep on charging over-competitive prices”.Footnote102 Therefore, when an array of accumulated secondary patents “blocks monopolists’ rivals from producing follow-on innovations, this strategy prevents the whole society from enjoying … these further innovations”.Footnote103 While practices that facilitate innovation are encouraged by competition law, practices that are aimed at blocking follow-on innovation by competitors should raise competition law concerns.

#### That escalates security threats—extinction.

---AT: Cooperation Thesis

RECNA et al. 21 [Research Center for Nuclear Weapon Abolition; Nagasaki, Japan; “Pandemic Futures and Nuclear Weapon Risks: The Nagasaki 75th Anniversary pandemic-nuclear nexus scenarios final report,” Journal for Peace and Nuclear Disarmament; 5/28/21; <https://www.tandfonline.com/doi/full/10.1080/25751654.2021.1890867>] Justin

The Challenge: Multiple Existential Threats The relationship between pandemics and war is as long as human history. Past pandemics have set the scene for wars by weakening societies, undermining resilience, and exacerbating civil and inter-state conflict. Other disease outbreaks have erupted during wars, in part due to the appalling public health and battlefield conditions resulting from war, in turn sowing the seeds for new conflicts. In the post-Cold War era, pandemics have spread with unprecedented speed due to increased mobility created by globalization, especially between urbanized areas. Although there are positive signs that scientific advances and rapid innovation can help us manage pandemics, it is likely that deadly infectious viruses will be a challenge for years to come. The COVID-19 is the most demonic pandemic threat in modern history. It has erupted at a juncture of other existential global threats, most importantly, accelerating climate change and resurgent nuclear threat-making. The most important issue, therefore, is how the coronavirus (and future pandemics) will increase or decrease the risks associated with these twin threats, climate change effects, and the next use of nuclear weapons in war.5 Today, the nine nuclear weapons arsenals not only can annihilate hundreds of cities, but also cause nuclear winter and mass starvation of a billion or more people, if not the entire human species. Concurrently, climate change is enveloping the planet with more frequent and intense storms, accelerating sea level rise, and advancing rapid ecological change, expressed in unprecedented forest fires across the world. Already stretched to a breaking point in many countries, the current pandemic may overcome resilience to the point of near or actual collapse of social, economic, and political order. In this extraordinary moment, it is timely to reflect on the existence and possible uses of weapons of mass destruction under pandemic conditions – most importantly, nuclear weapons, but also chemical and biological weapons. Moments of extreme crisis and vulnerability can prompt aggressive and counterintuitive actions that in turn may destabilize already precariously balanced threat systems, underpinned by conventional and nuclear weapons, as well as the threat of weaponized chemical and biological technologies. Consequently, the risk of the use of weapons of mass destruction (WMD), especially nuclear weapons, increases at such times, possibly sharply. The COVID-19 pandemic is clearly driving massive, rapid, and unpredictable changes that will redefine every aspect of the human condition, including WMD – just as the world wars of the first half of the 20th century led to a revolution in international affairs and entirely new ways of organizing societies, economies, and international relations, in part based on nuclear weapons and their threatened use. In a world reshaped by pandemics, nuclear weapons – as well as correlated non-nuclear WMD, nuclear alliances, “deterrence” doctrines, operational and declaratory policies, nuclear extended deterrence, organizational practices, and the **existential risks** posed by retaining these capabilities – are all up for redefinition. A pandemic has potential to destabilize a nuclear-prone conflict by incapacitating the supreme nuclear commander or commanders who have to issue nuclear strike orders, creating uncertainty as to who is in charge, how to handle nuclear mistakes (such as errors, accidents, technological failures, and entanglement with conventional operations gone awry), and opening a brief opportunity for a first strike at a time when the COVID-infected state may not be able to retaliate efficiently – or at all – due to leadership confusion. In some nuclear-laden conflicts, a state might use a pandemic as a cover for political or military provocations in the belief that the adversary is distracted and partly disabled by the pandemic, increasing the risk of war in a nuclear-prone conflict. At the same time, a pandemic may lead nuclear armed states to increase the isolation and sanctions against a nuclear adversary, making it even harder to stop the spread of the disease, in turn creating a pandemic reservoir and transmission risk back to the nuclear armed state or its allies. In principle, the common threat of the pandemic might induce nuclear-armed states to reduce the tension in a nuclear-prone conflict and thereby the risk of nuclear war. It may cause nuclear adversaries or their umbrella states to seek to resolve conflicts in a cooperative and collaborative manner by creating habits of communication, engagement, and mutual learning that come into play in the nuclear-military sphere. For example, militaries may cooperate to control pandemic transmission, including by working together against criminal-terrorist non-state actors that are trafficking people or by joining forces to ensure that a new pathogen is not developed as a bioweapon. To date, however, the COVID-19 pandemic has increased the isolation of some nuclear-armed states and provided a textbook case of the failure of states to cooperate to overcome the pandemic. Borders have slammed shut, trade shut down, and budgets blown out, creating enormous pressure to focus on immediate domestic priorities. Foreign policies have become markedly more nationalistic. Dependence on nuclear weapons may increase as states seek to buttress a global re-spatialization6 of all dimensions of human interaction at all levels to manage pandemics. The effect of nuclear threats on leaders may make it less likely – or even impossible – to achieve the kind of concert at a global level needed to respond to and administer an effective vaccine, making it harder and even impossible to revert to pre-pandemic international relations. The result is that some states may proliferate their own nuclear weapons, further reinforcing the spiral of conflicts contained by nuclear threat, with cascading effects on the risk of nuclear war.

#### Prefer our ev—your stats don’t evaluate long term consequences.

Ide 21 [Tobias; April 2021; School of Geography, The University of Melbourne, 221 Bouverie St, Carlton, VIC 3053, Australia Institute of International Relations, Brunswick University of Technology, Bienroder Weg 97, 38106 Brunswick, Germany; “COVID-19 and armed conflict,” Elsevier Public Health Emergency Collection, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7833329/>] Justin

4. Discussion and conclusion Besides its immediate health and economic effects, COVID-19 can also impact armed conflict risks, with these conflicts themselves being an important obstacle in dealing with the pandemic. This article provided an assessment of the impact of COVID-19 on armed conflict based on data from the first six months of 2020. Theoretically, the pandemic could affect conflict risks through increased grievances, possibilities to demonstrate solidarity, or modified opportunity structures for armed groups. Results show that in four of the nine countries under study, the number of armed conflict events declined after the onset of the COVID-19 crisis. These declines are mostly related to strategic decisions and less favourable opportunity structures for armed groups, such as logistical difficulties and attempts to increase popular support. They offer few prospects for health diplomacy and sustainable peacebuilding. In places like Afghanistan, where the Taliban restrained their military activities to gain local support, the initial decline might even set the stage for a later escalation of the armed conflict. Similar concerns exist regarding recruitment in Colombia and India. In five of the nine countries analysed, armed conflict prevalence increased in the face of the pandemic. This is further evidence that health diplomacy approaches demonstrating goodwill and reducing grievances have little impact during the pandemic (Polo, 2020). COVID-19 did not change the root causes or principal dynamics of the armed conflicts in any of these five countries, but it accelerated existing trends and provided strategic opportunities for armed groups to exploit. Two factors are particularly relevant here: The weakening of state institutions (providing incentives for rebels to intensify military pressure) and a lack of (international) public attention (allowing to extend military operations without backlashes). While short-term rises in armed conflict risks related to the pandemic are mostly driven by changed opportunity structures, grievances could play a more prominent role when longer time horizons are considered. The economic repercussions associated with the current global spike in infections could exceed the coping capacities of households that did relatively well during the first COVID-19 wave. In coincidence with ethnic or religious cleavages, this could raise discontent to a level at which armed conflicts erupt. However, grievances usually take time to translate into organised armed activities. Declining levels of democracy as states claim emergency powers to combat COVID-19 are also a risk factor. Countries with a medium level of democracy and highly repressive regimes are empirically much more likely to experience civil wars than consolidated democracies (Cederman & Vogt, 2017). Armed conflict can have tremendous negative effects on human security and health governance. It is therefore of crucial importance to monitor the impact of COVID-19 on armed conflict risks and to develop adequate policy responses, such as sanctioning armed groups trying to exploit the pandemic.

### Underview

#### 1AR theory is legit – anything else means infinite abuse – drop the debater, competing interps, and the highest layer – 1AR are too short to make up for the time trade-off – no RVIs – 6 min 2NR means they can brute force me every time.

#### Cap is sustainable.

McAfee 19, Andrew. More from Less: The Surprising Story of How We Learned to Prosper Using Fewer Resources—and What Happens Next. Scribner, 2019. Props to DML for this card. (cofounder and codirector of the MIT Initiative on the Digital Economy at the MIT Sloan School of Management, former professor at Harvard Business School)//Elmer

The decreases in resource use, pollution, and other exploitations of the earth cataloged in the preceding chapters are great news. But are they going to last? It could be that we're just living in a pleasant interlude between the Industrial Era and another rapacious period during which we massively increase our footprint on our planet and eventually cause a giant Malthusian crash. It could be, but I don't think so. Instead, I think we're going to take better care of our planet from now on. I'm confident that the Second Machine Age will mark the time in our history when we started to progressively and permanently tread more lightly on the earth, taking less from it and generally caring for it better, even as we humans continue to become more numerous and prosperous. The work of Paul Romer, who shared the 2018 Nobel Prize in economics, is one of the sources of this confidence. Growth Mindset Romer's largest contribution to economics was to show that it's best not to think of new technologies as something that companies buy and bring in from the outside, but instead as something they create themselves (the title of his most famous paper, published in 1990, is "Endogenous Technological Change"). These technologies are like designs or recipes; as Romer put it, they’re "the instructions that we follow for combining raw materials." This is close to the definitions of technology presented in chapter 7. Why do companies invent and improve technologies? Simply, to generate profits. They come up with instructions, recipes, and blueprints that will let them grow revenues or shrink costs. As we saw repeatedly in chapter 7, capitalism provides ample incentive for this kind of tech progress. So far, all this seems like a pretty standard argument for how the first two horsemen work together. Romer's brilliance was to highlight the importance of two key attributes of the technological ideas companies come up with as they pursue profits. The first is that they're nonrival, meaning that they can be used by more than one person or company at a time, and that they don't get used up. This is obviously not the case for most resources made out of atoms—I can't also use the pound of steel that you've just incorporated into the engine of a car—but it is the case for ideas and instructions. The Pythagorean theorem, a design for a steam engine, and a recipe for delicious chocolate chip cookies aren't ever going to get "used up" no matter how much they're used. The second important aspect of corporate technologies is that they're partially excludable. This means that companies can kind of prevent others from using them. They do this by keeping the technologies secret (such as the exact recipe for Coca-Cola), filing for patents and other intellectual-property protection, and so on. However, none of these measures is perfect (hence the words partially and kind of). Trade secrets leak. Patents expire, and even before they expire, they must describe the invention they're claiming and so let others study it. Partial excludability is a beautiful thing. It provides strong incentives for companies to create useful, profit-enhancing new technologies that they alone can benefit from for a time, yet it also ensures that the new techs will eventually "spill over"—that with time they’ll diffuse and get adopted by more and more companies, even if that's not what their originators want. Romer equated tech progress to the production by companies of nonrivalrous, partially excludable ideas and showed that these ideas cause an economy to grow. What's more, he also demonstrated that this idea-fueled growth doesn't have to slow down with time. It's not constrained by the size of the labor force, the amount of natural resources, or other such factors. Instead, economic growth is limited only by the idea-generating capacity of the people within a market. Romer called this capacity "human capital" and said at the end of his 1990 paper, "The most interesting positive implication of the model is that an economy with a larger total stock of human capital will experience faster growth." This notion, which has come to be called "increasing returns to scale," is as powerful as it is counterintuitive. Most formal models of economic growth, as well as the informal mental ones most of us walk around with, feature decreasing returns—growth slows down as the overall economy gets bigger. This makes intuitive sense; it just feels like it would be easier to experience 5 percent growth in a $1 billion economy than a $1 trillion one. But Romer showed that as long as that economy continued to add to its human capital—the overall ability of its people to come up with new technologies and put them to use—it could actually grow faster even as it grew bigger. This is because the stock of useful, nonrivalrous, nonexcludable ideas would keep growing. As Romer convincingly showed, economies run and grow on ideas. The Machinery of Prosperity Romer's ideas should leave us optimistic about the planetary benefits of digital tools—hardware, software, and networks—for three main reasons. First, countless examples show us how good these tools are at fulfilling the central role of technology, which is to provide "instructions that we follow for combining raw materials." Since raw materials cost money, profit-maximizing companies are particularly keen to find ways to use fewer of them. So they use digital tools to come up with beer cans that use less aluminum, car engines that use less steel and less gas, mapping software that removes the need for paper atlases, and so on and so on. None of this is done solely for the good of the earth—it's done for the pursuit of profit that's at the heart of capitalism—yet it benefits the planet by, as we've seen, causing us to take less from it. Digital tools are technologies for creating technologies, the most prolific and versatile ones we've ever come up with. They're machines for coming up with ideas. Lots of them. The same piece of computer-aided design software can be used to create a thinner aluminum can or a lighter and more fuel-efficient engine. A drone can be used to scan farmland to see if more irrigation is needed, or to substitute for a helicopter when filming a movie. A smartphone can be used to read the news, listen to music, and pay for things, all without consuming a single extra molecule. In the Second Machine Age, the global stock of digital tools is increasing much more quickly than ever before. It's being used in countless ways by profit-hungry companies to combine raw materials in ways that use fewer of them. In advanced economies such as America's, the cumulative impact of this combination of capitalism and tech progress is clear: absolute dematerialization of the economy and society, and thus a smaller footprint on our planet. The second way Romer's ideas about technology and growth are showing up at present is via decreased excludability. Pervasive digital tools are making it much easier for good designs and recipes to spread around the world. While this is often not what a company wants—it wants to exclude others from its great cost-saving idea— excludability is not as easy as it used to be. This isn't because of weaker patent protection, but instead because of stronger digital tools. Once one company shows what's possible, others use hardware, software, and networks to catch up to the leader. Even if they can't copy exactly because of intellectual-property restrictions, they can use digital tools to explore other means to the same end. So, many farmers learn to get higher yields while using less water and fertilizer, even though they combine these raw materials in different ways. Steve Jobs would certainly have preferred for Apple to be the only provider of smartphones after it developed the iPhone, but he couldn't maintain the monopoly no matter how many patents and lawsuits he filed. Other companies found ways to combine processors, memory, sensors, a touch screen, and software into phones that satisfied billions of customers around the world. The operating system that powers most non-Apple smartphones is Android, which is both free to use and freely modifiable. Google's parent company, Alphabet, developed and released Android without even trying to make it excludable; the explicit goal was to make it as widely imitable as possible. This is an example of the broad trend across digital industries of giving away valuable technologies for free. The Linux operating system, of which Android is a descendant, is probably the best-known example of free and open-source software, but there are many others. The online software repository GitHub maintains that it's "the largest open source community in the world" and hosts millions of projects. The Arduino community does something similar for electronic hardware, and the Instructables website contains detailed instructions for making equipment ranging from air-particle counters to machine tools, all with no intellectual-property protection. Contributors to efforts such as these have a range of motivations (Alphabet's goals with Android were far from purely altruistic—among other things, the parent of Google wanted to achieve a quantum leap in mobile phone users around the world, who would avail themselves of Google Search and services such as YouTube), but they're all part of the trend of technology without excludability, which is great news for growth. As we saw in chapter 10, smartphone use and access to the Internet are increasing quickly across the planet. This means that people no longer need to be near a decent library or school to gain knowledge and improve their abilities. Globally, people are taking advantage of the skill-building opportunities of new technologies. This is the third reason that the spread of digital tools should make us optimistic about future growth: these tools are helping human capital grow quickly. The free Duolingo app, for example, is now the world's most popular way to learn a second language. Of the nearly 15 billion Wikipedia page views during July of 2018, half were in languages other than English. Google's chief economist, Hal Varian, points out that hundreds of millions of how-to videos are viewed every day on YouTube, saying, "We never had a technology before that could educate such a broad group of people anytime on an as-needed basis for free." Romer's work leaves me hopeful because it shows that it's our ability to build human capital, rather than chop down forests, dig mines, or burn fossil fuels that drives growth and prosperity. His model of how economies grow also reinforces how well capitalism and tech progress work together, which is a central point of this book. The surest way to boost profits is to cut costs, and modern technologies, especially digital ones, offer unlimited ways to combine and recombine materials—to swap, slim, optimize, and evaporate—in cost-reducing ways. There's no reason to expect that the two horsemen of capitalism and tech progress will stop riding together anytime soon. Quite the contrary. Romer's insights reveal that they're likely to gallop faster and farther as economies grow. Our Brighter, Lighter Future The world still has billions of desperately poor people, but they won't remain that way. All available evidence strongly suggests that most will become much wealthier in the years and decades ahead. As they earn more and consume more, what will be the impact on the planet? The history and economics of the Industrial Era lead to pessimism on this important question. Resource use increased in lockstep with economic growth throughout the two centuries between James Watt's demonstration of his steam engine and the first Earth Day. Malthus and Jevons seemed to be right, and it was just a question of when, not if, we'd run up against the hard planetary limits to growth. But in America and other rich countries something strange, unexpected, and wonderful happened: we started getting more from less. We decoupled population and economic growth from resource consumption, pollution, and other environmental harms. Malthus's and Jevons's ideas gave way to Romer's, and the world will never be the same. This means that instead of worrying about the world's poor becoming richer, we should instead be helping them upgrade economically as much and as quickly as possible. Not only is it the morally correct thing to do, it's also the smart move for our planet. As today’s poor countries get richer, their institutions will improve and most will eventually go through what Ricardo Hausmann calls "the capitalist makeover of production." This makeover doesn't enslave people, nor does it befoul the earth. As today’s poor get richer, they'll consume more, but they'll also consume much differently from earlier generations. They won't read physical newspapers and magazines. They'll get a great deal of their power from renewables and (one hopes) nuclear because these energy sources will be the cheapest. They’ll live in cities, as we saw in chapter 12; in fact, they already are. They'll be less likely to own cars because a variety of transportation options will be only a few taps away. Most important, they'll come up with ideas that keep the growth going, and that benefit both humanity and the planet we live on. Predicting exactly how technological progress will unfold is much like predicting the weather: feasible in the short term, but impossible over a longer time. Great uncertainty and complexity prevent precise forecasts about, for example, the computing devices we’ll be using thirty years from now or the dominant types of artificial intelligence in 2050 and beyond. But even though we can't predict the weather long term, we can accurately forecast the climate. We know how much warmer and sunnier it will be on average in August than in January, for example, and we know that global average temperatures will rise as we keep adding greenhouse gases to the atmosphere. Similarly, we can predict the "climate" of future technological progress by starting from the knowledge that it will be heavily applied in the areas where it can affect capitalism the most. As we've seen over and over, tech progress supplies opportunities to trim costs (and improve performance) via dematerialization, and capitalism provides the motive to do so. As a result, the Second Enlightenment will continue as we move deeper into the twenty-first century. I'm confident that it will accelerate as digital technologies continue to improve and multiply and global competition continues to increase. We’ll see some of the most striking examples of slim, swap, evaporate, and optimize in exactly the places where the opportunities are biggest. Here are a few broad predictions, spanning humanity's biggest industries. Manufacturing. Complex parts will be made not by the techniques developed during the Industrial Era, but instead by three- dimensional printing. This is already the case for some rocket engines and other extremely expensive items. As 3-D printing improves and becomes cheaper, it will spread to automobile engine blocks, manifolds and other complicated arrangements of pipes, airplane struts and wings, and countless other parts. Because 3-D printing generates virtually no waste and doesn't require massive molds, it accelerates dematerialization.