# NEG SO21 TRAD

#### I Negate the resolution resolved: The member nations of the World Trade Organization ought to reduce intellectual property protections for medicines

## Framework :50

#### People making laws must do the most good for the greatest number of people

Cummiskey 96 (“Kantian Consequentialism,” David Cummiskey [philosophy chair at Bates College], 1996 - <http://cmscontent.bates.edu/prebuilt/kantian.pdf>) Lex FM

We must not obscure the issue by characterizing this type of case as the sacrifice of individuals for some abstract “social entity.” It is not a question of some persons having to bear the cost for some elusive “overall social good.” Instead, the question is whether some persons must bear the inescapable cost for the sake of other persons. Robert Nozick, for example, argues that “to use a person in this way does not sufficiently respect and take account of the fact that he is a separate person, that his is the only life he has.” But why is this not equally true of all those whom we do not save through our failure to act? By emphasizing solely the one who must bear the cost if we act, we fail to sufficiently respect and take account of the many other separate persons, each with only one life, who will bear the cost of our inaction. In such a situation, what would a conscientious Kantian agent, an agent motivated by the unconditional value of rational beings, choose? A morally good agent recognizes that the basis of all particular duties is the principle that “rational nature exists as an end in itself” (GMM 429). Rational nature as such is the supreme objective end of all conduct. **If** one truly believes that **all** rational **beings have** an **equal value, then the rational solution** to such a dilemma **involves maximally promoting the lives and liberties of as many** rational **beings as possible** (chapter 5). In order to avoid this conclusion, the non-consequentialist Kantian needs to justify agent-centered constraints. As we saw in chapter 1, however, even most Kantian deontologists recognize that agent-centered constraints require a non-value-based rationale. But we have seen that Kant’s normative theory is based on an unconditionally valuable end. **How can a concern for the value of [people] rational beings lead to a refusal to sacrifice [people] rational beings even when this would prevent other more extensive losses of [people] rational beings?** If the moral law is based on the value of rational beings and their ends, then what is the rationale for prohibiting a moral agent from maximally promoting these two tiers of value? If I sacrifice some for the sake of others, I do not use them arbitrarily, and I do not deny the unconditional value of rational beings. Persons may have “dignity, that is, an unconditional and incomparable worth” that transcends any market value (GMM 436), but **persons [people]** also **have a fundamental equality that dictates** that **some must** sometimes **give way for the sake of others** (chapters 5 and 7). The concept of the end-in-itself does not support the view that we may never force another to bear some cost in order to benefit others. If one focuses on the equal value of all rational beings, then equal consideration suggests that one may have to sacrifice some to save many.

#### Non utilitarian intuitions are morally incoherent

Yudkowsky 08[Eliezer Yudkowsky (research fellow of the Machine Intelligence Research Institute; he also writes Harry Potter fan fiction). “The ‘Intuitions’ Behind ‘Utilitarianism.’” 28 January 2008. LessWrong. <http://lesswrong.com/lw/n9/the_intuitions_behind_utilitarianism/>] // Lex KY

I haven't said much about metaethics - the nature of morality - because that has a forward dependency on a discussion of the Mind Projection Fallacy that I haven't gotten to yet. I used to be very confused about metaethics. After my confusion finally cleared up, I did a postmortem on my previous thoughts. I found that my object-level moral reasoning had been valuable and my meta-level moral reasoning had been worse than useless. And this appears to be a general syndrome - **people do**much**better when discussing whether torture** **is** good or **bad than when they discuss the meaning of "good" and "bad".**Thus, I deem it prudent to**keep moral discussions on the object level**wherever I possibly can. Occasionally people object to any discussion of morality on the grounds that morality doesn't exist, and in lieu of jumping over the forward dependency to explain that "exist" is not the right term to use here, I generally say, "But what do you do anyway?" and take the discussion back down to the object level. Paul Gowder, though, has pointed out that both the idea of choosing a googolplex dust specks in a googolplex eyes over 50 years of torture for one person, and the idea of "utilitarianism", depend on "intuition". He says I've argued that the two are not compatible, but charges me with failing to argue for the utilitarian intuitions that I appeal to. Now "intuition" is not how I would describe the computations that underlie human morality and distinguish us, as moralists, from an ideal philosopher of perfect emptiness and/or a rock. But I am okay with using the word "intuition" as a term of art, bearing in mind that "intuition" in this sense is not to be contrasted to reason, but is, rather, the cognitive building block out of which both long verbal arguments and fast perceptual arguments are constructed. I see the project of **morality**as**a project of renormalizing intuition.** We have intuitions about things that seem desirable or undesirable, intuitions about actions that are right or wrong, intuitions about how to resolve conflicting intuitions, intuitions about how to systematize specific intuitions into general principles. **Delete all**the **intuitions, and**you aren't left with an ideal philosopher of perfect emptiness, **you're left with a rock. Keep all**your specific **intuitions and**refuse to build upon the reflective ones, and you aren't left with an ideal philosopher of perfect spontaneity and genuineness, **you're left with a**grunting **caveperson**running in circles, due to cyclical preferences and similar inconsistencies. "Intuition", as a term of art, is not a curse word when it comes to morality - there is nothing else to argue from. Even modus ponens is an "intuition" in this sense - it's just that modus ponens still seems like a good idea after being formalized, reflected on, extrapolated out to see if it has sensible consequences, etcetera. So that is "intuition". However, Gowder did not say what he meant by "utilitarianism". Does utilitarianism say... That right actions are strictly determined by good consequences? That praiseworthy actions depend on justifiable expectations of good consequences? That probabilities of consequences should normatively be discounted by their probability, so that a 50% probability of something bad should weigh exactly half as much in our tradeoffs? That virtuous actions always correspond to maximizing expected utility under some utility function? That two harmful events are worse than one? That two independent occurrences of a harm (not to the same person, not interacting with each other) are exactly twice as bad as one? That for any two harms A and B, with A much worse than B, there exists some tiny probability such that gambling on this probability of A is preferable to a certainty of B? If you say that I advocate something, or that my argument depends on something, and that it is wrong, do please specify what this thingy is... anyway, I accept 3, 5, 6, and 7, but not 4; I am not sure about the phrasing of 1; and 2 is true, I guess, but phrased in a rather solipsistic and selfish fashion: you should not worry about being praiseworthy. Now, what are the "intuitions" upon which my "utilitarianism" depends? This is a deepish sort of topic, but I'll take a quick stab at it. First of all, it's not just that someone presented me with a list of statements like those above, and I decided which ones sounded "intuitive". Among other things, **if you**try to**violate "util**itarianism",**you run into**paradoxes, contradictions, circular preferences, and other things that aren't symptoms of moral wrongness so much as **moral incoherence.** After you think about moral problems for a while, and also find new truths about the world, and even discover disturbing facts about how you yourself work, you often end up with different moral opinions than when you started out. This does not quite define moral progress, but it is how we experience moral progress. As part of my experienced moral progress, I've drawn a conceptual separation between questions of type Where should we go? and questions of type How should we get there? (Could that be what Gowder means by saying I'm "utilitarian"?) The question of where a road goes - where it leads - you can answer by traveling the road and finding out. If you have a false belief about where the road leads, this falsity can be destroyed by the truth in a very direct and straightforward manner. When it comes to wanting to go to a particular place, this want is not entirely immune from the destructive powers of truth. You could go there and find that you regret it afterward (which does not define moral error, but is how we experience moral error). But, even so, wanting to be in a particular place seems worth distinguishing from wanting to take a particular road to a particular place. Our intuitions about where to go are arguable enough, but our intuitions about how to get there are frankly messed up. After the two hundred and eighty-seventh research study showing that people will chop their own feet off if you frame the problem the wrong way, you start to distrust first impressions. When you've read enough research on **scope insensitivity** - people will pay only 28% more to protect all 57 wilderness areas in Ontario than one area, **people will pay the same amount to save 50,000 lives as 5,000 lives...** that sort of thing... Well, the worst case of scope insensitivity I've ever heard of was described here by Slovic: Other recent research shows similar results. Two Israeli psychologists asked people to contribute to a costly life-saving treatment. They could offer that contribution to a group of eight sick children, or to an individual child selected from the group. The target amount needed to save the child (or children) was the same in both cases. Contributions to individual group members far outweighed the contributions to the entire group. There's other research along similar lines, but I'm just presenting one example, 'cause, y'know, eight examples would probably have less impact. If you know the general experimental paradigm, then the reason for the above behavior is pretty obvious - focusing your attention on a single child creates more emotional arousal than trying to distribute attention around eight children simultaneously. So people are willing to pay more to help one child than to help eight. Now, **you could** look at this intuition, and **think it was** revealing **some** kind of **incredibly deep moral truth** which shows that one child's good fortune is somehow devalued by the other children's good fortune. But what about the billions of other children in the world? Why isn't it a bad idea to help this one child, when that causes the value of all the other children to go down? How can it be significantly better to have 1,329,342,410 happy children than 1,329,342,409, but then somewhat worse to have seven more at 1,329,342,417? Or you could look at that and say: "The intuition is wrong: the brain can't successfully multiply by eight and get a larger quantity than it started with. But it ought to, normatively speaking." And once you realize that the brain can't multiply by eight, then the other cases of scope neglect stop seeming to reveal some fundamental truth about 50,000 lives being worth just the same effort as 5,000 lives, or whatever. You don't get the impression you're looking at the revelation of a deep moral truth about nonagglomerative utilities. It's just that the brain doesn't goddamn multiply. Quantities get thrown out the window. If you have $100 to spend, and you spend $20 each on each of 5 efforts to save 5,000 lives, you will do worse than if you spend $100 on a single effort to save 50,000 lives. Likewise if such choices are made by 10 different people, rather than the same person. As soon as you start believing that it is better to save 50,000 lives than 25,000 lives, that simple preference of final destinations has implications for the choice of paths, when you consider five different events that save 5,000 lives. (It is a general principle that Bayesians see no difference between the long-run answer and the short-run answer; you never get two different answers from computing the same question two different ways. But the long run is a helpful intuition pump, so I am talking about it anyway.) The aggregative valuation strategy of "shut up and multiply" arises from the simple preference to have more of something - to save as many lives as possible - when you have to describe general principles for choosing more than once, acting more than once, planning at more than one time. Aggregation also arises from claiming that the local choice to save one life doesn't depend on how many lives already exist, far away on the other side of the planet, or far away on the other side of the universe. Three lives are one and one and one. No matter how many billions are doing better, or doing worse. 3 = 1 + 1 + 1, no matter what other quantities you add to both sides of the equation. And if you add another life you get 4 = 1 + 1 + 1 + 1. That's aggregation. When you've read enough heuristics and biases research, and enough coherence and uniqueness proofs for Bayesian probabilities and expected utility, and you've seen the "Dutch book" and "money pump" effects that penalize trying to handle uncertain outcomes any other way, then you don't see the preference reversals in the Allais Paradox as revealing some incredibly deep moral truth about the intrinsic value of certainty. It just goes to show that the brain doesn't goddamn multiply. The primitive, perceptual intuitions that make a choice "feel good" don't handle probabilistic pathways through time very skillfully, especially when the probabilities have been expressed symbolically rather than experienced as a frequency. So you reflect, devise more trustworthy logics, and think it through in words. When you see people insisting that no amount of money whatsoever is worth a single human life, and then driving an extra mile to save $10; or when you see people insisting that no amount of money is worth a decrement of health, and then choosing the cheapest health insurance available; then you don't think that their protestations reveal some deep truth about incommensurable utilities. Part of it, clearly, is that primitive intuitions don't successfully diminish the emotional impact of symbols standing for small quantities - anything you talk about seems like "an amount worth considering". And part of it has to do with preferring unconditional social rules to conditional social rules. Conditional rules seem weaker, seem more subject to manipulation. If there's any loophole that lets the government legally commit torture, then the government will drive a truck through that loophole. So it seems like there should be an unconditional social injunction against preferring money to life, and no "but" following it. Not even "but a thousand dollars isn't worth a 0.0000000001% probability of saving a life". Though the latter choice, of course, is revealed every time we sneeze without calling a doctor. The rhetoric of sacredness gets bonus points for seeming to express an unlimited commitment, an unconditional refusal that signals trustworthiness and refusal to compromise. So you conclude that moral rhetoric espouses qualitative distinctions, because espousing a quantitative tradeoff would sound like you were plotting to defect. On such occasions, people vigorously want to throw quantities out the window, and they get upset if you try to bring quantities back in, because quantities sound like conditions that would weaken the rule. But you don't conclude that there are actually two tiers of utility with lexical ordering. You don't conclude that there is actually an infinitely sharp moral gradient, some atom that moves a Planck distance (in our continuous physical universe) and sends a utility from 0 to infinity. You don't conclude that utilities must be expressed using hyper-real numbers. Because the lower tier would simply vanish in any equation. It would never be worth the tiniest effort to recalculate for it. All decisions would be determined by the upper tier, and all thought spent thinking about the upper tier only, if the upper tier genuinely had lexical priority. As Peter Norvig once pointed out, if Asimov's robots had strict priority for the First Law of Robotics ("A robot shall not harm a human being, nor through inaction allow a human being to come to harm") then no robot's behavior would ever show any sign of the other two Laws; there would always be some tiny First Law factor that would be sufficient to determine the decision. Whatever value is worth thinking about at all, must be worth trading off against all other values worth thinking about, because thought itself is a limited resource that must be traded off. When you reveal a value, you reveal a utility. I don't say that morality should always be simple. I've already said that the meaning of music is more than happiness alone, more than just a pleasure center lighting up. I would rather see music composed by people than by nonsentient machine learning algorithms, so that someone should have the joy of composition; I care about the journey, as well as the destination. And I am ready to hear if you tell me that the value of music is deeper, and involves more complications, than I realize - that the valuation of this one event is more complex than I know.  But that's for one event. When it comes to multiplying by quantities and probabilities, complication is to be avoided - at least if you care more about the destination than the journey. **When you've reflected on enough intuitions, and corrected enough absurdities, you start to see** a common denominator, **a meta-principle** at work, which one might phrase as "**Shut up and multiply**." Where music is concerned, I care about the journey. When lives are at stake, I shut up and multiply. **It is more important that lives be saved**, than that we conform to any particular ritual in saving them. And the optimal path to that destination is governed by laws that are simple, because they are math. And that's why I'm a utilitarian - at least when I am doing something that is overwhelmingly more important than my own feelings about it - which is most of the time, because there are

## 1: Universal IP waivers lead to global instability 1:25

#### Intellectual property rights cannot be discriminated on the basis of field, or place of invention

WTO <https://www.wto.org/english/docs_e/legal_e/27-trips_04c_e.htm>, Article 27.1, Section 5 on patents, World trade Organization, WTO, Part II — Standards concerning the availability, scope and use of Intellectual Property Rights

Subject to the provisions of paragraphs 2 and 3, patents shall be available for any inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step and are capable of industrial application. [(5)](https://www.wto.org/english/docs_e/legal_e/27-trips_04c_e.htm#fnt-5) Subject to paragraph 4 of Article 65, paragraph 8 of Article 70 and paragraph 3 of this Article, patents shall be available and patent rights enjoyable without discrimination as to the place of invention, the field of technology and whether products are imported or locally produced.

#### The WTO’s appellate body no longer exists to mediate disputes, without immediate buy in by states, and no mechanism to make disobedient states obey, the system collapses

Horton, 08/3, Lessons from Trump’s assault on the World Trade Organization, https://www.chathamhouse.org/2021/08/lessons-trumps-assault-world-trade-organization, Chatham House – International Affairs Think Tank, Communications Manager; Project Lead, Common Futures Conversations

The WTO is unique amongst international institutions because it has a powerful enforcement mechanism – the dispute settlement system. However, the fundamental vulnerability is that if powerful states like the US and others won’t participate in the system and be bound by its rules, they quickly risk becoming irrelevant. And that’s the situation we’re in right now with the appellate body crisis, where, without a functioning mechanism to ensure that WTO rules are enforced, the entire system of global trade rules risk collapsing. Ironically, the United States has been the leader of the liberal trading order for the past 70 years, but since Trump, it has become its leading saboteur.

#### A major country operating outside WTO consensus wrecks global trade norms

Bacchus 20 [James Bacchus, member of the Herbert A. Stiefel Center for Trade Policy Studies, the Distinguished University Professor of Global Affairs and director of the Center for Global Economic and Environmental Opportunity at the University of Central Florida, 12-16-2020, "An Unnecessary Proposal: A WTO Waiver of Intellectual Property Rights for COVID-19 Vaccines," Cato Institute, [https://www.cato.org/free-trade-bulletin/unnecessary-proposal-wto-waiver-intellectual-property-rights-covid-19-vaccines]/Kankee](https://www.cato.org/free-trade-bulletin/unnecessary-proposal-wto-waiver-intellectual-property-rights-covid-19-vaccines%5d/Kankee)

In a sign of their increasing frustration with global efforts to ensure that all people everywhere will have access to COVID-19 vaccines, several developing countries have asked other members of the World Trade Organization (WTO) to join them in a sweeping waiver of the intellectual property (IP) rights relating to those vaccines. Their waiver request raises anew the recurring debate within the WTO over the right balance between the protection of IP rights and access in poorer countries to urgently needed medicines. But the last thing the WTO needs is another debate over perceived trade obstacles to public health. Unless WTO members reach a consensus, the multilateral trading system may be further complicated by a delay like that in resolving the two‐​decades‐​old dispute between developed and developing countries over the compulsory licensing and generic distribution of HIV/AIDS drugs. A new and contentious “North‐​South” political struggle definitely would not be in the interest of the developed countries, the developing countries, the pharmaceutical companies, or the WTO. Certainly it would not be in the interest of the victims and potential victims of COVID-19. Background In early October 2020, India and South Africa asked the members of the WTO to waive protections in WTO rules for patents, copyrights, industrial designs, and undisclosed information (trade secrets) in relation to the “prevention, containment or treatment of COVID-19 … until widespread vaccination is in place globally, and the majority of the world’s population has developed immunity.”1 India and South Africa want to give all WTO members freedom to refuse to grant or enforce patents and other IP rights relating to COVID-19 vaccines, drugs, diagnostics, and other technologies for the duration of the pandemic. In requesting the waiver, India and South Africa have argued that “an effective response to the COVID-19 pandemic requires rapid access to affordable medical products including diagnostic kits, medical masks, other personal protective equipment and ventilators, as well as vaccines and medicines for the prevention and treatment of patients in dire need.” They have said that “as new diagnostics, therapeutics and vaccines for COVID-19 are developed, there are significant concerns, how these will be made available promptly, in sufficient quantities and at affordable prices to meet global demand.”2 Later in October, the members of the WTO failed to muster the required consensus to move forward with the proposed waiver. The European Union, the United States, the United Kingdom, and other developed countries opposed the waiver request.3 One WTO delegate, from the United Kingdom, described it as “an extreme measure to address an unproven problem.”4 A spokesperson for the European Union explained, “There is no evidence that intellectual property rights are a genuine barrier for accessibility of COVID‐​19‐​related medicines and technologies.”5 In the absence of a consensus, WTO members have decided to postpone further discussion of the proposed waiver until early 2021. Balancing IP Rights and Access to Medicines Not New to WTO This waiver controversy comes nearly two decades after the end of the long battle in the multilateral trading system over access to HIV/AIDS drugs. At the height of the HIV/AIDS crisis at the turn of the century, numerous countries, including especially those from sub‐​Saharan Africa, could not afford the high‐​priced HIV/AIDS drugs patented by pharmaceutical companies in developed countries. Having spent billions of dollars on developing the drugs, the patent holders resisted lowering their prices. The credibility of the companies, the countries that supported them, and the WTO itself were all damaged by an extended controversy over whether patent rights should take precedence over providing affordable medicines for people afflicted by a lethal disease. Article 8 of the WTO Agreement on the Trade‐​Related Aspects of Intellectual Property Rights (the TRIPS Agreement) provides that WTO members “may, in formulating or amending their laws and regulations, adopt measures necessary to protect public health … provided that such measures are consistent with the provisions of this Agreement.” In similar vein, Article 7 of the TRIPS Agreement provides that the “protection and enforcement of intellectual property rights” shall be “in a manner conducive to social and economic welfare.”6 It can be maintained that these two WTO IP rules are significantly capacious to include any reasonable health measures that a WTO member may take during a health emergency, such as a pandemic. Yet there was doubt among the members during the HIV/AIDS crisis about the precise reach of these provisions. As Jennifer Hillman of the Council on Foreign Relations observed, ordinarily the “inherent tension between the protection of intellectual property and the need to make and distribute affordable medicines” is “resolved through licensing, which allows a patent holder to permit others to make or trade the protected product—usually at a price and with some supervision from the patent holder to ensure control.”7 But, in public health emergencies, it may be impossible to obtain a license. In such cases, “compulsory licenses” can be issued to local manufacturers, authorizing them to make patented products or use patented processes even though they do not have the permission of the patent holders.8

#### Without all states buy in, we risk WW3

Hopewell and Horton 08-03 [Kristen Hopewell Associate Professor and Canada Research Chair in Global Policy at the University of British Columbia, and Ben Horton, Communications Manager; Project Lead, Common Futures Conversations, 08-03-2021, "Lessons from Trump’s assault on the World Trade Organization," Chatham House – International Affairs Think Tank, https://www.chathamhouse.org/2021/08/lessons-trumps-assault-world-trade-organization]/Kankee

What has this episode revealed about the strength of multilateral institutions such as the WTO, in the face of spoiling tactics from major powers? The WTO is unique amongst international institutions because it has a powerful enforcement mechanism – the dispute settlement system. However, the fundamental vulnerability is that if powerful states like the US and others won’t participate in the system and be bound by its rules, they quickly risk becoming irrelevant. And that’s the situation we’re in right now with the appellate body crisis, where, without a functioning mechanism to ensure that WTO rules are enforced, the entire system of global trade rules risk collapsing. Ironically, the United States has been the leader of the liberal trading order for the past 70 years, but since Trump, it has become its leading saboteur. What are the implications of a permanent collapse of the international trading system? The very real danger from such a breakdown is a return to what we saw in the 1930s. In response to the outbreak of the Great Depression, you had countries imposing trade barriers, blocking imports from other state, and a general escalation of tit-for-tat protectionism. This response wound up not only exacerbating the effects of the depression itself but has also been credited by some as paving the way for the outbreak of the second world war. The reason why institutions like the WTO were created in the first place was to prevent a recurrence of the 1930s protectionist trade spiral. The danger now – if those rules become meaningless and unenforceable – is the institutional foundations of postwar economic prosperity could unravel, throwing us back into economic chaos and potentially political disorder. What does the WTO’s future look like under new director-general Dr Okonjo-Iweala?

## 2: IP waiver decreases innovation

#### IPR key to innovation.

Bacchus 20 [(James, member of the Herbert A. Stiefel Center for Trade Policy Studies, the Distinguished University Professor of Global Affairs and director of the Center for Global Economic and Environmental Opportunity at the University of Central Florida. He was a founding judge and was twice the chairman—the chief judge—of the highest court of world trade, the Appellate Body of the World Trade Organization in Geneva, Switzerland) "An Unnecessary Proposal: A WTO Waiver of Intellectual Property Rights for COVID-19 Vaccines," Cato Institute, 12-16-2020, https://www.cato.org/free-trade-bulletin/unnecessary-proposal-wto-waiver-intellectual-property-rights-covid-19-vaccines] TDI

At the heart of this emerging trade debate is a belief by many people worldwide that all medicines should be “global public goods.” There is little room in such a belief for consideration of any rights to IP. As one group of United Nations human rights experts expressed: “There is no room for … profitability in decision‐​making about access to vaccines, essential tests and treatments, and all other medical goods, services and supplies that are at the heart of the right to the highest attainable standard of health for all.”[16](https://www.cato.org/free-trade-bulletin/unnecessary-proposal-wto-waiver-intellectual-property-rights-covid-19-vaccines#_ednref16) This view is myopic. Subordinating IP rights temporarily to pressing public needs during a pandemic or other global health emergency is one thing. Eliminating any consideration of “profitability” in all policymaking relating to “access to vaccines, essential tests and treatments, and all other medical goods, services and supplies” is quite another.[17](https://www.cato.org/free-trade-bulletin/unnecessary-proposal-wto-waiver-intellectual-property-rights-covid-19-vaccines#_ednref17) To be sure, there is a superficial moral appeal in such a view. But does this moral appeal hold up if such a “human rights” approach does not result in meeting those urgent public needs? With the belief that medicines should be “public goods,” there is literally no support in some quarters for the application of the WTO TRIPS Agreement to IP rights in medicines. Any protection of the IP rights in such goods is viewed as a violation of human rights and of the overall public interest. This view, though, does not reflect the practical reality of a world in which many medicines would simply not exist if it were not for the existence of IP rights and the protections they are afforded. Technically, IP rights are exceptions to free trade. A long‐​standing general discussion in the WTO has been about when these exceptions to free trade should be allowed and how far they should be extended. The continuing debate over IP rights in medicines is only the most emotional part of this overall conversation. Because developed countries have, historically, been the principal sources of IP rights, this lengthy WTO dispute has largely been between developed countries trying to uphold IP rights and developing countries trying to limit them. The debate over the discovery and the distribution of vaccines for COVID-19 is but the latest global occasion for this ongoing discussion. The primary justification for granting and protecting IP rights is that they are incentives for innovation, which is the main source for long‐​term economic growth and enhancements in the quality of human life. IP rights spark innovation by “enabling innovators to capture enough of the benefits of their own innovative activity to justify taking considerable risks.”[18](https://www.cato.org/free-trade-bulletin/unnecessary-proposal-wto-waiver-intellectual-property-rights-covid-19-vaccines#_ednref18) The knowledge from innovations inspired by IP rights spills over to inspire other innovations. The protection of IP rights promotes the diffusion, domestically and internationally, of innovative technologies and new know‐​how. Historically, the principal factors of production have been land, labor, and capital. In the new pandemic world, perhaps an even more vital factor[to innovation] is the creation of knowledge, which adds enormously to “the wealth of nations.” Digital and other economic growth in the 21st century is increasingly ideas‐​based and knowledge intensive. Without IP rights as incentives, there would be less new knowledge and thus less innovation. In the short term, undermining private IP rights may accelerate distribution of goods and services—where the novel knowledge that went into making them already exists. But in the long term, undermining private IP rights would eliminate the incentives that inspire innovation, thus preventing the discovery and development of knowledge for new goods and services that the world needs. This widespread dismissal of the link between private IP rights and innovation is perhaps best reflected in the fact that although the United Nations Sustainable Development Goals for 2030 aspire to “foster innovation,” they make no mention of IP rights.[19](https://www.cato.org/free-trade-bulletin/unnecessary-proposal-wto-waiver-intellectual-property-rights-covid-19-vaccines#_ednref19) As Stephen Ezell and Nigel Cory of the Information Technology and Innovation Foundation wrote, “A fundamental fault line in the debate over intellectual property pertains to the need to achieve a reasoned balance between access and exclusive rights.”[20](https://www.cato.org/free-trade-bulletin/unnecessary-proposal-wto-waiver-intellectual-property-rights-covid-19-vaccines#_ednref20) This fault line is much on display in the WTO rules on IP rights. These rules recognize that “intellectual property rights are private rights” and that rules and disciplines are necessary for “the provision of effective and appropriate means for the enforcement of trade‐​related intellectual property rights.”[21](https://www.cato.org/free-trade-bulletin/unnecessary-proposal-wto-waiver-intellectual-property-rights-covid-19-vaccines#_ednref21) Yet, where social and economic welfare is at stake, WTO members have sought to strike a balance in these rules between upholding IP rights and fulfilling immediate domestic needs.

#### Biopharmaceutical innovation is key to prevent future pandemics and bioterror.

Marjanovic and Feijao 20 [(Sonja Marjanovic, Ph.D., Judge Business School, University of Cambridge. Carolina Feijao, Ph.D. in biochemistry, University of Cambridge; M.Sc. in quantitative biology, Imperial College London; B.Sc. in biology, University of Lisbon.) "How to Best Enable Pharma Innovation Beyond the COVID-19 Crisis," RAND Corporation, 05-2020, https://www.rand.org/pubs/perspectives/PEA407-1.html] TDI

As key actors in the healthcare innovation landscape, pharmaceutical and life sciences companies have been called on to develop medicines, vaccines and diagnostics for pressing public health challenges. The COVID-19 crisis is one such challenge, but there are many others. For example, MERS, SARS, Ebola, Zika and avian and swine flu are also infectious diseases that represent public health threats. Infectious agents such as anthrax, smallpox and tularemia could present threats in a bioterrorism context.1 The general threat to public health that is posed by antimicrobial resistance is also well-recognised as an area in need of pharmaceutical innovation. Innovating in response to these challenges does not always align well with pharmaceutical industry commercial models, shareholder expectations and competition within the industry. However, the expertise, networks and infrastructure that industry has within its reach, as well as public expectations and the moral imperative, make pharmaceutical companies and the wider life sciences sector an indispensable partner in the search for solutions that save lives. This perspective argues for the need to establish more sustainable and scalable ways of incentivising pharmaceutical innovation in response to infectious disease threats to public health. It considers both past and current examples of efforts to mobilise pharmaceutical innovation in high commercial risk areas, including in the context of current efforts to respond to the COVID-19 pandemic. In global pandemic crises like COVID-19, the urgency and scale of the crisis – as well as the spotlight placed on pharmaceutical companies – mean that contributing to the search for effective medicines, vaccines or diagnostics is essential for socially responsible companies in the sector. 2 It is therefore unsurprising that we are seeing industry-wide efforts unfold at unprecedented scale and pace. Whereas there is always scope for more activity, industry is currently contributing in a variety of ways. Examples include pharmaceutical companies donating existing compounds to assess their utility in the fight against COVID19; screening existing compound libraries in-house or with partners to see if they can be repurposed; accelerating trials for potentially effective medicine or vaccine candidates; and in some cases rapidly accelerating in-house research and development to discover new treatments or vaccine agents and develop diagnostics tests.3,4 Pharmaceutical companies are collaborating with each other in some of these efforts and participating in global R&D partnerships (such as the Innovative Medicines Initiative effort to accelerate the development of potential therapies for COVID-19) and supporting national efforts to expand diagnosis and testing capacity and ensure affordable and ready access to potential solutions.3,5,6 The primary purpose of such innovation is to benefit patients and wider population health. Although there are also reputational benefits from involvement that can be realised across the industry, there are likely to be relatively few companies that are ‘commercial’ winners. Those who might gain substantial revenues will be under pressure not to be seen as profiting from the pandemic. In the United Kingdom for example, GSK has stated that it does not expect to profit from its COVID-19 related activities and that any gains will be invested in supporting research and long-term pandemic preparedness, as well as in developing products that would be affordable in the world’s poorest countries.7 Similarly, in the United States AbbVie has waived intellectual property rights for an existing combination product that is being tested for therapeutic potential against COVID-19, which would support affordability and allow for a supply of generics.8,9 Johnson & Johnson has stated that its potential vaccine – which is expected to begin trials – will be available on a not-for-profit basis during the pandemic.10 Pharma is mobilising substantial efforts to rise to the COVID-19 challenge at hand. However, we need to consider how pharmaceutical innovation for responding to emerging infectious diseases can best be enabled beyond the current crisis. Many public health threats (including those associated with other infectious diseases, bioterrorism agents and antimicrobial resistance) are urgently in need of pharmaceutical innovation, even if their impacts are not as visible to society as COVID-19 is in the immediate term. The pharmaceutical industry has responded to previous public health emergencies associated with infectious disease in recent times – for example those associated with Ebola and Zika outbreaks.11 However, it has done so to a lesser scale than for COVID-19 and with contributions from fewer companies. Similarly, levels of activity in response to the threat of antimicrobial resistance are still low.12 There are important policy questions as to whether – and how – industry could engage with such public health threats to an even greater extent under improved innovation conditions.

#### Bioterror causes extinction, bioweapons uniquely appeal to terrorists.

Krstić '17 [Marko; January 2017; assistant professor of microelectronics and physics at the University of Belgrade, PhD in Electrical Engineering and Computer Science from the University of Belgrade; "Tendency of using chemical, biological, radiological and nuclear weapons for terrorist purposes," Military Technical Courier, Vol. 65, No. 2, p. 481-498] SC SD

The studies of a few cases of earlier CBRN actions have led experts to identify the key characteristics **of** terrorist groups **that could potentially have an interest to** use **these** weapons. It is thought that conservatism is inherent in terrorist organizations, but it must not be forgotten that **some terrorists are inclined to** innovations **in** weapons **and** tactics**, as well as to** taking risks **in actions or in the choice of weapons.** Many experts agree that most terrorist organizations want to use proven methods to achieve desired effects. Innovations, especially in the field of CBRN weapons, often indicate **terrorists are likely to be led by other factors rather than by pure curiosity and desire to experiment**. For some individuals, repression and democratic and strong rule of law are positive determinants of the emergence of CBRN actions which points to a new and more complex global security environment with an increasing risk of terrorists trying to perform a CBRN attack. It is a frightening fact that **a** single **terrorist or isolated terrorist group could improvise a** biological weapon **or use other ways to spread** anthrax, smallpox **or other biological agents and thereby cause** mass casualties and destroy the health care system of a state. CBRN weapons are secretly shipped to terrorists or hostile governments and represent a significant and growing threat to many countries. Although the threat of CBRN attacks is widely recognized as the central issue of national security, most analysts assume that the primary danger is a threat of the military use of these weapons in conventional wars with traditional military means while the threat of covert attacks, which includeterrorism**, is rashly and unfairly neglected**. Covert attacks are difficult to deter or prevent and CBRN weapons suitable for this type of attack are available to a growing number of enemy states and groups. At the same time, restrictions on their use appear to be diminishing, and so-called new terrorists do not always escalate and become apparent only by using unconventional weapons. These **weapons** are easily spread or transmitted from person to person, **have a** high mortality rate **and a potential impact on public health,** causing mass casualties that can crush health systems and cause public panic and social disruption, thus requiring special efforts to suppress them. When assessing the threat of CBRN weapons, we should take into account the change in capacity to carry out terrorist attacks that are on the rise among countries and non-government elements. Analysts believe that the fear of chemical and biological terrorist attacks is excessive, they point out that, in the past, very few attacks involved these weapons, and even those few attempts that have occurred were mostly thwarted by the authorities. A relative ease with which biological weapons can be obtained, along with other current changes and turbulences in the world, sets the stage for another type of warfare in the 21st century. The potential for CBRN terrorism has widely grown since 11 September, when some of these materials were used. The danger of terrorist use of nuclear weapons and other weapons of mass destruction represents a very serious threat for many countries; **if a terrorist group could gain access to this weapon, it is** highly likely it would use it, or threaten to use it. Although there is very little information on terrorists and their ability to come into possession of nuclear weapons or on their intentions to get them, the risk of CBRN weapons has certainly increased since the terrorists started to become more familiar with these agents and their harmful consequences. Discovering the nature of the threat of biological weapons, as well as the appropriate response to them requires an emphasis on the biological characteristics of these instruments of war and terror. Preparing for a terrorist attack may seem daunting and there are a small number of people with practical experience and a good knowledge of CBRN weapons, because until recently there was no need to own them. In the past, most of the planning regarding emergency response to terrorism concentrated on the concerns of open attacks (bombing). However, the threats of CBRN weapons are taken seriously, especially in the USA, where media, fascinated by new weapons of mass destruction, encourage a growing fear for public safety. Terrorists who have significant human and material resources are much more likely to realize their intentions than lone perpetrators or small terrorist groups. A CBRN terrorism threat is certainly a matter of concern; however, terrorists will face many obstacles in the implementation of an attack of this kind. This includes the acquisition of materials and preparation for spreading them as well as a selection and a survey of a chosen objective and a correct dose required to achieve a desired effect. The growing threat of CBRN terrorism Terrorism can be defined as a deliberate act of violence intended to cause damage, but also to create an appropriate political and ideological situation, so that the use of these non-traditional weapons of terror outside the context is obvious, and the goals will not be military, but civilian ones (Bioterrorism, chemical weapons, and radiation terrorism, nd). Toxic substances, regardless of whether they are of animal, vegetable or mineral origin, were used throughout the history for political assassinations and sabotage; despite the risk of severe penalties, the prospects for success favoured the use of toxic substances. Such use has always been reduced, however, since only a small number of people had access to substances and possessed the ability of learn how to use them (Pascal, 1999). CBRN weapons are rightly viewed with a special sense of horror, their effects can be devastating and indiscriminating, and they take the most stringent toll among the most vulnerable population, non-combatants (e.g. a biological attack cannot be detected sufficiently fast after the disease spreads through the population). Moreover, chemical **and** biological **weapons are a particularly** attractive alternative for groups that do not have the ability to produce nuclear weapons, and this risk raises complex but important ethical issues (London, 2003). The common name for CBRN terrorism which causes the death of a large number of people, large scale damage and a strong echo worldwide is post-industrial or hyper-terrorism. This means that non-state elements possess and dispose of assets that were previously held only by states, but unlike them, which often fear reprisals after WMD attacks, terrorists, having no geographical location, are ready to use WMD with much less scrupulousness and fear (Kurmnik, Ribnikar, 2003). Some authors have described the factors that make chemical, biological, radiological and nuclear terrorist attacks in many ways unique and demanding, such as an element of surprise, invisible agents, ordnance, the risk of repetition and new types of risks (Ruggiero, Voss, 2015). In the past 30 years, the use of CBRN weapons has become a major concern for many nations around the world. The public has become insensitive to traditional terrorist attacks that seem to be a less efficient way for terrorist organizations to achieve their goals. What causes shock and fear is actually presenting the properties of weapons which can be used by terrorist organizations to enhance their efforts and the effectiveness of attacks. CBRN terrorism is often a synonym for weapons of mass destruction, although this form of terrorism and related incidents do not require attacks and inflicting harm to large numbers of people they do not even require deadly attacks at all. The number of studies on this type of terrorism is limited due to the lack of available data on this terrorism type. There is a very small number of databases of CBRN incidents, and even the existing ones have relatively little to do with them and they are compared to conventional terrorism (Jesse, 2012). Some experts emphasize the factors that promote such attacks and these factors include the availability of information and expertise, increased frustration of terrorists, demonization of the target population, as well as a millennial, apocalyptic or messianic vision. Experts also differ in opinion when it comes to possible perpetrators of CBRN incidents, and include religious fundamentalists and cults1 as possible perpetrators of such attacks, especially when these groups address to ethereal audience, emphasizing the hatred of unbelievers (Ivanova, Sandler, 2007). Concerns about super terrorism which involves the use of CBRN weapons are mainly focused on what terrorists can do in the context of our social reality, with an emphasis on terrorist motivations, initiatives and limitations. When considering which terrorist groups may be inclined to commit CBRN terrorism, it is important to recognize the spectrum of these acts, as well as to analyze the following categorization: (a) massive casualty events produced by conventional weapons; (b) CBRN scams; (c) conventional attack on a nuclear facility; (d) limited-scale chemical or biological attack or a radiological dispersion; (e) large scale chemical or biological attack or a radiological dispersion; and (f) CBRN strikes (super terrorism) that can lead to thousands of victims. In addition to the motivation and willingness to inflict mass casualties in any way, terrorists must have technical and financial capabilities to come into possession of material and acquire skills for these types of weapons and materials and carry out a successful attack. Chemical and biological weapons can pose a risk to terrorists thus deterring them from using such weapons (Post, 2005, pp.148-151). The possibility that terrorists use chemical or biological substances may increase over the next decade, according to US intelligence agencies. According to CIA2, an interest among non-state actors, including terrorists**, for biological and chemical materials is real and growing, and** the number of potential perpetrators is increasing. The agency also noted that many of these groups had developed an international network and did not need to rely on state sponsors for financial and technical support. However, it is believed that it is less likely that terrorists would choose chemical and biological weapons over conventional explosives, because these weapons are difficult to control and their results are unpredictable (Condesman, Burke, 2001). The risk of CBRN weapons is growing since terrorists are better acquainted with these agents and their potential for causing harm3. These agents possess desirable characteristics as **weapons** of terror; they **are biologically invisible to the naked eye,** odorless **and potentially** lethal **in the form of particles**; natural organisms are so readily available, and can be "camouflaged" in natural disasters and used to spread fear and various diseases. Chemical agents quickly attack the critical physiological centers of the body, disabling or killing the victim. Biological and chemical weapons require the application of huge amounts of resources and result in different effects, causing fear and panic in the contaminated areas. Often referred to as "weapons of mass destruction", but, in medical terms, they are weapons of potential mass casualties because they can lead to massive death toll in the absence of preventive measures and timely response (Meyer, Spinella, 2014, pp.645-656). "Bioterrorism is the intentional use of microorganisms or toxins derived from living organisms used for hostile purposes intended to cause disease or death in man, animals and plants, on which they depend". The threat of bioterrorist attacks is real, and each individual is a potential terrorist, when terrorists are "invisible" prior to an attack which also can be "invisible" in the form of causing infectious diseases or epidemics. Citizens who are not aware they are infected are potential safety hazard and so-called dangerous bodies (Mijalković, 2011). In the last ten years, the issue of CBRN weapons has attracted the attention of experts, but a list of priorities by the heads of states has never been established. Biological weapons almost became forgotten after they had been banned by the 1972 Convention on Biological Weapons. A significant attention was paid to them during the 90s of the last century. The important thing is that biological weapons attract much less attention than other similar weapons, but probably represent the greatest danger, and in addition to their use in war, they are available as instruments of terror in peace. Some countries showed willingness to use such weapons against defenseless populations to achieve strategic objectives, and in this regard, some analysts believe that those who attacked the World Trade Center in 1993 applied cyanide on their bombs (this was not confirmed, but a large amount of cyanide was found in possession of the perpetrators). Such a group will prove to be less inefficient, because if terrorists decide to shock and surprise the government by inflicting enormous damage, CBRN weapons will become more attractive and more accessible (Bettis, 1998). Motives and forms of behavior of individuals and groups who acquired or used CBRN weapons have existed since long ago and there is no doubt that modern society is vulnerable to such attacks (Tucker, 2000). Fear of biological terrorism is certainly greater than the fear of the conventional forms of terrorism; some of these fears are justified and some are often exaggerated. Some agents are really very contagious and deadly, and if used properly, have a potential to result in casualties similar to those in a nuclear attack. Perhaps the scariest aspect of biological weapons is that the body is attacked without warning, people are afraid of the threat as it is invisible, and cannot be heard or felt. The history of warfare, terrorism and crime involving biological agents in the last century is considerably less dangerous and more deadly than the history of conventional warfare (Parachini, 2001). Today, some states and some terrorist groups can more easily overcome technological barriers due to the increased flow of information and access to previously unavailable technologies. Along with nuclear and chemical weapons, biological weapons are part of an unholy trinity of weapons of mass destruction (Davis, Johnson-Winegar, 2000, pp.15-28). The **society is now faced with the threat of an** apocalyptic and asymmetric war **scenario** in which kamikaze attackers are able to arm themselves with WMD4 without even having to have a "physical" weapon to create fear; they probably still prefer simple, proven methods: a stampede in an enclosed place, or just an explosive device, which will kill many people5 (Palmer, 2004, pp.3-9). Early detection and response to biological or chemical terrorism are crucial to solving this problem (U.S. Congress House, 2003, p.117).

## 3

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

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

EXECUTIVE SUMMARY Even by the standards of emerging technologies, **biotechnology has the potential to utterly transform geopolitics, economics**, and society in the 21st century. Yet while the United States has long been the world leader in most segments of the global biotechnology sector, **China is fast becoming a significant player**. This brief assesses the implications of China’s changing role in biotechnology for the United States, which span national security, data security, and economic competitiveness. On current trends the United States is likely to remain the world leader in most biotechnology areas. **However, the gap between China and the U.S. is narrowing in the biotechnology sector,** and U.S. policymakers must boost public investment, liberalize immigration and foreign student visa policies, and enact regulatory reforms to ensure America remains competitive. At the same time, areas like vaccine development and regulation of emerging technologies like synthetic biology present rich opportunities for Sino-U.S. cooperation. INTRODUCTION Thanks to extensive government funding for biomedical research, an unparalleled ability to translate basic research into commercial products and applications, and strong intellectual property protections, the United States has been the dominant global player in developing and commercializing biotechnology for decades.1 This dominance is reflected in the fact that United States accounted for almost half of all biotechnology patents filed worldwide from 1999 to 2013.2 However, in the intervening years, and just as in the case of artificial intelligence and other emerging technologies, other nations, including South Korea and Singapore, have invested heavily in developing their biotechnology sectors and industries. These efforts pale, however, in comparison to those of China, and the sheer size and scale of the Chinese biotechnology industry pose a range of economic, security, and regulatory issues for American policymakers. The determination of China’s one-party state to become a leading player in biotechnology is reflected by the rapid growth in investment in the sector. Some estimates claim that collectively, **China’s** central, local, and provincial **governments have invested over $100 billion in life sciences** research and development. Regardless of the true figure, official encouragement has led to a torrid place of investment. In just the two-year period from 2015 to 2017, venture capital and private equity investment in the sector totaled some $45 billion.3 The value of commercial deals concluded in the fields of biology, medicine and medical machine technology, meanwhile increased from 25.8 billion renminbi (RMB), or $3.6 billion, in 2011 to over 75 billion RMB ($10.6 billion) in 2017.4 Annual research and development expenditures by Chinese pharmaceutical firms, the foundation of the biotechnology sector, rose from some 39 billion RMB in 2014 ($5.5 billion) to over 53 billion RMB (US$7.5 billion) by 2017. Expenditure on new product development among these firms, an important indicator of future growth potential, increased from just over 40 billion RMB ($5.6 billion) to almost 60 billion ($8.4 billion).5 By Western standards, some of these figures are still low. Swiss drugmaker Roche, the world leader in biotechnology research and development, spent some $11 billion in 2018 alone.6 As these figures suggest, the development of China’s biotechnology sector paints a nuanced picture for U.S. policymakers. On one hand, the sector’s rapid growth, and high-level commitment to continued investment, means that China will inevitably become an increasingly important player in the global biotechnology sector, **with implications for national security, economic competitiveness, and regulation**. An executive from In-Q-Tel, the U.S. government’s inhouse national security venture capital fund, warned Congress in a November 2019 hearing, for example, that China “intends to own the biorevolution… and they are building the infrastructure, the talent pipeline, the regulatory system, and the financial system they need to do that.”7 The CEO of European drugmaker AstraZeneca has similarly opined that “Much of [China’s] innovation in the last three to four years has been ‘me too,’ but now on the horizon we can see firstin-class innovation.”8 Yet on the other hand, while China’s biotechnology sector will almost certainly continue to grow in scale, sophistication, and competitiveness, there is little reason to believe on current trends that the United States will lose its edge in the sector. Indeed, the biggest risk to the global competitiveness of the U.S. biotechnology industry likely comes from the prospect of declining public investment and reduced mobility for world-class researchers and industry professionals. Moreover, the COVID-19 crisis underscores both the importance of continued investment in biotechnology and the many challenges to promoting effective international cooperation on global health security. This brief first examines the key policies and actors in China’s biotechnology sector, then offers an assessment of the sector’s current capabilities and future trends, and finally further explores the implications of developments in Chinese biotechnology for U.S. policy.

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

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

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

**China will convert biotechnology gains to military advantages, undermining US primacy – specifically true in the context of vaccines. It fractures the liberal order and turns the case**

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

Trans-Pacific View author Mercy Kuo regularly engages subject-matter experts, policy practitioners, and strategic thinkers across the globe for their diverse insights into the U.S. Asia policy. This conversation with Eleonore Pauwels – Director of Biology Collectives and Senior Program Associate, Science and Technology Innovation Program at the Wilson Center in Washington D.C. – is the 104th in “The Trans-Pacific View Insight Series.” Explain the motivation behind Chinese investment in U.S. genomics and artificial intelligence (AI). With large public and private investments inland and in the U.S., China plans to become the next AI-Genomics powerhouse, which indicates that these technologies will soon converge in China. China’s ambition is to lead the global market for precision medicine, **which necessitates acquiring strategic tech**nological and human capital in both genomics and AI. And the country excels at this game. A sharp blow in this U.S.-China competition happened in 2013 when BGI purchased Complete Genomics, in California, with the intent to build its own advanced genomic sequencing machines, therefore securing a technological knowhow mainly mastered by U.S. producers. There are significant economic incentives behind China’s heavy investment in the increasing convergence of AI and genomics. This golden combination will drive precision medicine to new heights by developing a more sophisticated understanding of how our genomes function, leading to precise, even personalized, cancer therapeutics and preventive diagnostics, such as liquid biopsies. By one estimate, the liquid biopsy market is expected to be worth $40 billion in 2017. Assess the implications of iCarbonX of Shenzhen’s decision to invest US$100 million in U.S.-company PatientsLikeMe relative to AI and genomic data collection. iCarbonX is a pioneer in AI software that learns to recognize useful relationships between large amounts of individuals’ biological, medical, behavioral and psychological data. Such a data-ecosystem will deliver insights into how an individual’s genome is mutating over time, and therefore critical information about this individual’s susceptibilities to rare, chronic and mental illnesses. In 2017, iCarbonX invested $100 million in PatientsLikeMe, getting a hold over data from the biggest online network of patients with rare and chronic diseases. If successful, this effort could turn into genetic gold, making iCarbonX one of the wealthiest healthcare companies in China and beyond. The risk factor is that iCarbonX is handling more than personal data, but potentially vulnerable data as the company uses a smartphone application, Meum, for customers to consult for health advice. Remember that the Chinese nascent genomics and AI industry relies on cloud computing for genomics data-storage and exchange, creating, in its wake, new vulnerabilities associated with any internet-based technology. This phenomenon has severe implications. How much consideration has been given to privacy and the evolving notion of personal data in this AI-powered health economy? And is our cyberinfrastructure ready to protect such trove of personal health data from hackers and industrial espionage? In this new race, will China and the U.S. have to constantly accelerate their rate of cyber and bio-innovation to be more resilient? Refining our models of genomics data protection will become a critical biosecurity issue. Why is Chinese access to U.S. genomic data a national security concern? **Genomics** and computing research **is inherently dual-use, therefore a strategic advantage in a nation’s security arsenal.** Using AI systems to understand how the functioning of our genomes impacts our health **is of strategic importance for biodefense.** This knowledge will lead to increasing developments at the forefront of medical countermeasures, **including vaccines**, antibiotics, and targeted treatments relying on virus-engineering and microbiome research. Applying deep learning to genomics data-sets could help geneticists learn how to use genome-editing (CRISPR) to efficiently engineer living systems, but also to treat and, even “optimize,” human health, **with potential applications in military enhancements**. A $15 million partnership between a U.S. company, Gingko Bioworks, and DARPA aims to genetically design new probiotics as a protection for soldiers against a variety of stomach bugs and illnesses. China could be using the same deep learning techniques on U.S. genomics data to better comprehend how to develop, patent and manufacture tailored cancer immunotherapies in high demand in the United States. Yet, what if Chinese efforts venture into understanding how to impact key genomics health determinants relevant to the U.S. population? **Gaining access to increasingly large U.S. genomic data-sets gives China a knowledge advantage into leading the next steps in bio-military research.** Could biomedical data be used to develop bioweapons? Explain. Personalized medicine advances mean that personalized bio-attacks are increasingly possible. The combination of AI with biomedical data and genome-editing technologies will help us predict genes most important to particular functions. Such insights will contribute to knowing how a particular disease occurs, how a newly-discovered virus has high transmissibility, but also why certain populations and individuals are more susceptible to it. Combining host susceptibility information with pathogenic targeted design, **malicious actors could engineer pathogens that are tailored to overcome the immune system or the microbiome of specific populations.**

**C/a their ev that maintenance of the ILO is key.**