## ROB

#### 1] Extinction forecloses possibility of future improvement and causes mass suffering and irreversible and death to every person on the planet—even if they think life isn’t valuable, they shouldn’t get to make that choice for billions who find value in the world.

#### 2] It doesn’t matter how could your ideology or intentions are if you use that for violence. Ideology and discourse is only good insofar as resolves material violence.

#### 3] Apocalyptic images challenge dominant power structures – they contest the implausibility of inequitable structures producing catastrophe and generate imagination of futures of social justice outside of current narratives

Jessica Hurley 17, Assistant Professor in the Humanities at the University of Chicago, “Impossible Futures: Fictions of Risk in the Longue Durée”, Duke University Press, <https://read.dukeupress.edu/american-literature/article/89/4/761/132823/Impossible-Futures-Fictions-of-Risk-in-the-Longue>

* Squo power structures (i.e. what the K criticizes) paint themselves as stable/inevitable to project their power and maintain dominance
* Questioning that stability thru extinction narratives questions squo world orders bc it calls into ques the idea of squo world stability which allows us to envision alternative worlds/future i.e. one where it fails and causes extinction
* Justifies extinction focus and preventing extinction in the name of changing those squo structures

If contemporary ecocriticism has a shared premise about environmental risk it is that genre is the key to both perceiving and, possibly, correcting ecological crisis. Frederick Buell’s 2003 From Apocalypse to Way of Life: Environmental Crisis in the American Century has established one of the most central oppositions of this paradigm. As his title suggests, Buell tells the story of a discourse that began in the apocalyptic mode in the 1960s and 70s, when discussions of “the immanent end of nature” most commonly took the form of “prophecy, revelation, climax, and extermination” before turning away from apocalypse when the prophesied ends failed to arrive (112, 78). Buell offers his suggestion for the appropriate literary mode for life lived within a crisis that is both unceasing and inescapable: new voices, “if wise enough….will abandon apocalypse for a sadder realism that looks closely at social and environmental changes in process and recognizes crisis as a place where people dwell” (202-3). In a world of threat, Buell demands a realism that might help us see risks more clearly and aid our survival.¶ Buell’s argument has become a broadly held view in contemporary risk theory and ecocriticism, overlapping fields in the social sciences and humanities that address the foundational question of second modernity: “how do you live when you are at such risk?” (Woodward 2009, 205).1 Such an assertion, however, assumes both that realism is a neutral descriptive practice and that apocalypse is not something that is happening now in places that we might not see, or cannot hear. This essay argues for the continuing importance of apocalyptic narrative forms in representations of environmental risk to disrupt conservative realisms that maintain the statusquo. Taking the ecological disaster of nuclear waste as my case study, I examine two fictional treatments of nuclear waste dumps that create different temporal structures within which the colonial history of the United States plays out. The first, a set of Department of Energy documents that use statistical modeling and fictional description to predict a set of realistic futures for the site of the Waste Isolation Pilot Plant in New Mexico (1991), creates a present that is fully knowable and a future that is fully predictable. Such an approach, I suggest, perpetuates the state logics of implausibility that have long undergirded settler colonialism in the United States. In contrast, Leslie Marmon Silko’s contemporaneous novel Almanac of the Dead (1991) uses its apocalyptic form to deconstruct the claims to verisimilitude that undergird state realism, transforming nuclear waste into a prophecy of the end of the United States rather than a means for imagining its continuation. In Almanac of the Dead, the presence of nuclear waste introjects a deep-time perspective into contemporary America, transforming the present into a speculative space where environmental catastrophe produces not only unevenly distributed damage but also revolutionary forms of social justice that insist on a truth that probability modeling cannot contain: that the future will be unimaginably different from the present, while the present, too, might yet be utterly different from the real that we think we know.¶ Nuclear waste is rarely treated in ecocriticism or risk theory, for several reasons: it is too manmade to be ecological; its catastrophes are ongoing, intentionally produced situations rather than sudden disasters; and it does not support the narrative that subtends ecocritical accounts of risk perception in which the nuclear threat gives rise to an awareness of other kinds of threat before reaching the end of its relevance at the end of the Cold War.2 In what follows, I argue that the failure of nuclear waste to fit into the critical frames created by ecocriticism and risk theory to date offers an opportunity to expand those frames and overcome some of their limitations, especially the impulse towards a paranoid, totalizing realism that Peter van Wyck (2005) has described as central to ecocriticism in the risk society. Nuclear waste has durational forms that dwarf the human. It therefore dwells less in the economy of risk as it is currently conceptualized and more in the blown-out realm of deep time. Inhabiting the temporal scale that has recently been christened the Anthropocene, the geological era defined by the impact of human activities on the world’s geology and climate, nuclear waste unsettles any attempt at realist description, unveiling the limits of human imagination at every turn.3 By analyzing risk society through a heuristic of nuclear waste, this essay offers a critique of nuclear colonialism and environmental racism. At the same time, it shows how the apocalyptic mode in deep time allows narratives of environmental harm and danger to move beyond the paranoid logic of risk. In the world of deep time, all that might come to pass will come to pass, sooner or later. The endless maybes of risk become certainties. The impossibilities of our own deaths and the deaths of everything else will come. But so too will other impossibilities: talking macaws and alien visitors; the end of the colonial occupation of North America, perhaps, or a sudden human determination to let the world live. The end of capitalism may yet become more thinkable than the end of the world. Just wait long enough. Stranger things will happen.¶

### Consequences Matter

#### 1] The role of the ballot is to determine if the aff’s a good idea—anything else is self-serving, arbitrary and begs the question of the rest of the debate. Evaluate consequences

Christopher A. Bracey 6, Associate Professor of Law, Associate Professor of African & African American Studies, Washington University in St. Louis, September, Southern California Law Review, 79 S. Cal. L. Rev. 1231, p. 1318

Second, reducing conversation on race matters to an ideological contest allows opponents to elide inquiry into whether the results of a particular preference policy are desirable. Policy positions masquerading as principled ideological stances create the impression that a racial policy is not simply a choice among available alternatives, but the embodiment of some higher moral principle. Thus, the "principle" becomes an end in itself, without reference to outcomes. Consider the prevailing view of colorblindness in constitutional discourse. Colorblindness has come to be understood as the embodiment of what is morally just, independent of its actual effect upon the lives of racial minorities. This explains Justice Thomas's belief in the "moral and constitutional equivalence" between Jim Crow laws and race preferences, and his tragic assertion that "Government cannot make us equal [but] can only recognize, respect, and protect us as equal before the law." [281](http://web.lexis-nexis.com/universe/document?_m=cd9713b340d60abd42c2b34c36d8ef95&_docnum=9&wchp=dGLbVzz-zSkVA&_md5=9645fa92f5740655bdc1c9ae7c82b328) For Thomas, there is no meaningful difference between laws designed to entrench racial subordination and those designed to alleviate conditions of oppression. Critics may point out that colorblindness in practice has the effect of entrenching existing racial disparities in health, wealth, and society. But in framing the debate in purely ideological terms, opponents are able to avoid the contentious issue of outcomes and make viability determinations based exclusively on whether racially progressive measures exude fidelity to the ideological principle of colorblindness. Meaningful policy debate is replaced by ideological exchange, which further exacerbates hostilities and deepens the cycle of resentment.

#### 2] Holistic paradigm bad – infinite reps and no stable basis

## 1

### Reform CP

#### CP: The member nations of the world trade organization ought to –

#### --create a new form of Sui Generis patent applications as per Vezina 20

#### ---Grant this form of patent to Indigenous peoples

#### ==Exclude non Indigenous groups from applying for Sui Generis patents

#### Sui generis moral rights framework emphasizing guardianship over ownership and are the only way to stop the appropriate that comes with public knowledge.

Vézina 20 “Ensuring Respect for Indigenous Cultures A Moral Rights Approach” Brigitte Vézina [fellow at the Canadian think tank Centre for International Governance Innovation. She holds a bachelor’s degree in law from the Université de Montréal and a master’s in law from Georgetown University], Centre for International Governance Innovation Papers No. 243 — May 2020, <https://www.cigionline.org/static/documents/documents/vezina-paper_1.pdf> SM

Features of a Sui Generis Moral Rights-type Framework

Subject Matter and Beneficiaries

TCEs that maintain a current and significant relationship with the Indigenous peoples who hold them would be protected. As long as a community, as a whole and by virtue of its own internal cultural rules, identifies with a specific form of expression and can establish a particular relationship with it, it can claim protection over it. As Susy Frankel points out, the key rationale in favour of protecting TCEs is the guardianship relationship, from which proportionate moral rights flow.155 Guardianship is to be contrasted with ownership, which is the concept buttressing most IP law systems, with the notable exception of moral rights. To wit, the Waitangi Tribunal did not recommend that TCEs be treated as owned, lest that would amount to building a legal wall around TCEs and end up choking culture.156 At any rate, cultural boundaries are porous and fluid, and it follows that blending, intermixing, hybridization or even “contamination” of cultures can be promoted.157

Obviously, cultures are seldom unique to a people. TCEs might be shared among different Indigenous groups that all identify and hold a guardianship relationship with them. In such cases, procedures should be in place to facilitate cooperation and settlement of disputes. What is more, no people are monolithic, a reality that is rendered in one illustrative phrase: “The Sámi people are one, but multiple.”158 Some communities might have distinct TCEs that have been part of their culture for a long time, with little or no outside influence. Others might have experienced contact with other cultures and incorporated various elements over the generations that have substantially modified previous iterations. For example, in the case of Mixe huipil at stake in the Isabel Marant case, some were quick to point out that the embroideries had, in the upshot of the Spanish conquest, incorporated European elements.159 Hence, when considering a relationship between a TCE and its holder, one should not exact uniqueness or exclusiveness, but embrace the fact that a group can identify with TCEs that are dynamic and kaleidoscopic, all the while remaining authentic.

Beneficiaries of protection should be TCE holding Indigenous communities as a whole, such that moral rights would be afforded to the entire community as group rights. Recognition of beneficiaries as well as determination of the authority to exercise the rights would have to be done from within the community, by way of application of customary law160 or be captured under the legal constructs of trusts, associations, or other legal entities holding the rights.161 Indigenous communities need to have the autonomy to exercise control over and make their own decisions regarding the management of their moral rights in their TCEs.162

Scope of Protection

At first glance, it is difficult to reconcile the notion of personhood, the cornerstone of moral rights, with the pluralistic conception of a community, by definition made up of several persons with their own individual personalities. In response, some scholars have wrought the concept of “peoplehood” to encapsulate the personality of a people in its entirety and provide a justification for granting a personality right to a group.163 As mentioned, TCEs often encompass cultural elements that are integral to Indigenous peoples’ sense of identity, that bear the distinct mark of their holders and, indeed, that reflect their peoplehood. Moral rights can therefore fulfill the duty, arising out of human rights law, to protect the identity of Indigenous peoples.164

Forasmuch as TCEs are collectively and communally held, so too must the moral rights of Indigenous peoples be communal.165 In fact, even conventional moral rights are not purely individualistic, and there has been a recognition of a “socially-informed view of the author” and “the social gestation of authorship... the social womb from which authors brought forth their works.”166 This strand of moral rights theory might be more congruent to accepting a group right for a community than the classic individual theory underpinning moral rights.167

Moral rights would only regulate the relationship between the community and the outside world; use in a traditional and customary context would not be affected. Just as moral rights vest automatically in the author (without any need for registration or any other form of assertion), so too would sui generis moral rights vest in the community.

Communal moral rights would include, at a minimum, the right of attribution, including false attribution (to ensure proper recognition of the community as the source and to prevent others from falsely claiming a guardianship over a TCE) and integrity (to protect TCEs against inappropriate, derogatory, or culturally insensitive use). It could be considered to also include the rights of disclosure (to make, where desired, TCEs known to the world and to retain the power to keep TCEs out of “public” reach, for example, in the case of sacred or secret TCEs) and withdrawal (to allow TCE holders to remove from circulation the TCEs that they no longer wish to make publicly available).

In most national laws, moral rights are inalienable or non-transferable. In other words, they cannot be divested from the author — they cannot be assigned, licensed or given away. As mentioned, if an author transfers all their economic rights to a third party, the author retains their moral rights in the work.168 As such, sui generis moral rights in TCEs would be independent from any economic rights that might arise and be held and exercised separately, regardless of who might hold these economic rights (in cases, for example, where communities would commercialize their TCEs and grant licences) or who might have physical ownership of a TCE (such as a cultural institution). However, in some jurisdictions, such as Canada, the United States and the United Kingdom (but not Australia and France), moral rights can be waived, irreversibly, in whole or in part, explicitly, by contract, at the discretion of the author. In order to ensure flexible protection to TCEs, it could be envisaged that sui generis moral rights be made waivable.

When applying the right of integrity, the determination of what is offensive should not be narrowly prescribed but based on the facts at hand. Assessment should be done both subjectively, from the point of view of the community that claims violation, and objectively, by the court, within the framework of guidelines to be developed legislatively or through case law, as informed by Indigenous customary laws, practices and protocols. Reliance on particular facts may be difficult to reconcile with the need for certainty and predictability, but flexibility trumps these concerns, as no use should be considered offensive per se.

#### Reforming IPR is key to affirming native sovereignty. Solves the aff because it shifts away from western conceptions of property, but the perm fails since we think IPR is good.

Younging 10 “Intergovernmental Committee On Intellectual Property And Genetic Resources Traditional Knowledge And Folklore” Seventeenth Session Geneva, December 6-10, 2010 Wipo Indigenous Panel On The Role Of The Public Domain Concept: Experiences In The Fields Of Genetic Resources, Traditional Knowledge And Traditional Cultural Expressions: Experiences From Canada Document prepared by Mr. Gregory Younging [Creative Rights Alliance, Kelowna, Canada, Opaskwayak Cree Nation-Canada] <https://www.wipo.int/edocs/mdocs/tk/en/wipo_grtkf_ic_17/wipo_grtkf_ic_17_inf_5_a.pdf> SM

Under the IPR system, knowledge and creative ideas that are not “protected” are in the Public

Domain (i.e. accessible by the public). Generally, Indigenous peoples have not used IPRs to protect their knowledge; and so TK is often treated as if it is in the Public Domain – without regard for Customary Laws. Another key problem for TK is that the IPR system’s concept of the Public Domain is based on the premise that the author/creator deserves recognition and compensation for his/her work because it is the product of his/her genius; but that all of society must eventually be able to benefit from that genius. Therefore, according to this aspect of IPR theory, all knowledge and creative ideas must eventually enter the Public Domain. Under IPR theory, this is the reasoning behind the time period limitations associated with copyright, patents and trademarks.

The precept that all Intellectual Property, including TK, is intended to eventually enter the Public Domain is a problem for Indigenous peoples because Customary Law dictates that certain aspects of TK are not intended for external access and use in any form. As a response to this, there have been circumstances where indigenous people have argued that some knowledge should be withdrawn from circulation and that for specific kinds of knowledge, protection should be granted in perpetuity. 29 Examples of this include, sacred ceremonial masks, songs and dances, various forms of shamanic art, sacred stories, prayers, songs, ceremonies, art objects with strong spiritual significance such as scrolls, petroglyphs, and decorated staffs, rattles, blankets, medicine bundles and clothing adornments, and various sacred symbols, designs, crests, medicines and motifs. However, the present reality is that TK is, or will be, in the Public Domain (i.e., the IPR system overrides Customary Law.)

Certain aspects of TK should not enter the public domain (as deemed under Customary Law) and should remain protected as such into perpetuity, which could be expressed as a form of “Indigenous private domain.” (Younging 2007). Indigenous peoples’ historical exclusion from the broad category of ‘public’ feeds part of the differences in objectives. Indigenous peoples also present different perceptions of knowledge, the cultural and political contexts from which knowledge emerges, and the availability, or perceived benefits of the availability, of all kinds of cultural knowledge. 30

Copyright Case Study: The Cameron Case

In 1985 the Euro-Canadian author Anne Cameron began publishing a series of children’s books though Harbour Publications based on Westcoast Indigenous traditional stories. These books include: The Raven, Raven and Snipe, Keeper of the River, How the Loon Lost Her Voice, Orca’s Song, Raven Returns the Water, Spider Woman, Lazy Boy and Raven Goes Berrypicking. Cameron had been told the traditional stories by Indigenous storytellers and/or had been present at occasions where the stories were recited. The original printing of the books granted Anne Cameron sole authorship, copyright and royalty beneficiary, and gave no credit to the Indigenous origins of the stories. As the discourse around Indigenous cultural appropriation emerged in the 1990s, Cameron’s books came under severe Indigenous criticism; not only on the grounds of cultural appropriation, but the Indigenous TK holders asserted that some of the stories and aspects of the stories were incorrect.

This led to a major confrontation with Indigenous women authors at a women writer’s conference in Montreal in 1990. At the end of the confrontation Cameron agreed not to publish any more Indigenous stories in the series: however, she did not keep her word and the books continued to be reprinted and new books in the series continued to be published (Armstrong and Maracle1992). Some minor concessions have been made in subsequent reprints of books in the series and new additions. Reprints of the books that were produced after around 1993/94 contained the disclaimer: “When I was growing up on Vancouver Island I met a woman who was a storyteller. She shared many stories with me and later gave me permission to share them with others… the woman’s name was Klopimum.” However, Cameron continued to maintain sole author credit, copyright and royalties payments. In a further concession, the 1998 new addition to the series T’aal: the One Who Takes Bad Children is co-authored by Anne Cameron and the Indigenous Elder/storyteller Sue Pielle who also shares copyright and royalties.

Patent Case Study: The Igloolik Case

An example of the failure of the Patent Act In Canada to respond to Inuit designs is the Igloolik Floe Edge Boat Case.31 A floe edge boat is a traditional Inuit boat used to retrieve seals shot at the floe edge (the edge of the ice floe), to set fishing nets in summer, to protect possessions on sled when travelling by snowmobile or wet spring ice, and to store hunting or fishing equipment. In the late 1980’s the Canadian government sponsored the Eastern Arctic Scientific Research Center to initiate a project to develop a floe edge boat that combined the traditional design with modern materials and technologies. In 1988 the Igloolik Business Association (IBA) sought to obtain a patent for the boats. The IBA thought that manufactured boats using the floe edge design would have great potential in the outdoor recreation market. To assist the IBA with its patent application the agency, the Canadian Patents and Developments Limited (CPDL) initiated a pre-project patent search that found patents were already held by a non-Inuit company for boats with similar structures. The CPDL letter to the IBA concluded that it was difficult for the CPDL to inventively distinguish the design from previous patents and, therefore, the IBA patent would not be granted. The option of challenging the pre-existing patent was considered by the IBA, however, it was decided that it would not likely be successful due to the high financial cost and risk involved in litigation.

Trademark Case: The Snumeymux Case

As most Indigenous communities are far behind in terms of establishing businesses most trademarking of TK involves a non-Indigenous corporation trademarking an Indigenous symbol, design or name. Again, many cases could have been examined in this section but only two have been chosen: one case involving the Snumeymux Band trade marking petroglyphs through the Canadian Patent Office, and one involving an international corporation’s patent licence being the subject of an intense international Indigenous lobbying effort.

The Snumeymux people have several ancient petroglyphs located off their reserve lands near False Narrows on Gabriola Island, BC. In the early 1990s non-Indigenous residents of Gabriola Island began using some of the petroglyph images in coffee shops and various other business logos. In the mid-1990s the Island’s music festival named itself after what had become the local name of the most well known petroglyph image, the dancing man. The Dancing Man Music Festival then adopted the image of the dancing man as the festival logo and used it on brochures, posters, advertisements and T-shirts.

The Snuneymux Band first made unsuccessful appeals to the festival, buisnesses and the Gabriola community to stop using the petroglyph symbols. In 1998 the Snuneymux Band hired Murry Brown as legal counsel to seek protection of the petroglyphs (Manson-2003). At a 1998 meeting with Brown, Snuneymux Elders and community members on the matter, The Dancing Man Festival and Gabriola business’ and community representatives were still defiant that they had a right to use the images from the petroglyphs (Brown-2003).

On the advice of Murry Brown, The Snuneymux Band filed for a Section 91(n) Public Authority Trademark for eight petroglyphs and was awarded the trademark in October of 1998 (Brown2003). The trademark protects the petrogylphs from “all uses” by non-Snuneymux people and, therefore the Dancing Man Festival and Gabriola Island business and community representatives were forced to stop using images derived from the petroglyphs. In the Snuneymux case the petroglyphs were trademarked for “defensive” purposes. The Snuneymux case represents an innovative use of the IPR system that negotiated within the systems limitations and found a way to make it work to protect TK.

Case Studies Summary

The case studies have shown that serious conflicts exist between the IPR and TK systems and lead to the conclusion that it constitutes a major problem which Indigenous peoples must work out with the modern states they are within and the international community. In contrast to Eurocentric thought, almost all Indigenous thought asserts that property is a sacred ecological order and manifestations of that order should not be treated as commodities.32 It is clear that there are pressing problems in the regulation of TK. It is also clear that IPR system and other Eurocentric concepts do not offer a solution to some of the problems. There have been cases of Indigenous people using the IPR system to protect their TK. However, the reality is that there are many more cases of non-Indigenous people using the IPR system to take ownership over TK using copyright, trademark, patents and the Public Domain. In many such cases this had created a ridiculous situation whereby Indigenous peoples cannot legally access their own knowledge. A study undertaken on behalf of the Intellectual Property Policy Directorate (IPPD) of Industry Canada and the Canadian Working Group on Article 8(j) concluded: “There is little in the cases found to suggest that the IP system has adapted very much to the unique aspects of Indigenous knowledge or heritage. Rather, Indigenous peoples have been required to conform to the legislation that was designed for other contexts and purposes, namely western practices and circumstances. At the same time, there is little evidence that these changes have been promoted within the system, i.e., from failed efforts to use it that have been challenged” (IPPD-2002). Such conclusions, along with other conclusions being drawn in other countries and international forums, and the case study examples discussed, appear to support the argument that new systems of protection need to be developed. Sui Generis models based on and/or incorporating Customary Laws have been proposed and developed in many countries and are being discussed in the WIPO IGC.

Gnaritas Nullius (Nobody’s Knowledge)

Just as Indigenous territories were declared as Terra Nullius in the colonization process, so too has TK been treated as Gnaritas Nullius (Nobody’s Knowledge) by the IPR system and consequently flowed into the public domain along with Western knowledge. This has occurred despite widespread Indigenous claims of ownership and breech of Customary Law. The problem is that advocates for the public domain seem to see knowledge as the same concept across cultures, and impose the liberal ideals of freedom and equality to Indigenous peoples knowledge systems. Not all knowledge has the same role and significance within diverse epistemologies, nor do diverse worldviews all necessarily incorporate a principle that knowledge can be universally accessed. Neither can all knowledge fit into a Western paradigms and legal regimes. A central dimension of Indigenous knowledge systems is that knowledge is shared according to developed rules and expectations for behavior within frameworks that have been developed and practiced over centuries and millennium. Arguments for a public domain of Indigenous knowledge again reduces the capacity for Indigenous control and decision making (Anderson 2010) and can not be reasonably made outside the problematic frameworks of the colonization of TK and Gnaritas Nullius.

## 2

### US-China DA

#### Despite growing rivalry, US-China economic interdependence strong now. Exchange of tech know-how, collaboration science research, and massive US-China STEM pipeline improving relations – but it can easily collapse.

Hass 8/12 [Ryan Hass (Senior Fellow - Foreign Policy, Center for East Asia Policy Studies, John L. Thornton China Center The Michael H. Armacost Chair Chen-Fu and Cecilia Yen Koo Chair in Taiwan Studies Nonresident Fellow, Paul Tsai China Center, Yale Law School), 8-12-2021, "The “new normal” in US-China relations: Hardening competition and deep interdependence," Brookings, <https://www.brookings.edu/blog/order-from-chaos/2021/08/12/the-new-normal-in-us-china-relations-hardening-competition-and-deep-interdependence/> // belle]

The intensification of U.S.-China competition has captured significant attention in recent years. American attitudes toward China have become more negative during this period, as anger has built over disruptions resulting from the COVID-19 pandemic, Beijing’s trampling of Hong Kong’s autonomy, human rights violations in Xinjiang, and job losses to China.

Amidst this focus on great power competition, two broader trends in the U.S.-China relationship have commanded relatively less attention. The first has been the widening gap in America’s and China’s overall national power relative to every other country in the world. The second has been the continuing thick interdependence between the United States and China, even amidst their growing rivalry. Even on economic issues, where rhetoric and actions around decoupling command the most attention, trade and investment data continue to point stubbornly in the direction of deep interdependence. These trends will impact how competition is conducted between the U.S. and China in the coming years.

SEPARATING FROM THE PACK

As America’s unipolarity in the international system has waned, there has been renewed focus on the role of major powers in the international system, including the European Union, Russia, India, and Japan. Each of these powers has a major population and substantial economic weight or military heft, but as my Brookings colleague Bruce Jones has observed, none have all. Only the United States and China possess all these attributes.

The U.S. and China are likely to continue amassing disproportionate weight in the international system going forward. Their growing role in the global economy is fueled largely by both countries’ technology sectors. These two countries have unique traits. These include world-class research expertise, deep capital pools, data abundance, and highly competitive innovation ecosystems. Both are benefitting disproportionately from a clustering effect around technology hubs. For example, of the roughly 4,500 artificial intelligence-involved companies in the world, about half operate in the U.S. and one-third operate in China. According to a widely cited study by PricewaterhouseCoopers, the U.S. and China are set to capture 70% of the $15.7 trillion windfall that AI is expected to add to the global economy by 2030.

The United States and China have been reinvesting their economic gains to varying degrees into research and development for new and emerging technologies that will continue to propel them forward. While it is not foregone that the U.S. and China will remain at the frontier of innovation indefinitely, it also is not clear which other countries might displace them or on what timeline. Overall, China’s economy likely will cool in the coming years relative to its blistering pace of growth in recent decades, but it is not likely to collapse.

DEEP INTERDEPENDENCE

At the same time, bilateral competition between the United States and China also is intensifying. Even so, rising bilateral friction has not – at least not yet – undone the deep interdependencies that have built up between the two powers over decades.

In the economic realm, trade and investment ties remain significant, even as both countries continue to take steps to limit vulnerabilities from the other. For example, Chinese regulators have been asserting greater control over when and where Chinese companies raise capital; Beijing’s recent probe of ride-hailing app Didi Chuxing provides but the latest example. China’s top leaders have been emphasizing the need for greater technology “self-sufficiency” and have been pouring billions of dollars of state capital into this drive. Meanwhile, U.S. officials have been seeking to limit American investments from going to Chinese companies linked to the military or surveillance sectors. The Security and Exchange Commission’s scrutiny of initial public offerings for Chinese companies and its focus on ensuring Chinese companies meet American accounting standards could result in some currently listed Chinese companies being removed from U.S. exchanges. Both countries have sought to disentangle supply chains around sensitive technologies with national security, and in the American case, human rights dimensions. U.S. officials have sought to raise awareness of the risks for American firms of doing business in Hong Kong and Xinjiang.

Even so, U.S.-China trade and investment ties remain robust. In 2020, China was America’s largest goods trading partner, third largest export market, and largest source of imports. Exports to China supported an estimated 1.2 million jobs in the United States in 2019. Most U.S. companies operating in China report being committed to the China market for the long term.

U.S. investment firms have been increasing their positions in China, following a global trend. BlackRock, J.P. Morgan Chase, Goldman Sachs, and Morgan Stanley have all increased their exposure in China, matching similar efforts by UBS, Nomura Holdings, Credit Suisse, and AXA. The Rhodium Group estimates that U.S. investors held $1.1 trillion in equities issued by Chinese companies, and that there was as much as $3.3 trillion in U.S.-China two-way equity and bond holdings at the end of 2020.

One leg of the U.S.-China economic relationship that has atrophied in recent years has been China’s flow of investment into the United States. This has largely been a product of tightened capital controls in China, growing Chinese government scrutiny of its companies’ offshore investments, and enhanced U.S. screening of Chinese investments for national security concerns.

Another area of U.S.-China interdependence has been knowledge production. As U.S.-China technology expert Matt Sheehan has observed, “With the rise of Chinese talent and capital, the exchange of technological know-how between the United States and China now takes place among private businesses and between individuals.” Leading technology companies in both countries have been building research centers in the other. Alibaba, Baidu, and Tencent have all opened research centers in the United States, just as Apple, Microsoft, Tesla, and other major American technology companies rely upon engineering talent in China.

In science collaboration, The Nature Index ranks the joint research between the two countries as the world’s most academically fertile. U.S.-China scientific collaboration grew by more than 10% each year on average between 2015 and 2019. Even following the global spread of COVID-19, American and Chinese experts collaborated more during the past year than over the previous five years combined. This has led to over 100 co-authored articles in leading scientific journals and frequent joint appearances in science-focused workshops and webinars.

China also is the largest source of international students in the United States. In the 2019-20 year, there were over 370,000 Chinese students in the U.S., representing 34% of international students in colleges and universities. Up until now, many of the top Chinese students have stayed in the United States following graduation and contributed to America’s scientific, technological, and economic development. It remains to be seen whether this trend will continue.

COMPETITIVE INTERDEPENDENCE

The scale of American and Chinese interests implicated will likely induce sobriety over time in Washington and Beijing as to how the relationship is managed. The U.S. policy focus for the foreseeable future is not likely to be seeking to “defeat” China or compel the collapse of the Chinese Communist Party. Rather, the focus will be on taking steps at home and with partners abroad to strengthen America’s long-term competitiveness vis-à-vis China. At the same time, American leaders will continue to push their Chinese counterparts to improve the treatment of their citizens. Such efforts are definitional to America’s self-identity as a champion of values.

The dense webs formed by trade, financial, scientific, and academic links between the United States and China will make it difficult for one side to inflict harm on the other without hurting itself in the process. As Joe Nye has written, “America can decouple security risks like Huawei from its 5G telecommunications network, but trying to curtail all trade with China would be too costly. And even if breaking apart economic interdependence were possible, we cannot decouple the ecological interdependence that obeys the laws of biology and physics, not politics.”

President Joe Biden likely will use the challenges posed by China as a spur for his domestic resilience agenda. He is not an ideologue, though, and is unlikely to limit his own flexibility by painting the world with permanent black and white dividing lines. The Biden team knows it will be harder to realize progress on serious global challenges like climate change, pandemics, and inclusive global economic recovery without pragmatic dealings with non-democratic states.

Major near-term improvements to the U.S.-China relationship are unlikely, barring an unexpected moderation in Beijing’s behavior. At the same time, the relationship is also unlikely to tip into outright hostility, barring an unforeseen dramatic event, such as a Chinese act of aggression against an American security partner.

U.S.-China relations are going to be hard-nosed and tense. Neither side is likely to offer concessions in service of smoother relations. At the same time, the balance of interests on both sides likely will control hostile impulses, placing the relationship in a state of hardening competition that coexists alongside a mutual awareness that both sides will be impacted — for good or ill — by their capacity to address common challenges.

#### Plan hurts US-China relations – means China goes back on it’s promise to regulate IP violations and draws in U.S. crackdown.

Shape 2/19 [Steven M. Shape; registered patent attorney and electrical engineer who has represented preeminent technology companies in complex, high-stakes Intellectual Property litigation; 2-19-2021, "IP Law Looms Large Over U.S.-China Relations," No Publication, [https://www.mondaq.com/trademark/1038030/ip-law-looms-large-over-us-china-relations //](https://www.mondaq.com/trademark/1038030/ip-law-looms-large-over-us-china-relations%20//) belle]

The U.S. and China were indisputably the two largest parties in the global trade war that consumed much of the last several years. Particularly between early 2018 and late 2019, it seemed as if one could hardly go a week, if that, without hearing something about tariffs, exports, imports, steel, soybeans, then-President Donald Trump, President Xi Jinping and the like. Accusations regarding violations of Intellectual Property law were among the biggest flashpoints, and ultimately, China announced new regulations concerning IP protection in November 2019 as a conciliatory move. Nearly 14 months later, newly inaugurated President Joe Biden has yet to fully clarify his administration's stance toward China. However, it is inevitable that IP rights and their preservation will factor into negotiations between the two economic giants. A look back at the proposed reforms (and their effects) Reports from CNN at the time claimed that China's prospective IP law reforms focused on making the penalties for IP infringement more strict. It would also put the government's increasingly modernized tech infrastructure to use in the discovery and prosecution of such crimes. Beyond that, the proposal carried few specifics. Although it is unclear whether Beijing's gambit worked as the deciding factor for Washington, it certainly did not fail. The two nations agreed in principle on "Phase One" of a new trade agreement December 12, 2019, per The Washington Post, and formalized the deal about a month later. The U.S. pledged not to impose further tariffs and roll back existing import taxes in return for China's IP reforms and agreement to buy American goods. In the 14 months that followed, so much changed. COVID-19's devastating impact on human life and the global economy made it difficult to gauge the positive effects of the tariff relief or IP reform. A report by the South China Morning Post found that China did not meet its import goal for 2020, with some analysts concluding the Phase One target was unrealistic. On the IP front, a Hong Kong news provider noted that Beijing had drafted some specific guidance to protect pharmaceutical patents, trade secrets and copyrights, but it was unclear how well they were being implemented. Additionally, a January 2021 report by the U.S. Patent and Trademark Office (USPTO) found that Chinese policies which offered subsidies for certain trademark and patent applications helped motivate a glut of fraudulent and bad-faith filings in the last few years. The bigger picture of China's IP law A casual observer or someone just learning of this issue might assume that until recently, China had little or no IP laws on the books. Of course, that is not true. However, there are many factors at play complicating the matter of Chinese IP protection policies. As noted in Harvard Business Review, China is quite strict in certain aspects of IP protection: Beijing allows (and encourages) all businesses to impose non-compete agreements to help protect trade secrets and other IP assets. In addition, according to the National Law Review, two new measures were passed in 2020 specifically to combat bad-faith trademark applications, in addition to the other new guidelines being imposed by the China National Intellectual Property Administration (CNIPA) in accordance with the Phase One agreement. All that said, it would be inaccurate to describe Chinese IP law as thoroughly protective for either domestic or foreign innovators. Along with the aforementioned trademark and patent subsidies, considerable controversy stems from "forced technology transfer" policies. According to the University of Oxford's Business Law Blog, foreign companies looking to do business in China must turn over their technology to local firms or be denied the right to operate within China. This effectively means turning over the blueprints (literal or otherwise) to such technology - which is all but equivalent to surrendering the IP. It creates considerable opportunities for infringement, fraud and corruption. Also, in disputes with foreign firms, some local IP courts still markedly favor domestic organizations. Chinese government representatives often resent such accusations of bias or corruption. In their view, the deals represent friendly agreements between businesses, and courts' decisions are not politically motivated. While Oxford noted that FTT guidelines are not as pervasive now as they were a few years ago, they have yet to disappear altogether. The Biden approach: Not dissimilar, but multilateral If the new U.S. Secretary of the Treasury, Janet Yellen, is to be believed, the Biden administration will not tolerate any signs of lapses in China's IP protections. "We need to take on China's abusive, unfair and illegal practices," Yellen said to the Senate Finance Committee at her confirmation hearings. As reported by Bloomberg, she added, "[China has] been stealing intellectual property and engaging practices that give it an unfair technological advantage, including forced technology transfers. And these . are practices that we're prepared to use the full array of tools to address." Biden had expressed similar sentiments during a December interview with The New York Times. However, he also said that they would work with ally nations to "develop a coherent strategy" for addressing cases of IP infringement and other issues - a stance Yellen echoed before the Senate - instead of taking China on in a unilateral and bellicose manner. This more nuanced approach could yield greater cooperation from Beijing and help repair U.S.-China trade relations, but we will likely not know one way or the other for some time. As we saw with the trade war, conflicts between the U.S. and China can quickly escalate and have ripple effects throughout the world. It would thus be wise for all organizations doing business in China to keep themselves abreast of the country's evolving IP regulations and work with a reliable IP services provider to help establish strong protection for their intangible assets.

#### Maintaining US-China relations key to confidence building, dialogue measures, and address mutual anxieties about nukes -- that prevents nuke war.

CSIS ’13 [CSIS (CSIS is a nonprofit organization headquartered in Washington, D.C. The Center’s 220 full- time staff and large network of affiliated scholars conduct research and analysis and develop policy initiatives that look into the future and anticipate change), March 2013, " Nuclear Weapons and U.S.-China Relations a way forward," Center for Strategic and International Studies, <https://csis-website-prod.s3.amazonaws.com/s3fs-public/legacy_files/files/publication/130307_Colby_USChinaNuclear_Web.pdf> // belle]

The United States has long seen China as a central factor in its strategy in Asia. Since the 1970s, U.S. policy has sought to encourage China’s economic reforms and development and to integrate China into the existing international political and economic order. While hopeful that China will develop into a constructive stakeholder, the United States and much of the Asia-Pacific region share continuing concerns about some aspects of China’s behavior that, it is feared, could undermine regional stability and U.S. interests in the Asia-Pacific.

Unfortunately, significant sources of tension and disagreement between the United States and its allies, on the one hand, and China, on the other, remain. These sources of discord could, in the worst case, lead to conflict. Needless to say, a large-scale conventional war between the United States and China would be incredibly dangerous and likely tremendously damaging. Nuclear war between the two would be devastating for all involved. Even though a conventional war between the two nations currently seems unlikely and nuclear war even more so, the possibility that war could break out, posing dramatic dangers and damage, clearly indicates that active steps should be taken to avoid conflict and successfully manage U.S.-China nuclear dynamics.

Significance and Objectives of U.S.-China Nuclear Relations

Maintaining stability in U.S.-China nuclear relations will be critical to the interests of the United States and those of its allies and security partners in the coming years. The Working Group judges that the nuclear dynamics between the United States and China are relatively stable at this time, primarily because both sides have or will soon have a nuclear deterrent of the size and scope they determine they need, and China appears committed to a relatively restrained posture oriented around a “lean and effective” nuclear force and its no-first-use policy. Yet the Working Group is concerned that the changing conventional military balance of power in the region, the current sources of tension and possible conflict, and the expansion of the quality and quantity of China’s nuclear arsenal raise serious questions about the future stability of U.S-China nuclear relations. The recommendations contained in this report are therefore focused on enhancing nuclear stabil- ity between the United States and China, primarily by advocating a series of both bilateral and unilat- eral policy and posture adjustments that would enhance crisis stability and arms race stability, while also laying the groundwork for future bilateral and multilateral nuclear engagement.

Because the current nuclear dynamics are broadly stabilizing and should be sustained, the Working Group recommends that U.S.-China nuclear relations be oriented toward sustaining these dynamics and avoiding decisions by either side that could erode stability. We therefore recommend a robust but realistically tailored program of engagement and dialogue on nuclear issues that reinforce China’s nuclear restraint and advance U.S. interests in stability, dialogue, transparency, and prog- ress toward arms control. The Working Group recognizes, however, the limited success attempts at dialogue and cooperation have thus far yielded. The Group’s recommendations are therefore de- signed to be ambitious but realistic, and are structured in such a way that, in the event that Beijing is unwilling to engage in earnest along the lines the Group advocates, the United States would be left with a powerful strategic capability and in the strong political position of having proffered a serious, fair-minded path forward in bilateral nuclear weapons relations that China had rebuffed.

The Working Group also recommends that the United States adopt a policy of accepting China’s possession of an assured second-strike nuclear capability, and thus avoid attempting to acquire the capability to negate China’s nuclear retaliatory capabilities. This judgment relies on the fundamental determination that the United States cannot realistically hope to deny China’s second-strike capability, that a failed attempt to deny it would be costly and counterproductive, and that Beijing’s possession of a reliable retaliatory capability promotes stability rather than detracts from it. In addition, this approach could reinforce China’s nuclear restraint. The Working Group is, however, divided on whether the United States should publicly and formally announce this acceptance.

The Working Group believes that some of the concepts associated with the idea of “strategic stability” provide an appropriate framework for U.S.-China engagement on nuclear weapons is- sues, although the specific meaning of the term is the subject of a long-running debate that has never been definitively settled. In order to gain the benefits of strategic stability, the Working Group believes that nuclear relations between the United States and China should emphasize two complementary approaches: crisis stability and arms race stability.

Stability can emerge between the United States and China if each fields forces that are capable of surviving a first strike and if each is able to credibly demonstrate to the other side that its cur- rent and future capabilities are not capable of denying the other side a viable strategic deterrent. As a result, fear of preemption and the need to launch weapons early become irrelevant, either as irri- tants in crisis or as dangers in conflict. In this way, the benefits of deterrence can be retained, while minimizing the chances of nuclear escalation and avoiding a competition in the development of offensive and defensive strategic arms that would intensify uncertainties for both sides.

Both sides could derive value from cooperation on nuclear weapons issues grounded in the stability concept. The United States worries about the composition of China’s nuclear force, China’s views on escalation and plans for nuclear use, and the future trajectory of China’s strategic posture. China, meanwhile, worries about the ability of the United States to deny it a second-strike capa- bility; the scope and sophistication of future U.S. nuclear, conventional prompt global strike, and missile defense programs; and U.S. unwillingness to acknowledge a condition of mutual vulner- ability between the two nations. A stability-grounded model could help address these anxiet- ies—on the U.S. side by providing greater insight into China’s current and future force structure and deeper insight into China’s ways of thinking about nuclear strategy, and on the Chinese side by providing similar insight into U.S. developments and a greater degree of assurance about U.S. acknowledgment of the survivability of the Chinese force. Concurrently, such an approach would have the added benefit of building confidence on both sides, thereby enhancing strategic trust more broadly. Finally, such a model could also provide a satisfactory way in which both nations could see something approximating their current force size, posture, and doctrine as satisfactory and compatible with stability.

#### US-China war causes extinction.

Wittner, PhD, 12

(Lawrence, History from Columbia, Professor Emeritus of History at SUNY Albany, <https://www.huffpost.com/entry/nuclear-war-china_b_1116556>) BW

Of course, the bottom line for those Americans convinced that nuclear weapons safeguard them from a Chinese nuclear attack might be that the U.S. nuclear arsenal is far greater than its Chinese counterpart. Today, it is estimated that the U.S. government possesses over 5,000 nuclear warheads, while the Chinese government has a total inventory of roughly 300. Moreover, only about 40 of these Chinese nuclear weapons can reach the United States. Surely the United States would “win” any nuclear war with China. But what would that “victory” entail? An attack with these Chinese nuclear weapons would immediately slaughter at least 10 million Americans in a great storm of blast and fire, while leaving many more dying horribly of sickness and radiation poisoning. The Chinese death toll in a nuclear war would be far higher. Both nations would be reduced to smoldering, radioactive wastelands. Also, radioactive debris sent aloft by the nuclear explosions would blot out the sun and bring on a “nuclear winter” around the globe — destroying agriculture, creating worldwide famine, and generating chaos and destruction. Moreover, in another decade the extent of this catastrophe would be far worse. The Chinese government is currently expanding its nuclear arsenal, and by the year 2020 it is expected to more than double its number of nuclear weapons that can hit the United States. The U.S. government, in turn, has plans to spend hundreds of billions of dollars “modernizing” its nuclear weapons and nuclear production facilities over the next decade. To avert the enormous disaster of a U.S.-China nuclear war, there are two obvious actions that can be taken. The first is to get rid of nuclear weapons, as the nuclear powers have agreed to do but thus far have resisted doing. The second, conducted while the nuclear disarmament process is occurring, is to improve U.S.-China relations. If the American and Chinese people are interested in ensuring their survival and that of the world, they should be working to encourage these policies.

## 3

### Infrastructure DA

#### Infrastructure is making halting progress via reconciliation – bipartisanship is key for Manchin and Republicans to not nuke it

Litvan 9/2 [Laura] “Manchin Jolts Democrats by Urging ‘Pause’ on $3.5 Trillion Bill,” Bloomberg, September 2, 2021, <https://www.bloomberg.com/news/articles/2021-09-02/manchin-tells-democrats-to-pause-on-biden-s-3-5-trillion-plan> TG

Senator Joe Manchin is demanding a “strategic pause” in action on President Joe Biden’s economic agenda, potentially imperiling the $3.5 trillion tax and spending package that Democratic leaders plan to push through Congress this fall.

The West Virginia Democrat, a linchpin vote in the evenly divided Senate, said at an event in his home state on Wednesday and in a Thursday Wall Street Journal op-ed that rising inflation and a soaring national debt necessitate a go-slow approach and a “significantly” smaller plan than the one Democratic leaders and the White House have endorsed.

“By placing a strategic pause on this budgetary proposal, by significantly reducing the size of any possible reconciliation bill to only what America can afford and needs to spend, we can and will build a better and stronger nation for all our families,” Manchin said in the op-ed.

Manchin’s resistance to the core of Biden’s economic plan caps a politically painful month for a White House that has grappled with a chaotic withdrawal from Afghanistan, a resurgent pandemic and a massive hurricane that cut a path of death and damage from Louisiana to New York.

In comments Wednesday at an event hosted by the West Virginia Chamber of Commerce, the moderate Democrat said his party should “hit the pause button.” Lawmakers, he said, have too many other pressing issues before them, including heightening national security concerns after the Taliban takeover of Afghanistan.

“Let’s sit back. Let’s see what happens. We have so much on our plate,” he said.

Manchin’s comments come as Democratic leaders and committee chairs in the Senate and House work out the specifics of the economic package, with a goal of moving it through Congress soon after lawmakers return from a recess later this month. All members of the Senate Democratic caucus would have to back the measure for it to get the 51 votes needed to pass, with Vice President Kamala Harris providing the tie-breaking vote.

A spokesman for Senate Majority Leader Chuck Schumer didn’t immediately respond to a request for comment about Manchin’s request, and White House Press Secretary Jen Psaki did not immediately provide a comment.

The chair of the Congressional Progressive Caucus, Representative Pramila Jayapal, replied “Absolutely not” on Twitter to Manchin’s idea of a pause.

The spending package also is facing obstacles in the House. Democrats can only afford three defections in that chamber if Republicans are united in opposition, and some moderate Democrats also are balking at the size of the package being drawn up.

Manchin also called on the House to pass within a few weeks a Senate-passed $550 billion bipartisan infrastructure bill. House Speaker Nancy Pelosi has promised progressives in the chamber that she will marry that legislation with the much bigger Democrat-only tax-and-spending package, although moderates have been promised an infrastructure vote by late September.

#### General bipartisanship could spark compromise but the plan’s partisan nature tanks any shot

Montanari 21 “Biden’s Undermining Of U.S. Intellectual Property Rights Is Dangerous And Will Hurt Pandemic Response,” Lorenzo Montanari [executive director of Property Rights Alliance, an advocacy policy group in charge of publishing the International Property Rights Index], May 12, 2021 <https://www.forbes.com/sites/lorenzomontanari/2021/05/12/bidens-undermining-of-us-intellectual-property-rights-is-dangerous-and-will-hurt-pandemic-response/?sh=4a74c5004890> SM

Republican Congressman Byron Donalds (R-Fla.) is working on a new piece of legislation titled "Preventing Foreign Attempts to Erode Healthcare Innovation Act” to block the White House IP waiver position and to "prevent the Biden Administration from senselessly giving away America's intellectual property to countries like China”. IP rights are enshrined in Article 1, Section 8, Clause 8 of the U.S. Constitution of 1787, “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.” As a central pillar to American history and constitutionalism for 244 years, IP converges tradition and progress to enrich the lives of citizens and society.

Waiving IP rights not only goes directly against America’s core values and threatens public health but wanes potential for bipartisan efforts. “Congress has spent decades wrangling over the contours of patent protections,” WSJ’s Kimberley A. Strassel says, “producing bipartisan legislation from the Bayh-Dole Act of 1980 and the Hatch-Waxman Act of 1984 to the Leahy-Smith Act of 2011.” All these bipartisan efforts to defend American inventors with a strong and fair IP system risk being seriously damaged with this Biden move.

#### Comprehensive infrastructure investment is key to all facets of the economy

Condon 2/21 [(Christopher, overing the Treasury and U.S. economic policy at Bloomberg News, with Erik Wasson) “Biden’s Economic Legacy at Stake as Next Package Takes Shape,” *Bloomberg*, 2-21-2021, <https://www.bloomberg.com/news/articles/2021-02-21/biden-s-economic-legacy-at-stake-with-next-package-taking-shape>] TDI

The next phase of President Joe Biden’s legislative agenda is fast taking shape, with an economic-recovery package that will potentially far surpass his $1.9 trillion virus-relief plan in size, complexity and overall ambition. The White House and congressional Democrats are busy plotting strategy for the proposal, which could be unveiled next month, kicking off a legislative process that may culminate by August. The centerpiece will be possibly the biggest infrastructure-spending commitment since the New Deal -- including roads, bridges and rural broadband internet. Progressives are eyeing much more, such as an expansion of Obamacare and a public-sector jobs program, along with tax measures including an increase in the capital-gains levy. But stuffing it with too many controversial proposals could threaten its approval or force it to be broken up, and put in peril the Democrats’ thin majorities in the 2022 midterm elections. Still, Democrats see a narrow opening to forge Biden’s legacy: not just restoring the U.S. economy to its pre-pandemic state, but reversing the trend of sluggish growth in recent years with the most far-reaching measures in decades. U.S. economy has put up more moderate growth in the 2000s versus heydays Biden’s virus-relief package is “going to help us get us back on the growth pattern we were on before,” said Virginia Representative Don Beyer, who, as incoming chair of the Joint Economic Committee, is a leading Democratic macroeconomic-policy voice. “The genius of the second plan is that it gives us the opportunity to punch GDP up above the long-term trend,” he said in an interview. During his campaign, Biden proposed $2 trillion for economic rebuilding, a step up from the $1.5 trillion level proposed in the House last year, which Democrats are now calling a “floor.” China Card Biden is aiming to succeed where Donald Trump and other predecessors have failed, when funding disputes stymied measures that economists say are vital to boosting long-term productivity. The president is selling the package as a way to counter China, which has deployed public investment not only to boost its own growth but to build global influence as well. As challenging as it may be to enact, such arguments may make the core infrastructure piece likely to be the easiest component to get through Congress. Bipartisan support for improved highway, transit, waterway and flood-mitigation work is strong, while deficit concerns are at the lowest level in decades. There’s also a Sept. 30 deadline in Congress for reauthorizing surface-transportation funding -- offering a ready-made vehicle for pursuing infrastructure measures. “Much of our infrastructure is nearing the end of its useful design life,” said Thomas Smith, executive director of the American Society of Civil Engineers, which will issue its latest quadrennial report card on U.S. infrastructure on March 3. “We’ve neglected it for far too long, and we’ve watched other countries continue to invest and continue to move ahead of the United States.” The ASCE’s last assessment, in 2017, was a D+. Back then, it estimated the U.S. needed $4.5 trillion in infrastructure spending over the following 10 years. With about $2.5 trillion in estimated outlays already in train, that left a $2 trillion gap -- which Biden’s proposal could largely fill. Congressional Budget Office figures indicate that a $1.5 trillion package would be equivalent to all federal spending on transportation and water infrastructure in the 14 years through 2017. The Senate Environment and Public Works Committee plans a hearing on transportation investment on Wednesday, when Michigan Governor Gretchen Whitmer, a Democrat, and Maryland Governor Larry Hogan, a Republican, are scheduled to testify. But infrastructure could become ensnared by a push among liberal lawmakers to tack on a raft of other items, from creating a government-run health insurance plan and making unionization easier, to a pathway to citizenship for undocumented immigrants and a carbon tax. Political Risk Meanwhile, House moderates in swing districts are facing the perils of redistricting ahead of the midterms, and could insist on limiting the scope of the bill to rein in its cost and limit partisan battles. Fights could also emerge over formulas for divvying up the money among states and cities. Congressional Progressive Caucus Chair Pramila Jayapal said Thursday her large cohort of House Democrats will decide in the coming weeks which elements to advocate in the package -- including whether to use it as an opportunity to roll back Trump’s tax cuts for the wealthy. Jayapal’s group was instrumental in attaching to the pandemic-relief plan an increase in the hourly minimum wage to $15, something that’s become easily the most controversial potential holdup for that bill. The progressive caucus has proposed a $2 trillion infrastructure bill, and is already advocating that it include expanded child and elder care. The question of funding, whether by raising taxes or issuing more debt, also looms large, and many Republicans are set to be vociferous in opposing much of the plan. Senate Finance Committee Chairman Ron Wyden is expected to propose tax hikes, including equalizing ordinary income and capital-gains levies for those making more than $1 million a year and ending the deferral of capital gains. He’d also change international tax provisions in the 2017 tax law and close the carried-interest loophole, according to a Democratic aide. Some lawmakers favor raising the federal gasoline tax -- now 18.4 cents a gallon and 24.4 cents for diesel -- for the first time since 1993, though Wyden in 2019 expressed opposition to the idea, calling it regressive. Treasury Secretary Janet Yellen, who argues that deficit spending makes more sense with interest rates historically low, said on CNBC last week that “certainly part of the package, the parts that are permanent, will be paid for in order to not raise long-term deficits.” While the yield on 10-year Treasury notes has risen markedly in recent weeks, Friday’s level of 1.34% is far below the 50-year average of about 6.16%. U.S. government's borrowing costs are historically low “There’s a lot of appetite to do something this year,” said Jeff Davis, a senior fellow at the Eno Center for Transportation. “But there seems to be no appetite to pay for it.” Despite all the hurdles, Biden has a strong hand. Upgrading and maintaining infrastructure acts as its own stimulus, unleashing real demand for equipment makers, materials suppliers and, most importantly, workers. Nucor Corp., Cleveland-Cliffs Inc. and U.S. Steel Corp., the country’s three largest steel producers, have been lobbying through their industry groups since the election to persuade lawmakers to back whatever infrastructure package the Biden administration puts forth. Productivity Potential Such spending would also be a huge boon for Caterpillar Inc., one of the world’s largest machinery makers, which attributed a drop in North American construction-equipment sales to weaker demand for pipelines and road construction. There’s also the potential for a long-term payoff, if investments translate into productivity gains -- such as savings on shipping and commuting costs when roads, rails and ports are improved, or avoiding the kind of power-grid failures on display this month in Texas. “We cannot throw all fiscal discipline to the wind, but the standards for fiscal prudence have indeed changed in light of the global decline in the normal structure of interest rates,” said David Wilcox, a senior fellow at the Peterson Institute for International Economics, and a former Federal Reserve and Treasury official. “If the rate of return on an investment exceeds your borrowing cost, it makes sense to do that investment, and with lower borrowing costs, more investments today can clear that bar.”

#### Post-COVID economic rebound secures geopolitical dominance---the alternative is global conflict, EU collapse and Chinese authoritarian dominance

Kempe 20 [(Frederick, best-selling author, prize-winning journalist and president & CEO of the Atlantic Council, one of the United States’ most influential think tanks on global affairs. He worked at The Wall Street Journal for more than 25 years as a foreign correspondent, assistant managing editor and as the longest-serving editor of the paper’s European edition.) “Op-ed: How the US can win the post-coronavirus race for global dominance,” CNBC, 4-18-2020, https://www.cnbc.com/2020/04/18/op-ed-how-us-can-win-the-post-coronavirus-race-for-global-dominance.html] TDI

Place your bets for the coming race to growth. It will be an epic contest among the world’s most significant economies, with generational and geopolitical consequences. For context, think back to what the United States accomplished after World War II, when it rose as an economic power to shape a better world. The post-COVID19 race could determine whether the U.S. rebounds in a manner that allows it to retain the mantle of global leadership. More likely for the moment, Beijing could leverage its first-mover advantage – alongside a faster economic recovery across Asian markets – accelerating the trend toward a Chinese-centric globalization. Elsewhere, as President Macron [argued](https://www.ft.com/content/3ea8d790-7fd1-11ea-8fdb-7ec06edeef84) this week to the Financial Times, the coming months could determine whether the European Union collapses as a political and economic project. The days ahead also could trigger a dangerous widening of the economic gap between emerging markets and the developed world – with escalating conflict and surging migration. It may seem premature to reflect on which of the globe’s economies is likely to have the most robust and lasting economic comeback – and with what geopolitical impact. After all, this was a week in which the International Monetary Fund [projected](https://www.imf.org/en/Publications/WEO/Issues/2020/04/14/weo-april-2020) a 3% contraction in global GDP for 2020, the most dramatic drop since the Great Depression. Yet it is the details behind that dismal forecast that should raise concerns within the U.S. and Europe. Their steeper economic decline and slower recovery could lay the seeds for a long-lasting shift of global tectonic plates to China’s advantage. The IMF projected a U.S. economic decline of about 6% in 2020 and a contraction of the eurozone of 7.5%. That compares to projected Chinese economic growth for 2020 of 1.2% after a first quarter real decline of 6.7% – far less than the 10%-plus dip many experts had expected. The only group of countries in the world projected to be in positive territory are East Asian, at roughly 1%. Even if one accepts that Chinese coronavirus fatalities likely are greater than their public figures and that the growth decline is likely larger, that doesn’t change the potential for a scenario that Deloitte and Salesforce this week [referred to](https://www2.deloitte.com/global/en/pages/about-deloitte/articles/covid-19/covid-19-scenarios-and-impacts-for-business-and-society-world-remade.html) as “Sunrise in the East.” Describing this scenario, as one of four possibilities they list, they write, “The global center of power shifts decisively east as China and other East Asian nations take the reigns as primary powers on the world stage and lead global coordination of the health system and other multilateral institutions.” That comes with the broader acceptance of greater surveillance mechanisms as part of the public good, a faster recovery of East Asian countries with less economic impact from COVID19, and a significant ramping up of Chinese foreign direct investment to burnish its global reputation. Still, the U.S. has a host of incumbent advantages that could serve it well if it uses its economic recovery to also strengthen its infrastructure, if it reverses runaway unemployment quickly, if it can tame political polarization and, most significantly, if it rediscovers its taste for collaborative global leadership. In the economic race, no advantage is greater than the dollar. China may be the world’s second largest economy, but the Chinese yuan [makes up](https://asiatimes.com/2019/12/yuan-globalization-remains-a-long-way-off/) only 2% of global payments and reserves while the dollar [accounts](https://asiatimes.com/2019/12/yuan-globalization-remains-a-long-way-off/) for roughly two thirds of foreign exchange reserves. The dollar [underpins](https://www.economist.com/finance-and-economics/2020/04/16/the-dollars-dominance-masks-chinas-rise-in-finance) four-fifths of global supply chains. The Economist [reckons](https://www.economist.com/finance-and-economics/2020/04/16/the-dollars-dominance-masks-chinas-rise-in-finance) China could chip away at U.S. economic advantages through three underestimated strengths of its own: as a trusted debtor, an attractive creditor, and increasingly as a tech partner. As a debtor, China’s $13 trillion bond market is the world’s second largest and [has weathered the crisis well](https://www.ft.com/content/41044876-6ab4-11ea-a3c9-1fe6fedcca75). Chinese debt [returned](https://www.cbsnews.com/news/china-cuts-us-treasury-debt-holding-by-13/) 1.3% in the first quarter, vastly better than the 15.5% [decline](https://www.economist.com/finance-and-economics/2020/04/16/the-dollars-dominance-masks-chinas-rise-in-finance) for other emerging market bonds. Over the same period, the Chinese market added $8.5 billion (60 billion yuan) in net inflows. As a creditor, China has remained willing and generous, an approach that served the U.S. well after World War II. For example, it [declared](https://www.ft.com/content/5f296d54-d29e-4e87-ae7d-95ca6c0598d5) its willingness to back a G20 deal to suspend bilateral loan repayments by poorer countries, a sizable benefit also at its own cost. On the tech front, few countries were as ready as China for money and people to go entirely online. Tencent and Ant Financial have more than a billion users each for their digital wallets, and they are expanding rapidly throughout Asia. OneConnect, an offshoot of China’s largest insurer, provides financial institutions in sixteen Asian countries with cloud-based services. So, what other advantages can the United States leverage in this race? Never underestimate the brittleness of an authoritarian country under stress. Its broad censorship, it’s opaque legal system, and the nature of its surveillance state are hardly models to emulate. Beyond that, Japanese Prime Minister Shinzo Abe is not alone [in proposing](https://asia.nikkei.com/Editor-s-Picks/China-up-close/Xi-fears-Japan-led-manufacturing-exodus-from-China) that his country relocate high-value supply chains from China. If many countries do the same, the manufacturing foundation of China’s economy could erode. The Financial Times’ Gideon Rachman [adds](https://www.ft.com/content/2e8c8f76-7cbd-11ea-8fdb-7ec06edeef84) that the global trust in the dollar is just one of two built-in U.S. advantages that are difficult to dislodge. The other? “Where, outside your home country, would you most like your children to go to university or to work?” he writes. Most significant in this race would be if the United States regained its appetite for political and economic leadership as the world’s premier “convening power.” That need not be done at the cost of China – or anyone else. The race still can be won if U.S. leaders see it as a marathon and recall that much of the world long embraced their global leadership because partners learned they were more likely to win as American partners. This economic rebound from COVID19 will be patchy and uneven. Being first out the gate will be significant, and that is likely to be China. Yet history has taught the United States that it’s victory will be longest lasting if it can achieved alongside partners and allies.

#### Nuclear war

Henricksen 17, emeritus senior fellow at the Hoover Institution (Thomas, “Post-American World Order,” *Hoover Institution*, <http://www.hoover.org/research/post-american-world-order>)

The tensions stoked by the assertive regimes in the Kremlin or Tiananmen Square could spark a political or military incident that might set off a chain reaction leading to a large-scale war. Historically, powerful rivalries nearly always lead to at least skirmishes, if not a full-blown war. The anomalous Cold War era spared the United States and Soviet Russia a direct conflict, largely from concerns that one would trigger a nuclear exchange destroying both states and much of the world. Such a repetition might reoccur in the unfolding three-cornered geopolitical world. It seems safe to acknowledge that an ascendant China and a resurgent Russia will persist in their geo-strategic ambitions. What Is To Be Done? The first marching order is to dodge any kind of perpetual war of the sort that George Orwell outlined in “1984,” which engulfed the three super states of Eastasia, Eurasia, and Oceania, and made possible the totalitarian Big Brother regime. A long-running Cold War-type confrontation would almost certainly take another form than the one that ran from 1945 until the downfall of the Soviet Union. What prescriptions can be offered in the face of the escalating competition among the three global powers? First, by staying militarily and economically strong, the United States will have the resources to deter its peers’ hawkish behavior that might otherwise trigger a major conflict. Judging by the history of the Cold War, the coming strategic chess match with Russia and China will prove tense and demanding—since all the countries boast nuclear arms and long-range ballistic missiles. Next, the United States should widen and sustain willing coalitions of partners, something at which America excels, and at which China and Russia fail conspicuously. There can be little room for error in fraught crises among nuclear-weaponized and hostile powers. Short- and long-term standoffs are likely, as they were during the Cold War. Thus, the playbook, in part, involves a waiting game in which each power looks to its rivals to suffer grievous internal problems which could entail a collapse, as happened to the Soviet Union.

## 4

### Innovation DA

#### Even small exceptions that contravene TRIPS spill over by creating anti-IP precedent and momentum.

Balasubramanyam 14 “Battles Over Patents: Is India Changing The Rules Of The Game?” 02/18/2014 Ranjitha Balasubramanyam [Germany-based journalist and humanitarian researcher with over two decades of journalistic experience, working mainly for European broadcasters] <https://www.ip-watch.org/2014/02/18/battles-over-patents-is-india-changing-the-rules-of-the-game/> SM

While admitting that the impact would be “marginal,” Bayer said in a written response to Intellectual Property Watch that it was the prospect of a “spillover” they are worried about and that spillovers “are a general threat for the whole industry.” “Economically, there is no massive impact so far but this could change if more products are involved,” Bayer said, adding that if countries like India are regarded as a “role model” for other countries, “IP protection could be diluted in several jurisdictions.” That may well prove a watershed moment and therefore cause for serious concern for the big research-based pharmaceutical companies. The trend toward reform is already evident by moves in South Africa to overhaul the country’s patent laws in an attempt to address concerns over the cost of drugs. Moreover, middle income states like India, China, South Africa and Brazil have the potential to evolve into highly profitable markets for big pharmaceutical concerns, as the market continues to grow in those countries. Given the prospect for future revenues, Malpani said: “The companies are concerned about the precedent this is setting where in the long term they want to prevent these countries from using these measures to protect public health.”

#### Biotech industry strong now – new innovation and R&D coming

Cancherini et al. 4/30 [Laura, Engagement Manager @ McKinsey & Company, Joseph Lydon, Associate Partner @ McKinsey & Company, Jorge Santos Da Silva, Senior Partner at McKinsey & Company, and Alexandra Zemp, Partner at McKinsey & Company] “What’s ahead for biotech: Another wave or low tide?“, McKinsey & Company, 4-30-2021, <https://www.mckinsey.com/industries/pharmaceuticals-and-medical-products/our-insights/whats-ahead-for-biotech-another-wave-or-low-tide> //ajs

As the pandemic spread across the globe in early 2020, biotech leaders were initially pessimistic, reassessing their cash position and financing constraints. When McKinsey and BioCentury interviewed representatives from 106 biotech companies in May 2020,4 half of those interviewed were expecting delays in financing, and about 80 percent were tight on cash for the next two years and considering trade-offs such as deferring IPOs and acquisitions. Executives feared that valuations would decline because of lower revenue projections and concerns about clinical-trial delays, salesforce-effectiveness gaps, and other operational issues.

Belying this downbeat mood, biotech has in fact had one of its best years so far. By January 2021, venture capitalists had invested some 60 percent more than they had in January 2020, with more than $3 billion invested worldwide in January 2021 alone.5 IPO activity grew strongly: there were 19 more closures than in the same period in 2020, with an average of $150 million per raise, 17 percent more than in 2020. Other deals have also had a bumper start to 2021, with the average deal size reaching more than $500 million, up by more than 66 percent on the 2020 average (Exhibit 3).6

What about SPACs?

The analysis above does not include special-purpose acquisition companies (SPACs), which have recently become significant in IPOs in several industries. Some biotech investors we interviewed believe that SPACs represent a route to an IPO. How SPACs will evolve remains to be seen, but biotechs may be part of their story.

Fundamentals continue strong

When we asked executives and investors why the biotech sector had stayed so resilient during the worst economic crisis in decades, they cited innovation as the main reason. The number of assets transitioning to clinical phases is still rising, and further waves of innovation are on the horizon, driven by the convergence of biological and technological advances.

In the present day, many biotechs, along with the wider pharmaceutical industry, are taking steps to address the COVID-19 pandemic. Together, biotechs and pharma companies have [more than 250 vaccine candidates in their pipelines](https://www.mckinsey.com/industries/pharmaceuticals-and-medical-products/our-insights/on-pins-and-needles-will-covid-19-vaccines-save-the-world), along with a similar number of therapeutics. What’s more, the crisis has shone a spotlight on pharma as the public seeks to understand the roadblocks involved in delivering a vaccine at speed and the measures needed to maintain safety and efficacy standards. To that extent, the world has been living through a time of mass education in science research and development.

Biotech has also benefited from its innate financial resilience. Healthcare as a whole is less dependent on economic cycles than most other industries. Biotech is an innovator, actively identifying and addressing patients’ unmet needs. In addition, biotechs’ top-line revenues have been less affected by lockdowns than is the case in most other industries.

Another factor acting in the sector’s favor is that larger pharmaceutical companies still rely on biotechs as a source of innovation. With the [top dozen pharma companies](https://www.mckinsey.com/business-functions/m-and-a/our-insights/a-new-prescription-for-m-and-a-in-pharma) having more than $170 billion in excess reserves that could be available for spending on M&A, the prospects for further financing and deal making look promising.

For these and other reasons, many investors regard biotech as a safe haven. One interviewee felt it had benefited from a halo effect during the pandemic.

More innovation on the horizon

The investors and executives we interviewed agreed that biotech innovation continues to increase in quality and quantity despite the macroeconomic environment. Evidence can be seen in the accelerating pace of assets transitioning across the development lifecycle. When we tracked the number of assets transitioning to Phase I, Phase II, and Phase III clinical trials, we found that Phase I and Phase II assets have transitioned 50 percent faster since 2018 than between 2013 and 2018, whereas Phase III assets have maintained much the same pace. There could be many reasons for this, but it is worth noting that biotechs with Phase I and Phase II assets as their lead assets have accounted for more than half of biotech IPOs. Having an early IPO gives a biotech earlier access to capital and leaves it with more scope to concentrate on science.

Looking forward, the combination of advances in biological science and accelerating developments in technology and artificial intelligence has the potential to take innovation to a new level. A [recent report](https://www.mckinsey.com/industries/pharmaceuticals-and-medical-products/our-insights/the-bio-revolution-innovations-transforming-economies-societies-and-our-lives) from the McKinsey Global Institute analyzed the profound economic and social impact of biological innovation and found that biomolecules, biosystems, biomachines, and biocomputing could collectively produce up to 60 percent of the physical inputs to the global economy. The applications of this “Bio Revolution” range from agriculture (such as the production of nonanimal meat) to energy and materials, and from consumer goods (such as multi-omics tailored diets) to a multitude of health applications.

#### Strong IPR is key to innovation – empirics and FDI

Ezell and Cory 19 [Stephen Ezell, BS from School of Foreign Service at Georgetown, VP of global innovation policy at Information Technology and Innovation Foundation. Nigel Cory, MA in public policy from Georgetown, BA in international business from Griffith University, Associate Director of trade policy at Information Technology and Innovation Foundation, former researcher in the Southeast Asia Program at the Center for Strategic and International Studies.] “The Way Forward for Intellectual Property Internationally,” Information Technology and Innovation Foundation, April 25, 2019, <https://itif.org/publications/2019/04/25/way-forward-intellectual-property-internationally> TG

* FDI – foreign direct investment

IPRs Strengthen Innovation

Intellectual property rights power innovation. For instance, analyzing the level of intellectual property protections (via the World Economic Forum’s Global Competitiveness reports) and creative outputs (via the Global Innovation Index) shows that countries with stronger IP protection have more creative outputs (in terms of intangible assets and creative goods and services in a nation’s media, printing and publishing, and entertainment industries, including online), even at varying levels of development.46

IPR reforms also introduce strong incentives for domestic innovation. Sherwood, using case studies from 18 developing countries, concluded that poor provision of intellectual property rights deters local innovation and risk-taking.47 In contrast, IPR reform has been associated with increased innovative activity, as measured by domestic patent filings, albeit with some variation across countries and sectors.48 For example, Ryan, in a study of biomedical innovations and patent reform in Brazil, found that patents provided incentives for innovation investments and facilitated the functioning of technology markets.49 Park and Lippoldt also observed that the provision of adequate protection for IPRs can help to stimulate local innovation, in some cases building on the transfer of technologies that provide inputs and spillovers.50 In other words, local innovators are introduced to technologies first through the technology transfer that takes place in an environment wherein protection of IPRs is assured; then, they may build on those ideas to create an evolved product or develop alternate approaches (i.e., to innovate). Related research finds that trade in technology—through channels including imports, foreign direct investment, and technology licensing—improves the quality of developing-country innovation by increasing the pool of ideas and efficiency of innovation by encouraging the division of innovative labor and specialization.51 However, Maskus notes that without protection from potential abuse of their newly developed technologies, foreign enterprises may be less willing to reveal technical information associated with their innovations.52 The protection of patents and trade secrets provides necessary legal assurances for firms wishing to reveal proprietary characteristics of technologies to subsidiaries and licensees via contracts.

The relationship between IPR rights and innovation can also be seen in studies of how the introduction of stronger IPR laws, with regard to patents, copyrights, and trademarks, affect R&D activity in an economy. Studies by Varsakelis and by Kanwar and Evenson found that R&D to GDP ratios are positively related to the strength of patent rights, and are conditional on other factors.53 Cavazos Cepeda et al. found a positive influence of IPRs on the level of R&D in an economy, with each 1 percent increase in the level of protection of IPRs in an economy (as measured by improvements to a country’s score in the Patent Rights Index) equating to, on average, a 0.7 percent increase in the domestic level of R&D.54 Likewise, a 1 percent increase in copyright protection was associated with a 3.3 percent increase in domestic R&D. Similarly, when trademark protection increased by 1 percent, there was an associated R&D increase of 1.4 percent. As the authors concluded, “Increases in the protection of the IPRs carried economic benefits in the form of higher inflows of FDI, and increases in the levels of both domestically conducted R&D and service imports as measured by licensing fees.”55 As Jackson summarized, regarding the relationship between IPR reform and both innovation and R&D, and FDI, “In addition to spurring domestic innovation, strong intellectual property rights can increase incentives for foreign direct investment which in turn also leads to economic growth.”56

#### Biopharmaceutical innovation is key to prevent future pandemics and bioterror – turns case

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.

#### COVID incentivizes engineered bioterror- extinction

Walsh, 20 -- Axios Future correspondent [Bryan Walsh, "The coronavirus pandemic reawakens bioweapon fears," Axios, 5-14-2020, https://www.axios.com/coronavirus-pandemic-pathogen-bioweapon-45417c86-52aa-41b1-8a99-44a6e597d3a8.html, accessed 9-7-2020]

The coronavirus pandemic reawakens bioweapon fears

The immense human and economic toll of the COVID-19 pandemic only underscores the threat posed by pathogens that could be deliberately engineered and released.

Why it matters: New technology like gene editing and DNA synthesis has made the creation of more virulent pathogens easier. Yet security and regulation efforts haven't kept pace with the science.

What's happening: Despite some claims by the White House, overwhelming scientific evidence indicates that the novel coronavirus was not accidentally released from a lab or deliberately engineered, but naturally spilled over from an animal source.

That doesn't mean the threat from bioweapons isn't dire. Along with AI, engineered pandemics are widely considered the biggest existential risk facing humanity.

That's in part because a pathogen could be engineered in a lab for maximum contagiousness and virulence, well beyond what would arise through natural selection.

Case in point: a 2018 pandemic simulation put on by the Johns Hopkins Center for Health Security featured a fictional engineered virus called Clade X that combined the contagiousness of the common cold with the virulence of the real-life Nipah virus, which has a mortality rate of 40-75%. The resulting simulated global outbreak killed 150 million people.

COVID-19 isn't anywhere near that fatal, but the pandemic has shown the vulnerability of the U.S. and the world to biological threats both natural and manmade.

"Potential adversaries are of course seeing the same things we’re seeing," says Richard Pilch of the Middlebury Institute of International Studies. "Anyone looking for a radical leveling approach — whether a state actor like North Korea or a motivated terrorist organization — may be influenced by COVID-19 to consider pursuing a biological weapons capability."

Background: Bioweapons were officially banned by the Biological Weapons Convention in 1975, though North Korea is suspected of maintaining an offensive bioweapons program.

A particular concern about biowarfare and bioterror, though, is that many of the tools and methods that could be used to create a weaponized virus are largely indistinguishable from those used in the course of legitimate scientific research. This makes biotechnology "dual-use" — and that much more difficult to safely regulate without cutting off research that could be vitally important.

While earlier bioweapons fears focused on the possibility that a state or terror group could try to weaponize a known dangerous agent like smallpox — which would require somehow obtaining restricted pathogens — new technology means that someone could obtain the genetic sequence of a germ online and synthesize it in the lab.

"If you've been trained in a relevant technical discipline, that means you can make almost any potentially harmful agent that you're aware of," says Kevin Esvelt, a biologist at the MIT Media Lab and a member of the CDC's Biological Agent Containment Working Group. That would include the novel coronavirus that causes COVID-19, which was recently synthesized from its genetic sequence in a study published in Nature.

How it works: Currently, synthetic DNA is ordered through commercial suppliers. But while most suppliers screen DNA orders for the sequences of dangerous pathogens, they're not required to — and not all do, which means safety efforts are "incomplete, inaccurate, and insecure," says Esvelt.

Screening efforts that look for the genetic sequences of known pathogens also wouldn't necessarily be able to detect when synthetic DNA was being used to make something entirely novel and dangerous.

In the near future, desktop DNA synthesizers may be able to generate synthetic DNA in the lab, cutting out the need for commercial suppliers — and potential security screenings.

The democratization of biotechnology could unleash a wave of creativity and innovation, just as the democratization of personal computing did. But it also increases the number of people who could potentially make a dangerous engineered virus, whether deliberately or by accident.

## case

#### They don't solve the aff -- a] Public domain -- they just push indigenous knowledge into the public domain which means there's no protection at all -- only the CP resolves b] Alt causes -- indigenous land and culture is exploited for so much more than just medicine including food, water, cultural elements, lumber, oil, etc