# \*\*Case Neg---IP\*\*

# Defense

## Geopolitics

### 1NC---Defense---Heg

#### Hegemonic decline inevitable – and no impact

McCoy '21 - J.R.W. Smail Professor of History at the University of Wisconsin-Madison [Alfred, Jan 29, "American Hegemony Is Ending With a Whimper, Not a Bang," <https://www.thenation.com/article/world/trump-biden-america/> ]

When empires decline and fall, they seldom collapse in the sort of sudden apocalypse portrayed in a monumental series of paintings entitled “The Course of Empire” by another denizen of the Catskill Mountains, the renowned artist Thomas Cole. His 1836 painting in that series, now appropriately enough hung at the Smithsonian Museum in Washington, shows a “savage enemy” plundering a grand imperial capital whose inhabitants, debased by years of luxurious living, can only flee in terror while women are raped and buildings burn.

Empires, however, usually experience a long, less dramatic decline before they fall in the Roman fashion, thanks to events whose logic only becomes apparent years or even decades later, as historians try to sort through the rubble. So it’s likely to be in what, until mid–last week, was (and still in many ways remains) Donald Trump’s America, where the signs of decline are as erratic as they are omnipresent.

The most telling harbinger of that decline, Trump himself, is now in exile at his Mar-a-Lago Club in Florida. Ten years ago in an essay for TomDispatch titled “Four Scenarios for the End of the American Century by 2025,” I suggested that US global hegemony would end not with Thomas Cole’s apocalyptic bang but instead with the whimper of empty populist rhetoric. “Riding a political tide of disillusionment and despair,” I wrote in December 2010, “a far-right patriot captures the presidency with thundering rhetoric, demanding respect for American authority and threatening military retaliation or economic reprisal. The world pays next to no attention as the American Century ends in silence.”

Trump’s election in 2016 made all too real what, until then, had only seemed to me a troubling possibility. With a legerdemain worthy of that 19th century showman P.T. Barnum’s bag of bunkum (like the supposed Cardiff Giant or the Fiji Island Mermaid), Trump’s TV show The Apprentice presented The Donald as a self-made billionaire of extraordinary financial savvy. Who better to rescue America from the job losses, stagnant wages, and foreign competition brought on by economic globalization? But Trump had cheated his way into an Ivy League college; many of his businesses had gone bankrupt; and his much-vaunted entrepreneurial flair came down essentially to frittering away a $400 million inheritance from his father. As journalist H.L. Mencken predicted back in 1920, America had finally come to the point where “the plain folks of the land will reach their heart’s desire at last and the White House will be adorned by a downright moron.”

Once in office, Trump soon bent the nation (but not the world) to his will, rupturing time-tested alliances, tearing up treaties, denying incontrovertible climate science, and demanding respect for American authority with a thundering, if largely empty, rhetoric that threatened military retaliation or economic reprisals globally. Despite the manifest inanity of his policies, the Republican Party capitulated, corporate tycoons applauded, and nearly half the American public cleaved to their newfound savior.

As with all sellout shows, the best was saved for last. When the Covid-19 pandemic struck with full force in March 2020, Trump turned up at the Centers for Disease Control (CDC) in Atlanta, donning a MAGA hat, to proclaim his “natural ability” when it came to medical science, while distinguished doctors stood by like studio extras in mute testimony to his otherwise risible claims. As the pandemic began climbing toward its terrible, still developing toll, Trump hijacked White House briefings by medical experts to promote a succession of crackpot claims—wearing a mask was merely “politically correct”; Covid-19 was just another flu that “becomes weaker with warmer weather”; hydroxychloroquine was a cure; and shining ultraviolet “light inside of the body” or injecting “disinfectant” were possible treatments. A surprising number of Americans started drinking bleach to protect themselves from the virus, forcing months of public health warnings.

After nearly a century in which the United States had been a world leader in promoting public health, the Trump administration, to escape blame for its own escalating failures, walked out of the World Health Organization. Lending the country the aura of a failed state, the CDC itself, once the world’s gold standard in medical research, bungled the development of a coronavirus test and so forfeited any serious, nationwide attempt to successfully track and trace the disease (the most effective means of controlling it).

While smaller nations like New Zealand, South Korea, and even impoverished Rwanda effectively curbed Covid-19, by the end of Trump’s term the United States already had experienced more than 400,000 deaths and 24 million infections—significantly above any other developed nation’s death rate and a full quarter of the world’s total cases. Meanwhile, Beijing mobilized a rigorous public health campaign that quickly contained the virus to just 4,600 deaths in a population of 1.4 billion. In only four months, China virtually eliminated the virus (despite periodic new local breakouts) and had its economy humming along with a 5 percent increase in gross domestic product, which accounted for 30 percent of global growth last year. Meanwhile, after 11 months of an incessant pandemic, the United States remained mired in a crippling recession. This striking disparity in state performance only accelerated China’s quest to surpass the United States as the world’s largest economy and, with all that financial clout, become its preeminent power.

A TRAGICOMIC ENCORE

It was, however, President Trump’s bid for an encore that would prove truly extraordinary when it came to imperial decline. During its 70 years as a global hegemon, Washington’s public promotion of democracy has been the signature program that has helped legitimate its global leadership (no matter the CIA-style interventions it launched or the colonial-style wars it continually fought).

While the Cold War often compromised that commitment in particularly striking ways, following its end Washington has spent 30 years officially promoting fair voting and democratic transitions, with leaders like former president Jimmy Carter flying off to capitals on five continents to oversee and encourage free elections. Suddenly, the world watched in slacked-jaw amazement as, on January 6 on the White House ellipse, the president denounced a fair American election as fraudulent and sent a mob of 10,000 white nationalists, QAnon conspiracists, and other Trumpsters off to storm the Capitol, where Congress was ratifying the transition to a new administration.

Adding to this failed-state aura, the country’s once-formidable national security apparatus crumpled like a Third World constabulary as right-wing militiamen breached the frail security cordon around the Capitol and stormed its halls as if they were a lynch mob hunting for congressional leaders. House majority leader Steny Hoyer’s desperate calls to a dawdling Pentagon and Maryland Governor Larry Hogan’s dangerously delayed mobilization of his state’s National Guard, caused by the US military’s compromised chain of command, only seemed to echo the sort of tropical coup scenarios I witnessed in Manila, the capital of the Philippines, during the 1980s.

When Congress was finally back in session, the Capitol still rang with Republican calls, in the name of national unity, for forgetting what the president had incited. In that way, Republican congressional representatives seemed to echo the kind of impunity that has long protected fallen military juntas in Asia or Latin America from any accounting for their countless crimes. This attempt, in other words, to perpetuate a would-be autocrat’s power through a (failed) coup was the sort of spectacle that many millions living in Asia, Africa, and Latin America have experienced in their own fragile states but never expected to see in America.

Suddenly, our supposedly exceptional nation seemed tragically ordinary. The shimmering dome of the Capitol once symbolized the vitality of this nation’s democracy, inspiring others to follow its principles or at least acquiesce to its power. This country now looks tattered and tired, caught like others before it between forgetting in the name of unity or demanding the powerful be held accountable for high crimes that will otherwise haunt the nation. Instead of aspiring to America’s ideals or entrusting their security to its power, many nations will likely find their own way forward, cutting deals with all comers, starting with China.

Despite an aura of overwhelming strength, empires, even ones as powerful as America’s, often prove surprisingly fragile and their decline regularly comes far sooner than anyone could have imagined—particularly when the cause is not Thomas Cole’s “savage enemy” but their own self-destructive instincts.

Today, in the era of a 78-year-old president, a veritable Rip Van Biden, Americans and the rest of the world are, it seems, waking up in a new age. It could well be a daunting one.

### 1NC---Defense---Democracy

#### Alt causes to democracy’s decline – it’s dead.

DeVega '22 - Senior politics writer for Salon [Chauncy, Mar 25, "How democracy dies: When it comes to Jan. 6, the American people can't handle the truth," https://www.salon.com/2022/03/25/how-democracy-dies-on-jan-6-the-american-people-cant-handle-the-truth/]

During my graveyard walks I have been thinking a great deal about America and its democracy crisis, and the poisons of fascism and white supremacy that are literally killing this country. I keep visualizing a tombstone with an inscription warning passers-by that most Americans didn't even fight for democracy while it was dying, but went on with life as usual. Those who tried to warn them about the impending disaster just got tired and gave up.

That is effectively happening right now, in real time. A recent article in the Washington Post issued a warning: "Jan. 6 committee faces a thorny challenge: Persuading the public to care." Apparently the House committee investigating the Capitol attack of January 2021 "has tried to recruit high-profile journalists to write its report ... hoping to build a narrative thriller that compels audiences and is a departure from government reports of yore." Committee staffers also hope "to put together blockbuster televised hearings that the public actually tunes into," which is a troubling way to frame a historic congressional investigation.

The apparent challenge is to make the public care "about an event that happened more than a year ago, and that many Americans feel they already understand." The committee wants to turn "hundreds of thousands of pages of depositions, records and other evidence into an accessible narrative" aimed at "hard-to-reach" and "deeply polarized" audiences. One unnamed committee member told the Post, "There's one-third of the nation that will read it, one-third that might read it, and one-third that won't even believe it." More from the report:

The committee is also competing for attention amid a flurry of current events that now includes the war in Ukraine, raising the stakes for the committee's ability to hold the public's attention as the insurrection moves further and further back from in public memory. Don Ritchie, historian emeritus of the Senate, said that the most important thing for any congressional committee is publicity.

"Investigators need a certain sense of showmanship — they really need to demonstrate and dramatize what's happening because the public is distracted," said Ritchie. "After getting the publicity, then it's figuring out what you're actually going to do about the problem."

In all, this is a damning indictment of the current state of American democracy and political culture. Donald Trump's regime and his coup cabal attempted to nullify the results of the 2020 presidential election, his followers launched a violent lethal assault on the Capitol and the Republican-fascists' Jim Crow attacks on multiracial democracy are escalating. The United States faces the possibility of a low-level civil war or sustained right-wing insurgency. Yet the American people must be "entertained" with a spectacle in order to care.

As sociologist Neil Postman famously warned in the title of his best-known work, the American people have "amused themselves to death" through a culture of anti-intellectualism, and the superficial, immediate gratification of mass media. Collective narcissism is a major public health problem. So many people, because of loneliness, alienation, social atomization and a culture of hyper-individualism and self-centeredness, feel no sense of linked fate with other human beings outside their families and immediate social circles.

America's educational system has been gutted through decades of active neglect and right-wing malice. Courses that teach critical thinking and civics have been systematically removed from the curriculum of public education. As detailed by Lisa Duggan in her excellent book "The Twilight of Equality", the social sciences and the arts and humanities are being targeted for evisceration by these same right-wing libertarian gangster capitalists at the college and university level as well.

Education is the best way, and perhaps only way, to create responsible, informed citizens who have the capacity and willingness to participate in a healthy democracy. The global right is trying to destroy high quality public (and private) education for that reason with the ultimate goal of creating passive citizens and corporate drones.

Extreme income and wealth inequality and wage stagnation also undermine citizens' ability to be active participants in a democratic society. When people have to work multiple jobs in order to scrape out a living, they are far less willing or able to find the energy to care about democracy, let alone to turn those feelings and concerns into action.

More than half of all Americans read below a sixth-grade level, which means that they are not able to properly understand complex matters of politics and public policy.

Unions and other institutions of civil society (sometimes called the "laboratories of democracy) have been systematically weakened by the American right. Those are (or were) places where people learn the skills necessary to the practice of democracy. In this climate, it is no surprise that America's governing institutions are experiencing a legitimacy crisis: The public largely views their elected officials and the organs of state as unresponsive to their needs and desires — and for good reason.

Public opinion research has repeatedly shown that elected officials at the federal level (that is, in Congress) are highly unresponsive to the policy demands of the average American and instead are beholden to the richest individuals and most powerful corporations. It is certainly true that Republicans are far worse in this regard, but Democrats are by no means immune, especially the self-styled "moderates" or "centrists."

By email I asked the cultural critic and education scholar Henry A. Giroux — the author of numerous books and a Salon contributor — for his thoughts on this problem: Why don't Americans seem to care about their democracy? He offered a lengthy response, which I will quote in part. "Democracy is in exile in the United States and the political, social and educational breakdown is intensifying," he began, observing that the "rise of neoliberal predatory capitalism" in the 1980s marked a key turning point:

Not only did the culture shift to a market-based language that undermined any sense of the common good, shared values and trust, but it embraced a language of privatization, deregulation and commodification that commercialized all social relations and retreated from any discourse that evoked matters of ethic, social responsibility and the obligations of citizenship.

In the current moment, the Republican Party and its allies among the financial elite, corrupt politicians, and right-wing movements hold democracy in contempt because it poses a threat to the unchecked accumulation of capital, white nationalism, white supremacy, and an emerging fascist politics. In an age when economic activity is divorced from social costs, and matters of truth, justice, and solidarity become the object of scorn, democracy and the formative educational culture that legitimates it withers along with the ideals and institutions that sustain it. At a time when all vestiges of critical thought are being purged from public schools, women's reproductive rights are under attack, and tyranny translates into increasing levels of violence, the collapse of conscience, social responsibility, and justice proceeds at an alarming pace.

Faced with these "forces of conformity, anti-intellectualism and authoritarianism," Giroux continued, ordinary people tend to "lose their capacity to think critically and act responsibly. ... [C]ritical modes of agency wither, opening a space for both oppressive forms of education and the tyrants that benefit from them. ... [T]he public imagination succumbs to lies, conspiracy theories and the cult of the strongman. Under such circumstances, the commanding visions of democracy have not only disappeared, they have given way to the tyrannical nightmares of an authoritarian future. It is little wonder that a great many people no longer care or are willing to fight for a democratic society.

Giroux is not suggesting we need some perfect society of philosopher-kings to save American democracy from the fascist movement, but if the American people remain poorly informed and largely disengaged the real-life problems caused or exemplified by a failing democracy will become much worse, creating a toxic feedback loop. "There is no democracy without a knowledgeable public and no justice without a language critical of injustice," Giroux wrote. "Democracy should be a way of thinking about civic culture and the development of a robust public imagination."

## Emerging Tech

### 1NC---Defense---Biod

#### Bio-d’s not existential and try-or-die is wrong. Nature’s a luxury, not a necessity.

Keim, 19—freelance journalist whose work has appeared in publications including The Atlantic, WIRED, National Geographic News, Aeon, Nautilus, Scientific American Mind, The Guardian, Audubon Magazine, Grist, Mother Jones, Conservation, NOVA, and Anthropocene (Brandon, “Conservation for the World We Want,” Breakthrough Journal, No. 11, Summer 2019, dml)

A slogan’s purpose, of course, isn’t to capture nuance. But there are ways in which this save-it-or-die framing rankles, beginning with the fact that, at precisely the same time as so many wild lives are imperiled, billions of people are enjoying historically unprecedented prosperity and health. That is not to say that economic well-being automatically flows from nature’s destruction, or that future well-being requires it, but simply that it has not yet precluded human flourishing.

Returning to megafauna and fire, Earth is more fire-prone than it once was, but people have managed — not without suffering, often with difficulty, but managed all the same. The depletion of whale populations and terrestrial megafauna reduced nutrient flows from the deep sea and across landscapes to a trickle, but the consequences were not catastrophic for us. Indeed, the state of nature that conservationists hope to protect, and present in terms of human self-interest, has already been radically transformed from just a few thousand years ago — not just because of the late Pleistocene mass extinctions, but also because of the dwindling of what and who remains.

Global turtle populations, to pick one little-appreciated example, have collapsed. Not long ago they existed in densities that, in terms of total per-hectare biomass, often outweighed that of African savannah herbivores like elephant and giraffes. Now turtles “are struggling to persist in the modern world,” as a recent scientific review described their plight. “Their ecological roles are now greatly diminished,” and “The impacts of their lessened roles are poorly appreciated and inadequately understood.” Perhaps the loss of all that habitat engineering (many turtles dig burrows that are used by other creatures and contribute to long-term soil enrichment), seed dispersal, and nutrient cycling has diminished human well-being in significant ways, but it’s a hard argument to make right now.

It is possible, of course, that the effects of turtle decline — and amphibian decline and bat decline and insect decline and megafauna decline, and on and on — have not yet been fully realized, and that human societies are running on a biological “surplus” banked over hundreds of millions of years. By this light, just as people will eventually run out of fuels derived from whole geological epochs’ worth of fossilized plankton and vegetable matter, so might we exhaust soils nourished by organismal activity or air filtered by forest communities now missing animals who once planted their seeds.

Alternatively, one could argue that although even a diminished biosphere was enough to sustain human prosperity, the current 7.7 billion humans and 70 billion domesticated animals they exploit for food have pushed that sustenance to its limits. Taking these precautionary approaches, however, is not quite the same as directly equating human health, security, and prosperity with a recent snapshot of nature — especially when that version of “nature” is implicitly equated with biological diversity and abundance, and even as so much of what we take from the biosphere comes from simplified ecosystems.

Tree plantations still sequester carbon dioxide and exhale oxygen while generating wood. Defaunated wetlands still filter water and buffer against storms. Most of the food we eat comes from comparatively low-diversity croplands. Restoring, say, soil biodiversity to the plains of central North America, the world’s most productive agricultural landscape, is more about reducing chemical use and changing farming techniques to ensure their long-term productivity than returning them to their former prairie glory.

To be sure, these human-directed systems are often less multifunctional than higher-biodiversity systems. Monoculture tree plantations store less carbon than wild forests, and defaunated wild forests store less carbon than those with intact animal communities. But conceiving of engineered ecosystems in terms of resource yield and a few other metrics is terribly reductionist.

Arguably, the greatest service of all is the long-term stability that intact ecologies provide. Species interactions and functional redundancies help ecosystems — and ultimately the biosphere itself — adapt to environmental fluctuations, regrouping and supporting complex arrangements of life even when Earth’s climate changes or an asteroid strikes.

Yet that particular service isn’t one that maps neatly onto short-term human interests in wood production, clean water, or fisheries yield. And to casually say those benefits come from “nature” erodes, or at least blurs, what conservationists want to protect: forms of nature in which communities and processes found in the absence of humans remain largely intact, and where human activity doesn’t divert their yields without nourishing more nonhuman life in return. To view, say, the pollination of commodity crops by managed honeybees trucked cross-country as an example of nature’s bounty would be to diminish nature.

2.

This critique is not intended to downplay the hardships caused by nature’s decline and destruction. The recent Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) report, which estimated that one in eight species of plants and animals is now threatened with extinction, enumerates them well. Nature indeed “sustains the quality of the air, fresh water and soils on which humanity depends, distributes fresh water, regulates the climate, provides pollination and pest control and reduces the impact of natural hazards,” and the impacts of ecological disruption are felt most by people who possess the least.

Ultimately, though, human ingenuity can substitute for many of nature’s services. The results might be unpleasant in many ways — I’d much rather rely on bats and earthworms than pesticides and fertilizers — but they’re rarely an existential threat to human societies. The vast, fertilizer-fueled Gulf of Mexico dead zone is a horrible, shameful thing and has inflicted hardship on many people, but southeastern U.S. coastal communities have not collapsed because of it.

### 1NC---Defense---Disease

#### Pandemics won’t cause human extinction

Sebastian **Farquhar 17**. Director at Oxford's Global Priorities Project, Owen Cotton-Barratt, a Lecturer in Mathematics at St Hugh’s College, Oxford, John Halstead, Stefan Schubert, Haydn Belfield, Andrew Snyder-Beattie, 01-23-17, "Existential Risk Diplomacy and Governance", GLOBAL PRIORITIES PROJECT 2017, https://www.fhi.ox.ac.uk/wp-content/uploads/Existential-Risks-2017-01-23.pdf

1.1.3 Engineered pandemics For most of human history, natural pandemics have posed the greatest risk of mass global fatalities.37 However, there are some reasons to believe that natural pandemics are very unlikely to cause human extinction. Analysis of the International Union for Conservation of Nature (IUCN) red list database has shown that of the 833 recorded plant and animal species extinctions known to have occurred since 1500, less than 4% (31 species) were ascribed to infectious disease.38 None of the mammals and amphibians on this list were globally dispersed, and other factors aside from infectious disease also contributed to their extinction. It therefore seems that our own species, which is very numerous, globally dispersed, and capable of a rational response to problems, is very unlikely to be killed off by a natural pandemic. One underlying explanation for this is that highly lethal pathogens can kill their hosts before they have a chance to spread, so there is a selective pressure for pathogens not to be highly lethal. Therefore, pathogens are likely to co-evolve with their hosts rather than kill all possible hosts.39

### 1NC---Defense---Warming

#### We can’t stop warming.

Plumer '21 [Brad and Henry Fountain, Nov 11, "A Hotter Future Is Certain, Climate Panel Warns. But How Hot Is Up to Us," https://www.nytimes.com/2021/08/09/climate/climate-change-report-ipcc-un.html]

Humans have already heated the planet by roughly 1.1 degrees Celsius, or 2 degrees Fahrenheit, since the 19th century, largely by burning coal, oil and gas for energy. And the consequences can be felt across the globe: This summer alone, blistering heat waves have killed hundreds of people in the United States and Canada, floods have devastated Germany and China, and wildfires have raged out of control in Siberia, Turkey and Greece.

But that’s only the beginning, according to the report, issued on Monday by the Intergovernmental Panel on Climate Change, a body of scientists convened by the United Nations. Even if nations started sharply cutting emissions today, total global warming is likely to rise around 1.5 degrees Celsius within the next two decades, a hotter future that is now essentially locked in.

At 1.5 degrees of warming, scientists have found, the dangers grow considerably. Nearly 1 billion people worldwide could swelter in more frequent life-threatening heat waves. Hundreds of millions more would struggle for water because of severe droughts. Some animal and plant species alive today will be gone. Coral reefs, which sustain fisheries for large swaths of the globe, will suffer more frequent mass die-offs.

“We can expect a significant jump in extreme weather over the next 20 or 30 years,” said Piers Forster, a climate scientist at the University of Leeds and one of hundreds of international experts who helped write the report. “Things are unfortunately likely to get worse than they are today.”

### 1NC---Defense---Space Col

#### Space colonization is impossible.

Ekstrom '21 -doctor in astrophysics since 2008, specialising in stellar physics [Sylvai and Javier Nombela, Apr 7, "We will never live on Mars, or anywhere else besides Earth," https://www.swissinfo.ch/eng/we-will-never-live-on-mars--or-anywhere-else-besides-earth/46510576]

The human body has been shaped by millions of years of evolution on Earth. It is therefore perfectly adapted to an environment subject to a certain gravity and pressure value and protected from solar and galactic radiation by the dual protection of the Earth's atmosphere and magnetosphere. If it leaves this environment, it is subjected to great physiological stress.

The first problem is microgravity, which has many consequences:

Decalcification of bones: astronauts lose bone mass 12 times faster than a post-menopausal woman;

Loss of muscle mass: life is too easy for our muscles in zero gravity and they melt away;

Weakening of the heart: with less effort to make, it becomes weaker and rounder;

Fluids (blood, lymphatic system) flow upwards to the upper parts of the body. Our entire vascular system is designed to fight gravity and pump upwards, which it continues to do even when gravity is gone;

Risk of thrombosis: as a result of the above two points, the blood circulates less quickly and can clot;

Disturbance of the inner ear: our balance organ functions thanks to the weight of small crystals on hair cells, and without gravity that is lost.

The loss of muscle mass and the weakening of the heart can be partially countered by a strict discipline of daily exercise. On the ISS, astronauts do two hours of intense fitness (cardio and weight training) per day, and yet they are very weak when they return to Earth. Bone decalcification is also slowed down by weight training but remains one of the most worrying issues for the health of potential Martian astronauts, as a fracture could prove fatal on Mars. Vascular problems are also considered extremely dangerous.

The limits of artificial gravity, radiation and the human psyche

Could gravity be recreated on the Mars spacecraft? It is known that in a rotating system, the centrifugal force produces an acceleration that can be used to recreate an equivalent of gravity. Unfortunately, there is not enough room on a spacecraft to incorporate a centrifuge in which cosmonauts could spend a few hours a week, which would be sufficient to reduce the physiological damage of microgravity.

Could the spacecraft itself be rotated? In Hollywood, yes, it's easy! But in real life, it's a different story. Given that a spinning spacecraft would solve all the problems associated with weightlessness, the fact that no space agency is banking on such a development shows that it is totally out of our reach conceptually, technically and financially.

The second major problem faced by potential future Mars-bound astronauts is that of radiation in space. The Earth's double protection (atmosphere and magnetosphere) partially blocks or deflects UV rays and totally blocks X-rays and gamma rays as well as solar wind particles and cosmic rays. This protection has been compared to the equivalent of a 30-metre-thick concrete wall, or one made of 80 centimetres of lead. Once they leave this natural barrier, it is essential that the astronauts be protected in other ways, by means of the spaceship's insulation and/or individual shields. Despite these protections, it is estimated that Martian astronauts would receive the maximum accepted radiation for an astronaut's entire career over the course of their mission, with just over half of this occurring during the outward and return journeys.

A third major problem identified by the space agencies is human psychology. French astronaut Thomas Pesquet cites a good example of the psychological pressure astronauts face on the ISS: you know there will inevitably be problems during your stay, but you don't want to be the one to cause them. The pressure on a Mars-bound crew would be infinitely greater, as there would be no help available to them in the event of a major problem. On the ISS, astronauts can be returned to Earth within three hours. The Martian astronauts would be left to their own devices for the two-and-a-half years of their mission, knowing that the slightest error or failure, whether technical or human, could result in the death of the entire crew. It is impossible to test such a psychological situation on Earth. The Mars 500 psychological isolation experiment conducted by the European Space Agency developed methods of conflict resolution, but it is in no way representative of the real conditions of a voyage to Mars.

# Turns

## IPR Bad

### 1NC---IPR Bad---Disease

#### Transnational Corporations create the conditions for disease.

Matthew Flynn 20, ,an Assistant Professor of Sociology and International Studies at Georgia Southern University in Statesboro, Georgia, “Global capitalism as a societal determinant of health: A conceptual framework”, Social Science & Medicine Volume 268, January 2021, 113530, 12-18-2020, https://www.sciencedirect.com/science/article/abs/pii/S0277953620307498)/maze accessed thru umich libraries

3.1. Transnational corporations The spread of TNCs contributes to uneven development regionally and globally, thereby increasing social inequality and the social gradient in health. Drastic trade openings or arrival of TNC operations can also generate economic instability, poverty, and population displacement ([Labonté and Ruckert, 2019](https://www-sciencedirect-com.proxy.lib.umich.edu/science/article/pii/S0277953620307498" \l "bib35); [Stiglitz, 2009](https://www-sciencedirect-com.proxy.lib.umich.edu/science/article/pii/S0277953620307498" \l "bib79)). Corporate-driven factory closers and de-industrialization are associated with decreased life expectancy in the US since 2010 ([Nosrati et al., 2018](https://www-sciencedirect-com.proxy.lib.umich.edu/science/article/pii/S0277953620307498" \l "bib56)) and in Russia during the 1990s ([Schrecker, 2014](https://www-sciencedirect-com.proxy.lib.umich.edu/science/article/pii/S0277953620307498" \l "bib70)). Furthermore, [Tausch, (2012)](https://www-sciencedirect-com.proxy.lib.umich.edu/science/article/pii/S0277953620307498" \l "bib101) in a study of the health consequences of TNCs in 141 host countries, found that the degree of TNC penetration can temporarily boost growth but then has long-term negative consequences for equality, life expectancy, employment, and under-five mortality. TNCs operations have also found to have negative consequences for women's health, especially in export processing zones ([Hippert, 2002](https://www-sciencedirect-com.proxy.lib.umich.edu/science/article/pii/S0277953620307498" \l "bib29); [Shandra et al., 2010](https://www-sciencedirect-com.proxy.lib.umich.edu/science/article/pii/S0277953620307498" \l "bib75)). Uneven development also results in the concentration of environmentally detrimental pollution. The agglomeration of heavy industries around shantytown areas exposes residents to heavy particulate matter, lead poisoning, and various forms of air pollution and toxic disposal ([Auyero and Swistun, 2009](https://www-sciencedirect-com.proxy.lib.umich.edu/science/article/pii/S0277953620307498" \l "bib2)). In rural areas, the global extractive industry adversely affects environmental health of entire communities, aside from offering precarious employment, and aggravating occupational health of workers ([Schrecker et al., 2018](https://www-sciencedirect-com.proxy.lib.umich.edu/science/article/pii/S0277953620307498" \l "bib72)). Indigenous communities like those in the Amazon basin are particularly vulnerable to oil spills, diseases spread by loggers, forced/violent displacement, and water contamination that lead to increased mortality, malnutrition, and sickness ([Brisbois et al., 2019](https://www-sciencedirect-com.proxy.lib.umich.edu/science/article/pii/S0277953620307498" \l "bib8)). Various economic interests also seek to corrupt science and information regarding the impact of their activities on global climate change that threaten the health of the planet. [McMichael (2016)](https://www-sciencedirect-com.proxy.lib.umich.edu/science/article/pii/S0277953620307498" \l "bib45) has detailed how TNCs play a determining role in how the global food regime impacts food security and nutrition. Agribusiness and financial interests have fueled a global land grab for industrialized agriculture that results in poverty, displacement, and informalization threatening food sovereignty. Industrialized food production not only involves indiscriminate antibiotic use that contributes to anti-microbial resistance and environmentally harmful application of pesticides and fertilizers, but global capitalism has led to a class divide between the wealthy who have healthier diet options and the rest dependent on mass-produced food of declining nutritional value ([McMichael, 2016](https://www-sciencedirect-com.proxy.lib.umich.edu/science/article/pii/S0277953620307498#bib45)). Ecological pressures from global agribusiness lead to disease outbreaks ([Wallace, 2020](https://www-sciencedirect-com.proxy.lib.umich.edu/science/article/pii/S0277953620307498" \l "bib89)), while the expansion of TNCs into emerging markets has contributed to the growth of non-communicable diseases due to increased intake of unhealthy foods, alcohol, and tobacco ([Freudenberg, 2014](https://www-sciencedirect-com.proxy.lib.umich.edu/science/article/pii/S0277953620307498" \l "bib22); [Friel et al., 2015](https://www-sciencedirect-com.proxy.lib.umich.edu/science/article/pii/S0277953620307498" \l "bib23)). At the point of delivery, the spread of fast-food chains offering cheap, ultra-processed foods, for example in China, are associated with rising obesity rates ([Wang et al., 2016](https://www-sciencedirect-com.proxy.lib.umich.edu/science/article/pii/S0277953620307498" \l "bib91)). There are also direct and indirect effects that TNCs have on health systems. For example, transnational drug companies provide essential inputs, but their operations result in increased social inequality and problematic access issues. High-value added basic research remains clustered around universities and research institutions, whereas clinical trials have been outsourced to the rest of the world with limited oversight regarding ethical concerns for human subjects and data quality ([Homedes and Ugalde, 2014](https://www-sciencedirect-com.proxy.lib.umich.edu/science/article/pii/S0277953620307498" \l "bib30)). By segmenting markets and using intellectual property laws, drug companies charge exorbitant prices that limit access to needed medicines, contribute to medical bankruptcies, threaten health system budgets, and increase deaths associated with adverse reactions ([Light, 2020](https://www-sciencedirect-com.proxy.lib.umich.edu/science/article/pii/S0277953620307498" \l "bib39)). Health insurers and managed care organizations have spread across the developing world to provide benefits to the upper and consuming classes, intensifying inequality, waste, and inefficiency ([Homedes and Ugalde, 2005](https://www-sciencedirect-com.proxy.lib.umich.edu/science/article/pii/S0277953620307498" \l "bib31); [Jasso-Aguilar et al., 2004](https://www-sciencedirect-com.proxy.lib.umich.edu/science/article/pii/S0277953620307498" \l "bib32)). Indirectly, TNCs negatively impact tax revenues used to fund health systems and social programs through dubious accounting methods like corporate inversions, debt shifting, and transfer pricing. Not surprisingly, activists have targeted TNCs usurping natural resources, charging exorbitant prices on life-saving medicines, exploiting sweatshop labor, and creating ecological disasters. Bolivia's “Water Wars” is a case in point where popular mobilization of irrigation workers, farmers, teachers, factory workers, students, and others, organized strikes, blockades, referendum, and investigations that succeeded in putting a public water company under social control instead of a monopoly by Bechtal corporation ([Waitzkin, 2018](https://www-sciencedirect-com.proxy.lib.umich.edu/science/article/pii/S0277953620307498" \l "bib87)). Alternative economic arrangements such as the solidarity economy based on co-management, democratic decision-making beyond profit and state controls offers to protect worker's rights and health ([Birn et al., 2017](https://www-sciencedirect-com.proxy.lib.umich.edu/science/article/pii/S0277953620307498" \l "bib5)). In terms of health inputs, the non-profit collaboration Drugs for Neglected Disease initiative has six new treatments, 12 new molecular entities, and twelve clinical trials—all geared for public health—at a fraction of the cost reported by for-profit drug companies to develop medicines for public health goals ([Light, 2020](https://www-sciencedirect-com.proxy.lib.umich.edu/science/article/pii/S0277953620307498#bib39)). Still, more work is needed to assess the various harmful impacts of TNCs, identify best strategies for changing corporate behavior, and implement policies mitigating their negative health impacts ([Baum and Anaf, 2015](https://www-sciencedirect-com.proxy.lib.umich.edu/science/article/pii/S0277953620307498" \l "bib4)).

### 2NC---IPR Bad---Disease

#### IPR’s *hampers* pharmaceutical innovation

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Abstract Are IPRs institutions meant to foster innovative activities or conversely to secure appropriation and profitability? Taking stock of a long-term empirical evidence on the pharmaceutical sector in the US, we can **hardly support IPRs** intended as an **innovation rewarding institution**. According to our analysis, pharma patents have constituted legal barriers to protect intellectual monopolies rather than an incentive and a reward to innovative efforts. Patenting strategies appear to be quite aggressive in extending knowledge borders and enlarging the space protected from the possibility of infringements. This is also witnessed by the fact that patent applications are very skewed in the covered trade names and patent thickness expands over time. Conversely, the number of patents protecting new drugs approved by the FDA which draw upon government-sponsored research – as such a mark for quality – falls. Firm-level analysis on profitability confirms strong correlation, restricted to listed pharmaceutical firms, between patent portfolio and profit margins.

1 Introduction Two distinctive roles have been attributed to intellectual property rights (IPRs hereafter) by the economic literature, namely, IPRs as incentives to undertake innovative activities and IPRs as forms of appropriation (Dosi, Marengo, and Pasquali 2006). As well acknowledged for instance by Adam Smith, Karl Marx and Joseph Schumpeter, just to mention the classics, expensive search efforts by profit-motivated agents imply some departure from purely competitive conditions. However, the two crucial issues concern, first, the extent of such a departure, that is the actual or expected extra-profit necessary to trigger innovative search, and, second, the possible monotonicity in the relation between such a departure and the intensity of innovative effort. Such questions are particularly thorny with respect to the scope and breadth of patents. In one perspective, which we may call the incentive view, patents, by restricting the possibility of imitation, grant the innovator a monopoly rent which should motivate ex-ante and compensate ex-post the R&D investment. In the alternative perspective, which we may call the opportunity view, innovative activities are primarily driven by the richness of opportunities of technological advances, while patents represent intellectual barriers to innovation and obstacles to its diffusion. Whether being institutional forms embraced to secure rents or to ensure legitimate profits, both streams recognize patents as creators of intellectual monopolies, even if in the former case they are a necessary evil to drive the “unbound Prometheus” of innovation in capitalist societies, while in the latter case they are primarily a mechanism of generation of unproductive rents. Among all sectors, the pharmaceutical one has been recognised to be one of the most dependent on patents in order to ensure its intellectual monopoly. The reliance of pharma on patents – it is commonly claimed – descends from the very nature of its production activity, based on very low reproduction costs, and facing instead almost exclusively entry costs in terms of knowledge generation. Given the potential easy replication of the knowledge embedded in a product (Dosi and Nelson 2010), patents ensure a temporary exclusive use of such knowledge which would instead be easily acquired by competitors. Additionally, the knowledge embedded into pharmaceutical patents is often discrete and might be well confined into claims, therefore quite apt to be patented (Orsenigo and Sterzi 2010). This work challenges the correspondence between patents and innovation. Let us start by noticing that historical records of drug search (see for instance the monumental history of drug discovery in Sneader (2005)) show that until very recently it has been mainly driven by search heuristics for discovery and experimentation very far from mere appropriation objectives, even when undertaken within corporate laboratories. More specifically, the modern pharmaceutical industry was born – mainly in Germany – under a regime of basically non-existent patent protection and then, after 1877, thrived under a regime of rather weak protection of processes rather than products. Still, the chemical/pharmaceutical oligopolies – later merged in 1925 into one monopolist firm, IG Farben1 – were able to reap **hefty profits stemming from the integration of “pure” scientific research** in close collaboration with universities, applied product-oriented research, industrialization and scaling-up of production, market penetration, and product diversification. At the turn of the 20th century, the leading German dyestuff companies were paying annual dividends between 18 and 26% (Plumpe 1991). The German chemical/pharmaceutical industry is the first one to enter the era of modern monopoly capitalism. We use this term as a shorthand to mean industrial regimes characterized by a) the visible hand (Chandler 1977) of either few oligopolistic firms, or indeed a monopoly like the one of IG Farben in 1920’s and 1930’s Germany, or of platform firms nowadays; and b) the ability of these oligopolists or monopolist to secure a sustained stream of differential profits/rents. Monopoly capitalism may be either due to complementary assets (Teece 1986) and distinct organizational capabilities (like those just mentioned with reference to the 19th century German chemical industry), or due to the consequences of the extreme increasing returns nature of information-intensive activities (such as those associated with the contemporary platform technologies), or due to the sheer outcome of monopolistic rights over crucial tangible or intangible assets such as patents.

#### Corporations are weaponizing patents.

Gubby, 19 [Helen Gubby works for Erasmus University, 9/26/19, accessed on 7-18-2022, Onlinelibrary.wiley, "Is the Patent System a Barrier to Inclusive Prosperity? The Biomedical Perspective", https://onlinelibrary.wiley.com/doi/10.1111/1758-5899.12730]/ISEE

As the economy has largely shifted from industrial manufacturing to high-tech, life science and information processing industries, intellectual property has become more and more important. Corporations have become increasingly aware of the potential of the patent, not just as a shield to protect against imitation, but as a strategic tool to block competition and dominate markets. Patents have come to have a broader strategic function in which innovation may only play a small part. Although many patents do not produce any income: ‘In terms of strategy, though, the patent can be much more valuable’ (Macdonald, 2004, p. 143). Patent strategy is directly related to the business context. The Carnegie Mellon Survey of the US manufacturing sector in 1994 revealed that firms often used patents as strategic tools, rather than as simply a means of protecting an invention from wrongful imitation (Cohen et al., 2000). In their examination of motives to patent, Blind et al. (2009) recognised that, although protection from imitation was still the most important factor, ‘the importance of the strategic motives to patent are confirmed’ (Blind et al., 2006, p. 671). Patent strategies The decision to patent has become in part uncoupled from the original core purpose of the patent: to protect an invention from unfair imitation by other market participants. Larger firms, with the capital assets to pay for the cost of patenting, use their patent portfolios strategically. Patents have become useful as bargaining chips; they provide leverage. Large patent portfolios are a means to get access to important co-operations or cross-licensing arrangements (Blind et al., 2009, p. 431). Yet while building the portfolio requires enormous legal costs, it contributes little to research incentives. Furthermore, these portfolios can be used not just to oblige competitors to take licences, but also the terms of these licences can restrict competitors to certain areas of technology (Barton, 2000). Larger firms can afford to play the ‘wrap around’ strategy. Instead of applying for a single patent to cover an invention, other patents are filed around the main patent. These related patents lock down the discrete features of an invention. The tactic hinders entry to the market. Competitors will be put to time, effort and cost to fight their way through all the relevant patents covering the technology. Furthermore, the chance that the competitor's invention may infringe one of the many claims in one of the many patents is high. Not only can damages be awarded for infringement, but also an injunction. Injunctions prevent the party accused of infringement from producing any products that require the use of the technology covered by the infringed patent and all infringing products are removed from the market. Patents may be used simply to block competitors. Using a patent as a blocking strategy is common practice (Neuhäusler, 2012). Defensive blocking is used to protect a firm's own freedom to operate: it does not want to be shut out by the patents of its rivals. An offensive blocking strategy is where patents are filed to cover products or processes that the firm does not intend to practice itself, but which could be viable alternatives to competitors. By patenting all conceivable alternatives, research by competitors that might threaten their own technological lead can be thwarted. As in general a patentee is under no obligation to license out its technology to another, the strategy can deter market entry or new product launch. This offensive blocking of competitors by means of patents, ‘is clearly a case of the patent system being used for purposes other than for which it was originally intended’ (Blind, 2009, p. 436). However, both defensive and offensive blocking should be a policy concern, as they can reduce economic efficiency. Defensive patenting increases cost to firms without necessarily producing any benefit and offensive patenting can reduce technological progress and increase consumer costs by reducing competition (Thumm, 2004, p. 533). Using data from a large-scale survey of patent applications, Torrisi discovered that a substantial share of patents remained unused and a substantial number of patent applications were filed to block other patents. There were institutional differences; there were more unused patents in Japan and the EU than in the USA. Although cautious to make generalisations about unused patents, as some unused patents are there to ensure freedom to operate or simply because of management inefficiency, Torrisi et al. did conclude that: ‘[o]ur results highlight that there might be substantial benefits that patent owners draw from being able to keep patent rights unused. These would have to be balanced against possible harm imposed on other economic agents’ (Torrisi et al., 2016; , p. 1384). These strategies show a disconnect with the original purpose of the patent system. Patent strategies impact on innovation, and this in turn impacts on society. Concern was already expressed quite forcibly some years ago by Turner: Surely when the framers of the [US] Constitution empowered Congress to grant monopolies to ‘promote the progress of science and the useful arts’, they did not envision the beneficiaries of this grant would use it to bury new technologies to protect market share or capital investments. (Turner, 1998, p.209) Administrative failures Patent offices have been struggling to cope with the increasing number of patent applications: in 2017, more than 3 million patent applications were filed worldwide (WIPO, 2018). This influx has resulted in substantial application backlogs, with an increasingly long time between the patent filing and the patent grant: five years is not unusual. Complaints of poor quality control have been made concerning the US Patent and Trademark Office as well as the European Patent Office (Abbott, 2004; Mabey, 2010). The WIPO recognised a consistent upward trend in patent filings is putting patent offices under enormous pressure (WIPO, 2017, p. 13). Why are these administrative failings dangerous from a societal perspective? Patents grant a monopoly that can impact innovative processes for 20 years or more. Patents have been granted that should not have been granted. When an overly broad patent is granted, this can block further innovation by others. Broad patents may mean that access to vital research is not available because the results of that research are covered by patent claims. In particular, broad basic patents on fundamental research can block and deter follow-on research. The incentive to innovate is reduced (Barton, 2000; Henry and Stiglitz, 2010).1 Back in 1966, the societal implication of overly broad grants was expressed clearly by the US Supreme Court when it rejected a broad claim covering a group of chemicals: ‘Such a patent may confer power to block off whole areas of scientific development without compensating benefits to the public.’2

#### IP protections are vital to resolve vaccine deficiencies. History disproves all pro patent arguments

Kumar, PhD, 7-12-21 (Rajeesh, Associate Fellow Manohar Parrikar Institute for Defence Studies and Analysis, https://www.idsa.in/issuebrief/wto-trips-waiver-covid-vaccine-rkumar-120721)

In October 2020, India and South Africa had submitted a proposal to the World Trade Organization (WTO), suggesting a waiver of certain provisions of the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement for the “prevention, containment and treatment of COVID-19”. The proposal seeks the waiver of “the implementation, application, and enforcement of sections 1, 4, 5 and 7 of part II of the TRIPS agreement”, which are stipulations referring to copyright, industrial design, patents, and undisclosed information (trade secrets).1 The proponents of the proposal argue that a waiver will enable timely and equitable access to affordable health products and technologies, including vaccines. Though many member countries had supported and co-sponsored the proposal, a small but influential group of countries, mainly Australia, Canada, the European Union (EU), Japan, the United Kingdom (UK) and the United States (US), opposed it. They argued that existing exceptions under the TRIPS Agreement are sufficient to address the concerns mentioned in the proposal. This resulted in sidelining of the waiver proposal for months. However, on 5 May 2021, the Joseph Biden administration announced its support for waiving intellectual property protections for COVID-19 vaccines.2 It was a significant step towards breaking the seven-month gridlock, and led to many more countries modifying their position on the waiver proposal. On 25 May 2021, the co-sponsors of the waiver proposal submitted a revised proposal that specified the scope of the waiver as applying to “health products and technologies” and also added a section on the proposed duration of the waiver, i.e., three years.3 At present, more than 100 countries, including the US and China support this proposal. The principal opponent of the waiver is the EU and in June 2021, it submitted an alternative proposal to the TRIPS Council, which requested to keep TRIPS’ provisions intact and focused on compulsory licensing and removing vaccine export restrictions to address the concerns raised by India and South Africa.4 The EU proposal also stated that the TRIPS Agreement does not prevent countries from taking measures to protect public health.5 At the meeting of the TRIPS Council on 8–9 June 2021, the member states agreed to text-based negotiations focusing on two proposals tabled by members. The members also decided to hold a series of meetings till the end of July 2021 to take stock of the text-based negotiations. However, the latest developments show that the waiver discussions hit a hurdle due to a split between the developed and developing countries over the negotiation text. This brief discusses how TRIPS becomes a barrier to the equitable access of COVID-19 vaccines. It also examines how a waiver will help India in its fight against COVID-19 at home and abroad. TRIPS and its Exceptions TRIPS, a comprehensive multilateral agreement on Intellectual Property (IP), was an outcome of the Uruguay Round (1986–94) of negotiations of the General Agreement on Tariffs and Trade (GATT). The Agreement came into force on 1 January 1995 and offers a minimum standard of protection for Intellectual Property Rights (IPR).6 In WTO, IPR are divided into two main categories. First, copyright and related rights (Articles 9 to 14, Part II of the TRIPS Agreement). Second, industrial property that includes trademarks, geographical indications, industrial designs, patents, integrated circuit layout designs, and undisclosed information (Articles 15 to 38, Part II of the TRIPS Agreement).7 Article IX.3 and IX.4 of the Marrakesh Agreement Establishing the WTO deals with TRIPS waivers. Article IX.3 says that in “exceptional circumstances” the Ministerial Conference may waive off an obligation imposed on WTO member countries.8 Such a decision requires the support of three-fourths of the WTO membership. According to Article IX.4, any waiver granted for more than one year will be reviewed by the Ministerial Conference. Based on the annual review, the Conference may extend, modify, or terminate the waiver. The TRIPS Agreement provides some flexibility primarily in the form of compulsory licensing and research exceptions through Articles 30 and 31. While Article 30 permits WTO members to make limited exceptions to patent rights, Article 31 provides a detailed exception, provided certain conditions are met. Compulsory licensing is the process of granting a license by a government to use a patent without the patent holder's consent. Article 31 permits granting compulsory license under circumstances such as “national emergencies”, “other circumstances of extreme urgency”, “public noncommercial use”, or against “anti-competitive” practices.9 In addition to these original waivers, the Declaration on the TRIPS Agreement and Public Health, adopted at the 2001 Doha Ministerial Meeting, also recognises some exceptions, for instance, in situations of a public health emergency, member countries have the freedom to determine the grounds upon which compulsory licenses are granted. Similarly, under Article 66.1, the least developed countries (LDCs) are given waivers for implementing TRIPS on pharmaceuticals till 1 January 2033. COVID-19 and TRIPS Waiver Two significant factors rekindled the debate on TRIPS waiver for essential medical products—first, vaccine inequity, and second, the insufficiency of existing waiver provisions in fighting the COVID-19 pandemic. COVID-19 is an exceptional circumstance, and equitable global access to the vaccine is necessary to bring the pandemic under control. However, the world is witnessing quite the reverse, i.e., vaccine nationalism. Vaccine nationalism is “my nation first” approach to securing and stockpiling vaccines before making them available in other countries. A TRIPS waiver would be instrumental in addressing the growing inequality in the production, distribution, and pricing of the COVID-19 vaccines. Vaccine Inequity According to Duke Global Health Innovation Center, which monitors COVID-19 vaccine purchases, rich nations representing just 14 per cent of the world population have bought up to 53 per cent of the most promising vaccines so far. As of 4 July 2021, the high-income countries (HICs) purchased more than half (6.16 billion) vaccine doses sold globally. At the same time, the low-income countries (LICs) received only 0.3 per cent of the vaccines produced. The low and middle-income countries (LMICs), which account for 81 per cent of the global adult population, purchased 33 per cent, and COVAX (COVID-19 Vaccines Global Access) has received 13 per cent.10 Many HICs bought enough doses to vaccinate their populations several times over. For instance, Canada procured 10.45 doses per person, while the UK, EU and the US procured 8.18, 6.89, and 4.60 doses per inhabitant, respectively.11 Source:“Tracking COVID-19 Vaccine Purchases Across the Globe”, Duke Global Health Innovation Center, Updated 9 July 2021. Consequently, there is a significant disparity between HICs and LICs in vaccine administration as well. As of 8 July 2021, 3.32 billion vaccine doses had been administered globally.12 Nonetheless, only one per cent of people in LICs have been given at least one dose. While in HICs almost one in four people have received the vaccine, in LICs, it is one in more than 500. The World Health Organization (WHO) notes that about 90 per cent of African countries will miss the September target to vaccinate at least 10 per cent of their populations as a third wave looms on the continent.13 South Africa, the most affected African country, for instance, has vaccinated less than two per cent of its population of about 59 million. This is in contrast with the US where almost 47.5 per cent of the population of more than 330 million has been fully vaccinated. In Sub-Saharan Africa, vaccine rollout remains the slowest in the world. According to the International Monetary Fund (IMF), at current rates, by the end of 2021, a massive global inequity will continue to exist, with Africa still experiencing meagre vaccination rates while other parts of the world move much closer to complete vaccination.14 This vaccine inequity is not only morally indefensible but also clinically counter-productive. If this situation prevails, LICs could be waiting until 2025 for vaccinating half of their people. Allowing most of the world’s population to go unvaccinated will also spawn new virus mutations, more contagious viruses leading to a steep rise in COVID-19 cases. Such a scenario could cause twice as many deaths as against distributing them globally, on a priority basis. Preventing this humanitarian catastrophe requires removing all barriers to the production and distribution of vaccines. TRIPS is one such barrier that prevents vaccine production in LMICs and hence its equitable distribution. TRIPS: Barrier to Equitable Health Care Access The opponents of the waiver proposal argue that IPR are not a significant barrier to equitable access to health care, and existing TRIPS flexibilities are sufficient to address the COVID-19 pandemic. However, history suggests the contrary. For instance, when South Africa passed the Medicines and Related Substances Act of 1997 to address the HIV/AIDS public health crisis, nearly 40 of world’s largest and influential pharma companies took the South African government to court over the violation of TRIPS. The Act, which invoked the compulsory licensing provision, allowed South Africa to produce affordable generic drugs.15 The Big Pharma also lobbied developed countries, particularly the US, to put bilateral trade sanctions against South Africa.16 Similarly, when Indian company Cipla decided to provide generic antiretrovirals (ARVs) to the African market at a lower cost, Big Pharma retaliated through patent litigations in Indian and international trade courts and branded Indian drug companies as thieves.17 Another instance was when Swiss company Roche initiated patent infringement proceedings against Cipla’s decision to launch a generic version of cancer drug, “erlotinib”. Though the Delhi High Court initially dismissed Roche's appeal by citing “public interest” and “affordability of medicines,” the continued to pressure the generic pharma companies over IPR. 18 Likewise, Pfizer’s aggressive patenting strategy prevented South Korea in developing pneumonia vaccines for children.19 A recent document by Médecins Sans Frontières (MSF), or Doctors Without Borders, highlights various instances of how IP hinders manufacturing and supply of diagnostics, medical equipment, treatments and vaccines during the COVID-19 pandemic. For instance, during the peak of the COVID-19 first wave in Europe, Roche rejected a request from the Netherlands to release the recipe of key chemical reagents needed to increase the production of diagnostic kits. Another example was patent holders threatening producers of 3D printing ventilators with patent infringement lawsuits in Italy.20 The MSF also found that patents pose a severe threat to access to affordable versions of newer vaccines.21 Source:“COVID-19 Vaccine R&D Investments”, Global Health Centre, Graduate Institute, Geneva, Updated 9 July 2021. The opponents of the TRIPS waiver also argue that IP is the incentive for innovation and if it is undermined, future innovation will suffer. However, most of the COVID-19 medical innovations, particularly vaccines, are developed with public financing assistance. Governments spent billions of dollars for COVID-19 vaccine research. Notably, out of $6.1 billion in investment tracked up to July 2021, 98.12 per cent was public funding.22 The US and Germany are the largest investors in vaccine R&D with $2.2 billion and $1.5 billion funding. Source:“COVID-19 Vaccine R&D Investments”, Global Health Centre, Graduate Institute, Geneva, Updated 9 July 2021. Private companies received 94.6 per cent of this funding; Moderna received the highest $956.3 million and Janssen $910.6 million. Moreover, governments also invested $50.9 billion for advance purchase agreements (APAs) as an incentive for vaccine development. A recent IMF working paper also notes that public research institutions were a key driver of the COVID-19 R&D effort—accounting for 70 per cent of all COVID-19 clinical trials globally.23 The argument is that vaccines are developed with the support of substantial public financing, hence there is a public right to the scientific achievements. Moreover, private companies reaped billions in profits from COVID-19 vaccines. Source: Katharina Buchholz, “COVID-19 Vaccines Lift Pharma Company Profits”, Statista, 17 May 2021. One could argue that since the US, Germany and other HICs are spending money, their citizens are entitled to get vaccines first, hence vaccine nationalism is morally defensible. Nonetheless, it is not the case. The TRIPS Agreement includes several provisions which mandates promotion of technology transfer from developed countries to LDCs. For instance, Article 7 states that "the protection and enforcement of IP rights should contribute to the promotion of technological innovation and the transfer and dissemination of technology, to the mutual advantage of producers and users of technical knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations."24 Similarly, Article 66.2 also mandates the developed countries to transfer technologies to LDCs to enable them to create a sound and viable technological base. The LMICs opened their markets and amended domestic patent laws favouring developing countries’ products against this promise of technology transfer. Another argument against the proposed TRIPS waiver is that a waiver would not increase the manufacturing of COVID-19 vaccines. Indeed, one of the significant factors contributing to vaccine inequity is the lack of manufacturing capacity in the global south. Further, a TRIPS waiver will not automatically translate into improved manufacturing capacity. However, a waiver would be the first but essential step to increase manufacturing capacity worldwide. For instance, to export COVID-19 vaccine-related products, countries need to ensure that there are no IP restrictions at both ends – exporting and importing. The market for vaccine materials includes consumables, single-use reactors bags, filters, culture media, and vaccine ingredients. Export blockages on raw materials, equipment and finished products harm the overall output of the vaccine supply chain. If there is no TRIPS restriction, more governments and companies will invest in repurposing their facilities. Similarly, the arguments such as that no other manufacturers can carry out the complex manufacturing process of COVID-19 vaccines and generic manufacturing as that would jeopardise quality, have also been proven wrong in the past. For instance, in the early 1990s, when Indian company Shantha Biotechnics approached a Western firm for a technology transfer of Hepatitis B vaccine, the firm responded that “India cannot afford such high technology vaccines… And even if you can afford to buy the technology, your scientists cannot understand recombinant technology in the least.”25 Later, Shantha Biotechnics developed its own vaccine at $1 per dose, and the UNICEF (United Nations Children’s Emergency Fund) mass inoculation programme uses this vaccine against Hepatitis B. In 2009, Shantha sold over 120 million doses of vaccines globally. India also produces high-quality generic drugs for HIV/AIDS and cancer treatment and markets them across the globe. Now, a couple of Indian companies are in the last stage of producing mRNA (Messenger RNA) vaccines.26 Similarly, Bangladesh and Indonesia claimed that they could manufacture millions of COVID-19 vaccine doses a year if pharmaceutical companies share the know-how.27 Recently, Vietnam also said that the country could satisfy COVID-19 vaccine production requirements once it obtains vaccine patents.28 Countries like the United Arab Emirates (UAE), Turkey, Cuba, Brazil, Argentina and South Korea have the capacity to produce high-quality vaccines but lack technologies and know-how. However, Africa, Egypt, Morocco, Senegal, South Africa and Tunisia have limited manufacturing capacities, which could also produce COVID-19 vaccines after repurposing. Moreover, COVID-19 vaccine IPR runs across the entire value chain – vaccine development, production, use, etc. A mere patent waiver may not be enough to address the issues related to its production and distribution. What is more important here is to share the technical know-how and information such as trade secrets. Therefore, the existing TRIPS flexibilities, such as compulsory and voluntary licensing, are insufficient to address this crisis. Further, compulsory licensing and the domestic legal procedures it requires is cumbersome and not expedient in a public health crisis like the COVID-19 pandemic.

### 1NC---IPR Bad---Generic

#### Patent system often stifles the innovation it was designed to encourage.

**Freilich and Meurer, 21** [Michael J. Meurer is a Professor of Law, Boston University, Janet Freilich is a Associate Professor of Law, Fordham University, 3-16-2021, accessed on 7-18-2022, The Conversation, "Patent system often stifles the innovation it was designed to encourage", https://theconversation.com/patent-system-often-stifles-the-innovation-it-was-designed-to-encourage-148075]/ISEE

Over his career Thomas Edison garnered more U.S. patents than anyone in his time. Edison profited from his patents, but he was also exposed to the dark side of the patent system. He had to contend with lawsuits by other patentees who sought – and sometimes won – a piece of his success. While the patent system is designed to spur innovation like Edison’s, it also hampers it. Easy copying and imitation discourage innovation, because why make the effort if someone else will profit from it? The patent system works by enabling inventors to block unauthorized use of patented technology. Most technologies are developed by many inventors over many years, a process called “cumulative” innovation. Too often, however, early inventors get a patent on a small and perhaps insignificant piece of the technological puzzle, yet their patent covers the entire puzzle. Inventors who solve subsequent parts of the puzzle may need to pay royalties to the patentee, even if their contributions are larger. As legal experts who focus on technology law and policy, we suggest that the problem boils down to two issues: too many patents and too little accurate information about them. The U.S. is awash in patents. Over 350,000 U.S. patents were granted in 2019, four times the per capita rate in 1980. From the perspective of research managers at big firms, patents are cheap and easy to get. For example, in the early 2000s Bill Gates decided that Microsoft was patent-poor, and within a few years the company increased annual patent applications by 50%. Patents are easy to get because the standards of patentability are low and because the burden is on the U.S. Patent and Trademark Office to prove an invention is not patentable. Patent examination is slow. It often takes three years or more. Despite increased staffing, the backlog of patent applications has continued to grow, and examiners spend on average only 20 hours reviewing each application. The patent examiner is required to read and understand the invention in an application, determine whether the invention meets the claims of the application, search existing technology to see if the invention already exists and write a response to the application. Helter-skelter examination causes errors – many patents are too broad, or they cover obvious inventions. To draw attention to problems caused by the flood of low-quality patents, billionaire entrepreneur Mark Cuban endowed a chair at the Electronic Frontier Foundation dedicated to elimination of “stupid patents.” Innovative firms that succeed in assembling many pieces of a technology puzzle into a finished product must consult with a patent lawyer to learn whether their new technology is covered by one or more patents owned by others. Ideally an innovator will get permission to use patented technology, usually for a fee, or redesign its technology to steer clear of relevant patents. In practice this patent “clearance” process is difficult, costly and sometimes impossible. For technologies like smartphones, a patent attorney likely would need to review hundreds of patents, including many patents that are not granted until long after the new product is launched. Failure to license relevant patents creates a risk of litigation and the threat the new technology could be forced out of the marketplace. As a result, smartphone patent litigation is far too common. Apple – a smartphone pioneer – has participated in scores of lawsuits around the globe as both a defendant and plaintiff. As a plaintiff, Apple sometimes uses its patents opportunistically to hinder innovation by its rivals. For example, Apple sued Samsung using a patent that claimed the slide-to-unlock feature on a phone as Apple’s invention. Despite strong evidence that inventors before Apple had already accomplished the key steps to implement this feature, Apple convinced the courts that their version of this feature was patentable, and after seven years Samsung agreed to pay license fees to Apple to settle the case. Economic research suggests that these litigation costs and license fees burden innovative firms to such a degree that on balance the patent system discourages innovation. In other words, innovative firms gain a benefit from their patents on their new technology, but that benefit is more than offset by the many patents owned by others that might be asserted against the new technology. When an inventor gets a patent, she is supposed to reveal the secret sauce behind the invention in the patent, a public document. This allows scientists and engineers to learn about the invention and use that information to improve the technology. Or at least, that’s the theory. In practice, many inventors make shoddy disclosures. Experiments reported in patents are sometimes fictional and often rely on dubious methodology. For instance, patent law permits an inventor to disclose the fictional finding that a drug treats cancer as evidence that she deserves a patent on that drug. Inventors applying for patents are allowed to include predicted experimental results. The intent is to allow for earlier disclosure and to help smaller companies secure funding. But when evidence in patents is wrong, other innovators can be misled. Further, if other innovators want to figure out if the patented drug really treats cancer – or any other disease – they need a license from the patentee. Sometimes key pieces of evidence are missing entirely from patents. This happens when a patent covers aspects of a technology that the patentee didn’t actually invent. Imagine discovering that paper is a mediocre incandescent conductor in light bulbs and using that discovery to get a patent covering thousands of other conductors, including ones that, unbeknownst to you, work much better. Later innovators might want to figure out whether other substances are better conductors than paper, but they can’t even start experiments without a license. This happened to Edison. He was sued for patent infringement after discovering a far better conductor than that discovered by the patentee – but because the patent was written broadly, it nevertheless covered Edison’s invention. There is also too little information about the boundaries of patents. When an inventor gets a patent, she is also supposed to provide clear boundary information – what a patent application covers and what it doesn’t – to the public about her patent rights. The patent system fails to ensure this, however. The boundary information in patent applications is hidden for 18 months until the application is published, and even longer if the boundaries change later during examination. Once the patent is granted, lawyers, judges and the public often have difficulty reaching agreement on the meaning of boundary language that may be intentionally vague or ambiguous. Inventors who come up with new chemicals, including pharmaceuticals, tend to benefit from the patent system. Unfortunately, the system appears to impose a net cost on most other technologies, especially in high-tech industries. Opportunistic patent owners, often called patent trolls, surprise inventors with patent claims about inventions that are minor or distantly related to the technology that is the target of the suit. Economics research shows such trolling activity slows innovation. [Over 100,000 readers rely on The Conversation’s newsletter to understand the world. Sign up today.] The patent system can be improved to deliver a net gain to all inventors even without being drastically reworked. A good start would be to rigorously enforce existing standards about information disclosure. Courts should push inventors to clearly describe and explain their inventions. The flood of patents on minor technical advances could be ended if patent fees were increased and if the nonobviousness standard, which screens out minor advances, was made stronger. Reducing the number of patents and increasing the amount of information about each patent would go a long way toward making the patent system work the way it was intended.

### 1NC---IPR Bad---Warming

#### IPR trades off with effective green technology- that’s key to solve climate change.

Jinkai Lee 20, Center for Energy, Environment and Economy Research, Zhengzhou University, “DOES INTELLECTUAL PROPERTY RIGHTS PROTECTION CONSTITUTE A BARRIER TO RENEWABLE ENERGY? AN ECONOMETRIC ANALYSIS”, Cambridge University Press: National Institute Economic Review , Volume 251 , February 2020 , pp. R37 - R46, 2-5-2020, https://www.cambridge.org/core/journals/national-institute-economic-review/article/abs/does-intellectual-property-rights-protection-constitute-a-barrier-to-renewable-energy-an-econometric-analysis/4A4BE835821D05BFCC2BCD055A006544)/maze

The debates on the impact of intellectual property rights has been extended to the current discussion on climate change mitigation. Mass development, transfer and adoption of climate-friendly technologies and renewable energy has been recognised as essential to mitigating climate change within the required timeframe (Copenhagen Economics, 2009). The share of renewable energy in global energy use rose from 17 per cent in 1990 to 18 per cent in 2015 (figure 1), but a large proportion of this renewable energy is from traditional biomass. Considerable efforts are required to develop and adopt key technologies such as solar and wind. However, given the differences in resource endowment, economic development level and technological advancement among countries, there is need for technology and know-how transfer from technologically-advanced countries to technologically lagging countries (Ockwell et al., 2010). Technology transfer is crucial given the asymmetry in research and development expenditure between developed and developing countries as shown in figure 2. According to Correa (2013), 90 per cent of technological development is concentrated in the United States, European Union, Japan and China; and 80 per cent of all patented innovations in carbon capture, geothermal, solar PV and wind energy technologies are owned by companies from France, Germany, Japan, South Korea, United Kingdom and the United States. The TRIPS Agreement acknowledges these differences by taking into consideration “the developmental and technological objectives” of its members, while also recognising the special needs of its least-developed country (LDC) members (preamble TRIPS Agreement). The TRIPS Agreement grants their least developed country members more flexibility in the implementation of their obligation under TRIPS in order to help them achieve a strong technological base. This flexibility is not available to non-members of least developing countries. The issue of intellectual property rights is a major point of discussion in innovation and technology transfer, including clean energy technology innovation and transfer. According to Latif (2012, 2013), technology transfer and innovation are key issues in the Rio+20 United Nations Conference on Sustainable Development discussions, but IPR which are related to them are barely mentioned. Nonetheless, there has been considerable policy debate over the scope and role of IPR protection with respect to clean energy and climate mitigation technologies. Some studies argue that IPR protection serves as an incentive to innovate and transfer clean energy technologies, while others claim that IPR protection would lead to higher costs of clean technology and hinder developing countries’ access because of the exclusive rights of the patent holder (ICTSD, 2008; Kapur, 2011). Although the TRIPS Agreement provides for exceptions to the exclusive right of patent holders under its Article 30, these exceptions apply collectively and are limited in nature. The Agreement also addresses the abuse of intellectual property rights by its holders, by providing that appropriate steps could be taken where IPR would unreasonably restrain trade or affect technology transfer (Article 8(2) TRIPS Agreement) The studies that examine the effect of IPR on climate change and clean energy technology have mixed conclusions (Hascic et al., 2010; UNEP, et al., 2010), partly because of inadequate data, different data sources and different methodologies. The analysis of the impact of IPR protection on clean technology innovation and transfer is a relatively young field of research. The majority of studies approach the subject mainly from theoretical, legal and case studies perspectives (Kapur, 2011; IRENA, 2012; Copenhagen Economics, 2009). To date, the literature lacks a comprehensive empirical investigation of the impact of IPR protection on renewable energy using econometric methods. This study makes an important contribution to the literature on renewable energy development. While most studies on renewable energy development and adoption have focused extensively on the technical and economic aspects, little is known about the legal and institutional frameworks that may influence renewable energy development. This study explores legal and institutional frameworks with respect to renewable energy and focuses specifically on IPR protection. While previous studies on the subject have developed theoretical or case study approaches, this study extends the IPR-renewable energy literature by taking advantage of novel panel data on the degree of IPR protection – the GinartePark Index – and adopting fixed effect panel regression techniques. This broadens the existing literature by using econometrics techniques to analyse the effect of intellectual property rights protection on climate-related technologies/renewable energy use. The two main research questions in the study are as follows: does IPR protection hinder renewable energy development? Does reforming IPR systems have significant positive impacts on renewable energy development?

#### Warming causes extinction

Dr. Yew-Kwang Ng 19, Winsemius Professor of Economics at Nanyang Technological University, Fellow of the Academy of Social Sciences in Australia and Member of Advisory Board at the Global Priorities Institute at Oxford University, PhD in Economics from Sydney University, “Keynote: Global Extinction and Animal Welfare: Two Priorities for Effective Altruism”, Global Policy, Volume 10, Number 2, May 2019, pp. 258–266

Catastrophic climate change Though by no means certain, CCC causing global extinction is possible due to interrelated factors of non-linearity, cascading effects, positive feedbacks, multiplicative factors, critical thresholds and tipping points (e.g. Barnosky and Hadly, 2016; Belaia et al., 2017; Buldyrev et al., 2010; Grainger, 2017; Hansen and Sato, 2012; IPCC 2014; Kareiva and Carranza, 2018; Osmond and Klausmeier, 2017; Rothman, 2017; Schuur et al., 2015; Sims and Finnoff, 2016; Van Aalst, 2006).7 A possibly imminent tipping point could be in the form of ‘an abrupt ice sheet collapse [that] could cause a rapid sea level rise’ (Baum et al., 2011, p. 399). There are many avenues for positive feedback in global warming, including: • the replacement of an ice sea by a liquid ocean surface from melting reduces the reflection and increases the absorption of sunlight, leading to faster warming; • the drying of forests from warming increases forest fires and the release of more carbon; and • higher ocean temperatures may lead to the release of methane trapped under the ocean floor, producing runaway global warming. Though there are also avenues for negative feedback, the scientific consensus is for an overall net positive feedback (Roe and Baker, 2007). Thus, the Global Challenges Foundation (2017, p. 25) concludes, ‘The world is currently completely unprepared to envisage, and even less deal with, the consequences of CCC’. The threat of sea-level rising from global warming is well known, but there are also other likely and more imminent threats to the survivability of mankind and other living things. For example, Sherwood and Huber (2010) emphasize the adaptability limit to climate change due to heat stress from high environmental wet-bulb temperature. They show that ‘even modest global warming could ... expose large fractions of the [world] population to unprecedented heat stress’ p. 9552 and that with substantial global warming, ‘the area of land rendered uninhabitable by heat stress would dwarf that affected by rising sea level’ p. 9555, making extinction much more likely and the relatively moderate damages estimated by most integrated assessment models unreliably low. While imminent extinction is very unlikely and may not come for a long time even under business as usual, the main point is that we cannot rule it out. Annan and Hargreaves (2011, pp. 434–435) may be right that there is ‘an upper 95 per cent probability limit for S [temperature increase] ... to lie close to 4°C, and certainly well below 6°C’. However, probabilities of 5 per cent, 0.5 per cent, 0.05 per cent or even 0.005 per cent of excessive warming and the resulting extinction probabilities cannot be ruled out and are unacceptable. Even if there is only a 1 per cent probability that there is a time bomb in the airplane, you probably want to change your flight. Extinction of the whole world is more important to avoid by literally a trillion times.

### 1NC---IPR Bad---Monopolies

#### Imposing IPR *hampers* innovation and *creates* monopolies

Emrah Karakilic 19, holds a PhD in sociology from Goldsmiths, University of London and 20. He finished his PhD in 2016 with a thesis entitled The Limits of Cognitive Capitalism., “Rethinking intellectual property rights in the cognitive and digital age of capitalism: An autonomist Marxist reading”, Technological Forecasting and Social Change Volume 147, October 2019, Pages 1-9, 7-5-2019, https://www.sciencedirect.com/science/article/abs/pii/S0040162518316275)/maze

From this perspective, the enclosure of the common should be considered a structural fetter on the development and growth of human beings. In particular, intellectual property rights act as forms of structural restraints for the expansion and development of productive forces. They block the qualities and capabilities, that is, the very human potentiality of wage-workers. They precisely interrupt the Foucauldian circuit in which l’homme produit l’homme (man produces man). In this regard, it is fair to state that by imposing IPR, capital prepares its own social crisis in terms of established capitalist relations of production Furthermore, the enclosure through IPR hinders the opportunities for innovation, profit-making, and growth. From the perspective of neoclassical economics, Boldrin and Levine (2002, 2010) challenge the ‘common argument [that] the presence of strong intellectual property rights spurs innovation leading to higher economic growth and increasing benefits for all’ (2002: 209). By drawing on quantitative models, they analyse the difference between property rights applied to material and immaterial goods and show that IPR constitute a monopoly, ‘intellectual monopoly’, ultimately hindering free market, competition, growth, and wealth. Again, from the perspective of neoclassical economics, Lerner examines the impact of IPR policy shifts in 60 nations over the past 150 years and finds a ‘lack of a positive impact of strengthening of patent protection on innovation’ (2009: 347), which is key for profit making and economic growth. Martin (1998) inquiries into the relationship between IPR and innovation from a different perspective. By using real-life cases, he demonstrates how big companies purchase someone else’s idea to inhibit other companies from transforming this idea to an innovative product and selling it on the market as a competitor of their product. Along the same lines, Baker, Jayadev and Stiglitz’s comprehensive - policy- paper argue that ‘the current global regime of intellectual property rights is inadequate in serving the purpose of development and welfare … both in developed and developing countries’ (2017: 7). They state that ‘if the knowledge economy and the economy of ideas is to be a key part of the global economy and if static societies are to be transformed into ‘learning societies’ that are key for growth and development, there is a desperate need to rethink the current regime [of IPR]’ (2017: 7). The famous Manchester Manifesto, signed by fifty international scholars from various disciplines, underlines ‘the significant drawbacks’ of IPR in ‘its effects on economic efficiency’ (2009:2), especially in terms of ‘reducing competition and allowing large companies to dominate markets’ (2009: 4).

## Space Col Bad

### 1NC---Space Col Bad---Contamination

#### Space causes bacterial resistance to antibiotics which greatly increases infection and spread.

Minhas, 20 [Vikrant Minhas is a co-founder of the space research company ResearchSat,7/23/20, accessed on 7-18-2022, The Conversation , "As If Space Wasn't Dangerous Enough, Bacteria Become More Deadly in Microgravity", theconversation.com/as-if-space-wasnt-dangerous-enough-bacteria-become-more-deadly-in-microgravity-141053]/ISEE

Worryingly, research from space flight missions has shown bacteria become more deadly and resilient when exposed to microgravity (when only tiny gravitational forces are present). In space, bacteria seem to become more resistant to antibiotics and more lethal. They also stay this way for a short time after returning to Earth, compared with bacteria that never left Earth. Adding to that, bacteria also seem to mutate quicker in space. However, these mutations are predominately for the bacteria to adapt to the new environment – not to become super deadly. More research is needed to examine whether such adaptations do, in fact, allow the bacteria to cause more disease. Read more: Bacteria found to thrive better in space than on Earth Bacterial team work is bad news for space stations Research has shown space’s microgravity promotes biofilm formation of bacteria. Biofilms are densely-packed cell colonies that produce a matrix of polymeric substances allowing bacteria to stick to each other, and to stationary surfaces. Biofilms increase bacteria’s resistance to antibiotics, promote their survival and improve their ability to cause infection. We have seen biofilms grow and attach to equipment on space stations, causing it to biodegrade. For example, biofilms have affected the Mir space station’s navigation window, air conditioning, oxygen electrolysis block, water recycling unit and thermal control system. The prolonged exposure of such equipment to biofilms can lead to malfunction, which can have devastating effects. Microorganisms that form biofilms include bacteria, fungi and protists. Shutterstock Another affect of microgravity on bacteria involves their structural distortion. Certain bacteria have shown reductions in cell size and increases in cell numbers when grown in microgravity. In the case of the former, bacterial cells with smaller surface area have fewer molecule-cell interactions, and this reduces the effectiveness of antibiotics against them. Moreover, the absence of effects produced by gravity, such as sedimentation and buoyancy, could alter the way bacteria take in nutrients or drugs intended to attack them. This could result in the increased drug resistance and infectiousness of bacteria in space. All of this has serious implications, especially when it comes to long-haul space flights where gravity would not be present. Experiencing a bacterial infection that cannot be treated in these circumstances would be catastrophic. The benefits of performing research in space On the other hand, the effects of space also result in a unique environment that can be positive for life on Earth. For example, molecular crystals in space’s microgravity grow much larger and more symmetrically than on Earth. Having more uniform crystals allows the formulation of more effective drugs and treatments to combat various diseases including cancers and Parkinson’s disease. Also, the crystallisation of molecules helps determine their precise structures. Many molecules that cannot be crystallised on Earth can be in space. So, the structure of such molecules could be determined with the help of space research. This, too, would aid the development of higher quality drugs. Optical fibre cables can also be made to a much better standard in space, due to the optimal formation of crystals. This greatly increases data transmission capacity, making networking and telecommunications faster. As humans spend more time in space, an environment riddled with known and unknown dangers, further research will help us thoroughly examine the risks – and the potential benefits – of space’s unique environment.

#### Missions to colonize increase microbes. Extinction.

Smith-Strickland, 15 [Kiona Smith-Strickland is a freelance science and technology journalist, 6-22-2015, accessed on 7-18-2022, Gizmodo, "Why Scientists Have Been Scared of Space Germs for Almost 50 Years", https://gizmodo.com/why-scientists-have-been-scared-of-space-germs-for-almo-1712562498]/ISEE

If we find life on another world (assuming it’s not sentient and well-armed), we’re going to want to bring samples back to Earth. And we’re going to want to bring them back alive. So we’ve got to have a way of preventing back contamination, or the act of bringing extraterrestrial micro-organisms back to Earth, or into human colonies in space. Our typical ways of preventing contamination aren’t going to work — we can’t leave the life behind, and we can’t sterilize everything. So we’d opt for heavy-duty containment. When the Apollo missions returned with rock and dust samples from the Moon, back contamination was a major concern. At the time, scientists didn’t know whether there would be life on the Moon, but they felt it was better to be safe than sorry. To that end, according to NASA’s history of the quarantine program, “The existence of hazardous, replicating microorganisms on the moon would be assumed.” During the missions, the Apollo crews were careful not to track materials from the lunar surface into the Command Module which would return to Earth. That sounds like “wash your hands and wipe your feet,” but it’s more complicated when you’re wearing a bulky spacesuit in an environment that’s full of dust. Once they returned to Earth, the crews went into immediate quarantine. First they lived in a mobile isolation unit on the aircraft carrier that recovered the landing capsule, then in an aircraft set up for isolation, and finally in a special quarantine unit at the Johnson Space Center in Houston, Texas. They stayed there for three weeks, while NASA doctors performed tests and watched for any signs of illness that might indicate an alien infection. Apollo 11 crew in quarantine. Image credit: NASA. Meanwhile, the lunar samples went to the Lunar Receiving Lab at Johnson Space Center, where they could be studied in careful quarantine. Once the samples were proven to be devoid of life, some were released to other research facilities. NASA’s plan for bringing Martian samples home is a bit more advanced. The agency’s Planetary Protection Subcommittee recently laid out its proposal for preventing back contamination. It includes a requirement that any samples brought back to Earth must be either sterilized or packed in a sealed container before being brought aboard the spacecraft. That containment system must also have a redundant failsafe as a backup. They’re not playing around. The proposal also says, “The mission and the spacecraft design must provide a method to ‘break the chain of contact’ with Mars. No uncontained hardware that contacted Mars, directly or indirectly, shall be returned to Earth.” Sorry, Curiosity Rover: you can never come home. Once on Earth, the samples would, according to NASA’s proposal, go straight to a Sample Return Facility, where they would be subjected to a battery of tests for potential biohazards. Once they’re deemed clean, they will be distributed to other research facilities. NASA’s proposed Sample Return Facility would include Biosafety Level 4 labs (the same types of facilities where viruses like Ebola are studied today), as well as cleanrooms to prevent the Martian samples from picking up any stray Earth germs. Unfortunately, “such an integrated facility is not currently available,” NASA notes. What Could Go Wrong? So, what happens in the unlikely event that those measures fail, and the first crewed mission to Mars sets alien microbes loose on Earth? We don’t know, and that’s what makes containment so important. The whole thing could play out like a microscopic version of H.G. Wells’ War of the Worlds, where terrifying Martian invaders are killed off by Earth viruses. If extraterrestrial microbes escape from containment, they might not last long out in the world, where they have to compete with Earth’s own battalions of bacteria and viruses. Of course we might see the opposite scenario. Extraterrestrial microbes might thrive in Earth’s environment, and they might out-compete many Earth microbes, just like today’s terrestrial invasive species — which are problematic enough without help from other worlds. Humans would have no natural immunity to Martian pathogens, and our whole species might be wiped out. So you might think of extraterrestrial microbes as the potential next version of Ebola, which explains the Biohazard Level 4 recommendation. But humans aren’t the only ones in danger. Extraterrestrial microbes could rapidly wipe out Earth’s other animal species, plants, and microbes. That might actually be a more horrific scenario: humanity survives, but all the animals and plants we depend on for sustenance die off, or all the microbes that play such a vital role in our environment are displaced by alien microbes that don’t fill the same roles. There’s probably an excellent post-apocalyptic novel waiting to be built around that scenario.

### 1NC---Space Col Bad---New Tech

#### Space col generates new tech that is existential.

**Kovic, 21** [Marko Kovic is the co-founder president of the nonprofit think tank ZIPAR, February 2021, accessed on 7-18-2022, Futures, "Risks of space colonization", https://www.sciencedirect.com/science/article/abs/pii/S0016328720301270]/ISEE

Achieving space colonization capabilities means obtaining sufficiently advanced technology for venturing beyond Earth and permanently sustaining human life there. In order to achieve that goal, maximizing the pace of technological development seems like an instrumentally desirable goal: The faster we technologically innovate and develop, the higher the probability of obtaining space colonization capabilities. However, the problem with such a technological push is that the increased pace of technological development might also result in an increased pace of existential risk creation. As I argue above in Section 2.1, anthropogenic existential risks correlate with human technological development. All non-natural existential risks are the result of our technological progress, and more technological progress is likely to beget more existential risks. Of course, this should not be misunderstood as a quasi-Luddite argument against all technological progress in general. Scientific and technological progress has made life enormously better and removed tremendous amounts of suffering from the world, to the benefit of current as well as all future generations. However, existential risks are an unprecedented challenge, and the more numerous and probable they are, the more difficult it is to mitigate them in time. In the context of space colonization, this issue is of elevated importance because, as I argue above in Section 3.1, delaying space colonization has an almost imperceptible impact on the long-term future of humankind, whereas existential risks and our attempts at mitigating them (or failing to do so) has an enormous impact.

### 1NC---Space Col Bad---Tradeoff

#### Climate change is on the brink of being unstoppable

Makowski, 21 [Michael Makowski works for the Progressive Media Project, 7-28-2021, accessed on 7-18-2022, Newsday, "Planet burns while billionaires soar", https://www.newsday.com/opinion/commentary/global-warming-billionaires-space-race-c74790]/ISEE

While record-breaking wildfires burned across the Western United States, Amazon executive chairman and billionaire Jeff Bezos stepped out of his space capsule to a crowd of cheering fans. His company Blue Origin’s first launch into space was a success. Bezos became the second billionaire to reach space and cement his stature as a leading private space industry figure. The three billionaires building the private space industry so far are: Richard Branson with Virgin Galactic, Elon Musk with SpaceX and Bezos with Blue Origin. Musk has yet to make the trip to space himself. "If we can do this," exclaimed Branson, who preceded Bezos’ space trip by about a week, "just imagine what you can do." With a billion dollars, he should have added. These billionaires see themselves as virtuous trailblazers of a new space age. While Branson has the more docile plan of business expansion and commercial space travel (think space tourism), Bezos envisions settlements on the moon. Musk, famously, locates humanity’s future in the colonization of Mars. Besides their money, eccentricities and desire to float in space, these three men share a dislike for paying taxes. Branson has moved billions between tax havens to avoid paying in his home country of England. For a number of years, Bezos and Musk, the two richest men in the world, paid no federal income taxes. Behind their space ambitions is a recognition of the more **earthly** challenges to our future: the depletion of resources, population growth and, most importantly, climate change. In his post-launch briefing, Bezos even spoke of the Earth’s fragility and the need to protect it. "As we move about the Earth, we damage it," he said. In a separate interview, he stressed the need to keep Earth "as this beautiful gem of a planet that it is." Admissions like this demonstrate a **willful** ignorance of the billionaires’ own complicity in these existential crises. Bezos’ Amazon is responsible for a carbon footprint that rivals that of some countries. At the same time, Bezos and his company fund a leading climate-change-denial think tank and reject grassroots employee demands for greater climate action. Amazon has created the Amazon Climate Pledge to reach net zero emission by 2040, and Bezos has pledged $10 billion toward the new Bezos Earth Fund. One year after creating the pledge, however, the company’s carbon emissions increased by 19%, and Bezos has only given a fraction of his pledge. Climate change is an immediate crisis that, at this point, we are in a stage of harm management and not prevention. Proponents of the Green New Deal argue that to salvage our planet and its inhabitants requires a warlike scale of mobilization. Estimates of the cost of reconstructing a new, green economy usually amount to trillions of dollars of government spending. In short, $10 billion isn’t going to cut it. Upon his return from the sky, Bezos made it a point to thank Amazon workers, who "paid for all this." This rhetorical thanks is a stark contrast to the working conditions in Amazon warehouses and the union-busting efforts pushed by Amazon around the country. It’s important to remember how these billionaires made their money and what their space race really means while so many issues persist at home. While they continue their **privatized** space race, the rest of humanity is **imperiled**. The planet will continue to burn, and inequality will worsen until massive action and investment is taken, which means billionaires finally paying their fair share. Billionaires would do best to put their space race on pause and focus more of their **attention** on this planet.

#### Space col trades off with earth focus and damns climate change reversal

**Singh, 22** [Samantha Singh, 2/3/22, accessed on 7-18-2022, No publication, "Billionaire Space Race Avoids Facing Consequences", www.blakespectrum.org/blog/2022/02/03/billionaire-space-race-avoids-facing-consequences/]/ISEE

On December 19th, 2021, the Falcon 9 rocket, a private vehicle owned by SpaceX, was launched, alleviating sustainability concerns regarding space exploration with the end goal of colonizing Mars. Suddenly, the idea of space exploration has become startlingly close, and less of a trope from a sci-fi movie. However, the romanticism surrounding the terraformation of Mars, and the space tourism industry as a whole, is not only idealistic–it’s incredibly dangerous. Space capitalists like Elon Musk, owner and founder of SpaceX, have released concerning statements that acknowledge Mars as having “no Earth-based government” that carries “authority or sovereignty over Martian activities” and that ‘“SpaceX will move to impose our own legal regime” to provide authority over Mars. This capitalist trick to curtail government involvement is particularly concerning, as the US government has no agency to instill any pre-existing labor or human rights protections on the planet. SpaceX is known for prioritizing profit over the well-being of their workers– many infamous lawsuits have detailed a toxic work culture rampant with sexual harassment and lack of workplace safety regulations, all swept under the rug by the company. There is no doubt that they will enforce similar exploitative labor practices on Mars. Mars colonization and similar endeavors are simply a way for the bourgeoisie to maximize profit while escaping government regulations needed to maintain healthy working conditions. The reality of space travel is ugly in more ways than one. For one, space exploration propagates Western colonization and imperialism. Institutions of oppression are inevitably bound to seep into space endeavors, specifically when it comes to claims over natural resources. The entitlement American private enterprises possess when it comes to exploring the frontier of space skirts dangerously into Manifest Destiny ideology, that we have the obligation to colonize space despite the ruthless exploitation of land and minority groups that will inevitably follow. This harmful ideology, a main motivating factor for space exploration, spins stories of ultra-nationalistic white men justifying exploitation to secure existence for the future generations, a notable white nationalistic dogwhistle. Manifest Destiny during early American history did guarantee existence for future generations, however they were exclusively white generations. To make matters worse, the rise in space tourism–an industry that sends civilians to space for leisurely reasons–holds deadly consequences for the environment. Wildfires, record heat waves, increased floods, among other rapid shifts in weather conditions, are just a few of the many climate disasters currently endangering all life on Earth. As flights to space double and triple in numbers in the next decade, in addition to the rockets, so too will carbon emissions and burning fuels, advancing the destruction of the ozone layer. The irony is not lost on anyone; billionaires push space-age Manifest Destiny and utopian daydreams on Mars as a way to escape the climate change that they largely accelerated, while continuing to fund the destruction of the atmosphere. However, many climate scientists acknowledge that it is not too late to rectify the situation on Earth. The facts are simple: Mars colonization is a form of utopianism, providing an escape for the bourgeoisie rather than a haven for all people. Conversely, climate change is a very real and devastating threat that requires immediate attention. Instead of shuttling money and precious resources into inhospitable planets like Mars, billionaires should reinvest in the Earth to ensure the safety of future generations. As countless climate activists and organizations have echoed throughout the years, there is no Planet B.

#### Climate Change is existential

Ng ’19 [Yew-Kwang; May 2019; Professor of Economics at Nanyang Technology University, Fellow of the Academy of Social Sciences in Australia and Member of the Advisory Board at the Global Priorities Institute at Oxford University, Ph.D. in Economics from Sydney University; Global Policy, “Keynote: Global Extinction and Animal Welfare: Two Priorities for Effective Altruism,” vol. 10, no. 2, p. 258-266; RP]

Catastrophic climate change Though by no means certain, CCC causing global extinction is possible due to interrelated factors of non‐linearity, cascading effects, positive feedbacks, multiplicative factors, critical thresholds and tipping points (e.g. Barnosky and Hadly, [2016](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0005); Belaia et al., [2017](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0008); Buldyrev et al., [2010](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0016); Grainger, [2017](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0027); Hansen and Sato, [2012](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0029); IPCC [2014](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0031); Kareiva and Carranza, [2018](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0033); Osmond and Klausmeier, [2017](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0056); Rothman, [2017](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0066); Schuur et al., [2015](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0069); Sims and Finnoff, [2016](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0072); Van Aalst, [2006](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0079)).[7](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-note-1009_67) A possibly imminent tipping point could be in the form of ‘an abrupt ice sheet collapse [that] could cause a rapid sea level rise’ (Baum et al., [2011](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0006), p. 399). There are many avenues for positive feedback in global warming, including: the replacement of an ice sea by a liquid ocean surface from melting reduces the reflection and increases the absorption of sunlight, leading to faster warming; the drying of forests from warming increases forest fires and the release of more carbon; and higher ocean temperatures may lead to the release of methane trapped under the ocean floor, producing runaway global warming. Though there are also avenues for negative feedback, the scientific consensus is for an overall net positive feedback (Roe and Baker, [2007](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0065)). Thus, the Global Challenges Foundation ([2017](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0026), p. 25) concludes, ‘The world is currently completely unprepared to envisage, and even less deal with, the consequences of CCC’. The threat of sea‐level rising from global warming is well known, but there are also other likely and more imminent threats to the survivability of mankind and other living things. For example, Sherwood and Huber ([2010](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0071)) emphasize the adaptability limit to climate change due to heat stress from high environmental wet‐bulb temperature. They show that ‘even modest global warming could … expose large fractions of the [world] population to unprecedented heat stress’ p. 9552 and that with substantial global warming, ‘the area of land rendered uninhabitable by heat stress would dwarf that affected by rising sea level’ p. 9555, making extinction much more likely and the relatively moderate damages estimated by most integrated assessment models unreliably low. While imminent extinction is very unlikely and may not come for a long time even under business as usual, the main point is that we cannot rule it out. Annan and Hargreaves ([2011](https://onlinelibrary-wiley-com.proxy.lib.umich.edu/doi/full/10.1111/1758-5899.12647#gpol12647-bib-0004), pp. 434–435) may be right that there is ‘an upper 95 per cent probability limit for S [temperature increase] … to lie close to 4°C, and certainly well below 6°C’. However, probabilities of 5 per cent, 0.5 per cent, 0.05 per cent or even 0.005 per cent of excessive warming and the resulting extinction probabilities cannot be ruled out and are unacceptable. Even if there is only a 1 per cent probability that there is a time bomb in the airplane, you probably want to change your flight. Extinction of the whole world is more important to avoid by literally a trillion times.

### 1NC---Space Col Bad---War

#### Space col creates two scenarios for galactic destroying wars.

**Kovic, 21** [Marko Kovic is the co-founder president of the nonprofit think tank ZIPAR, February 2021, accessed on 7-18-2022, Futures, "Risks of space colonization", https://www.sciencedirect.com/science/article/abs/pii/S0016328720301270]/ISEE

Achieving 5. Conflict risks Conflict risks are risks that are created by the prospect of hostile actors or powers in the context of space colonization. Conflict risks are in principle not unlike conflicts that humankind has experienced throughout its Earth-based history, but they are much greater in scope and severity. The four conflict risks I focus on are depicted in Fig. 5. I identify two catastrophic and two existential conflict risks. 5.1. Secession and independence conflicts Human habitats beyond Earth are likely to remain modest in the near-term future. The International Space Station, humankind's most advanced habitat-like project so far, can accommodate six people and is dependent on supplies from Earth. More ambitious colonization projects such as SpaceX's plan for Mars colonies typically envision what amounts to very small and simple camps (Musk, 2017). Managing such simple colonization projects should be doable legally and politically. With more mature colonies, however, the picture changes. Imagine, for example, the large, self-sustaining habitat on Venus that consists of 2 billion people that I mentioned in a thought experiment before. That hypothetical habitat is truly self-sustainable, in the sense that survival on Venus is not contingent in any way on resources or other kinds of support from Earth. If prior human history is an indication, it is conceivable that the Venusians could at some point seek to change their political status. They might want to no longer be governed by Earth or Earth-based governments and instead have sovereignty to autonomously and freely shape Venus’ future. They might, in other words, seek to secede and become an independent political entity. Given prior human history of secession and independence movements, such a claim to independence in the context of space colonization could easily result in violent conflict, and given the scale of the conflict parties in this scenario, the bloodshed could be much greater than all the wars that happened in Earth's history so far. Of course, we do not know what the dominant political philosophy of the future will be. Perhaps popular sovereignty and the wish for autonomy will be fully respected and met with unconditional, enlightened understanding. But that prospect is, at best, uncertain, and the prospect of catastrophic violent conflicts seems at least possible. 5.2. Reactionary colonies Let us assume for the sake of argument that the risks surrounding secessionist claims of extraterrestrial colonies will eventually have been overcome and that there are colonies which have attained a country-like or world-like status. What should the political systems in and the moral foundations of those independent colonies look like? Ideally, they would be at least as democratic, liberal, and generally morally progressive as the most democratic, liberal, and morally progressive countries today. More specifically, independent future colonies should have socio-political systems that do not lower average wellbeing or create (disproportionately) more suffering compared to their pre-existing peers such as Earth-based countries (Or whatever the dominant polity on Earth in that future might be.). However, there is no guarantee that independent colonies will meet that socio-political and moral bar. It is possible that there will be colonies whose socio-political systems are regressive in one way or another, marked by a relative moral decay compared to the baseline of political systems and moral frameworks. I call such potential undesirable entities reactionary colonies. The emergence of reactionary colonies might seem implausible given that humankind has, very roughly speaking, so far morally improved over the course of its history.9 But reactionary colonies might actually be a fairly common future development. If humankind at some point achieves the technological means for creating colonies with relative ease, creating new colonies might be an attractive option for extremist groups and beliefs. Imagine, for example, a religious group that believes in the fundamental superiority of men over women. Such a religious group might find it difficult adhering to their flawed moral principles in a pluralistic society. Opting for colonial exodus might represent an attractive opportunity for that religious group to build a society from scratch which is based on their notions of female inferiority and subjugation. The specific risk posed by reactionary colonies is twofold. Reactionary colonies would by definition lower the average happiness and wellbeing of humankind and create unnecessary, preventable suffering. Reactionary colonies would also represent potential rogue actors that could greatly amplify the aberration risks described in Section 4. For example, a dictatorial regime that causes great suffering to its population might be tempted to expand its dictatorial ideology to other colonies. Or that dictatorial colony could be led by a psychopathic elite that enjoys letting sentient simulations suffer as much as possible. The potential catastrophic and even existential multiplicator effects of reactionary colonies are, unfortunately, numerous. 5.3. Inter-colonial conflict Let us, again for the sake of the argument, assume that the previous problem of reactionary colonies has somehow been solved or avoided. Humankind has continued its path of technological development, and it has established several large clusters of colonies beyond the Solar system. Assuming that the fundamental problem of faster-than-light communication has not been solved yet, communication between the clusters lags months or even years, and physical contact between the clusters is rare since travel takes even longer than communication. The inevitable consequence of such a splintering of human civilization is that the different clusters of colonies would over time develop distinct cultures, and with only scarce and delayed contact with other clusters, a form of intergroup bias (Hewstone, Rubin, & Willis, 2002), the moral preference of one's own in-group over the out-group, would likely start to manifest. Over time, that us-versus-them heuristic could help create distinct and solidified social identities within the colony clusters (Hewstone & Greenland, 2000), and the beliefs and preferences about the outgroup colonies could become more overtly negative. Given enough time and great enough idiosyncratic development within each colony cluster, the cultural and moral connections between the colony clusters could further erode, and in their place, a sense of dread and looming danger about the others’ goals and preferences could take hold. Over a long enough period of time and great enough separation, the perception that other colonies are a threat could grow; so much so that taking preventative action and attacking and suppressing them might seem like the most rational course of action (Torres, 2018). Given the scale and the likely technological sophistication of future weapons systems, a violent conflict between advanced colonies and colony clusters would create suffering on an astronomical scale. Of course, the prospect of inter-colonial conflict is somewhat speculative (Cirkovic, 2019). But given humankind's past experiences, violent conflict clearly seems within the realm of the possible. That does not mean that such an almost immeasurably terrible conflict is unavoidable. Even the slightest probability of such conflict, however, means immense potential expected disvalue. 5.4. Hostile extraterrestrial intelligence We do not currently know whether intelligence, biological or artificial, exists beyond Earth, but it is not implausible to assume so. Coming into contact with as well as refraining from seeking contact with extraterrestrial intelligence poses risks, as I discuss in Section 4. In addition to these risks, extraterrestrial intelligence also poses a conflict risk: If an extraterrestrial intelligence has moral values that are sufficiently different form humankind's, the intelligence could de facto react to humankind and other forms of intelligence with hostility. At first glance, the prospect of a hostile extraterrestrial intelligence, be it biological or artificial, might seem farfetched. Isn’t some baseline of altruistic moral behavior to be expected of any kind of intelligence? We might intuitively associate intelligence with prosocial behavior of one kind or the other, but from an evolutionary perspective, greater intelligence is not necessarily correlated with prosocial and altruistic behavior towards other species (Raybeck, 2014). Intelligence is the generalized capability for achieving goals, regardless of moral underpinnings and considerations. After all, that is why artificial intelligence as superintelligence is an existential risk today: Superintelligence is a threat precisely because it is much more intelligent than humans but lacks any inherent sense of human preferences and moral values. Hostile extraterrestrial intelligence is a serious risk even if such intelligence is exceedingly rare in the universe. The mere possibility of hostile intelligence could result in something like a “Dark Forest” (Yu, 2015) game theoretic configuration. If benevolent biological or artificial intelligence is aware of the possibility of hostile alien intelligence, the best course of action is silence (If there might be hostile alien intelligence, best not to be noticed.). In addition, preventative action could also be a rational choice: If an alien intelligence — such as our human civilization — is being observed gradually expanding beyond our home planet, a risk averse intelligence, even one that is benevolent in principle, might find it prudent to eliminate that civilization; be it because the civilization in question might become hostile or because it might, through folly or ineptitude, draw unwanted attention to oneself. The mere possibility of fundamentally hostile intelligence could, in that sense, be enough to fuel a silent astronomical war.

## **Dedev**

### 1NC---Dedev---Link

#### IPR is the “powerhouse” for economic growth.

ICC, ND [ICC (International Chamber of Commerce, No Date, accessed on 7-18-2022, ICC - International Chamber of Commerce, "Intellectual Property: Powerhouse for Innovation and Economic Growth - ICC - International Chamber of Commerce", https://iccwbo.org/publication/intellectual-property-powerhouse-for-innovation-and-economic-growth/]/ISEE

Private-sector companies and industries likewise are looking for ever-more competitive ways to succeed, by developing and incorporating creative and useful innovations into products and services that we all benefit from and enjoy in virtually every area of life. This paper explores and explains the benefits of intellectual property (IP) protection in helping to achieve these important goals. Intellectual property rights (IPR)—the copyrights, patents, trademarks and similar rights upon which the lion’s share of creative and innovative products and services rely—have a vital role in growing the economies of developed and developing countries all over the world, in spurring innovation, in giving large and small firms a range of tools to help drive their success, and in benefitting consumers and society through a continuous stream of innovative, competitive products and services and an expansion of society’s overall state of knowledge. This paper reviews how IPR works in five main areas: 1. Intellectual property protection benefits the economy. 2. Intellectual property protection promotes innovation. 3. Intellectual property protection helps firms monetize their innovations and grow. 4. Intellectual property protection helps small and medium enterprises. 5. Intellectual property protection benefits consumers and society. As the ‘knowledge economy’ advances, more and more of the value that firms and the overall economy achieve will come from high value-added intangibles—including IP in inventions, brands and works. In many companies even now, 80% or more of their market value is attributable to intangibles, including IP. In some small companies, the only value is the intellectual property they own in an exciting new innovation that they have developed. IPR has truly become an ‘intellectual currency’ helping to promote economic growth, company competitiveness and innovation world-wide.

# DA

## Decoupling DA

### 1NC---OFF

#### Decoupling is on the brink BUT a shift would be devastating

Michael Hirsh 6/22, senior correspondent at Foreign Policy, “The U.S. and China Haven’t Divorced Just Yet”, Foreign Policy 6-22-2022, https://foreignpolicy.com/2022/06/22/united-states-china-decoupling-business-ties)/maze

U.S. businesses, meanwhile, continue to [invest heavily](https://www.piie.com/blogs/realtime-economic-issues-watch/foreign-corporates-investing-china-surged-2021) in China, and they are growing more outspoken about their intention to continue doing so. In a [speech](https://www.csis.org/analysis/business-and-trade-are-our-national-interest) in Washington this month, Evan Greenberg, a former chair of the U.S.-China Business Council, called decoupling an “economic impossibility” and urged U.S. companies to redouble their efforts to enter the Chinese market. Decoupling, Greenberg said, will only “feed China’s worst instincts” and at the same time undercut U.S. global competitiveness.

“The less reliant China is on American-produced technology, the less leverage the United States will have to influence how China pursues its interests over time,” he said. According to a new survey by [the American Chamber of Commerce in Shanghai](https://www.amcham-shanghai.org/en/article/amcham-shanghai-releases-2021-china-business-report) of more than 300 American companies in China, 60 percent reported increased investment compared with 2020.

The notorious “China shock” caused by the rush of U.S. producers overseas may have led to the loss of millions of U.S. jobs, especially in manufacturing, in recent decades, helping to spark the rise of anti-China populism. But many economists say a hard decoupling, or total separation of the two economies, would be devastating to both nations.

#### US regulatory policy causes Chinese *tit for tat* retaliation which causes divergence.

Angela Zhang 21 an associate professor at the Faculty of Law in the University of Hong Kong. An expert in Chinese law,, “Chapter 5: Weaponizing Antitrust During Sino-US Tech War”, Chinese Antitrust Exceptionalism: How The Rise of China Challenges Global Regulation Oxford Scholarship Online: July 2021, https://global.oup.com/academic/product/chinese-antitrust-exceptionalism-9780198826569?cc=us&lang=en&)/maze

In response to US hostility, China has chosen to retaliate tit- for- tat. Such a strategy simultaneously consists of a promise and a threat: if the United States does nothing, then neither will China; conversely, if the United States attacks, so will China. One of the most famous examples of this strategy is the ‘liveand- let- live’ system that emerged during the trench warfare in the First World War.46 There, it was observed that cooperation is possible even amongst antagonists. Soldiers on the frontline defied orders from their higher command and refrained from shooting at the enemy as long as their opponents reciprocated. To deter America’s aggressive strategy of stifling Chinese leading technology companies, China has a few regulatory tools at its disposal. One of them is the AML which has emerged as a powerful economic weapon allowing the Chinese authority to exercise extraterritorial jurisdiction over foreign multinationals. The coercive capacity of the AML is expected to increase, given that a pending amendment to its powers would enhance its punitive capacities.

2.1 The Folk Theorem To illustrate China’s tit- for- tat strategy, consider the following hypothetical game between the United States and China.47 In this game, the United States makes the first move, and it must decide whether it will maintain the status quo of accommodating the rise of China or take a more aggressive stance in order to deter China from acting in a way that would harm US interests. In this hypothetical game, if the United States keeps to the status quo, both countries will receive the same payoff score of 10. However, if the United States takes an aggressive approach, it will receive a score of 15 and China will obtain a score of 1. China must then decide whether to punish the United States, which will harm both itself and the United States. If China chooses to punish the United States, then both countries gain nothing. While the cooperative outcome yields the highest joint payoffs for the two countries, this equilibrium cannot be achieved in a one- shot game. If the game is only played once, then the United States’ dominant strategy will be one of aggression in which it will receive the largest advantage. In this scenario, United States will obtain the maximum payoff of 15. China will not be content but it is better off acquiescing and collecting a payoff of 1 instead of being left with zero gain. However, in reality, the United States and China are repeatedly and continuously interacting with each other in this relationship. Given that this game involves an infinite number of interactions, China will opt for a different strategy to fulfil its objectives. It will choose to punish the United States, in which case the United States will obtain nothing. In anticipation of being punished by China, the United States will modify its strategy to tolerate China’s rise, as a result of which China will acquiesce, achieving a payoff of 10 for both players. The key to maintaining this equilibrium is the implicit threat of punishment, and peace is only possible if China has the capacity to retaliate against any US aggression. This logic applied during the Cold War. In his Nobel Peace Prize lecture, Robert Aumann said: ‘In the long years of the cold war between the US and the Soviet Union, what prevented “hot” war was that bombers carrying nuclear weapons were in the air 24 hours a day, 365 days a year. Disarming would have led to a war.’48

#### Decoupling causes inevitable war and miscalculation.

Kevin Rudd 21, President of the Asia Society, in New York, and previously served as Prime Minister of Australia., “Short of War: How to Keep U.S.-Chinese Confrontation From Ending in Calamity”, Foreign Affairs(Vol. 100, Issue 2), March-April 2021, https://www.foreignaffairs.com/articles/united-states/2021-02-05/kevin-rudd-usa-chinese-confrontation-short-of-war)/maze

Officials in Washington and Beijing don't agree on much these days, but there is one thing on which they see eye to eye: the contest between their two [countries](https://go-gale-com.proxy.lib.umich.edu/ps/i.do?p=AONE&u=umuser&id=GALE%7CA653104093&v=2.1&it=r) will enter a decisive phase in the 2020s. This will be the decade of living dangerously. No matter what strategies the two sides pursue or what events unfold, the tension between the [United States](https://go-gale-com.proxy.lib.umich.edu/ps/i.do?p=AONE&u=umuser&id=GALE%7CA653104093&v=2.1&it=r) and [China](https://go-gale-com.proxy.lib.umich.edu/ps/i.do?p=AONE&u=umuser&id=GALE%7CA653104093&v=2.1&it=r) will grow, and competition will intensify; it is inevitable. [War](https://go-gale-com.proxy.lib.umich.edu/ps/i.do?p=AONE&u=umuser&id=GALE%7CA653104093&v=2.1&it=r), however, is not. It remains possible for the two countries to put in place guardrails that would prevent a catastrophe: a joint framework for what I call "managed strategic competition" would **reduce the risk of competition escalating into open conflict**. The [Chinese Communist Party](https://go-gale-com.proxy.lib.umich.edu/ps/i.do?p=AONE&u=umuser&id=GALE%7CA653104093&v=2.1&it=r) is increasingly confident that by the decade's end, China's economy will finally surpass that of the United States as the world's largest in terms of GDP at market exchange rates. Western elites may dismiss the significance of that milestone; the CCP's Politburo does not. For China, size always matters. Taking the number one slot will turbocharge Beijing's confidence, assertiveness, and leverage in its dealings with Washington, and it will make China's central bank more likely to float the yuan, open its capital account, and challenge the U.S. dollar as the main global reserve currency. Meanwhile, China continues to advance on other fronts, as well. A new policy plan, announced last fall, aims to allow China to dominate in all new technology domains, including artificial intelligence, by 2035. And Beijing now intends to complete its military modernization program by 2027 (seven years ahead of the previous schedule), with the main goal of giving China a decisive edge in all conceivable scenarios for a conflict with the United States over Taiwan. A victory in such a conflict would allow President Xi Jinping to carry out a forced reunification with Taiwan before leaving power--an achievement that would put him on the same level within the CCP pantheon as [Mao Zedong](https://go-gale-com.proxy.lib.umich.edu/ps/i.do?p=AONE&u=umuser&id=GALE%7CA653104093&v=2.1&it=r).

Washington must decide how to respond to Beijing's assertive agenda--and quickly. **If it were to opt for economic decoupling** and open confrontation, every country in the world would be forced to take sides, and the **risk of escalation would only grow**. Among policymakers and experts, there is understandable skepticism as to whether Washington and Beijing can avoid such an outcome. Many doubt that U.S. and [Chinese](https://go-gale-com.proxy.lib.umich.edu/ps/i.do?p=AONE&u=umuser&id=GALE%7CA653104093&v=2.1&it=r) leaders can find their way to a framework to manage their diplomatic relations, [military operations](https://go-gale-com.proxy.lib.umich.edu/ps/i.do?p=AONE&u=umuser&id=GALE%7CA653104093&v=2.1&it=r), and activities in cyberspace within agreed parameters that would maximize stability, avoid accidental escalation, and make room for both competitive and collaborative forces in the relationship. The two countries need to consider something akin to the procedures and mechanisms that the United States and the [Soviet Union](https://go-gale-com.proxy.lib.umich.edu/ps/i.do?p=AONE&u=umuser&id=GALE%7CA653104093&v=2.1&it=r) put in place to govern their relations after the Cuban missile crisis--but in this case, without first going through the near-death experience of a barely avoided war.

### **2NC---XT---Uniquness**

#### Further decoupling is destabilizing

Edward Wong 7/5, a diplomatic correspondent for The New York Times who reports on foreign policy from Washington, D.C, “U.S. Aims to Expand Export Bans on China Over Security and Human Rights”, The New York Times, 7-5-2022, https://www.nytimes.com/2022/07/05/us/politics/us-china-export-controls.html)/maze

The Biden administration on Tuesday put five Chinese companies on an export blacklist for continuing to support Russia’s military-industrial sector. It was the first time the U.S. government had taken action against Chinese companies for aiding Russia since the war in Ukraine began in February, though U.S. officials say the Chinese government and most companies appear to be complying with the U.S.-led sanctions.

Even before those actions, the Biden administration had doubled down on a Trump administration policy of wielding export controls as a cudgel against Chinese companies.

In 2018, Congress passed a law requiring the Commerce Department to expand its controls on sensitive U.S. technologies that flow abroad.

Although some lawmakers say the government has moved too slowly on this, the department under both the Trump administration and the Biden administration has aggressively wielded a more targeted tool, called the entity list, which cuts foreign companies and organizations off from U.S. technology unless their U.S. suppliers obtain a license to sell goods to them.

The Trump administration put Huawei and SMIC, two prominent Chinese technology companies, on that list.

Before Russia invaded Ukraine, the Commerce Department under Biden was adding China-based companies and organizations to the list at a much faster rate than ones from any other country. Of 475 foreign entities added since January 2021, 107 are based in China, according to a new tally of data that the agency provided to The New York Times. By contrast, the administration put 23 Russia-based entities on the list before the war — then quickly added 252, in addition to imposing broader restrictions on entire categories of technology goods.

The administration has also blacklisted companies based in Pakistan, Belarus, Myanmar, the United Arab Emirates, Singapore and Britain, but those numbers are much smaller.

Most of the China-based entities listed during the Biden administration were judged by U.S. officials to have military roles or to be involved in systemic human rights abuses. Some have suspicious ties with Iran, North Korea and Pakistan, countries with nuclear programs that the United States is trying to constrain, U.S. officials said. A few are linked to aggressive actions in disputed territory in the South China Sea.

The United States has also extended the reach of its export restrictions well beyond U.S. borders. It has forbidden companies anywhere in the world from exporting certain items if they are made with American technology to some listed entities, including Russian military groups and Huawei, the Chinese telecommunications company. The United States can also restrict exports to listed entities of foreign goods that contain certain amounts of U.S. products.

“One of the lessons from the use of that tool with Huawei is that it can be a pretty powerful mechanism,” said Samm Sacks, a researcher on technology policy at Yale Law School and New America. “It captures a lot of third-country suppliers.”

Some U.S. lawmakers say further technology restrictions would be a potent tool to wield against Beijing and that threats to broaden those controls might help deter potential hostilities by Chinese leaders toward Taiwan. But some analysts warn of possible retaliation from China.

“As the United States continues to exploit the extraterritorial reach of its regulations, the growing threat of a regulatory ‘arms race,’ particularly with China, adds to an already jittery business environment,” Jeanette Chu, a senior associate at the Center for Strategic and International Studies, wrote in March.

“The ‘tit for tat’ nature of export controls and sanctions today risks undermining the effectiveness of export controls and leaving policymakers with limited options,” she added.

Although the Chinese government denounces Washington’s use of sanctions, it has increasingly used its own form of economic punishments to harm countries that take stands contravening Beijing’s political views. Recent targets include Australia, Japan, South Korea and Norway. When Lithuania permitted Taiwan last year to open a representative office in its capital, China cut off its exports to Lithuania as well as imports.

In June 2021, Beijing enacted the “Anti-Foreign Sanctions Law,” aimed at punishing companies and individuals that comply with foreign sanctions against China. And the Chinese government has an export control law that it could use broadly.

China remains behind the United States in many technological fields but is catching up quickly. In some areas — biotechnology, artificial intelligence and 5G communications, for instance — China is at or near the fore. And it is set to overtake the United States in national spending on research and development within the next several years.

“Scientific and technological innovation has become the main battlefield of the international strategy contest, and the competition around the commanding heights of science and technology is unprecedentedly fierce,” President Xi Jinping of China said in a speech in May 2021.

Biden administration officials say the export controls imposed on Russia show that the strength of the U.S.’ actions comes from coordination with partner nations.

At Biden’s democracy summit in December 2021, the United States, Australia, Denmark and Norway announced they would begin building a new export control policy program to limit technologies going to authoritarian governments engaged in human rights abuses. The United States has been carrying out other discussions in its trade and technology dialogue with the European Union.

The most prominent global export regime now, the Wassenaar Arrangement, is intended to control sales of technology that can be used for military as well as commercial purposes, but critics say it has drawbacks, including that Russia is a member.

Any new multilateral system for export controls must be done with partners so that many countries impose the same limits, Estevez said last month. “As anyone knows, **if you dam half the river, the water is still flowing**,” he added.

But Martin Chorzempa, a senior fellow at the Peterson Institute for International Economics, warned that many nations that have deep trade ties with China could resist efforts to impose broad export controls on the country.

“I don’t think you’d see the level of unanimity that the sanctions on Russia would have, so that would risk splitting the coalition,” he said.

And the potential for further restrictions on China is already causing some concern among American business executives.

Myron Brilliant, executive vice president at the U.S. Chamber of Commerce, said the business community had been “steadfast in its support of the multilateral use of sanctions against Russia given that country’s unprovoked and brutal invasion of Ukraine,” but that views on China were “more complex and nuanced.”

“The business community has deep concerns with China’s predatory and market distortion policies, yet we must also recognize that the two largest economies are very integrated,” he said. “So the impact of broad decoupling or extensive sanctioning of China would be much more destabilizing.”

# K

## Afropess/Racial Cap

### 1NC---Link---Afropess/Racial Cap

#### Intellectual Property protections are rooted in a white racial project.

Vats, 21 [Anjali Vats is an Associate Professor of Law, with a secondary appointment in Communication, at the University of Pittsburgh School of Law., 7-15-2021, accessed on 7-16-2022, Taylor & Francis, "The color of creatorship: intellectual property, race, and the making of Americans", [https://www.tandfonline.com/doi/full/10.1080/14636778.2021.1951194]/ISEE](https://www.tandfonline.com/doi/full/10.1080/14636778.2021.1951194%5d/ISEE)

INTELLECTUAL PROPERTY LAW, the body of legal doctrine and practice that governs the ownership of information, is animated by a dichotomy of creatorship and infringement. In the most often repeated narratives of creatorship/infringement in the United States, the former produces a social and economic good while the latter works against the production of that social and economic good. Creators, those individuals whose work is deemed protectable under copyright, patent, trademark, trade secret, and unfair competition law, create valuable products that contribute to economic growth and public knowledge. Infringers, those individuals who use the work of creators without their permission, steal those valuable products and act as drains on economic growth and public knowledge. These narratives, while comforting, are frequently oversimplified in public cultural conversations, in ways that center and elevate Westernness and whiteness and obscure and replicate histories of race and (neo)colonialism. The Color of Creatorship is a book about the historical and continuing relationships between race and (neo)coloniality in intellectual property law. In it, I join a respected and growing group of scholars in contending that intellectual property law is a set of rhetorics about citizenship. However, unlike those who have previously written about the relationships between intellectual property and citizenship, I focus on the latter as a discourse through which race and coloniality continue to structure doctrinal practices in copyright, patent, and trademark law. Citizenship in the United States was and continues to be a raced concept. More specifically, it is a concept constructed by and through constantly evolving public cultural conceptions of Americanness, white masculinity, property, racial capitalism, and labor. I use the term “intellectual property citizenship” as an anchoring analytic for understanding how intellectual property and citizenship have evolved—and continue to evolve—in deeply intertwined and raced ways. Through a periodic analysis of American legal cases, political speeches, and cultural practices, this book shows that copyright, patent, and trademark regimes are imagined through always already racialized notions of citizenship that purport to be free of racial bias. Citizenship, while presumed to be race neutral, is frequently defined via shifting normative claims about race, gender, and class and implicit definitions of “good citizens.”1 This book is more specifically about the complex ways that whiteness and its attendant property interests structure intellectual property law, often in the guise of equality and race neutrality.2 Racial inequality is a continuing and persistent problem in intellectual property law, not because of legal happenstance, economic motive, or racial accident but because copyright, patent, and trademark doctrines are fundamentally prefigured through raced conceptions of citizenship. Intellectual property citizenship, then, is a “grid of intelligibility”3—a framework for understanding how power is organized— that reveals the racializing and colonizing principles around which familiar and repeated doctrinal standards in copyright, patent, and trademark law were and are structured. The codified racial discrimination that made intellectual property law the purview of whites in the 1800s did not disappear. It persisted through the continuing racialized entanglements of the principles of EuroAmerican citizenship with the principles of Euro-American creatorship. Because conceptions of Americanness were and are structured through a trenchant “racial episteme,”4 a frame that a priori constrains possibilities for treating people of color as full persons, let alone full creators, the discourse of citizenship operates as a container for importing race into intellectual property law, even when the law itself purports to be colorblind. The continuing practice of thinking about copyright, patent, and trademark law through romanticized imaginings of American citizenship constrains the manner in which knowledge production/protection can be understood, managed, and adjudicated with respect to race. I do not claim that such racial investments explain the outcome in all intellectual property cases. However, I contend that intellectual property law is organized through a racial episteme that consistently protects the (intellectual) property interests of white people and devalues the (intellectual) property interests of people of color. Tracing “racial scripts” is a tangible method for understanding America’s racial episteme and how it informs citizenship and creatorship/infringement as discursive formations. Racial scripts are historically grounded and flexible racist logics about racial groups that can be accessed at any time to exclude the original or other people of color.5 They operate as shorthand mechanisms for calling upon dominant American ideals of national identity, patriotism, political economy, and personhood without necessarily explicitly invoking racial categories or colonial logics. In this way, racial scripts can be baked into the seemingly colorblind ideals of American citizenship that, in turn, inform intellectual property law. Examining how intellectual property law operates as a space of racial formation in which the meaning of racial categories evolves over time is a prerequisite to undoing entrenched white privilege and democratizing knowledge production and ownership.6 Intellectual property law is also a “racial project,”7 that reproduces particular racial orders, in which people of color are coded as lacking the capacity to create. Unspoken longings, fears, anxieties, and prejudices wrapped in economic and legal language move us to prefer certain intellectual property narratives over others, predictably to the detriment of people of color. When anti-racist, anti-colonial activists grapple with the racial episteme that structures intellectual property law, they can advocate for strategies that resist the underlying drivers of unjust copyright, patent, and trademark policies. While such resistive strategies may ultimately still provide only precarious and fleeting relief, as Derrick Bell famously argues, they confront the fears and anxieties that sustain racial and colonial knowledge hierarchies.8 This book contributes to a growing body of scholarship at the intersections of race and intellectual property law through its historically situated consideration of the links among race, coloniality, and knowledge governance.9 It traces evolutions in the racial rhetorics around copyrights, patents, and trademarks that unfolded in parallel with the economic and political turns of the nation. Such an inquiry is useful in contextualizing the increasingly important legal regimes governing knowledge that mark some bodies as not only inherently incapable of creatorship but also inherently undeserving of citizenship. As the racial rhetorics of intellectual property law have changed over time, in ways that are consistent with post–civil rights era colorblindness, they have come to exclude people of color in new and different ways. Accordingly, addressing intellectual property law’s structural inequalities requires thinking about how these racial evolutions persist in a nation that claims to value all people equally. When marginalized groups are considered to be “aberrations from the ethnoclass of Man”10 contra a white ideal, as Alexander Weheliye writes, they cannot fully occupy the space of creatorship or (intellectual) property ownership until the nation attends to the contours of inequality and exclusion. While Weheliye is commenting on anti-Blackness, his statement is true for all those people of color who are considered outside of the ethnoclass of Man. In the so-called information economy, intellectual property justice is racial justice. Working through key moments in intellectual property history in the period between 1790 and 2016 reveals that even as American understandings of creatorship/infringement have seemingly evolved, they have actually remained remarkably racially conservative and consistent over time. This book will not provide an exhaustive account of race, coloniality, and intellectual property law during that period. Such a project is neither possible nor desirable. Instead, it focuses on reading some of the most important and notable historical touchstones in copyright, patent, and trademark law as examples of the continuity of racial scripts and colonial relations of domination in the context of knowledge production. I INTRODUCTION CREATING INTELLECTUAL PROPERTY, CREATING AMERICANS Race enters writing, the making of art, as a structure of feeling, as something that structures feelings, that lays down tracks of affection and repulsion, rage and hurt, desire and ache. These tracks don’t only occur in the making of art; they also occur (sometimes viciously, sometimes hazily) in the reception of creative work. Here we are again: we’ve made this thing and we’ve sent it out into the world for recognition—and because what we’ve made is in essence a field of human experience created for other humans, the field and its maker and its readers are thus subject all over again to race and its infiltrations. In that moment arise all sorts of possible hearings and mis-hearings, all kinds of address and redress. —CLAUDIA RANKINE and BETH LOFFREDA, “On Whiteness and the Racial Imaginary” But you're a good girl! The way you grab me Must wanna get nasty Go ahead, get at me —ROBIN THICKE, PHARRELL WILLIAMS, AND T.I., “Blurred Lines” NTELLECTUAL PROPERTY LAW, the body of legal doctrine and practice that governs the ownership of information, is animated by a dichotomy of creatorship and infringement. In the most often repeated narratives of creatorship/infringement in the United States, the former produces a social and economic good while the latter works against the production of that social and economic good. Creators, those individuals whose work is deemed protectable under copyright, patent, trademark, trade secret, and unfair competition law, create valuable products that contribute to economic growth and public knowledge. Infringers, those individuals who use the work of creators without their permission, steal those valuable products and act as drains on economic growth and public knowledge. 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In this way, racial scripts can be baked into the seemingly colorblind ideals of American citizenship that, in turn, inform intellectual property law. Examining how intellectual property law operates as a space of racial formation in which the meaning of racial categories evolves over time is a prerequisite to undoing entrenched white privilege and democratizing knowledge production and ownership.6 Intellectual property law is also a “racial project,”7 that reproduces particular racial orders, in which people of color are coded as lacking the capacity to create. Unspoken longings, fears, anxieties, and prejudices wrapped in economic and legal language move us to prefer certain intellectual property narratives over others, predictably to the detriment of people of color. 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## Cap

### 1NC---Link---Cap

#### IP is a crucial part of intellectual capitalism.

Granstand, 99 [Ove Granstrand works for the Dept. of Industrial Management and Economics at Chalmers University of Technology, 1999, accessed on 7-18-2022, Nordic Journal of Political Economy, "Intellectual Capitalism – An overview", https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.199.735&rep=rep1&type=pdf]/ISEE

What then is intellectual capitalism? Standard dictionary and textbook definitions of capitalism refer to an economic system characterized by private ownership of the means of production and by operation of a market with enterprises competing for private profits, etc.9 Hence a necessary condition for intellectual capitalism to be present is to have private ownership of intellectual capital. This is what the intellectual property rights system as an institution allows for. However, most intellectual property rights are temporary, and when patents and secrets expire, the corresponding information becomes public property.10 In that sense, there is a feature of “intellectual socialism” as well. Still, if the share of industrially useful knowledge generated in the private domain compared to the public domain is large, and if its growth rate is also large, then at some point privately held knowledge will dominate. For example, if technical knowledge is doubled every seventh year and all new knowledge is privatized through patents for twenty years before it becomes publicly owned, then close to 7/8 (= 87.5%) of the knowledge is under private ownership at any one point.11 The exact figures are not important here, of course, but what is important is the fact that if privately held knowledge grows faster than that which is publicly held, it will dominate in the not so distant future.12 In broad terms intellectual capitalism can be interpreted as a confluence of a capitalist economy and a knowledge or information economy. More specifically, intellectual capitalism is taken here to refer to an economic system with basic capitalist institutions (private property rights, private profit, competitive markets and free enterprise) in which productive assets and processes, as well as commercial transactions and products, are predominantly intellectual or immaterial rather than physical in nature.

## Set Col

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#### The global intellectual property regime functions to preserve imperial hegemony and accumulative neoliberalism and sanctions the systematic theft of essential medical resources from non-Western nations -- this necessitates structural violence on an international scale.

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TRIPS Agreement and Access to Medicines Intellectual property rights (IPRs) are time-limited legal rights granted to inventors and creators. IPRs include copyrights, trademarks, patents, trade secrets, and geographical indications, while protected subject-matters include, but are not limited to, brands, inventions, designs, and biological materials. Importantly, IPRs overlap as a product may be covered by a series of rights. For example, a pharmaceutical medicine, defined by Britannica as a ‘substance used in the diagnosis, treatment, or prevention of disease’, is protected by patents, trademarks, and trade secrets. Patents are the most common form of IPR used for the protection of innovation in pharmaceuticals. Patents grant inventors limited market exclusivity for their inventions, and, in exchange, the inventor must disclose sufficient information such that competitors will be able to step into the market. This disclosure allows a competitor to make preparation to enter the market at the end of the monopoly period. Due to this legally-mandated exclusivity, patent owners – usually multinational corporations – have the right to prevent others from making, using, or selling a patented invention. The TRIPS Agreement, concluded as part of the Uruguay Round of multilateral trade negotiation and in force since 1995, provides a minimum of 20 years patent protection. The belief is that the duration allows corporations to recoup the expenses of developing, testing and upscaling an innovative pharmaceutical product. From the onset, the TRIPS IP regime created imbalance between innovation, market monopoly, and medicines access, because it failed to take into consideration the health burden, development needs and local conditions of the various countries that make up the WTO. This has led to several issues. First, the market monopoly of IP rights, which allows the corporation to set the market for drugs, has created a privileged societal class with access to lifesaving medication distinguishing them from those excluded from access to available medications. This phenomenon is vividly illustrated in the HIV/AIDS crisis of the 1990s and early 2000s. While HIV/AIDS patients in developed countries were able to afford antiretroviral (ARVs) treatments, which had been developed, approved and patented as early as 1987, many patients in Africa and other parts of the developing world could not afford the approximately USD 12,000 per annum treatment at that time. By 2001, approximately 2.4 million people in the region had died of AIDS. The South African government intervened to reduce the cost of ARVs by amending its domestic patent laws to allow the authorization of parallel imports of patented pharmaceuticals and to encourage the use of generic drugs, but it was sued by the US industry group Pharmaceutical Research and Manufacturers of America (PhRMA). Though the lawsuit was eventually dropped, it highlights the measures pharmaceutical corporations, backed by some national governments, are willing to take to protect their profits at the cost of human lives. Significantly, we see how law (or the threat of legal action) is used not only to protect and expand the profitability of a certain kind of property but, as Anjali Vats and Deidré Keller have taught us, also reveals IP law’s racial investments in whiteness and its continuing implications for racial (in)equality, particularly in the way it informs systems of ownership, circulation, and distribution of knowledge. Similarly, Natsu Saito takes up the analysis of IP, race and capitalism by theorizing some of the ways in which ‘value’ in IP law concentrated in the hands of large corporations is calculated in terms of its profitability rather than what it contributes to the well-being of society. However, the proverbial chickens have come home to roost as even rich countries are beginning to feel the bite of the dysfunctional IP system. The issue of excessive pricing for medicines is a growing problem in developed countries as well and has now become the single biggest category of healthcare spending in these states, particularly the US. An empirical report by I-MAK reveals how excessive pharmaceutical patenting is extending monopolies and driving up drug prices. The report, for example, notes that over half of the top twelve drugs in the US have more than 100 attempted patents per drug. Specifically, the report revealed that Humira® by AbbVie (used in the treatment of Crohn’s disease and the US’s highest grossing drug) has been issued 130 patents. The drug costs USD 44,000 annually and generated more than USD 19.2 billion for the company in 2019 alone. The Report also notes that the first patent filed for Herceptin® – used in the treatment for certain breast and stomach cancers – was in 1985 but currently has pending patent applications that could extend its market monopoly for 48 more years. Meanwhile, Celgene has over 105 patents for its oral cancer drug Revlimid® (used in the treatment of multiple myeloma) extending its monopoly until the end of 2036 – a patent lifespan of 40 years. In addition to excessive patenting and pricing, we have also come to understand the power of data in this context. Health inequity and inequalities in vaccine access are not unfortunate outcomes of the global IP regime; they are part of its central architecture. The system is functioning exactly as it is set up to do. Second, regulatory agencies worldwide require drugs to undergo safety and efficacy testing to ensure they are harmless before approval. These tests, known as clinical trials, involve human subjects and are costly because they can run up to three separate phases. The data collected during these clinical trials are the proprietary materials of the company conducting the tests. Because it is expensive and time-consuming, generic drug companies usually rely on the safety and efficacy data of brand name companies to seek regulatory approval as long as they can prove their generic version is chemically and biologically equivalent to the original. Relying on the test data of brand name companies reduces the production cost for generic medicines and allows for quicker market entry. However, recent years have seen a promotion of time-limited, legally mandated protection against the non-proprietary use of such data by generic companies. This is known as data exclusivity. Put differently, data exclusivity is a period when a generic company cannot use the clinical trial data of an innovator pharmaceutical company to receive regulatory approval for a generic medicine. In so doing, data exclusivity provides a layer of protection in addition to patent protection to further delay market entry of generic medicines. Data exclusivity periods vary depending on the jurisdiction. For example, it is twelve years in US and ten years in the EU. While the TRIPS Agreement does not create property rights over registration data, the US and the EU have continued to champion and export data exclusivity through free trade agreements, particularly for biologics. For example, the US Affordable Health Care for America Act in 2009 extended a 12-year exclusivity period for biologics. This US interpretation for registration data was also included in the United States-Mexico-Canada Agreement (USMCA), which sought a 10-year data exclusivity for new biologics. However, after intense negotiations, the data exclusivity protection was reduced to 5 years for new pharmaceuticals. In this instance, we see a crystallising of Euro-American ideas of property and a willingness to promote those property interests through the law, both domestic and international. In fact, certain scholars assert that this pursuit of higher TRIPS standards is driven, in part, by the US desire to achieve levels of protection it anticipated from the TRIPS Agreement but failed to secure. Given the influence of the industry and its representative group, PhRMA, in seeking stronger protection on a global scale, it is not surprising that the US’s post-TRIPS policies continue to rachet up standards in ways that undermine access to affordable medicines, and perpetuate social hierarchy and subordination. Third, patent practices in recent decades have seen pharmaceutical companies engaging in trivial and cosmetic tweaking of a drug whilst still reaping the benefit of 20 years of patent protection. This tweaking sometimes involves making minor changes to patented drugs, such as changes in mode of administration, new dosages, extended release, or change in color of the drug. These changes normally do not offer any significant therapeutic advantage even though pharmaceutical companies argue they provide improved health outcomes to patients. These additional patents on small changes to existing drugs, known as evergreening or patent thickets, block the early entry of competitive, generic medicines that drive medicine prices down. For example, while not mandated by TRIPS, many US led TRIPS-plus free trade agreements have expanded the scope for evergreening. These include the US-Jordan FTA (2000), US-Australia FTA (2004) as well as the US-Korea FTA (2007), which allow for the patenting of new forms, uses, or methods of using existing products. The development discourse often touted by developed nations to help countries in the Global South ‘catch up’ is empty when the essential medicines needed to stay alive are deliberately denied and weaponised. The cancer drug Gleevec®, owned by Novartis, is another example of how pharmaceutical companies often secure patents on new, more convenient versions with marginal therapeutic benefit to patients whilst blocking the entry of generic medicines. In 2013, Novartis’ patent application for Gleevec®– the β crystalline form of the salt imatinib mesylate – was rejected by the Indian Supreme Court because it lacked novelty. However, the company has secured patents for this product in other jurisdictions such as the US and has maintained a high price of Gleevec there. But in India the price of Gleevec® was reduced from approximately USD 2,200 to USD 88 for one month’s treatment in the generic drugs market as a result of the 2013 Indian Supreme Court judgement. Novartis is not the only culprit. The depression drug Effexor® by Pfizer was granted an evergreen patent when the company introduced an extended-release version, Efexor-XR®, even though there was no additional benefit to patients. Eventually, the patent was declared invalid, but by then it had already cost an estimated USD 209 million to Australian taxpayers and kept generic competition off the market for two and a half years. In another instance, Pfizer went on to secure an additional patent for the Pristiq®, which contained identical chemical compound as Efexor-XR®,and again with no added therapeutic benefit. These evergreening practices, of course, have material effects. Apart from delaying the entry of generic versions, they give brand-name pharmaceutical companies free reign in the market, which allows them to set the market price. Recent years have seen monopoly prices rise exorbitantly causing significant financial strain to patients, domestic healthcare services and even insurance companies in developed countries. A notorious example is Martin Shkreli, who in 2015 bought the rights to an anti-malarial drug, then raised the price by 5,000 per cent from a cost of USD 13.50 to USD 750. Similarly, a white paper by I-MAK shows how excessive patenting and related strategies are driving families to overspend on lifesaving medicines. Celgene, the makers of Revlimid® raised the price of the drug by more than 50 per cent since 2012 to over USD 125,000 per year of treatment. Using the example of Solvadi® by Gilead, which costs USD 84,000 per treatment, Feldman notes the drug would cost the US Department of Defense more than USD 12 billion to treat all hepatitis-infected patients in US Veterans Affairs. But the US is not alone. In Europe, expensive drugs have prompted a growing backlash against pharmaceutical corporations. Reacting to these price hikes, Dutch pharmacies are bypassing these exorbitant prices by preparing medicines in-house for individual patients. The broken IP system ranging from an extraordinarily low standard for granting patents to permissions of patent thickets around a single molecule has not only severely distorted the system of innovation, but they have also skewed access to life-saving drugs. As a result, prices for new and existing medicines are constantly rising, making essential medicines inaccessible for millions of people around the world.

### 2NC---Link---Set Col

#### Intellectual property is rooted in the universal exportation of the Western liberal philosophical tradition that idealizes private property arrangements – patent law is an extension of cultural imperialism invested in the preservation of whiteness at the expense of the global South.

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In this article, I am interested in exploring the legal doctrine of copyright from the standpoint of a postcolonial critic. According to Shelley Wright, there is a ‘deep and continuing grip of colonial thinking on all systems currently in place, from the personal and local to the global.’1 And the law of copyright is no exception. Like other areas of intellectual property, copyright as a Western philosophical idea, is deeply imbued with the values of the European Enlightenment, liberalism, and a society founded on a print-based culture. As Wright suggests, copyright continues to be one of ‘the quintessential representations of the modern, public world of bourgeois expansion, male dominance and European colonial infl uence in the creation of political and economic systems in Europe and the colonies.’2 Indeed, the Western history of copyright is inextricably tied to the Western history of colonialism. A major argument in this article is that copyright (like other forms of intellectual property) is not a natural right, but instead embodies a particular set of values and assumptions – such as the need to commodify ideas, and also the expression of those ideas. As a product of the European Enlightenment, the concept of copyright has been infused with the ideals of the liberal legal tradition, and these ideals – such as ‘private property’, ‘authorship’ and ‘possessive individualism’ – are not universal principles of property law, but instead are Western ones. Consequently, the supposedly universally-shared view of copyright law embodied in international agreements such as the Berne Convention and the TRIPS Agreement are not simply ‘agreements’, but rather are multifaceted projects (or dominant narratives) which are laden with values stemming from particular cultural traditions, and which have evolved from particular historical moments in Western history. However, while these values have been packaged and exported around the globe based on their apparent universality, it is signifi cant to note that copyright remains a foreign concept in many cultures. Indeed, a number of societies take a radically different view as to ‘what constitutes property or what may rightfully be the subject of private ownership.’3 Several cultures also consider ‘copying’ or sharing ideas within a community as a sign of respect and recognition – not as piracy, or a violation of private property rights.4 Before moving on to explore the concept of copyright law in more detail, I should outline my reasons for wishing to scrutinise the laws in this area using a postcolonial lens. Copyright is a multi-billion dollar global industry, which has increasingly become an enormous source of revenue for countries of the North.5 From a postcolonial perspective, the export of copyright products raises particular concerns as these items are not simply just another trade commodity, but emblematise the exporting cultures’ values and traditions. In other words, Disney movies and MTV songs are not simply just another product because they represent the cultural signs and symbols of the dominant narrative.6 Due to the enormous volume and dominant position of Western popular culture on a global scale, critics have labeled this essentially one-way traffi c as a form of ‘cultural imperialism’ in this postcolonial era. As Fredric Jameson suggests, the export of American culture around the globe has had a far deeper impact than earlier forms of colonisation, imperialism or simple tourism, as these cultural goods (along with agribusiness and weapons) constitute the principal economic exports for the US.7 Moreover, the current imbalance in global information fl ows is in many ways merely an extension of the exploitative colonial past. For this reason, Philip Altbach asserts that ‘[c]opyright must not be seen in isolation from issues of access to knowledge, the needs of Third World nations, and the broad history of colonialism and exploitation.’8 I also wish to examine the concept of copyright law in more detail in order to partially fi ll the gap in understanding of the negative impact of an overly prescriptive international copyright regime. This is important, as most of the opposition in the late 1990s to the international intellectual property regime primarily focused on the dire effects of patents for countries in the South.9 This article will begin by exploring the concept of copyright law as essentially a Western idea, and then move on to discuss copyright and the colonial process, the Berne Convention and the TRIPS Agreement as colonial (and postcolonial) constructs, and the role of international copyright law in continually othering the South in the global publishing and software industries. The Western liberal idea of intellectual property law has now been globalised through the Agreement on Trade-Related Aspects of Intellectual Property Rights or TRIPS.78 The TRIPS Agreement was established as part of the World Trade Organization (WTO) regime that came into operation on 1 January 1995. TRIPS is one of the number of agreements which make up the WTO, and links intellectual property rights to WTO obligations. This international legally binding agreement establishes minimum standards for intellectual property rights, which members of the WTO must implement through national legislation. Under TRIPS, the 151 members of the WTO (at 27 July 2007) are required to give effect to a set of basic minimum principles and rules covering copyright, trademarks, patents, layout-designs of integrated circuits, geographical indications, industrial designs, and protection of undisclosed information. There are also uniform remedies available for the enforcement of these rights. In many cases, nations are applying higher standards than were previously applied in their domestic law. For example, longer terms of protection, fewer exceptions to the scope of rights, and sometimes new rights. While the Agreement has only been in force for thirteen years, it has been heavily criticised by Southern nations as essentially a neocolonial instrument – privileging the colonial view over the postcolonial ambitions of the Other.79 Copyright protection is provided for in Articles 9–14 of the TRIPS Agreement. These provisions are discussed briefl y below.

#### Legal agreements are grounded in the construction of intellectual property regulations as enlightened safeguards against the primitive savagery of indigenous conceptualizations of property – international legal frameworks are an ethically bankrupt starting point for change.

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The problems that the establishment of an international legal framework for world trade could pose for developing countries had been noticed right from the beginning. In 1964, the United Nations Conference on Trade and Development (UNCTAD) was founded because it was felt by developing countries that the pattern of world trade disproportionately favoured the industrialised nations (Blakeney, 1996, p. 26; Zamora, 1995, pp. 512, 518). In the course of the negotiations leading to the Agreement Establishing the World Trade Organisation (WTO Agreement), a convergence in the positions of the industrialised and the developing countries has repeatedly been attempted, with some success (Blakeney, 1996, p. 6). When the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) ended with the Final Act on the results of the Uruguay Round and the Agreement establishing the WTO in Marrakesh on April 15, 1995, the creation of the WTO as a specialised agency of the UN realised the hope (reaching back to the time of the creation of the UN itself) of an international organisation with responsibility for world trade (Blakeney, 1996, pp. 29, 36; Zamora, 1995, pp. 503, 506; Jackson, 1998, pp. 24-9); thus in theory, the promotion of world trade should benefit each Member, developed or developing alike. The preamble to the WTO Agreement states expressly in the second paragraph that especially the least developed countries should be secured “a share in the growth of international trade commensurate with the needs of their economic development”. This overriding principle also applies to TRIPs (Appendix 1C to the WTO Agreement), and the preamble to TRIPs expressly recognises (in paragraph 6) the special needs of the least-developed countries as far as the required domestic implementation of laws and regulations is concerned, “in order to enable them to create a sound and viable technological base ...”. These aims indicate the intention to create the implementation of a benign system of universal common standards of intellectual property rights for the mutual benefit of all nations. However, it is well known that originally the principal objective of what was to become TRIPs was actually the fight against piracy of Western intellectual property rights in developing countries. In the 1970s, the realisation of the adverse effect which the increase of sales of counterfeited trade-marked goods had on trade income prompted industrialised countries to reach an “Agreement on Measures to Discourage the Importation of Counterfeit Goods”, whereby the United States took the lead.8 It was also the United States which pushed for a recognition of legislative measures for the protection of intellectual property rights as to be considered within the jurisdiction of GATT, and not of WIPO only, as developing countries, especially Brazil and India, had argued (Blakeney, 1996, pp. 2-3; Zamora, 1995, p. 529). This was the starting point for the present situation of TRIPs being within the WTO framework (Drahos with Braithwaite, 2002, p. 109).9 The “anti-counterfeit” origin of TRIPs does not appear in its final preamble (Blakeney, 1996, p. 9), but the preamble makes clear that the objective of TRIPs is “the provision of effective and appropriate means for the enforcement of trade-related intellectual property rights, taking into account differences in national legal systems”, which obviously encompasses measures against counterfeited goods. Thus TRIPs grew out of the endeavours by the Western industrialised world to safeguard and enforce their own Western intellectual property rights, based on Western concepts, in the non-Western, and typically developing, countries.10 Theoretically, this could have been achieved without any reciprocity, because what really matters to Western interests is that Western rights are respected in a nonWestern context and culture, especially by way of an effective combat against piracy. Thus bilateral agreements could have been reached ensuring that, say, a US patent will be duly protected and enforced in developing country X, without the requirement that a patent granted in X will be enforced in the US, or indeed, without X even being required to maintain a national patent law which could enable X to grant patents itself; hence there would be no (theoretically) enforceable right in a country outside X. Such a measure would be openly colonial in its approach, but politically unsustainable in the late twentieth century or today, because the developing countries have achieved sufficient political counterbalance against Western interests during the period of decolonialisation that allows them to counteract such strategies at a large scale.11 TRIPs wishes to represent a compromise, which may have been honestly conceived as such in that it leaves some flexibility for developing countries (Correa, 2002, p. 52), but, as it is modelled on Western intellectual property legislation, it is nevertheless in effect slanted in favour of Western interests (Drahos with Braithwaite, 2002, pp. 11-6, 143-6; Correa, 2000, p. 3; Robbani, 2005, pp. 565, 571). The “provision of effective and appropriate means for the enforcement of trade-related intellectual property rights” (preamble, pt. c) is obtained through an introduction of minimum standards of intellectual property protection (Article 1 (1) TRIPs). These minimum standards are determined by TRIPs itself, which is remarkably detailed for an international instrument in respect of the substantive law of the respective intellectual property rights,12 and by broad reference to the central international intellectual property conventions, especially the Paris Convention for the Protection of Industrial Property 1883 (Paris Convention) and the Berne Convention for the Protection of Literary and Artistic Works 1886 (Berne Convention).13 The principle of minimum standards as a basis of mutual recognition and protection of intellectual property rights is reinforced by the national treatment rule (Article 3) which echoes the existing intellectual property conventions in this respect.14 As a result, non-Western countries are required to introduce comprehensively the Western regime of intellectual property rights, irrespective of whether this regime is necessarily compatible with, and useful to, their own cultures and economies,15 otherwise they would not be able to conform to the protection obligation of Western intellectual property rights in their own territory. Non-Western countries are also expected to undergo an industrialisation process according to the model of Western industrialised nations to create a context in which Western intellectual property rights would then become meaningful (Ngenda, 2005; Gana, 1996, p. 738). In return for the protection of their own rights, Western countries could generously agree to recognise Westerntype intellectual property rights originating from developing countries, because these rights were unlikely to arise often and would not pose a real competitive threat.16 This is a good example of the liberal ideal of two equal contracting parties that [ignores] the real imbalance created by political and economic realities. It could also be seen as a modern version of constructed savagery of the non-developed world which will be overcome by the gift of intellectual property rights from the developed and civilised nations.17 How Western in nature TRIPs effectively is, can be shown by the fact that Western national legal systems have had to adapt little to TRIPs,18 while, for example, Latin American and Carribean states had to make significant changes in their intellectual property laws to implement the minimum standards (Correa, 2000, pp. 101, 111).19 More recently, TRIPs also serves as a bottom line for further extension of IP protection which the developed world continues to push for in bilateral “TRIPsPlus” agreements with countries of the developing world (Drahos, 2001, p. 805). Such “friendly nudges” towards adaptation of international standards are obviously not a development of the postcolonial era. The national treatment provision of the Paris Convention in Article 2 intended to compel Paris Union members to provide mutually adequate industrial property laws. It contributed to Switzerland’s decision to introduce a patent law (which it did not have when it joined the Paris Union) in order to be able to give effect to this obligation towards nationals of the Paris Union (Oddi, 1987, p. 869). The Netherlands also enacted patent laws which it had abolished some time before (Bender, 2000, p. 54; Drahos with Braithwaite, 2002, p. 36). The Paris Convention, and later the Berne Convention, had the then industrialised Western countries of the 1880s as relevant potential members to the Paris/Berne Union in mind; the non-Western world (where it did not have the status of a colony anyway and was therefore part of the Paris/Berne Union, see Drahos, 2002a, pp. 766-7; Drahos with Braithwaite, 2002, p. 75) was not perceived as a significant candidate for such conventions, and conflicts with indigenous cultures as a result of this transplantation of rights were then unlikely to be noticed as a potential problem. Sensitivity in relation to one-sided technology transfer and possible lack of economic equality was also less developed in the nineteenth century, despite an otherwise generally far greater tendency to arrogant nationalism among the European nations. An example is the awkward British standard gauge of railways of 561 /2 inches (1,435 mm) that can be found in much of Continental Europe (which adopted the metric system far earlier) because George Stevenson’s first locomotives delivered from England were produced with this gauge. The legal protection of such technological innovations usually follows suit and that may help explaining why it was possible at all to agree on a modest legal standardisation through the Paris and Berne Conventions in the much more belligerent atmosphere of the nineteenth century.

#### Reformism is not emancipatory but instead contributes to the iterative perfection of colonial capitalism – the transformative potential of legal change is circumscribed by hegemonic power structures that are embedded in international political systems.

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These events – the corporate capture of the global pharmaceutical IP regime, state complicity and vaccine imperialism – are not new. Recall Article 7 of TRIPS, which states that the objective of the Agreement is the ‘protection and enforcement of intellectual property rights [to] contribute to the promotion of technological innovation and to the transfer and dissemination of technology’. In similar vein, Article 66(2) of TRIPS further calls on developed countries to ‘provide incentives to enterprises and institutions within their territories to promote and encourage technology transfer to least-developed country’. While the language of ‘transfer of technology’ might seem beneficial or benign, in actuality it is not. As I discussed in my book, and as Carmen Gonzalez has also shown, when development objectives are incorporated into international legal instruments and institutions, they become embedded in structures that may constrain their transformative potential and reproduce North-South power imbalances. This is because these development objectives are circumscribed by capitalist imperialist structures, adapted to justify colonial practices and mobilized through racial differences. These structures are the essence of international law and its institutions even in the twenty-first century. They continue to animate broader socio-economic engagement with the global economy even in the present as well as in the legal and regulatory codes that support them. Thus, it is not surprising that even in current global health crisis, calls for this same transfer of technology in the form of a TRIPS waiver to scale up global vaccine production is being thwarted by the hegemony of developed states inevitably influenced by their respective pharmaceutical companies. The ‘emancipatory potential’ of TRIPS cannot be achieved if it was not created to be emancipatory in the first place. It also makes obvious the ways international IP law is not only unsuited to promote structural reform to enable the self-sufficiency and self-determination of the countries in the global south, but also produces asymmetries that perpetuate inequalities. Concluding Remarks What this pandemic makes clear is that the development discourse often touted by developed nations to help countries in the Global South ‘catch up’ is empty when the essential medicines needed to stay alive are deliberately denied and weaponised. Like the free-market reforms designed to produce ‘development’, IP deployed to incentivise innovation is yet another tool in the service of private profits. As this pandemic has shown, the reality of contemporary capitalism – including the IP regime that underpins it – is competition among corporate giants driven by profit and not by human need. The needs of the poor weigh much less than the profits of big business and their home states. However, it is not all doom and gloom. Countries such as India, China and Russia have stepped up in the distribution of vaccines or what many call ‘vaccine diplomacy.’ Further, Cuba’s vaccine candidate Soberana 02, which is currently in final clinical trial stages and does not require extra refrigeration, promises to be a suitable option for many countries in the global South with infrastructural and logistical challenges. Importantly, Cuba’s history of medical diplomacy in other global South countries raises hope that the country will be willing to share the know-how with other manufactures in various non-western countries, which could help address artificial supply problems and control over distribution. In sum, this pandemic provides an opportune moment to overhaul this dysfunctional global IP system. We need not wait for the next crisis to learn the lessons from this crisis.

#### Patent laws are a form of intellectual neocolonialism that ensures the accumulation of wealth in the hands of industrialized Western nations through market monopolization.

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Partners in Health and Farmer’s efforts to bring modern medicine to an ex-colony such as Haiti must be considered in the current moment of globalization, where countries are growing more interconnected and financially dependent than ever before. Farmer works extensively to bring down the cost of TB-related drug pricing. This struggle over pricing highlights the challenges faced by poor countries in an increasingly global market where most drug companies are protected by patent laws safeguarded by the World Trade Organization. According to Oxfam International, roughly 14 million people in developing countries die each year from infectious diseases that could be prevented with wider access to medical treatments and medications. However, as part of the Trade-Related Aspects of Intellectual Property Rights agreement, the WTO has ensured that the patent regulations for mostly Western pharmaceutical companies should be protected over measures to increase wider availability of drugs to poor nations. Thus, Farmer’s struggle to bring down drug pricing globally reflects another postcolonial concern: the inability of ex-colonies and the poorer nations of the world to effectively receive the same standard of care and access to medical advances as the rich. For Farmer, this is a problem of neo-colonization, where wealth continues to be accumulated in the nations of the West, or the former colonizers, while poor nations, or the bulk of the colonized world, continue to suffer.