CURRENT HISTORY

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GLOBAL TRENDS

COMING IN FEBRUARY
Latin America

LATIN AMERICA HAS BEEN HIT HARDER by COVID-19 than most other regions. Beyond the terrible death toll, the pandemic threatens to undo the substantial progress that had been made in recent years in reducing poverty and inequality. The leaders of the region's two biggest countries have taken similarly erratic, even dismissive, approaches to handling the emergency, yet the results have diverged. Meanwhile, populism is popping up in different guises in other places. *Current History*'s February issue will cover these and other developments across the region. Topics scheduled to appear include:

- **Brazil and Mexico's Contrasting Pandemic Responses**
  Nora Lustig and Mart Trasberg, Tulane University

- **A New Constitutional Moment for Chile**
  Jennifer Piscopo, Occidental College
  Peter Siavelis, Wake Forest University

- **Law and Order Populism in El Salvador**
  Sonja Wolf, Centro de Investigación y Docencia Económicas, Mexico City

- **Rising Stakes in Guyana's Ethnic Politics**
  Alissa Trotz, University of Toronto
  Arif Bulkan, University of the West Indies

- **Bolivia's Overlapping Crises**
  Bret Gustafson, Washington University

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"The liberal international order could become more stable and durable by creating a greater role for, and requiring commitment from, a broader group of nations, each participating as one among equals."

The International System After Trump and the Pandemic

ALLEN HICKEN, PAULINE JONES, AND ANIL MENON

Both as a candidate and as an elected leader, US President Donald Trump repeatedly asserted that his main foreign policy goals were to shrink the United States' role abroad and to put "America first." These goals should be understood as part of a much broader aim to dismantle the liberal international order that the United States has helped build and maintain since World War II. During his 2016 presidential campaign, Trump accused the United Nations of not only being incompetent, but also acting as an impediment to sovereignty and democracy. Since his inauguration, he has made repeated attacks on long-standing international institutions designed to promote global cooperation in areas as crucial and diverse as peacekeeping, trade, and public health. He continued these attacks even as the COVID-19 pandemic posed an increasing threat to all three core elements of the liberal international order: security, economics, and human rights.

The post–World War II liberal international order has been defined notably by political scientist John Ikenberry as an "open and rule-based international order" that is "enshrined in institutions such as the United Nations and norms such as multilateralism." It has endured and evolved since its origins in 1945, but not without controversy over the nature and scope of its mission. These fissures became even greater after the end of the Cold War, with the expansion of the system to include nations in transition to democratic regimes and market economies.

In other words, the global system was already showing signs of strain and weakness before the dual shocks of Trump's ascent to the US presidency and COVID-19's emergence. Both Trump and the pandemic have served as critical stress tests for the liberal international order. They also suggest three important lessons for its future.

First, global cooperation is a necessity in which we must invest consistently, rather than a luxury we cannot afford. The pandemic has demonstrated how essential it is to preserve the norms, rules, and institutions that make international cooperation possible. Mitigating the effects of a pandemic requires, at a minimum, cross-border coordination on travel, and at a maximum, collaboration in the development and distribution of an effective vaccine.

Second, global cooperation has broad popular support. This is crucial because public backing for multilateralism is key to sustaining the political will necessary to maintain it. Trump repeatedly accused the World Health Organization (WHO) of mishandling the COVID-19 crisis; at the height of the pandemic, he moved to suspend US funding for the WHO. Yet public opinion surveys indicate that support for multilateral institutions in general, and global confidence in the WHO in particular, have remained high in the face of COVID-19. Meanwhile, global confidence in Trump—which was already the lowest among the most prominent world leaders—has remained low during this period.

Third, the United States remains crucial to global cooperation, albeit not in its current role. The dual shocks of Trump and COVID-19 provide an opportunity to reimagine the liberal international order. For many decades, the United States has played a hegemonic role and used its

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dominance to disproportionately influence the meaning of both "order" and "liberal" for the rest of the world.

This helped to secure US support for global cooperation, because Washington could define international norms, rules, and institutions in ways that favored its own domestic interests. Yet it created a system that is heavily reliant on both the hard and soft power of the United States. This reliance has left the entire international system vulnerable to the outcome of democratic elections in one country. If global cooperation is to be sustained, this risk needs to be minimized by creating an international system in which leadership is diversified and responsibility is shared among a broader group of nations that includes, but is not dominated by, the United States.

The November 2020 election of former Vice President Joe Biden offers an opportunity for the United States to revive its commitment to the liberal international order. As Biden has already acknowledged, two important first steps in this process are displaying a greater willingness to listen to and engage in meaningful discussions with traditional allies, and renewing American participation in supranational organizations like the WHO. With his decades of political experience and demonstrated inclination to reach across the aisle, Biden is well suited to repair strained or broken relations with members of the international community while working collaboratively to chart a course for a gradual reorganization of the global system.

International cooperation, much like interpersonal cooperation, is based on trust. Rebuilding relationships and adopting a more multilateral foreign policy will put the United States in a position to help lead a gradual transition toward a system of shared stewardship of the liberal international order.

THE NECESSITY OF COOPERATION

In September 2017, Trump gave his first address to the UN General Assembly, where he heralded his transactional approach to foreign relations and made his objections to multilateralism clear to the world. While his vehement hostility may have surprised and disheartened many at the time, the stage for Trump's rhetoric and actions was set well

Popular support is key to sustaining the political will necessary to maintain multilateralism.

before. Signs of America's increasing ambivalence toward addressing global problems via international institutions had been on display since the late 1990s.

The foreign policy of George W. Bush is a notable example. In the first year of his presidency, he withdrew from several long-standing international agreements, including the 1970s Anti-Ballistic Missile Treaty, and rejected many others that were still pending, including the Kyoto Protocol on climate change and the Rome Statute that established the International Criminal Court (ICC). Other US presidents have also called into question the future viability of key international institutions, including the cornerstone of the transatlantic security alliance, the North Atlantic Treaty Organization (NATO). Barack Obama's administration warned that unless America's European partners increased their military spending (to a recommended 2 percent of gross domestic product), NATO would face a "dim, if not dismal future." NATO was also showing signs of strain from within Europe before Trump's election, as the continent experienced a rise in Euroskeptic right-wing populist movements, precipitated by economic stagnation and a massive influx of refugees.

These fissures in the international system are partly a product of its structural origins. The primary rationale behind the creation of the liberal international order was to promote global peace and prosperity in the aftermath of two world wars and the Great Depression. The mechanism for achieving these aims was a set of institutions based on three core elements—security, economics, and human rights—enshrined in the original UN Charter. Collective security would ensure peace, but only so long as democratic systems of government dominated and obstacles to international trade disappeared.

As the liberal international order evolved over time, so, too, has its emphasis on these three core elements. While the initial focus was primarily on security and economics in the 1950s and 1960s, it shifted to human rights in the 1970s. This created new tensions for two main reasons. First, the increased attention to human rights illuminated some of the underlying contradictions in a system that sought to promote order based on a Western understanding of liberalism among an

ideologically diverse set of member nations. As membership in the UN expanded from the original 51 countries in 1945 to over 100 in 1961, so, too, did this diversity. Second, the defense of human rights was often at odds with competing notions of democracy and sovereignty. For example, NATO's 1999 intervention in Kosovo was criticized for proceeding without direct UN authorization, and in violation of Yugoslavia's sovereignty.

The fall of the Soviet Union in 1991 and the end of the Cold War exacerbated these tensions. The termination of the rivalry that had dominated international affairs for over four decades left the United States with increased capacity and greater incentive to take unilateral action. This shift in geopolitics also made domestic support for multi-lateralism less likely. Why should Washington rely on international institutions like the UN to execute foreign policies when it could go it alone or use its stature as the sole superpower to mobilize other countries? Multiple presidents across party lines succumbed to this temptation, though perhaps the most consequential example was George W. Bush's 2003 invasion of Iraq without securing a mandate from the UN Security Council.

The end of the Cold War also coincided with the collapse of the Communist bloc and an abundance of new states transitioning to democratic regimes and market-based economies. For the UN, this meant an expansion in both its member-ship—the 1992 cohort was the largest since 1961, and the second-largest in a single year—and its ideological diversity.

Thus, while Trump's assault on multilateralism and the COVID-19 pandemic have undoubtedly exposed the frailty of the liberal international order, they are not the sources of its weakness. Rather, these dual shocks have illuminated the reality that global cooperation is an indispensable public good that requires steadfast commitment from member nations, and not an extravagance to be indulged in when convenient.

History shows that global pandemics are likely to recur and that global cooperation is key to mitigating them. Since 2000, the world has witnessed multiple viral outbreaks (such as SARS and H1N1) of pathogens similar to COVID-19. The WHO has been central to declaring these outbreaks as pandemics and coordinating responses that include disseminating information and best practices.

The failure to effectively curtail the COVID-19 pandemic—in no small part due to the abdication of US leadership—has also underscored the fact that security, economics, and human rights are integrally related. The success of measures to control the pandemic requires international coordination and collaboration across all three elements: limiting travel and tracking movement across secure borders; supplying financial aid to prolong lockdowns while sustaining local economies; and providing affordable access to medical resources (testing, protective equipment, and treatment).

STAUNCH SUPPORT

Trump is certainly not the first US president to speak out against or defy international institutions. Among the three elements of the liberal international order, Washington's commitment to human rights, whether organizationally through the UN, or through its approach to foreign policy, has always been weakest. The United States helped to create the UN Educational, Scientific, and Cultural Organization (UNESCO), for example, but has since been one of its staunchest critics. After the Reagan administration withdrew from UNESCO in 1984 to protest its perceived bias in favor of the Soviet Union, the United States did not rejoin the organization until 2002. And it never joined the ICC, which was created in 2002, mainly to prosecute war criminals.

Yet Trump has gone far beyond his predecessors in both his rhetoric and his actions. His executive order on June 11, 2020, authorizing criminal prosecution and financial sanctions against the ICC's personnel, including its judges, was unprecedented. So were his repeated denunciations of the WHO since April 2020. As the number of COVID-19 cases and related deaths continued to climb in the United States, Trump shifted blame toward the WHO, accusing it not only of being biased in favor of China, but also of deliberately spreading false information about COVID-19 and mismanaging the pandemic. He then suspended US funding, which amounts to about a fifth of the WHO's total budget (most of which is dedicated to polio eradication), and officially withdrew the United States from the organization in July 2020, after repeatedly threatening to do so.

Trump's bombastic rhetoric and theatrical displays of US power are designed to dismantle the international system by eroding what is fundamental to its survival: public support. The system is possible only because its members willingly agree to let their actions be constrained by the norms, rules, and institutions that comprise it. In other words, it is largely voluntary. Trump has sought

to demolish the liberal international order by undermining the political will that makes this voluntary constraint possible. Political will is based in part on popular support, which in turn is linked to public confidence and trust.

Thus far, Trump's attempts to undermine public support for the international order appear to have failed. While some may find merit in his goals—particularly anti-globalists who are attracted to his populist agenda—public opinion research suggests that the majority of people around the world, including Americans, do not. The COVID-19 pandemic may be part of the reason for this. If pandemics have the potential to remind us of the human cost of discord among nations, COVID-19 could act as a booster shot to raise collective awareness of the need for global cooperation.

Surveys conducted by the Pew Research Center both before and during the pandemic indicate the persistence of broad popular support for multilateralism and international cooperation in general. A sample of 14,276 adults based on nationally representative surveys in 14 countries during the summer of 2020 (June 10 to August 3) found high regard for both the principles of multilateralism and the international institutions that are based on these principles. The same broad popular support for international cooperation had been found in previous iterations of the survey.

For example, a majority of respondents agreed that countries should compromise on international issues even when their own interests might be at stake (58 percent) and that "countries around the world should act as part of a global community that works together to solve problems" (81 percent). A majority of respondents also expressed a favorable view of the UN and its efforts to fulfill its core mission—particularly "promoting peace and human rights."

The survey results also suggest that respondents had a high degree of confidence in international cooperation to solve global problems like the coronavirus pandemic. A majority of respondents agreed that greater cooperation with other countries would have contributed to a more effective COVID-19 response in their own countries.

Surveys that we conducted as part of an interdisciplinary research team at the University of Michigan (Pandemic and People: Studying International Coping and Compliance, or SICC) in the summer of 2020 indicate that citizens around the world remain confident in the WHO. Respondents were asked, "How much confidence do you have in the following organization's or individual's handling of the coronavirus?" They were given four possible options: "no confidence," "not very much confidence," "some confidence," or "a lot of confidence." We asked about confidence in both Trump and his Chinese counterpart, Xi Jinping, as well as in the WHO.

Our results suggest that a majority of respondents had much more confidence in the WHO than in Trump with regard to the pandemic. Over 70 percent reported being confident or very confident in the WHO, whereas fewer than 25 percent reported being not very confident or not at all confident. These percentages are reversed for Trump and Xi, with fewer than 25 percent expressing confidence in either leader.

Our findings also suggest that confidence in the WHO has important implications for the resolution of the current pandemic, because there is a strong relationship between lack of confidence in the WHO and vaccine hesitancy. Respondents who expressed some or a lot of confidence in the WHO were much more likely to respond "yes" than "maybe" or "no" when asked, "If a vaccine for COVID-19 were available to you at no cost, would you get it?"

Trump's attempts to undermine public support for the international order appear to have failed.

If Trump's approach has not achieved its intended results abroad, has it at least been effective at home? Both the Pew and SICC surveys suggest that his success has been limited. According to the former, "Americans are more favorable toward the UN than not: 62 percent have a positive view, while 31 percent have a negative view." Although there has been a large upward shift in approval since 2007, when only 48 percent of Americans had a favorable view of the UN, "the US public's views of the organization have been relatively consistent" since then, with 58 to 65 percent expressing a favorable view.

According to the SICC survey, the US sample is very close to the total sample regarding the WHO's handling of the coronavirus: 71 percent of respondents reported being confident or very confident in the organization. Although a sizable portion of

Trump's base distrusts international institutions, there is little evidence that this group is growing rapidly or is significantly larger than what we see in other countries.

REIMAGINING HEGEMONY

To argue that the liberal international order remains vital is not to say that it does not need to be reformed. In this respect, the dual shocks of Donald Trump and the COVID-19 pandemic provide an opportunity to reimagine rather than discard the norms, rules, and institutions that foster global cooperation. These events suggest that although the United States remains crucial to sustaining global cooperation, its hegemonic role needs to be reconceived if we seek to preserve the ideals that the liberal international order was designed to protect.

The United States played a central role in building and maintaining the liberal international order from its origins in 1945. The hegemonic US role may have been necessary for forging multilateral institutions after World War II, given the debilitated condition of America's European allies, but this role has since become a potential liability. The international system has always been vulnerable to the democratic process within its member nations—not only because cooperation among nations depends on domestic support, but also because voters can elect leaders who are opposed to supranational efforts.

Overreliance on the United States has made global cooperation vulnerable to election outcomes in one particular country. Trump's election made this risk painfully clear. By accepting Washington's hegemonic role, the liberal international order has failed to diversify its leadership portfolio, leaving the entire system in a highly exposed position.

To sustain global cooperation, this risk needs to be minimized by reordering the international system so that leadership is diversified and responsibility is shared. The liberal international order could become more stable and durable by creating a greater role for, and requiring commitment from, a broader group of nations, each participating as one among equals.

Moving away from hegemon-led multilateralism will certainly not be easy or costless, but such a shift is already underway. Alongside the decline in US presidents' commitment to multilateralism, there have been signs of increased commitment from other countries. When George W. Bush attempted to thwart the Kyoto Protocol by refusing to implement the agreement signed by his predecessor, numerous countries rescued the treaty by pledging to voluntarily abide by targets for emission reductions.

Just days after Trump announced that the United States would halt funding for the WHO, the United Kingdom reportedly increased its contribution by 65 million pounds (more than $80 million). Similarly, while Trump has rejected US participation in any international initiative to develop or distribute COVID-19 vaccines, dozens of other high- and upper-middle-income countries, eventually including China, have joined the global alliance known as the COVAX Facility to ensure that vaccines reach people living outside countries that can afford to develop or buy their own supplies.

Reimagining the international system under shared leadership would reduce reliance on the United States, yet it is vital that Washington remain an active and willing participant. The United States continues to hold a comparative advantage over its partners on multiple fronts, including but not limited to security, economic, and global influence. It still possesses much of the hard and soft power that enabled it to play a central role in the liberal international order for many decades. It still has the largest economy and military by key measures (though China has overtaken it in others), buttressed by its research capacity and technological prowess.

These factors make the United States an indispensable partner in addressing a range of issues that will require collaboration among nations. It would be difficult to sustain global cooperation for responding effectively to pandemics like COVID-19 and other major ongoing threats, like climate change and nuclear proliferation, without US participation.

The central position of the United States also makes it difficult to imagine how a fundamental transformation of the liberal international order could occur without its consent and full participation. It will require ample effort and time for members of the international community to embrace such changes in the organization and operation of the system. Institutions, both formal and informal, are sticky—they cannot be transformed overnight. It would take a genuine commitment from the leaders of both the United States and other member nations to stop expecting Washington to be the prime mover and limit its role to contributing as one (and not necessarily first) among

equals. During a period of such transition, the United States would remain crucial for the maintenance of the liberal international order, given the central role it occupies at present.

The global public has not given up on either cooperation or the United States. Opinion research suggests that a majority of people around the world—including Americans—have confidence in international institutions like the UN and the WHO, and in multilateralism more generally. Consequently, the actions of the US government under Trump should be viewed as an aberration rather than the beginning of a longer-term commitment to isolationism.

Although trust and confidence in the United States have fallen to record lows around the globe since Trump assumed office, there is evidence to suggest that this lack of trust is largely directed at Trump himself. The SICC survey results, for example, indicate that citizens of other countries continue to distinguish the US president from the American government and people. Although respondents are slightly more likely to blame China than the United States for the pandemic, those who blame the United States are much more likely to assign responsibility to Trump; conversely, those who blame China are more likely to find fault with both the government and its people.

WAKE-UP CALL

Recognizing that the liberal international order was in decline long before Trump's election and COVID-19's emergence is not the same as accepting that its demise is either inevitable or desirable. Both events have served as wake-up calls for supporters of the liberal international order and suggest three important implications for its future.

First, global cooperation, which is needed now more than ever, requires sustained commitment and investment from member nations. Second, global cooperation remains broadly popular, a fact that should motivate and empower policymakers to defend and sustain it. Third, while the United States must adapt to an era in which it is no longer a global hegemon, it continues to have a crucial role to play in promoting and maintaining global cooperation.

Yet our ability to learn these lessons may be limited. The liberal international order emerged out of a collective desire for peace and prosperity after much of the world was devastated by two brutal wars. The prolonged absence of violent global conflict may have lulled both leaders and populations of countries that once contributed to the liberal world order into a false sense of security, which fails to recognize the price that had to be paid to achieve the current calm—and the need for continued vigilance.

The liberal international order has failed to diversify its leadership portfolio.

COVID-19 may help revive the motivation necessary to restore broad commitment to an international system that is dedicated to both preventing and resolving global crises. Although this pandemic has not come close to matching the enormous human losses of the previous century's world wars, it has taken a serious toll on our day-to-day lives. It may serve as a reminder that despite our differences, we are members of the same species, finding joy in much the same mundane activities of everyday existence and vulnerable to many of the same invisible foes. This shared experience of our own frailty and mortality could bring nations together in attempting to forge a path toward greater peace and prosperity based on a joint commitment to mutually beneficial cooperation. ∎

Is There a Cure for Vaccine Nationalism?

ANA SANTOS RUTSCHMAN

The expression "vaccine nationalism" made headlines throughout 2020, from the *Wall Street Journal* to National Public Radio. It became a regular feature of public and scholarly debates during the COVID-19 pandemic, coloring discussions about the broader topics of public–private scientific collaboration and the role of international organizations in public health.

In the context of a vaccine race, nationalism appears in the act of reserving millions of doses of new vaccines for domestic use during a transnational public health crisis. For over a decade, vaccine nationalism has been associated with the use of contractual agreements, usually between a national government and one or more pharmaceutical companies engaged in late-stage development and production of leading vaccine candidates. Because these agreements are typically struck well before vaccines are fully licensed, they are known as advance market commitments or preproduction agreements.

An important feature of advance commitments is that they can be deployed as incentives to encourage investments in traditionally underfunded areas in global public health. By signaling relatively robust levels of demand for a drug or vaccine, albeit conditioned on regulatory authorization or approval, these agreements help attract private-sector manufacturers that might otherwise choose to invest their time and resources in more profitable areas of scientific research and development (R&D).

Since most emerging infectious diseases historically have circulated in the global South, most vaccines and drugs to counter them have long been associated with underfunded or neglected disease-control efforts, which the World Health Organization (WHO) has characterized as lacking in "R&D preparedness." Despite these market-driven dynamics, organizations like GAVI, a Geneva-based vaccine procurement alliance, have successfully resorted to advance commitments in the past to drum up private- and public-sector interest in the development of vaccines for low-income populations.

In 2009, for instance, GAVI's advance commitment to buy pneumococcal vaccines was instrumental in bringing them to children in 60 countries across the global South. Without such a commitment, it is estimated that these vaccines would not have been made available in low-income countries until 10 to 15 years after being introduced in high-income countries.

Although advance commitments may be desirable as a financing and risk-management mechanism, heavy reliance on them can become problematic during large-scale public health crises—all the more so if powerful players exert a disproportionate influence on the transnational allocation of health goods, especially those that have to be developed from scratch, as is the case with vaccines targeting a new pathogen. COVID-19 was officially declared a pandemic in March 2020. By midsummer, high-income countries accounting for just 13 percent of the global population had placed orders for more than half of the projected available doses in the first batches of COVID-19 vaccines.

Aside from the lopsided demographic and geographic distribution of emerging vaccines, this prioritized channeling of vaccine doses to the global North is hard to square with public health frameworks and epidemiological data that show COVID-19 spreading widely across the global South, imposing associated burdens on individuals, communities, and health systems.

By late August 2020, high-income countries had placed orders for over 2 billion vaccine doses,

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a number that almost certainly exceeds the initial manufacturing capacity at the global level for the first batches of a fully licensed COVID-19 vaccine or vaccines. The United Kingdom was the largest per capita buyer of COVID-19 vaccines in the world, pre-ordering 340 million doses, or five doses per citizen. The United States had pre-ordered 800 million doses, with an option to purchase an additional 1 billion.

Most low-income countries had not entered into direct agreements with pharmaceutical companies, with the exception of some of the largest economies in the global South, such as Brazil. This divergence is why vaccine nationalism has been criticized by public health–oriented institutions like the WHO as well as commentators concerned about equitable distribution of vaccines and other emerging health goods needed in the response to the pandemic.

THE SWINE FLU RACE

Contractual mechanisms that skew the allocation of emerging vaccines are not a new phenomenon. COVID-19 merely amplified geoeconomic strategies that were already at play during a previous global pandemic triggered by an outbreak of a novel H1N1 influenza virus in 2009—often referred to as the swine flu pandemic.

The virus was first detected in April 2009 in the United States, though later studies suggested it might have originated in Mexico. By June it had spread across the United States, reaching all 50 states, the District of Columbia, Puerto Rico, and the US Virgin Islands, as well as over other 60 countries. This was the first global flu pandemic since 1968 (the H3N2 pandemic), and the second since the 1918 Spanish flu pandemic, which remains the deadliest on record.

Given the quick spread of the disease and the toll it took on populations under the age of 65, scientists and public health authorities initially feared that the H1N1 pandemic would place an enormous burden on public health systems. Early in the outbreak, it was recognized that existing seasonal flu vaccines did not offer protection against the novel pathogen. Developing new vaccines was widely perceived as a critical response. R&D proceeded in a compressed schedule amid uncertainty about the length and likely effects of

the outbreak—circumstances similar to those in the early stages of the COVID-19 vaccine race.

Even before the WHO declared H1N1 a pandemic on June 11, 2009—and before the decision to initiate large-scale production of vaccines targeting the novel pathogen—several high-income countries pre-ordered doses from pharmaceutical companies known for producing flu vaccines, including Sanofi Pasteur, GlaxoSmithKline, and Novartis. By early May 2009, it was reported that the United States had already placed advance orders that would enable it to buy over 600 million doses of vaccine, based on calculations that it would be necessary to administer two doses per person. Several European countries had also entered into contractual agreements to reserve vaccine doses, though order volumes were not disclosed.

At the time, the projected global capacity to manufacture a vaccine during a pandemic was around two billion doses at best; some commentators suggested that a more realistic projection would be closer to one billion doses. Within this range, advance commitments involving the United States alone would have exhausted 30 to 60 percent of the worldwide vaccine supply, depending on actual manufacturing capacity.

There is no binding mechanism that would shift the dominant negotiating paradigm.

A small number of countries, mostly in the global North, had availed themselves of a commonly used legal instrument, a bilateral contract, to secure the earliest possible access to emerging vaccines, leaving low-income countries in the likely position of having very limited, if any, access to the first batches. However, manufacturing capacity and global South–North distribution dynamics were never really put to the test. The H1N1 pandemic began to wane sooner than originally expected, and the most extreme, catastrophic scenarios never came to pass. And clinical trials showed that a single dose of vaccine was likely protective, reducing the demand from each country.

By the time the US Food and Drug Administration approved four vaccines on September 15, 2009, vaccination strategies were much less urgent in high-income countries than they had been just a few months earlier. The European Medicines Agency issued a recommendation favoring approval a few weeks later. On September 18, several countries that had pre-ordered vaccines—

mostly high-income ones—pledged to donate doses to low-income countries.

These donations were portrayed as a much-needed goodwill gesture in a context of relative vaccine scarcity. The WHO issued a written statement "applauding" the pledge as a "commitment to fairness" on the part of participating countries—the United States, the United Kingdom, Italy, France, Norway, Switzerland, Australia, New Zealand, and Brazil. Yet the arc of the 2009 flu pandemic left unanswered the most fundamental questions about North–South relationships in situations in which there is sustained global demand for scarce health goods.

These questions have resurfaced during the coronavirus pandemic. Unlike the 2009 H1N1 vaccine pursuit, COVID-19 has set off a crowded race. Over 200 vaccine R&D projects were still formally ongoing at the time of this writing, though the number of frontrunners is currently in the single digits and the market is unlikely to accommodate many more manufacturers.

The impact of COVID-19 has also been far more extensive than that of the 2009 pandemic. The Centers for Disease Control and Prevention have calculated that there were 60.8 million cases of H1N1 in the United States between April 2009 and April 2010, resulting in an estimated 274,304 hospitalizations and 12,469 deaths. In contrast, with the COVID-19 pandemic still unfolding, by late September 2020 the United States had already recorded over 200,000 deaths among some 7 million cases.

Despite these and other material differences between the two pandemics, the COVID-19 vaccine race has been partly shaped by forces that replicate and magnify the transnational dynamics that were already seen in 2009. A group of wealthier players is able to guarantee de facto priority access to an emerging health good through the use of a lawful and commonly used contractual mechanism. By skewing the global distribution of vaccines, these players contribute to widening the divide between high-income and low-income countries, further complicating transnational responses to a globalized public health crisis.

THE COVAX CHALLENGE

While the COVID-19 pandemic has accentuated these long-standing inequities in global public health, it has also shed some light on potential short- and long-term fixes for imbalances in vaccine distribution. In an attempt to bridge the existing gulf between populations in high- and low-income countries, multi-institutional responses to the COVID-19 pandemic have adopted the advance commitment model as a way to temporarily coordinate the global allocation of emerging vaccines. This effort has been carried out by means of a newly created mechanism, the COVID-19 Vaccine Global Access Facility (COVAX).

COVAX is part of a set of initiatives undertaken by several international public health organizations with the goal of speeding up both the development and the equitable distribution of health goods necessary to hasten the end of the pandemic. These initiatives came together under the umbrella of the Access to COVID-19 Tools (ACT) Accelerator, a collaborative platform sponsored by the WHO, the World Bank, the Global Fund to Fight AIDS, Tuberculosis, and Malaria, the Gates Foundation, the Wellcome Trust, GAVI, the Coalition for Epidemic Preparedness Innovation (CEPI), the Foundation for Innovative New Diagnostics, and Unitaid.

The ACT Accelerator is based on four pillars: diagnostics, therapeutics, vaccines, and health systems. COVAX, part of the vaccines pillar, is coordinated by the WHO, GAVI, and CEPI, a public–private partnership for product development that was established in 2017 to promote investment in vaccines targeting emerging infectious diseases. The initial goal of COVAX is to ensure the equitable distribution of 2 billion doses of COVID-19 vaccines by the end of 2021, an amount deemed sufficient to protect the populations at highest risk within all the countries that have opted into the facility.

The facility is designed to procure vaccines before they receive regulatory approval on behalf of countries that elect to join COVAX. Within weeks of the announcement of the facility's establishment, over 150 countries had expressed interest in joining. Participation is conditioned on a payment in exchange for a predetermined number of doses as vaccines become available, proportional to each country's population.

COVAX has committed to procuring enough vaccine doses to cover at least 20 percent of the population of participating countries. The process will start with an initial tranche of doses sufficient to cover 3 percent of the population in each country. That should enable countries to vaccinate most of their highest-risk groups, such as frontline health care workers. After the 20 percent threshold is reached, follow-up distribution of vaccines may

be subject to weighted allocation based on each country's public health vulnerabilities if demand outstrips the vaccine supply.

COVAX mimics GAVI's strategy for obtaining vaccine doses for distribution in low-income countries, even though it is open to both lower- and higher-income countries. COVAX relies on high-volume purchasing to lower the price of vaccines—by placing larger orders than most individual countries, especially lower-income ones, would ordinarily be able to. It also functions as a risk-sharing mechanism by negotiating advance commitments with multiple pharmaceutical companies, thus guaranteeing vaccine portfolio diversification. Only the wealthiest countries in the global North have traditionally been in a position to accomplish that, through individual negotiations with multiple drugmakers. COVAX provides an incentive for these companies to engage in large-scale manufacturing of doses, without any assurance that they will receive regulatory approval, by creating a contract-based market for emerging vaccines.

The ongoing COVAX experiment directly counters the exclusionary ethos of bilateralism, which allows only countries with certain levels of economic and negotiating capacity to take part in the earliest rounds of allocation of a globally needed health good. COVAX also offers an encouraging example of swift design and implementation of transnational solutions to some of the problems posed by major public health crises.

After COVAX was launched in May 2020, it rolled out a financing instrument, the Advance Market Commitment (AMC), in June to enable the participation of lower- and middle-income countries. The AMC, modeled after GAVI's own procurement mechanisms, is used to fund vaccine pre-orders from different manufacturers. When a vaccine is licensed and approved by the WHO, those funds are used to pay for doses to be distributed among participating countries.

By late September, 92 lower-income countries and 54 higher-income countries had officially joined COVAX, with 38 more expected to follow suit. Collectively, the countries that decided to participate within this compressed time frame represent nearly two-thirds of the global population.

From a distributive justice perspective, these efforts to pool resources and coordinate the distribution of emerging vaccines in a global framework are an improvement over siloed, nationalistic approaches. Nevertheless, they are necessarily limited in scope and corrective force. COVAX describes its overall mission as promoting the distribution of vaccines in ways that are "fair." But can a remedial intervention halfway through a pandemic truly infuse fairness into a process that has deep roots in systemic inequality and in modes of biomedical innovation heavily dependent on noncollaborative approaches?

FLAWED BLUEPRINT?

Although initiatives like COVAX hint at the possibility of at least some centralization and coordination of vaccine acquisition and distribution, they must operate in the long shadow of contractual bilateralism. A closer look at the structure of COVAX illustrates the immediate shortcomings of corrective interventions taking place amidst a pandemic or similarly disruptive international crises.

Countries brought together under the aegis of equitable access to vaccines are yet again treated differently according to their economic status. Higher-income countries are able to finance their share of advance market commitments, whereas many lower-income countries cannot afford to do so. The AMC financing mechanism was created to enable the latter to buy their way into COVAX. Countries with a gross national income per capita under $4,000 (currently there are 92), as well as countries eligible through the World Bank's International Development Association, may take advantage of the AMC and receive funding to meet their financial obligations under COVAX.

Whether a country joins COVAX through the self-funded or the assisted funding pathway has important ramifications. COVAX's vaccine allocation policy, released in June 2020, puts no restrictions on the ability of self-funded countries to enter into parallel bilateral vaccine purchase agreements. By contrast, if a country receiving financial assistance enters into bilateral agreements for doses covering 20 percent of its population, it will not receive access to its COVAX share until all other participating countries have taken their 20 percent shares.

An economically defined distinction that further curtails the ability of less affluent countries

Skewing the global distribution of vaccines widens the divide between high-income and low-income countries.

to negotiate access to more vaccine doses makes little sense. It was justified by the COVAX leadership as necessary in light of geopolitical and time constraints. Yet it is hard to reconcile with the principles of proportionality and fairness by which the facility is supposed to be guided.

Current COVAX policies recommend but do not require that self-funded countries—the ones making ample use of parallel bilateral negotiations—donate excess doses of COVID-19 vaccines. Technically, if a higher-income country were to achieve herd immunity or vaccinate all the people who need protection, it could sit on its stockpiles indefinitely. It might elect to donate doses anyway, motivated by altruism or public relations, but this loophole nonetheless is at odds with COVAX's goals of distributive justice and fairness.

These shortcomings do not detract from the achievement of such a large multilateral network of heterogeneous players, including international organizations, private-sector firms, and governments, in coming together so quickly to mitigate the hoarding effects of vaccine nationalism. But they do undermine the guiding principles that brought these players together.

COVAX coexists with bilateral approaches to vaccine acquisition, which high-income countries still pursue as their primary mode of procurement in response to pandemics. That pathway is limited or unavailable for most lower-income countries. Even if COVAX were to evolve into a permanent fixture in the international public health apparatus, there is no legal or otherwise binding mechanism that would shift the dominant negotiating paradigm from contractual bilateralism to a largely centralized vaccine procurement system to prevent or respond to epidemics and pandemics. That would require nothing short of a fundamental change in the rapport between the global North and South.

Signs that these imbalances are likely to persist in the post–COVID-19 world were observable during the embryonic stages of COVAX, when some of the largest powers—the United States, China, and Russia—declined to join the facility. China eventually joined in October 2020. At the time of this writing, India, which is home to the largest vaccine manufacturer in the world by volume, the Serum Institute, was still pondering whether to join COVAX.

By late September 2020, COVAX had raised $700 million in funding, well short of its initial goal of $2 billion by the end of the year. The gap led some commentators to question the long-term financial stability of any such organization that pools resources to procure vaccines.

COVAX could be improved in the short term through relatively minor corrections to the allocative framework currently in use. But these problems raise concerns about the COVAX model as a blueprint for future, possibly permanent structures designed to counter nationalistic tendencies in vaccine acquisition and distribution.

REALITY CHECK

Contractual bilateralism and global efforts to procure health goods will likely coexist in future epidemics and pandemics. These overlapping but also potentially exclusionary dynamics turn the problem of allocating emerging vaccines into a deadly serious game that must be played across different chessboards.

This divided approach meshes poorly with the borderless ways in which pathogens propagate in an increasingly globalized world. It also contradicts public health precepts for effective pandemic preparedness and response. As legal scholar Lawrence Gostin points out in his 2014 book *Global Health Law*, "globalized health hazards" underscore the "need for collective global action."

Perhaps the main problem with ad hoc solutions to dilemmas of allocating public health goods is that these plans tend to emerge late, as an emergency unfolds. It will be difficult to achieve equitable allocation across the global South–North divide if policymakers do not address the larger framework that determines how pandemic and epidemic health goods are produced in the first place.

Vaccine nationalism and the contractual bilateralism that fuels it are twin embodiments of a systemically siloed approach to the production of health goods. While scientific endeavors remain intrinsically collaborative and borderless, R&D processes for vaccine development have become antithetical to the scientific ideals of communality and disinterestedness. As with virtually every other type of emerging health technology, new vaccines produced from the mid-twentieth century onward are protected by patents and often regarded more as commodities than as goods that should be made universally available to promote public health.

Funding decisions in pre-pandemic periods tend to fail to account for prospective public health value, focusing more often on market-based considerations. Financing and coordination of R&D geared toward the prevention and

management of future public health crises are peripheral in the agendas of commercial and institutional players indispensable to the development and production of these goods. By the time a need materializes for a specific vaccine or other pandemic health needs, such as therapeutics or ventilator parts, the ensuing race usually follows the proprietary modes of innovation that have come to dominate mainstream drug and vaccine development.

Vaccine nationalism—or any other nationalistic approach to the allocation of health goods needed transnationally—is an extension of siloed and competition-driven frameworks in the pharmaceutical industry. The manifestations of vaccine nationalism in recent pandemics should serve as a reality check for the status of global health cooperation in the twenty-first century, as well as the wobbly post–World War II institutional architecture of global health.

During the early stages of the COVID-19 pandemic, the Trump administration chose to pursue isolationism as its default, multipurpose policy, complemented by bilateralism. The incoming Biden administration seems poised to reverse some of the recent forms of isolationism adopted by the United States, including its withdrawal from the WHO. It also may be more inclined to participate in more collaborative approaches, such as those adopted by other countries, international organizations, and various private, public, and public–private actors during the COVID-19 pandemic. These efforts are far from perfect. But they mark the first step toward incrementally better collaborations. ■

Education Technology Seizes a Pandemic Opening

BEN WILLIAMSON

Millions of schools and college campuses around the world closed during the first waves of the COVID-19 pandemic in the spring of 2020. With over a billion students affected, education systems rapidly adopted digital technologies to enable emergency remote teaching and learning. In the months that followed, governments, nongovernmental organizations, and commercial enterprises alike made concerted efforts to "pivot online." For the education technology industry, the crisis created a global laboratory to test a novel form of schooling. Separated from physical classrooms and campuses, students would experience education almost entirely through digital media.

Advocacy organizations such as Privacy International have warned that the online pivot could exacerbate commercial exploitation, surveillance, automated decision-making, and manipulation in education. Others, however, see the pandemic as a historic opportunity for massive technological experimentation in the forms and functions of education, with potentially long-term transformative effects on every continent.

The anticipated benefits of increased online education include greater access to quality schooling for underserved populations, as well as innovations in curricula and pedagogy, all helping with "upskilling" students for a high-tech future. The Organization for Economic Cooperation and Development (OECD) released a "strategic foresight" report envisioning post-COVID education as increasingly personalized by digital technology, outsourced to private providers, experimental in organizational form, and taking place "anywhere" through the "power of the machine."

The exploitation of the pandemic as a laboratory for reimagining education is a result of four intersecting trends: the emergence of a technology-centered experimental worldview in education systems around the world; the development of education data science, learning analytics, and artificial intelligence (AI); the expansion of a commercial education-technology (edtech) industry that has embedded data science methods in education systems; and the growth of an investment sector to support the development of edtech into the post-pandemic future.

Tying these trends together are algorithms, which have attained major cultural, economic, and political importance in contemporary societies, owing to their capacity to process huge volumes of data, produce insights, assist in decision-making, and automate tasks. A look at the historical precedents of the shift to online learning during the pandemic reveals the central role that these lines of code have been positioned to play in future education systems, and the risks of enabling them to shape the course of students' lives.

GRADING ON A CURVE?

During the pandemic in 2020, hundreds of thousands of British school students became unwitting subjects in a vast government experiment with algorithms. After schools closed across the United Kingdom, cabinet ministers and other officials decided to cancel the annual high-stakes examinations that determine whether graduating high school students qualify for places in higher education. Teachers' estimates based on students' past performance would replace exam grades.

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There was one problem. Ministers and their agencies assumed that teachers would be overly generous in their scoring, leading to national grade inflation and inconsistency with the distributions from previous years. So exam regulators adopted statistical algorithms (the Alternative Certification Model in Scotland and the Direct-Centre Level Performance approach in the rest of the country) to "moderate" the grades.

When the results were released in August (first in Scotland and a week later in England, Wales, and Northern Ireland), tens of thousands of students learned that their grades were lower than the assessments given by their teachers. Students with high teacher-predicted results in large schools with historically low performance (mostly located in disadvantaged parts of the country) were disproportionately downgraded by the algorithms, compared with students in smaller, high-performing schools serving more affluent students.

The outcome was a huge political scandal and public outrage. The algorithmic models and their developers were accused by the media of unfairly determining students' life opportunities, reproducing entrenched patterns of class-based inequality, and stifling social mobility. Scottish First Minister Nicola Sturgeon announced a U-turn and publicly apologized to students, acknowledging that her regional government had put too much trust in an algorithm. When the downgraded results were released in England, student protesters chanted anti-algorithm slogans outside the Department for Education in London. After teacher-estimated grades were reinstated in Wales, Northern Ireland, and England, Prime Minister Boris Johnson sought to evade responsibility for the fiasco by blaming a "mutant algorithm."

The backlash should have been anticipated. A month earlier, the use of predictive grading for the International Baccalaureate qualification, accepted for university admissions by 5,000 schools in 150 countries, had resulted in student protests, legal action, and widespread condemnation. These events revealed the extent to which algorithms have become influential in education—and their potential to have a life-changing impact on a huge number of young people.

Over the previous two decades, education had become an arena for experimentation with algorithms in the UK and beyond, concurrently with the emergence of data science as an academic field, a growing commercial sector, and a policymaking resource. Although algorithms have been a central focus of computer science since the 1950s, their role was amplified by the rapid expansion of commercial data processing and the new discipline of data science at the beginning of the twenty-first century. Google's search engine algorithms became keys to locating and accessing information. The algorithms developed by online services like YouTube, Amazon, Netflix, and Spotify to provide users with personalized product recommendations based on their browsing or purchasing histories have reshaped media consumption. Facebook's ranking algorithm and microtargeted advertising influence people's social interactions and access to political content.

By the time of the COVID-19 pandemic, private sector algorithms were playing hugely powerful and controversial roles in societies and individual lives. Public sector institutions started applying data science–based techniques and software in policy areas including health, justice, and social welfare. In 2020, governments in countries around the world relied on these techniques in expedited efforts to create contact-tracing apps to map the spread of the coronavirus.

The turn to algorithms as seemingly efficient and effective responses to public policy questions is a form of technological solutionism. This algorithmic worldview assumes that quantitative data analysis can provide accurate, objective, precise solutions to highly complex societal problems. But this assumption, stemming from nineteenth-century statistics and natural sciences, obscures the fact that algorithms reflect the social contexts in which they are produced.

Algorithms are always created by specific social actors, whether commercial organizations or political bodies, to accomplish designated tasks by processing data sets. Thus, algorithms cannot be said to be neutral. Many decisions go into determining how any single algorithm will operate, which data it will process, and what results it will produce.

Every algorithm is the product of many human practices and organizational priorities. In some cases, algorithms also express political commitments. For instance, the Direct Centre-Level Performance algorithm was shaped by political and regulatory decisions to discount teacher-

Algorithms reflect the social contexts in which they are produced.

estimated results in a way that reflected and reinforced preexisting social, economic, and demographic inequalities. It was driven by long-standing political concerns about grade inflation. Civil servants and technical experts from the government's examinations and qualifications agencies built the algorithm to intervene accordingly.

Technically, it performed as designed, producing a national grade distribution consistent with previous years. But its effects also reflected the long history of political efforts to regulate the distribution of academic success. The grade-standardization algorithm was the embodiment in mathematics and code of the powerful algorithmic worldview that student "achievement" can be objectively measured and ranked, while obscuring the socioeconomic and demographic factors that structure educational outcomes.

DATA-DRIVEN VISIONS

In the decade before the pandemic, the algorithmic worldview spread across education systems worldwide, in step with the expansion of new fields such as education data science, learning analytics, and artificial intelligence. At the outset of the pandemic, charismatic proselytizers talked of unprecedented opportunities for massive "natural experiments" using data science and analytics to assess online learning and compare it with the outcomes of in-person instructional methods. The OECD proclaimed that the pandemic was an opportunity for envisioning new models of education powered by big data and artificial intelligence, reflecting the organization's previous calls to modernize education systems with digital technology.

As part of a longer-term global trend toward data-driven education, the rise of test-based school accountability and teacher performance measurement systems in the 1990s led to the creation of vast information infrastructures for processing and reporting school data. The development of standardized real-time indicators of teaching and learning outcomes became increasingly desirable and feasible in the early 2000s. Education managers used this data to measure progress toward institutional performance targets and improvement goals.

Starting around 2005, specialists in advanced statistics and data analytics began utilizing this student data for systematic quantitative analysis of academic progress and outcomes at increasingly individualized levels of granularity. Learning analytics became the most prominent expression of education data science. New ventures emerged from early investments in virtual learning and online course delivery at elite US universities, including the Massachusetts Institute of Technology and Stanford.

These ventures were backed by corporations and philanthropic organizations dedicated to educational technologies, such as Pearson Education and the Gates Foundation. An international professional association, the Society for Learning Analytics Research, was established, along with research centers and labs worldwide. Learning analytics grew into a movement, drawing the interest of researchers and education administrators alike.

Learning analytics involves examining traces of students' activity, engagement, and participation captured on digital education platforms, and then improving outcomes by adapting pedagogies and curriculum materials to better match the needs of each individual. This approach has been promoted as "personalized learning," the pedagogic embodiment of an algorithmic worldview in education. It is based on the idea that each individual student's performance can be measured and predicted intimately, in "real time."

The algorithmic approach to personalized learning soon escaped the confines of the academic fields of learning analytics and education data science. The Gates Foundation invested heavily in personalized learning programs, research, and advocacy. Microsoft likewise framed its educational software services as providing personalized learning support. Pearson pivoted to prioritize "digital-first" education product development and analytics expertise. In 2019, the company launched an AI-based personalized learning assistant and a "Global Learning Platform" modeled on Netflix and Amazon. New education technology industries emerged beyond Europe and North America, particularly in India and China, as well as in African and Latin American nations.

In these ways, even before the COVID-19 pandemic struck, the algorithmic worldview had already become encoded in the technical systems used daily by schools and colleges around the globe. By the time classrooms and campuses closed for physical instruction during the pandemic, data science, learning analytics, and AI had consolidated into a family of algorithmic technologies and methodologies that were ideally situated to analyze and organize students' online learning. New markets were opening for technology companies and

products that could scale up these techniques across entire education systems. Edtech companies based in China and India grew considerably in reach and market value, driven by geopolitical strategies to embed AI in education as a way of bolstering future technological innovation, productivity, and national economic advantage.

The edtech industry had already adopted technologies such as learning management systems (LMS) for the administration, assessment, and delivery of educational courses or programs. These systems were used globally and had amassed huge data sets. LMS companies began launching proprietary data analytics services and algorithms to process this data.

In 2019, Instructure, the company behind Canvas, one of the most widely used LMS platforms in both higher education and schools, announced plans to develop predictive algorithms and analytics for more personalized learning recommendations and feedback. In December 2019, Instructure disclosed that it would be acquired for $2 billion by a private equity firm.

Meanwhile, a decade of development of online learning technologies—highlighted by industry and media hype over Massive Open Online Courses (MOOCs)—led to the consolidation of a global Online Program Management (OPM) industry. OPM companies provided platforms for universities to offer online degrees (typically for a 60 percent cut of the fees), along with proprietary analytics to monitor the learning behaviors of millions of enrolled students. The education market consulting firm HolonIQ estimates that the market value of OPMs, MOOCs, and similar public–private online learning partnerships will reach $15 billion by 2025, with a big boost from the COVID-19 pandemic.

VIRAL SURGE

The onset of the pandemic in early 2020 catalyzed surging global adoption of educational technologies for learning management and online classes. As school and campus closures affected more than one billion students, according to UNESCO estimates, teachers and learners around the world were forced to adapt to edtech as the default medium of education. Edtech companies began offering their products free of charge or at heavily discounted prices during the emergency period, as governments turned to them to provide digital services for schools and families.

Adding to the logistical and moral complexity were factors such as parent and teacher protests over school safety, campus outbreaks, and digital inequalities. National governments and intergovernmental organizations such as UNESCO and the World Bank turned to some of the biggest global companies, including Google and Microsoft, to solve these problems. As short-term measures, such interventions were necessary. But they also encouraged technological solutionist thinking about how to improve education over longer time spans, condensing the complex structural challenges facing education systems into definable problems to be addressed with technical codes and algorithms, despite the thinness of evidence demonstrating benefits from edtech for teaching or learning. Mirroring private sector education reforms in other emergency contexts, such as New Orleans after Hurricane Katrina, immediate emergency relief for COVID-affected school systems and universities was translated into large-scale, experimental technology–based reconstruction programs.

Google and Microsoft rapidly scaled up their products to facilitate delivery of distance education. By early April, Google reported that active users of its Classroom platform for online learning had doubled, to 100 million worldwide, in a single month. By the summer, in collaboration with UNESCO and the International Society for Technology in Education, Google had repackaged its educational offerings as The Anywhere School, promoting it as a platform for teaching and learning whether on campus or at home. It also began providing enhanced data analytics, reflecting a growing belief across the primary, secondary, and higher education sectors that the ongoing disruption caused by the pandemic would require increased monitoring of student engagement and participation.

Public–private partnerships focused on educational technology and online learning proliferated on a worldwide scale during the pandemic. UNESCO launched a Global Education Coalition to support the rapid rollout and scaling up of edtech with a massive multisector partnership of 140 members. It included international organizations like the OECD and the World Bank, technology and communications companies from Google, Facebook, and

British student protesters chanted anti-algorithm slogans.

Zoom to China's Huawei and Tencent, and a range of both commercial and nonprofit edtech providers like Blackboard, Coursera, and edX.

The coalition highlighted the growing prominence of international and private sector organizations in education, as well as the idea that policy problems should be addressed through multisector public–private technology partnerships. These arrangements were framed both as a necessary emergency response to school and campus closures, and as a model for long-term educational reform and transformation. They were part of an ongoing reconfiguration of education as a globalized sector open to private sector involvement.

By the time the pandemic took hold, edtech had become a central focus of this growing sector. Just months earlier, in late 2019, the OECD's fourth annual Global Education Industry Summit had focused on the theme "Learning in the Data Age," bringing together education ministers and other government officials with industry leaders to consider the potential of adopting learning analytics, big data, and artificial intelligence in national education systems. The summit was a convergence of these trends with the commercial edtech sector, international policy-influencing organizations, and national education system leaders.

This convergence was the context for the emergency turn to edtech in early 2020, and the enthusiasm of many prominent education industry actors for the idea that the pandemic represented a historic opportunity to experiment with digital transformation. Google's Anywhere School exemplified this vision: it existed primarily in cloud computing servers, making it amenable to algorithmic analysis on a scale that would be impossible for education in physical rather than online settings.

EAGER INVESTORS

For education and technology companies in the business of algorithm-driven data services and platforms, COVID-19 was a major market opportunity. The global education industry treated school closures and distance education as an ideal laboratory for enhancing algorithmic interventions in education systems at multiple scales—from national education systems down to institutions and even to the individual, in the form of adaptive, AI-based personalized learning platforms.

Over the previous decade, enthusiastic market forecasts for the edtech sector had prompted huge growth in venture capital investment, especially in companies whose products boasted data analytics or AI capacity. During the pandemic, edtech forecasts spiked again. HolonIQ predicted that the crisis would stimulate long-term increases in edtech spending and investment, estimating in July 2020 that the edtech market would be worth more than $400 billion by 2025. By October 2020, the two most valuable edtech companies in the world were Byju's, an Indian online learning provider valued at $11 billion, and the Chinese online tutoring and AI company Yuanfudao, which had received over $3 billion in investment during the year to that point, taking its total market value to $15.5 billion.

In the United States, the high-tech and data-intensive vision of education was advanced by the investing and philanthropic vehicles of wealthy technology entrepreneurs, including Microsoft founder Bill Gates, Facebook founder Mark Zuckerberg, and Eric Schmidt, former chief executive and chairman of Google. In June 2020, New York Governor Andrew Cuomo enlisted Gates and Schmidt, and their respective charitable initiatives, to help "reimagine" education based on their visions of a data-driven world.

Later in the summer, Schmidt Futures launched a competition with the Gates Foundation and the Chan Zuckerberg Initiative, with prizes of funding for edtech innovations that promised to "accelerate the recovery from pandemic learning loss and advance the field of learning engineering." A core focus of both the Schmidt and Zuckerberg foundations, learning engineering involves a combination of data science, analytics, and AI with psychometrics, social psychology, and cognitive brain science. Schmidt Futures also partnered with hedge fund giant Citadel on the competition and named an expert panel to judge it, including venture capitalists and officials from nonprofit groups. The post-pandemic future of education, Schmidt Futures suggested, would depend on combining algorithmic learning engineering applications and sources of private capital.

Meanwhile, new financial instruments were emerging to capitalize on edtech growth. In July 2020, the South Korean investment firm Mirae Asset launched the Global X Education Exchange Traded Fund (ETF) on the NASDAQ stock exchange to facilitate investment in edtech company stocks. It was followed later in September by the Education Tech and Digital Learning ETF, launched on

the London, Berlin, and Milan stock exchanges by a partnership between Rize, a London-based asset management firm, and HolonIQ.

Like other types of index funds, ETFs allocate investor capital across a range of companies in a given category. At launch, both the Global X and Rize funds featured a portfolio of approximately 30 high-value Chinese, Indian, American, and British education and technology companies, most of which offered online learning and tutoring platforms that could capitalize on school and college closures. Both Global X and Rize emphasized that their funds would support companies in a position to use digital technologies to transform education through the algorithmic personalization of learning.

These investment vehicles were another manifestation of how the pandemic had been framed as an opportunity to experiment and demonstrate the transformative potential of edtech beyond the emergency, shaping future education systems on a mass scale. As the OECD had envisioned, and as Google had already realized, future education could take place "anywhere," powered by proprietary algorithms and funded by private capital. Classrooms and campuses could effectively be transferred to commercial cloud networks.

TRUST AT RISK

An algorithmic worldview now permeates education systems and is encoded into the digital platforms that proliferated during school and college closures in the pandemic. COVID-19 has been treated as an experimental opportunity to scale up the use of algorithmic technologies, generate fresh forms of capital investment, and grow market share—while presenting a model vision for the future of the education sector itself.

These intertwined developments have begun to shift authority in the education sphere to new players and new algorithmic devices and technologies. Private technology companies have become closely involved in setting transformational agendas based on the perceived objectivity and precision of algorithms and data science. They are backed by high-profile philanthropists and investors, as well as international organizations, that can direct substantial funding to algorithmic edtech models and influence the direction of education policy.

In the algorithmic worldview, software and data science applications have become the default solution to education systems viewed as faulty and in need of fixing. The analytics, data, and AI systems developed by global technology companies and edtech businesses have become experimental engines of algorithmic education—and school systems have become their laboratories for new digital forms of teaching and learning in the post-COVID future.

Yet these experiments may yield only short-term change, weak results, or even rejection by students, educators, and wider publics. The path to post-pandemic transformation of education systems will not be smooth, as indicated by public resistance to plans to involve Bill Gates in "reimagining education" in New York, and by widespread media coverage of the risk that monitoring students with remote algorithmic systems during school closures could become a form of surveillance. The disputes in the UK over grade standardization have further demonstrated the potential of algorithms to stir public distrust when they are used to make high-stakes decisions in education.

Such questions over responsibility and accountability point to the political risk of placing trust in algorithms, as well as the danger that they may worsen existing patterns of inequality and unfairness in education systems. Although promoters of algorithmic solutions foresee a transformational future of data-intensive teaching and learning, the UK test results scandal shows how public trust in education authorities can break down when opaque, privately controlled algorithms are perceived as determining students' life prospects. Resistance is likely to be particularly acute if experimental algorithmic education is seen as profiting companies and investors at the expense of students' social mobility and equality of opportunity. ■

The pandemic presented a historic opportunity for massive technological experimentation.

The Meat Industry Goes Back to the Jungle

WILSON J. WARREN

In his 1906 novel *The Jungle*, Upton Sinclair illuminated the abuse and exploitation of meatpacking workers in Chicago through the experiences of Jurgis Rudkus, a Lithuanian immigrant. Before taking a job cleaning the "killing beds," Jurgis goes on a public tour of a slaughterhouse (the meat industry no longer provides such tours) and reflects on how the men "worked with furious intensity, literally upon the run—at a pace with which there is nothing to be compared except a football game." Later, after obtaining employment, Jurgis describes his frustrations with a lack of safety measures that left workers exposed to injury. He says that every department of the plant "was a separate little inferno" and "each of them had their own peculiar diseases." The packers comprised "representative[s] of several races that…displaced each other in the stockyards," each new group representing "cheaper labor" than the preceding group.

Just over a century later, COVID-19 outbreaks in the United States' meat industry have riveted the public's attention on meatpacking workers once again. To be sure, much of the media coverage focused on how these outbreaks affected meat supplies and prices. Given that upward of 20 percent of all slaughter and meatpacking facilities in the United States had to shut down for some period of time, the public was rightly concerned. Still, Americans have been alarmed and even outraged at the large number of positive cases among workers.

The US Centers for Disease Control (CDC) reported that in just April and May 2020, 264 meatpacking facilities in 23 states counted 17,358 COVID-19 cases, including 91 deaths. Another 1,600 workers who tested positive in four Iowa meatpacking plants, including a Tyson pork processing facility in Perry where over 58 percent tested positive, were not included in the CDC report. Well over half of the nationwide cases in the industry were among Hispanic workers.

COVID-19 outbreaks in Europe's meat industry were not nearly as severe, but still were serious. In early June, at least 2,670 coronavirus cases had been reported and four workers had died. Most cases occurred in Germany and Ireland, but Britain, Spain, France, Italy, and the Netherlands all had outbreaks. The worst ones occurred in meatpacking facilities in Gütersloh, North Rhine–Westphalia, Germany; Azambuja, Portugal; Kirklees, England; and the Welsh towns of Anglesey, Merthyr Tydfil, and Wrexham. Elsewhere, a JBS plant in Wyndham, Australia, also had a severe outbreak.

Generally speaking, European Union member nations have developed stronger labor rights protections and more effective environmental and animal rights safeguards. Many commentators believed that long before the pandemic, meat workers were better protected in Europe. Meatpacking line speeds, for instance, are typically much slower there. And during the pandemic, European governments, especially in Germany, focused more attention on protecting workers than the United States did. Yet the meat workers most affected everywhere by COVID-19 outbreaks have been immigrants.

When the Dillingham Commission issued its report on immigrants in the US meat industry in 1911, it found that Poles, Lithuanians, and Slovaks made up half of Chicago's workers. More than a hundred years later, immigrants—now primarily from Latin America—still make up about half of the American meat industry's workforce. Non-native workers also have a large presence in meatpacking plants in much of Europe, Australia, and New Zealand.

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While the COVID-19 outbreaks in meatpacking plants in North America and Europe during the spring and early summer of 2020 are part of the tragic tale of the pandemic's devastating effects, they also cast a new light on the steady erosion of the meat industry's working conditions over the past four decades. The history of labor rights in the meat industry is a story of improvements through the mid-twentieth century, followed by constant diminution of benefits and protections. The most recent developments are tied to emaciated labor union movements, increasing government indifference, and the rise of globalized trade and labor sourcing.

Around the world, as states acted to protect consumers from dangerous meat products during the early twentieth century, they typically also backed efforts to improve meat workers' conditions through legal protections for labor union formation. This support peaked during the World War II era. However, as transnational corporations assumed dominant positions in the ensuing period of free trade and deregulation, reliance on foreign-born meat workers once again became prevalent in the United States, much of Europe, Australia, and New Zealand by the end of the century. Lack of state protection and increasing social hostility toward immigrant meat workers is now widespread.

Meatpacking became notorious for the worst safety record of any US industry.

OUTCAST BUTCHERS

Prejudice against meat workers has deep roots around the globe. In the West, at least since the Middle Ages, butchers were associated with urban nuisances like water pollution and noxious odors. The seventeenth-century English philosopher John Locke, among others, stated that butchers were brutal and violent by nature. Locke opined that "they who delight in the suffering and destruction of inferior creatures will not be apt to be very compassionate or benign to those of their own kind."

In Japan, the Buraku, an outcast hereditary status group that included people who butchered animals and made leather products, faced enduring discrimination. Tokugawa-era (1603–1868) legal codes combined with Shinto and Buddhist taboos concerning blood, filth, and death to result in employment, housing, and even marriage discrimination well into the twentieth century, despite the fact that Burakumin status was officially abolished in 1871 during the Meiji Restoration.

Over the course of the nineteenth century, concerns about the brutality of animal slaughter in Europe and North America led to the development of both humane slaughter techniques and increasing support for animal rights. But workers' conditions remained mostly unchanged.

Grassroots movements prodded governments to extend protections to meat workers. In the US meat industry, ethnic and racial tensions were widespread in the early 1900s. When the Amalgamated Meat Cutters and Butcher Workmen, affiliated with the American Federation of Labor (AFL), called a nationwide strike in 1904, meat companies recruited an estimated 10,000 to 18,000 African American replacement workers in Chicago alone. One AFL leader said the Black strikebreakers were "huge, strapping fellows, ignorant and vicious, whose predominating trait was animalism." The Amalgamated union president, Michael Donnelly, claimed that in East St. Louis, "cattle are being assassinated, not butchered" by Black strikebreakers.

Despite white animosity, Black workers had become increasingly important in the American meat industry by the time of the major labor union drives of the AFL and the Congress of Industrial Organizations (CIO) in the 1930s and 1940s. The passage of the National Labor Relations Act (known as the Wagner Act) in 1935 encouraged union leaders to build an interracial United Packinghouse Workers of America (UPWA-CIO), with Black leadership in major urban centers. The UPWA became one of the most important interracial unions in US history.

In Western Europe, state support for public slaughterhouses gave butchers control over their workplace conditions. This was especially notable in La Villette, the primary public slaughterhouse in late-nineteenth-century Paris, where authorities protected traditional butchering practices.

In both Australia and New Zealand, state support for export marketing was linked to union formation and compulsory arbitration between employers and employees through the 1970s. The Australasian Meat Industry Employees Union was successful in works council–based representation, a form of industrial unionism in which local employees exercise relatively large influence. The

New Zealand Meat Workers' Union and regional Freezing Workers' Unions benefited the increasing number of Māori and Pacific Islanders working in the industry.

After Japan's Meiji government issued the 1871 Emancipation Edict abolishing Burakumin status, little changed until, starting in the 1890s, Buraku representatives pursued political activity that resulted in the 1922 formation of the Zenkoku Suiheisha, or National Levelers Association, a political pressure group advocating for Buraku rights. After the founding of the Buraku Liberation League (BLL) in 1955, the Japanese government intervened over the next twenty years to provide protections in public-sector meat production centers where Buraku were disproportionately employed. It took the efforts of both the BLL and unions such as the All-Shibaura Slaughterhouse Employee Association for Buraku and other meat workers to secure greater workplace rights in the 1960s and 1970s in Osaka and Yokohama, two important meat industry centers employing many Burakumin.

AN INDUSTRY REVOLUTION

Starting in the 1960s, the American meat industry underwent enormous economic changes. Companies new to the industry, especially Iowa Beef Packers (IBP), purchased or supplanted older corporate giants over the subsequent three decades. Tyson, a longtime chicken processor, acquired IBP in 2001; ConAgra became a major packing corporation through its acquisition of Monfort and Swift in the 1980s; and Cargill bought Excel. These three major packers revolutionized the industry with new livestock purchasing practices, the use of new workplace technologies such as electric circular knives and a variety of circular and band saws, and consolidation of cutting and packaging operations. Beef packers moved their facilities closer to livestock supplies in small towns in the Great Plains, whereas poultry packers proliferated in isolated regions of the South.

In the middle third of the twentieth century, when union-building improved wages, benefits, and working conditions, most meat workers were native-born whites and Blacks. During the 1980s, companies aggressively recruited workers from Latin America, Southeast Asia, and Africa. Although the 1986 Immigration Reform and Control Act was meant to stop the flow of undocumented immigrants, lax enforcement of employer sanctions combined with ever-increasing demand

for cheap labor helped facilitate the transition to immigrant workforces. Penalties for employers relying on undocumented workers were so weak that the law effectively encouraged their use in meatpacking and other industries. Between 1980 and 2005, two of every five people who moved to the Midwest came from Latin America. In Arkansas, for instance, where the poultry industry grew rapidly, the Latinx population increased by 337 percent between 1990 and 2000. By 2015, 40 percent of all meatpacking workers in the United States were Latinx.

The US meat industry's transformation from a relatively safe, well-paying industry employing primarily native-born white and Black people into an increasingly dangerous, low-paying industry employing a large number of immigrants occurred between 1960 and 1990. In 1960, meat industry wages amounted to 121 percent of average manufacturing wages. By 1990, that figure had dropped to 84 percent.

Greatly weakened meatpacking unionism was largely responsible for this collapse. IBP and other packers negotiated lower wage rates in beef plants throughout the 1970s. The United Food and Commercial Workers (UFCW), formed in 1979 by a merger between the Retail Clerks International and the Amalgamated Meat Cutters and Butcher Workmen, which had absorbed the UPWA in 1968, rapidly lost membership in the 1980s. Even in its remaining unionized plants, the UFCW could not maintain previous wage rates in its master agreements, which included all unionized worksites across the industry.

During the 1980s, as unions lost strength, meatpacking became notorious for the worst safety record of any US industry. Injuries occurred at a rate four times the national average. Carpal tunnel injuries due to use of electric-powered killing and cutting machines, together with faster line speeds, made up 48 percent of all the nation's occupational injuries by the end of the 1980s. Occupational Safety and Health Administration (OSHA) investigations demonstrated that meat companies went to great lengths to cover up injuries.

The August 1985–June 1986 UFCW P-9 strike at the Hormel plant in Austin, Minnesota, became emblematic of the deteriorating status of workers in the industry. When Hormel announced a 23 percent wage cut, Local P-9, which had been one of the early militant UPWA-CIO locals, went on strike. But the UFCW decided not to support the strike. The international union's decision to turn

its back on a striking local union was unprecedented in the industry's history. The UFCW's strategy was to try to bring up wages at plants with lower pay scales. Because Hormel already had a relatively high base wage rate, the union decided not to support Local P-9's demand to retain it.

P-9 not only went forward with its strike, but also pursued a corporate shaming campaign and boycott against Hormel and First Bank System, which included several Hormel executives on its board. The campaign encouraged depositors to withdraw their money from the bank. Although P-9's effort drew considerable support from pro-labor groups across the country, it did not stop Hormel from reopening the plant and hiring replacement workers, who were largely Mexican. When the strike ended after ten months, only about 20 percent of the strikers got their jobs back, and the new contract provided no concessions to Local P-9's demands.

DIGNITY DENIED

Journalist Lynn Waltz's 2018 book *Hog Wild*, on the labor battles at Smithfield Foods' hog slaughtering facility in Tar Heel, North Carolina, provides vivid insights into the lengths to which contemporary meat companies have been willing to go to stymie workers' efforts to improve their wages and gain workplace dignity. Traditionally, the Midwest had been the center of the US pork industry. But as Midwestern residents battled hog producers over environmental concerns during the 1980s, much of the industry shifted to North Carolina.

After Smithfield established the Tar Heel facility in 1992, the work force was primarily Black. Despite North Carolina's long history of "right-to-work" policies, whereby unionized workers were legally allowed to opt out of paying full union dues, workers organized a local branch of the UFCW. They narrowly lost an August 1994 certification election, which would have given the UFCW local authorization to bargain with Smithfield.

By the 1990s, the number of Hispanic immigrants in North Carolina and much of the South and Midwest had boomed. Between 1990 and 2000, the Latinx population of the state grew by nearly 400 percent. The share of Hispanics employed at the Tar Heel plant jumped from 12 to 25 percent in just three years, from 1994 to 1997.

Plant managers attempted to intimidate Black union supporters by threatening to replace them with Latinos.

Despite concerted efforts to gain Hispanic support for the next National Labor Relations Board (NLRB)–supervised union election in August 1997, the UFCW local lost another close vote. An NLRB ruling issued in 2000 found that Smithfield managers had resorted to a variety of illegal tactics, such as calling in police to interfere with union organizing, firing workers, deploying private security guards to assault workers, inciting fights, and threatening pro-union immigrant workers with deportation. The company's appeals stymied NLRB and district court pro-worker rulings. Not until 2006 did the US Court of Appeals for the District of Columbia Circuit uphold the NLRB's earlier ruling in favor of workers. Despite disruptive Immigration and Customs Enforcement raids targeting Tar Heel plant workers and a racketeering lawsuit filed by Smithfield against the UFCW and several supporting organizations in 2007, the local finally won certification in December 2008, more than fourteen years after its first attempt.

Wages have continued to decline while industry safety standards remain suspect.

Declining wages and rising injury rates were bad enough, but meatpacking workers, as well as many other workers across the United States, also had to endure the indignity of being denied the right to use a bathroom. After OSHA was formed in 1971, it issued about 5,000 safety standards, including a requirement that employers provide bathrooms at workplaces, but it did not attempt to enforce workers' right to use them whenever they needed to. Employers typically interpreted the OSHA standard to mean that workers could take bathroom breaks during designated break times, but not necessarily at any point in the work day. Attorney Marc Linder took up workers' complaints about this OSHA regulation and coauthored a book titled *Void Where Prohibited: Rest Breaks and the Right to Urinate on Company Time*, published in 1997. Along with union protests, his advocacy resulted in OSHA stipulating in 1998 that workers had a right to use the bathroom whenever it was necessary. But as Linder notes in his follow-up book, *Void Where Prohibited Revisited: The Trickle-Down Effect of OSHA's At-Will Bathroom-Break Regulation*, companies continued to block workers' right to use the bathroom at will.

Some of the most egregious cases were in the meatpacking industry. In 1999, at the Excel hog-slaughter plant in Ottumwa, Iowa, OSHA investigations discovered that employees were forced to wait up to an hour and a half to use the bathroom. An OSHA inspector noted, "Having to wait this long when you need to use the bathroom must have been very painful for some of the people. Much less the loss of a primary human and animal right to use the bathroom as needed. This is harmful both physically and mentally." Linder quoted workers' testimony that the long wait to use the bathroom resulted in their urinating, defecating, or heavily menstruating in their clothing. Iowa's state branch of OSHA fined the Excel-Ottumwa plant $36,000, which was relatively severe considering that the highest statutory penalty at the time was $70,000.

A 2005 Human Rights Watch (HRW) report likewise emphasized deteriorating conditions in the American meat industry. The report highlighted severe problems in three areas: workplace health and safety and workers' compensation; freedom of association; and protection of immigrant workers' rights. It noted that workers faced health and safety risks due to production line speeds, close-quarter cutting, heavy lifting, and dirty conditions amid blood, grease, feces, and ingesta. Injuries were systematically underreported. Company medical staff and policies stifled workers' efforts to obtain compensation for injuries. Immigrant workers often struggled to reach company doctors, who could be hours away.

Particularly in the poultry industry, union-building efforts had little success. Employers' threats to fire workers who attempted to join unions were especially intimidating for undocumented immigrants. Even immigrants with legal working status were vulnerable to employers' abuse, given that they might work with undocumented family or friends. The 2005 HRW report stressed the link between immigrant status and health on the job. A March 2004 Associated Press investigative report revealed that Mexican workers across all industries in the United States were 80 percent more likely to die in the workplace than native-born workers, and nearly twice as likely as the rest of the immigrant population to die at work.

THE JUNGLE RETURNS

In recent years, US meatpacking workers' wages have continued to decline while industry safety standards remain suspect. A May 2019 Bureau of Labor Statistics (BLS) report on wages indicated that slaughtering and meat workers' average wages were just 74 percent of the average for all production workers.

The alarming rate of meatpacking workers' carpal tunnel injuries in the 1980s helped make ergonomic guidelines a priority for OSHA in the 1990s. By the middle of that decade, OSHA reported that widespread adoption of Advanced Meat Recovery systems, in which machines separate meat from bone without the use of hand tools, had contributed to lowering reported cases of carpal tunnel syndrome by 38 percent. Despite the repeal of its new standards by the Bush administration in 2001, OSHA recommendations likely continued to have some positive effects on the incidence of carpal tunnel injuries. Nevertheless, a 2018 BLS report indicated that the rate of injuries and illnesses among animal slaughtering and processing workers was still higher than it was for manufacturing in general (4.3 compared with 3.4 per 100 full-time workers).

In 2020, meatpacking plants around the world emerged as ideal environments for the spread of COVID-19. The novel coronavirus thrives in lower temperatures and environments with very high or low humidity. Air quality is generally poor in meatpacking plants, which often have inadequate air filtration systems. And, as has been the case throughout the industry's history, workplaces are crowded and social distancing generally absent.

Beginning in late March, companies across the United States started closing or severely reducing production at meatpacking plants. In response, President Donald Trump issued an April 28 executive order requiring meatpacking plants to continue production despite the health and safety threats posed to workers, invoking the Defense Production Act of 1950 as part of his justification. Citing meat's importance in the American diet, Trump's order authorized the US Department of Agriculture (USDA), OSHA, and the CDC to determine the best means of continuing meat production. The order gave the industry legal protection from worker liability claims, and prompted local and state health authorities to reopen plants. Iowa Governor Kim Reynolds, a Republican, conveyed a similar industry-friendly message in late April when she announced that workers who stayed home risked forfeiting eligibility for unemployment benefits.

Although Trump's executive order attracted a lot of attention, its main effect was to designate

the agriculture secretary to encourage plants to follow federal guidelines and stay open. The USDA and the Food and Drug Administration announced a memorandum of understanding on May 19, re-affirming their commitment to protecting workers in meatpacking plants.

Since June, employment in the meat industry has rebounded along with other food industries, but many meatpacking workers do not believe that their employers have increased safety provisions. In complaints and litigation, workers have accused not only the companies but also OSHA of negligence. The agency came under fire soon after COVID-19 outbreaks became widespread in meatpacking plants. Workers' lawsuits demanded that OSHA develop binding national safety standards during the pandemic. In Pennsylvania, a lawsuit brought by workers at the Maid-Rite meatpacking plant in Dunmore argued that OSHA's response to the pandemic had been lax. The workers complained that Maid-Rite had not provided the necessary personal protective equipment, increased work spacing, or revised sick leave policies.

In early August, after reports that Tyson, JBS USA, and Smithfield had failed to issue protective gear or facilitate distancing, the US House of Representatives adopted an amendment proposed by Rep. Maxine Waters, a California Democrat, to prohibit the use of federal funds to implement Trump's executive order to keep plants open. On August 14, OSHA agreed to work with the North American Meat Institute, a trade association and industry lobbying group, to reduce workers' exposure to COVID-19, but emphasized that they would do so through nonbinding guidelines. OSHA claimed that its standards were sufficient and enforcement would be a priority.

Meanwhile, workers' organizations such as the UFCW continued to push for more protections. The League of United Latin American Citizens worked with Tyson to review workplace conditions in poultry plants in Arkansas. The UFCW sued the USDA for issuing a regulation increasing the limit for poultry processing line speeds without following procedures requiring a preliminary public comment period. Workers continued to file lawsuits against meatpackers throughout the country.

Although governments' reactions to COVID-19 outbreaks in other countries have been generally more supportive of workers' health and safety, one constant is that the most severely affected meatpacking workers are immigrant newcomers. In Australia, after a surge of new cases in Victoria in early August, the state mandated that meatpacking plants could allow only two-thirds of their normal number of employees on site. This policy disproportionately affected immigrant workers, who make up nearly half the population of the city of Wyndham, just west of Melbourne, where a JBS plant is located.

In Germany, Eastern Europeans hired to work at the Tönnies meatpacking plant in Gütersloh, North Rhine–Westphalia, suffered disproportionate rates of COVID-19 infection due not only to cramped plant conditions but also to confined living conditions and transportation. Federal authorities took legal action against the company for violating standards on prevention and control of infectious diseases.

CONSUMERS OVER WORKERS, AGAIN

As the world continues to struggle with the pandemic's effects, the link between meat production and global food insecurity has drawn more attention. Given that the world's poorest people spend over 70 percent of their income on food, advocates see the pandemic and the meat industry crisis as an opportunity to explore new possibilities for food democracy. They aim to mobilize public support for safe, nutritious food that is justly produced, pushing back against the market forces that currently determine food policies. This would require more discussion and planning among governments and citizens about reforming food production and consumption. Such policy changes could also promote local food networks that connect small farmers and consumers in ways that bypass global food chains.

Some suggest that the pandemic's effects may spark a revolution in world dietary habits. The United Nations Food and Agriculture Organization projected in July that global meat consumption would decline by 3 percent in 2020, following a drop of 2 percent in 2019. The new projections would put meat consumption at its lowest levels since 2011.

While much attention has focused on the dangers of disease when people consume meat from wild animals, or bushmeat, some consumers may now be more concerned about how their meat is

> *Meatpacking plants around the world proved ideal environments for the spread of COVID-19.*

made. Public health scholars Sophie Attwood and Cother Hajat note that media coverage of COVID-19 outbreaks among meat industry employees "has helped to highlight some of the human aspects associated with systemized slaughter," including the low pay, grueling work, and poor conditions.

Upton Sinclair would likely appreciate the irony that consumers may only indirectly or accidentally rally in support of worker safety as a sidelight to their concerns about food safety. His purpose in writing *The Jungle* was to win support for socialism: "I aimed at the public's heart, and by accident I hit it in the stomach." Instead of winning converts to labor organizing and political reform, Sinclair's book solidified support for the Pure Food and Drug Act and the Meat Inspection Act. We could be in the midst of similar developments today. Sadly, while such changes may improve our diets, they will do little for the people who make our meat. ■

> "The BRI is creating a web of links around the world that will guarantee some form of pervasive Chinese influence for generations to come."

The Many Faces of China's Belt and Road Initiative

Raffaello Pantucci

The emergence of COVID-19 initially loomed as a catastrophe for the leadership of the People's Republic of China (PRC). Although Beijing later tried to change the narrative of the pandemic's origins, the first major outbreak of the novel coronavirus occurred in Wuhan, the capital of Hubei province and the largest city in central China. Early in 2020, the PRC leadership faced a domestic crisis as people in the afflicted region panicked and accusations flew over mismanagement of the outbreak. President Xi Jinping, seemingly worried that his reputation might be affected by association with the disaster, dispatched Prime Minister Li Keqiang to serve as the face of the official response. The time-worn strategy of blaming local leaders was deployed; a range of Wuhan officials was condemned and punished in quick succession. All the while, Beijing stayed above the fray, seeking to absolve itself of responsibility.

As time passed, and as health authorities in Wuhan (and around China) brought the outbreak under control, Beijing switched its approach. The leadership had come to see COVID-19, which by then had become a global pandemic, as an opportunity for China to show a positive face to the world. Having quietly accepted aid from other countries in the early days of the outbreak (privately requesting that European powers refrain from publicizing the assistance they provided), China decided to champion the aid it had begun to distribute around the world.

China's "medical diplomacy" (sometimes called "mask diplomacy") focused on sharing expertise and sending doctors and medical equipment to countries that were struggling to control the virus. This was all wrapped together and labeled a "Health Silk Road." Beijing was relying on the diplomatic playbook that had come to typify the Xi era. Almost everything China does outside its borders increasingly is incorporated into a Silk Road narrative.

By doing so, Beijing is associating a variety of policies with its overarching vision for the Belt and Road Initiative (BRI). The BRI is a foreign policy framework that Xi first articulated in 2013, when he spoke of creating a Silk Road Economic Belt across Central Asia. Soon after that, he called for creating a twenty-first century Maritime Silk Road. The two schemes together make up the foundation of the BRI.

This Silk Road talk may appear to be empty rhetoric, but it encapsulates a reality of the BRI that is often overlooked. The BRI is not simply a massive set of infrastructure projects, or a strategy for geopolitical domination. It is an articulation of foreign policy that provides China with a way of offering a positive vision for deep engagement with virtually every aspect of daily life in its partner countries.

The BRI is often portrayed by critics as a form of "debt trap" diplomacy, and even as a key part of a geostrategic plot to conquer the world. But many poorer countries take China's offerings at face value—as a foreign policy vision that is focused on improving connectivity and trade links with the aim of bringing prosperity for all. As Xi put it in a September 2013 speech at Nazarbayev University in Kazakhstan's capital, Astana (since renamed Nur-Sultan), where he first articulated his plan for a Silk Road Economic Belt:

> To forge closer economic ties, deepen cooperation, and expand development space in the Eurasian

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region, we should take an innovative approach and jointly build an economic belt along the Silk Road. This will be a great undertaking benefiting the people of all countries along the route. To turn this into a reality, we may start with work in individual areas and link them up over time to cover the whole region.

Xi followed that speech with another a month later in Jakarta, where he unveiled the idea of creating a Maritime Silk Road in partnership with Indonesia and other members of the Association of Southeast Asian Nations (ASEAN). This, too, would be focused on developing a range of links, such as upgrading the ASEAN–China Free Trade Area and building greater transportation connectivity with ASEAN members. Xi also used the speech to announce the creation of the Asian Infrastructure Investment Bank, a China-led international financial institution that would be focused on giving "priority to ASEAN countries' needs," as he put it.

Xi concluded both speeches by focusing on youth and the future, emphasizing his forward-looking vision for the BRI. The Silk Road Economic Belt announced in Astana and the Maritime Silk Road outlined in Jakarta fused together to become the Belt and Road.

This vision is based on the idea that international relations are structured around a web of contacts that penetrate deep into societies, from public policy and infrastructure to cultural fields. The United States may have its Hollywood-branded soft power (which, notwithstanding the damage done by the Trump administration, continues to be influential around the world), but China offers people in other countries a funded web of scholarships, tours, educational institutions, links, and contacts. This creates a range of new connections with Beijing through individual students, teachers, and the institutions that they represent.

By articulating its foreign policy in this way, China is projecting a positive image, extending a range of opportunities—trade deals, infrastructure, scholarships, and more—to potential partner countries, all wrapped in the rubric of striving for joint prosperity. However its motivations or outcomes might be questioned, this is an attractive vision that some countries appreciate, and not just poor developing nations that lack other options. Countries like Italy, Hungary, the Arab Gulf states, and the more developed nations of North Africa have all sought to participate. Much more than just a set of trade agreements, this is a way for China to create a web of engagement with partner countries, enmeshing Beijing with its host countries across industries and economic sectors, as well as political, educational, and social institutions.

This vision for the Belt and Road has been most clearly manifested in the proliferation of policies and business initiatives that incorporate "Silk Road" in their name. To mention just a few, there is the Digital Silk Road (also known as the Information Silk Road), first mentioned in a Chinese policy white paper in 2015; the Health Silk Road, introduced in a 2016 speech delivered by Xi in Uzbekistan; the Polar Silk Road (also known as the Ice Silk Road), which is to reach across the Arctic and was first highlighted in a 2018 white paper; the Green Silk Road Fund, created by Chinese private investors to promote environmentally positive projects; and the Space Silk Road, a planned international expansion of Beidou, the Chinese satellite navigation system.

The BRI has given China a single, overarching foreign policy vision.

The United Front Work Department of the Chinese Communist Party, which seeks to extend the party's influence both at home and abroad, tries to consistently promote the BRI brand through the multitude of Silk Road labels. For a time, it seemed that every visit to China included an obligatory stop at an institution for a meeting with someone who was working on something Silk Roads–related. The merged Silk Roads/Belt and Road brand even got its own cartoons and theme song.

GRAND DESIGNS

Although such grandiose ambitions may have seemed comical and unrealistic to some, the BRI has given China a single, overarching foreign policy vision reaching into almost every facet of the nation-state in both China and its foreign partners. There is nothing new about that. Powerful nations have long used foreign aid and investment to develop relations with their external counterparts across a range of institutions.

But China has offered its ambitious vision as the core of its foreign policy. Its lofty proclamations about rebuilding the world around a new network of links that would lead to guaranteed opportunity

and prosperity for all were always going to vastly overpromise and ultimately underdeliver. Yet it has proved to be an effective way for China to reach out to the world. From Beijing's perspective, it is also a way to lay out a path to achieve Xi's ultimate goal, which is to restore China to what he has called its rightful place as the preeminent power on the world stage, at the heart of a new network of global trade and connectivity.

Assessing how this vision has played out in practice is complicated. In some respects, it has amounted to very little. Some countries that signed on to BRI schemes may have had little interest in much beyond the project at hand. Similarly, among the Chinese participants (a heterogeneous mix of state-owned firms, private enterprises, and policy actors), some may have had the narrow goal of trying to associate a pet project with Xi's grand vision. After all, the BRI timeline stretches well into the future, with a target completion date of 2049 (coinciding with the hundredth anniversary of the PRC), an endpoint beyond the likely lifespan of many of the officials now driving the initiative forward.

China's BRI partners may simply be parroting a line they believe Beijing wants to hear, in hopes of securing more investment. It is not uncommon for recipient countries to build institutions or echo perspectives that they think fulfill donors' expectations. When dealing with China, those expectations can include breaking off relations with Taiwan, signing up formally to the BRI, or supporting authoritarian Chinese domestic policies in Xinjiang or Hong Kong.

Yet these mushrooming partnerships also entail big risks for China, as its financial institutions lend heavily to countries that may have given little consideration to paying off their debts or properly managing projects. Nonetheless, forging ahead with BRI projects creates deep relationships between China and host countries—and that is the point. The Belt and Road Initiative is not simply about building infrastructure; it is intended to set the stage for broader cross-societal engagement. China is building links not only with highways, railroads, pipelines, and ports, but also through digital technologies, educational institutions, security services, and political and social networks, creating a latticework of ties that will last well into the future.

Again, in some respects this is not unlike how other leading nations have operated. Rich world powers like the United States, Japan, the European Union, and the larger individual European nations all regularly engage their foreign partners with a range of diplomatic tools and institutions. But the way China organizes all of its engagement under a single banner suggests a more comprehensive approach of a kind that has not been seen before, making its longer-term consequences harder to gauge.

PROBLEM PROJECTS

Infrastructure projects, the most visible and well-known parts of the BRI, are a good place to start any effort to understand Beijing's vision. Infrastructure gained most of the attention as details emerged following the pair of 2013 speeches in which Xi first unveiled the broad outlines of the plan. As analysts began sketching out what they thought the initiative would actually entail, maps showed road and rail networks and pipelines radiating from China and enveloping the globe. On the ground, this resulted in a proliferation of large infrastructure projects, built by Chinese construction companies and financed with earmarked loans issued by Chinese government-controlled banks. Chinese leaders circled the globe, signing billion-dollar deals left and right.

In fact, the routes were never as comprehensive nor as newly charted as they seemed on the maps. Patchworks of old infrastructure were supplemented with new projects and concepts, then offered to host countries. In some cases, there was back and forth between the host government and Chinese institutions about the nature of a particular project.

In Pakistan, the Ministry of Works and Planning and the Chinese National Development and Reform Commission formed a Joint Cooperation Committee to help select and manage projects to be included in the China–Pakistan Economic Corridor (CPEC). Repeatedly touted by officials on both sides as the BRI's flagship project, the CPEC carries an enormous price tag of around $50 billion. In reality, this number is an exaggeration. The investments made in Pakistan to date are far more modest. The larger vision for the CPEC, as with much of the BRI, is intended to materialize over a longer period. The big numbers brandished by the leaders touting the deals are sum totals of old, new, and aspirational projects.

In some cases, ideas that had long been contemplated were simply resurrected and brought under the BRI umbrella. The Bangladesh–China–India–Myanmar Economic Corridor (BCIM-EC) was first

discussed following an economic summit in Yunnan in 1999. Little came of it until it was revived in the surge of activity surrounding the BRI. Reflecting the fickle nature of this approach, the BCIM-EC was formally excluded from the BRI grouping at one point in an attempt to entice India to participate. India was refusing to engage with the BRI because the CPEC was part of it: the China–Pakistan corridor's route ran through territories claimed by India but occupied by Pakistan, crossing a red line for New Delhi. India never relented, and the whole BCIM-EC enterprise was eventually scuttled in favor of a more limited China–Myanmar Economic Corridor, which was already getting off the ground under the auspices of BRI engagement on China's southern borders.

The fundamental Chinese approach was (and sometimes still is) to extend loans through its state or policy banks to partner countries, which would use the funds to employ Chinese firms to build infrastructure. It was not always clear to what extent the recipient countries were involved in developing these plans, or whether they were already fully developed by the time Beijing presented them. Nor was it always clear whether the projects were needed by recipient countries with any degree of urgency.

Some projects appeared to have been cooked up in Beijing and presented as faits accomplis to the host countries, along with funding from a state bank and a Chinese state-owned construction firm ready to do the work. This was an approach more readily apparent in projects involving resource extraction rather than infrastructure construction, but the two are sometimes interlinked. Whatever the case, the net result of the wave of development associated with the BRI was that large pieces of critical national infrastructure were built by Chinese firms with Chinese money. This became the pattern for BRI investments. It also meant that a growing number of countries around the world found themselves owing large debts to China.

This trend changed China's position within host countries on a number of levels. At a practical level, it meant that Chinese operating methods and technical standards were widely adopted, since telecommunications components and other equipment required to complete infrastructure projects were sourced in China. Political elites in host countries often warmly welcomed Chinese investment because Chinese entities would carefully design projects to ensure that they satisfied local leaders' personal interests or favored key political constituencies. In some cases, this was accomplished through outright corruption; in others, through building unnecessary but politically desirable structures, including prestige projects like stadiums, palaces, and monuments.

At the level of public opinion, the response has been mixed. Complaints are frequently heard, but they are not always well founded. There is a common gripe about Chinese companies bringing in Chinese labor, yet surveys show that this is not always the case. Some Chinese firms only send senior staff to oversee projects, and hire locals for many jobs. Moreover, the resulting infrastructure is not always seen as useless, nor is the debt incurred necessarily unsustainable.

In parts of Tajikistan near the Chinese border that have historically received limited support from Dushanbe, the capital, locals praise Chinese firms for actually building roads, unlike local contractors who tend to take the money and disappear. In other contexts, Chinese firms have found ways to court local support, making their own attempts at corporate social responsibility and cultivating key constituencies in communities where they need to operate. This is a lesson they learned the hard way from catastrophic experiences in places like Myanmar, where construction of the Myitsone Dam sparked repeated clashes with locals, leading to a suspension of the massive project. To avoid repetition of such problems, the Ministry of Commerce has sought to promote best practices like undertaking and following up on feasibility studies, and better understanding and engaging with the communities that will be impacted by their projects.

Major problems have ensued nonetheless, including clashes between Chinese workers and locals, cultural disputes, and poor conditions and late pay for local workers. Some projects have gone catastrophically wrong. In Bishkek, the capital of Kyrgyzstan, a thermal power plant that was refurbished by Chinese contractor TBEA stopped working in the middle of a cold winter.

The Sri Lankan port of Hambantota is often cited as an example of debt-trap diplomacy. When Sri Lanka was unable to pay back the debt from the

Almost everything China does outside its borders is incorporated into a Silk Road narrative.

project, it handed over control of the port to a Chinese company in the form of a 99-year lease. But it is not clear whether this was the Chinese plan from the outset. Nor is it uncommon for states to offer assets, such as mineral rights, in exchange for investments. Such decisions are often controversial within host countries, but they are choices governments are entitled to make.

Some Chinese investments have generated transformative projects. While it is still a bit early to make such judgments about BRI projects, earlier Chinese infrastructure has had this effect. In Turkmenistan, for example, building pipelines to China broke Turkmen dependency on Russia (though it created other problems in terms of reliance on China). In Africa, though there have been questions about debt sustainability and mismanagement of Chinese loans, there is no doubt that some of the new rail infrastructure is connecting communities with greater efficiency than before.

The Twenty-First-Century Maritime Silk Road was a foundational part of the broader BRI vision. Yet for the most part it has been seen as simply an assortment of maritime projects that would connect up to form some of the many routes that China was developing under the broader initiative. The Polar Silk Road, designed to cut through the Arctic and provide China with a shorter northern route to Europe, involves not only ports and ships, but also a closer alliance with Russia. Although it will have to contend with all the complexities of the Moscow–Beijing axis, the polar route would add another strand to the BRI vision of enveloping the Eurasian landmass with connections.

The value of all these projects is difficult to calculate, and it is clear that local elites often benefit more than local communities do. In sum, the results for host countries appear mixed. Yet countries that were previously unable to attract investment now have an opportunity, through the BRI, to fill that gap. And China's relationships with host countries have been transformed, now that it is seen as a source of investment.

DIGITAL DOMINANCE?

There is a potentially more complicated long-term consequence of Chinese infrastructure investment, which is most conspicuous in the initiative known as the Digital Silk Road. Through the construction of digital infrastructure, China is providing the foundation on which national economies will be built in the future. This raises concerns not only about competition from Chinese firms, but also regarding possible covert Chinese access to critical national infrastructure.

These suspicions are most often aired in relation to Huawei, the world's largest telecom equipment supplier, which is leading the way in the transition toward next-generation 5G wireless communications networks. Huawei is just one of many Chinese technology companies that have become players on the global stage. They offer everything from the hardware used to build high-speed digital networks to the services that will utilize those networks to sell goods, process payments, enhance communications, and deliver entertainment to consumers over the Internet.

This package of projects comes in many different forms. Sometimes it is via the same model as large infrastructure projects, with countries offering project financing to develop "smart cities" (a term for the growing use of digital and cyber technology to smooth the management of traffic and other mechanics of everyday urban life) or telecom infrastructure, employing Chinese firms to do the work. More often than not, however, these firms themselves are the driving forces.

ZTE, Huawei, Hikvision, and Dahua are all ambitious companies, constantly seeking new markets and aiming to tap global demand for low-cost digital technology. Some of them also offer surveillance technology, which they have been developing as part of China's domestic security apparatus. In addition, they have a risk threshold that sets them apart from their Western counterparts—they are more willing to move into unstable environments or circumvent international sanctions. The telecom and cyber industries are among the most dynamic in China, able to spot opportunities abroad without necessarily having to be told about them by authorities.

The bigger problem that these companies face in delivering BRI projects is falling into the crosshairs of the US push, under the Trump administration, to decouple China from the global economic system. Through sanctions and criminal prosecutions, Washington has created a context whereby countries choosing to work with Chinese technology companies risk damaging their relations with the United States and other Western countries that are increasingly avoiding projects with Chinese tech firms.

Nonetheless, China's tech sector continues to grow rapidly. Alibaba, China's answer to Amazon, has become a behemoth that is increasingly dominating the cybercommerce space in China's

immediate periphery and farther afield. In most countries bordering China, websites and traders offer portals to tap into Alibaba or Taobao to buy and sell products, making it easier for locals in the host countries to gain access to Chinese platforms that they may find confusing to navigate on their own. Operating in the local language, these middlemen act as the interface with China for a local company's dealers and products. Huge volumes of postal traffic between China and its neighbors now consist of packages shipped in fulfillment of sales on Alibaba.

Before such investments were suspended due to tensions between China and India, Alibaba had plowed some $2 billion into Indian start-ups since 2015. The deals covered the gamut of Indian online firms—including Paytm, a payments start-up valued at over $1 billion, food delivery services Zomato and BigBasket, and e-commerce company Snapdeal.

In August 2019, Alibaba's founder Jack Ma held a meeting with Shanghai Cooperation Organization (SCO) Secretary General Vladimir Norov, trumpeting the news that his company was planning a massive global expansion, a substantial part of which would be in the countries of Eurasia that belong to the SCO. The expansion would create around 100 million jobs and fuel the growth of 10 million small businesses. This is a new direction for the SCO, an organization founded in 2001 as an alliance focused on border delineation and counterterrorism in Central Asia.

Alibaba's Alipay platform facilitates a growing number of global transactions. The international activities of Alibaba (along with other Chinese tech giants, including JD.com and Giushi Technologies) have helped deepen China's economic links with many countries. The company has even led the way in providing medical aid in response to the COVID-19 pandemic. Alibaba has also hosted online sessions where Chinese doctors explain to their counterparts in SCO countries how they have contained the spread of the virus.

China's push into the technological future extends into space as well. Via the Space Silk Road, Beidou will offer its satellite navigation services around the world. The development of the Beidou system back in the mid-1990s was intended to provide China with a capability that would not be dependent on American satellite

China's relationships with host countries have been transformed.

systems. Over time, this grew into an international project, and it has now been swept into the BRI, lending eyes in the sky to the global vision. More than 30 countries have signed up to play varying roles—some will use Beidou as a replacement for or alternative to existing GPS services or other domestic facilities, whereas others will host installations to support the satellite system.

LASTING LINKS

The BRI is also reaching into countries through culture, education, and language, building an array of links that are meant to last much longer than any physical project. China has long offered generous scholarships and subsidies to foreigners who want to study in Chinese universities. This approach has been expanded to include programs for training journalists, security officers of all ranks, and other officials from foreign governments. Many of these projects are promoted with BRI rhetoric, or are attached to companies that participate in the initiative.

BRI imagery is also ubiquitous in the global network of Confucius Institutes, which offer scholarships and Chinese language training. Adjacent to (and sometimes blended with) the activity of Confucius Institutes, the task of connecting with researchers, journalists, civil society actors, and others has been assigned to the United Front Work Department, which also seeks to build connections with political leaders. Some companies offer more specialized training and education; Huawei's "Seeds for the Future" program, for example, offers future middle managers an opportunity to work at the company's headquarters and receive language training.

In many such ways, China's global campaign under the BRI umbrella is far more substantial than a typical geopolitical stratagem. By wrapping the seas and land together in his two 2013 speeches, Xi articulated a vision that merged concepts developed by a pair of influential geostrategists of the late nineteenth and early twentieth centuries, Alfred Thayer Mahan and Halford Mackinder. In Mahan's view, maritime power controlled the world, whereas Mackinder believed that dominating the Eurasian heartland was the path to global hegemony. These were often interpreted as competing strategic models.

Xi's vision, combining elements of both, is grander. It goes beyond simply aiming to control waterways or continents with brute power. Beijing's plan is to build not only the routes, but also the tools to make the routes of the future—and to train and win the loyalty of the rising generations that will use them.

The Belt and Road Initiative is designed to return China to what it believes is its rightful place at the heart of a globe-spanning network, and to ensure that these links penetrate deep into the host communities. The intent is not necessarily to change local political orientations; rather, it is to make these places more pliable to Chinese interests. Through the sinews of infrastructure, China has been insinuating itself into local economies, societies, and politics.

By offering an all-encompassing vision for development, China is putting a friendly face on its ambitions. Yet the reality is that the BRI vision vastly overpromises and is largely unattainable. The transformational projects that it proposes to developing countries will require far more money than even China has, and far more effective governance oversight than Beijing can provide.

These contradictions make the BRI not dissimilar to the development model that has been promoted by Western powers until now. Many development projects have been stymied by myriad local issues in developing nations. Rather than overcoming these obstacles, China has joined the roster of global powers that have claimed to offer a superior development model. The difference is that China has articulated a vision based on links and connectivity, and it has laid deep roots in host countries through its multifaceted approach. Thus, unlike previous efforts in these countries, China is leaving a presence and footprint that will help maintain its influence into the future.

It is also notable that this vision has been handed down by a leader who presents himself and his thought as the next step in China's own development. This means that the BRI will be a major feature of Chinese foreign policy rhetoric for some time. It also gives Chinese institutions a strong incentive to continue to tout their BRI participation as a means of demonstrating their connection with the leader.

The BRI is creating a web of links around the world that will guarantee some form of pervasive Chinese influence for generations to come. The vision has been articulated with such vague and broad terms that it is almost impossible to say exactly where it will end. This helps insulate the BRI from failure: since its parameters have never truly been defined, the goalposts can constantly be moved—except that it is supposed to conclude in 2049, by which time its originators may well be dead. But the Belt and Road will persist, reaching far and deep, tying China to the world and helping it develop the influence to shape the world's future. ∎

The Politics of Epidemics, from Thucydides to Mary Shelley to COVID-19

Eileen Hunt Botting

Mary Shelley immersed herself in ancient and medieval literature, especially plague writing of Greece, Rome, and Florence, during her teens and early twenties. In her journal, she recorded that in 1820 she read "Book I" of Homer, likely the *Iliad*, alongside Sophocles' *Oedipus Rex* and Boccaccio's medieval Italian classic of interlinked tales to serve as a diversion during a time of plague, the *Decameron*. In 1815, she had jotted down that she had bought a translation of Lucretius's first-century BCE poem, *De rerum natura*, which alludes to Thucydides' historical account of the fifth-century BCE plague of Athens. (She also noted that her partner, the poet Percy Bysshe Shelley, read Thucydides that year.) Around the same time, she wrote that she had read the Latin original of Ovid's first-century mythological spin on Thucydides' firsthand impressions of that plague, found in Book VII of the *Metamorphoses*.

Literary scholar Nora Crook has shown in her systematic study of Mary's journals that it was often the domestic practice of the Shelleys for Percy to read aloud to her while she worked on her needlepoint, making clothes for herself or their children. Among his favorite authors to read aloud were Lucretius and Homer. Percy returned to the *Iliad* so often that Mary would have known, perhaps by heart, the verses from Book I in which Apollo, the sun god, emerges in a very different guise as the god of both plague and war. He vengefully shoots down men with burning arrows of pestilence, after the Achaean leaders Achilles and Agamemnon fight over the child war brides they stole from their enemies. Homer recounts that "the corpse fires burned everywhere and did not stop burning."

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Although Thucydides was a pioneering historian, not an epic poet, there is an equally stark image of the overlay of war and plague in his *History of the Peloponnesian War*. In his narrative of the plague that hit Athens during its war with Sparta around 430–429 BCE, Thucydides recalls the horror of seeing his fellow citizens throw corpses onto funeral pyres intended for others, in a mad rush to rid themselves of the infected bodies that even predatory birds and animals would not touch or eat.

From Homer to Thucydides, war and plague are woven together in the Greek imagination. From this ancient association of plague and war, Mary Shelley drew the inference that politics—rooted in interpersonal conflict over love and other loyalties—is the driving force behind epidemics.

She also knew war from her own experience. The sixteen-year-old Mary Wollstonecraft Godwin bore witness to the scourge of the Napoleonic wars when she eloped with Percy Shelley to France in July 1814. In her first extant journal entry, from the 12th of August, she described the north-central French village, Le Pavillon-Sainte-Julie, as "a beautiful place but also desolated by the Cossac . . . they took the cows, sheep & poultry & tore down the houses for wood for fires." The village had been plundered and burned to the ground by what she and the French called "the Cossacs," the Russian soldiers in the multinational coalition that had invaded France that winter to fight Napoleon.

In the aftermath of the invasion, Mary observed, French peasants were left impoverished, serving inedible food in their filthy abodes, which were filled with rats and other signs of pestilence. One refugee whom they met on the road said that his child had been "murdered by the Cossacs." War did not stop on the battlefield; like a plague, it seeped into every level of society, even homes and families.

The editors of Mary Shelley's journals—Paula Feldman and Diana Scott-Kilvert—traced how she later reworked her journal entries for her first book, a travel memoir she produced with Percy. In *A History of a Six Weeks' Tour*, published in 1817, Mary declared her "detestation of war, which none can feel who have not travelled through a country pillaged and wasted by this plague, which, in his pride, man inflicts upon his fellow."

PESTILENTIAL BATTLEFIELDS

In her post-apocalyptic pandemic novel set in the year 2100, *The Last Man* (1826), Shelley dramatized war as a plague upon humanity by having one of the main characters, Lord Raymond, die midway through the story on a pestilential battlefield in Constantinople, under the crumbled ruins of the dome of Hagia Sophia, during a centuries-long war between Greece and Turkey. Soon after Lord Raymond's death, the epidemic that erupts during the war turns into a lethal global pandemic that appears to wipe out all but one human, Lionel Verney, who stands for Mary Shelley in this roman à clef.

Lord Raymond is the analogue for the poet Lord Byron, who fought for Greek independence and died of fever and sepsis near the battlefield of Missolonghi in 1824. The devastating news of the loss of Byron reached Mary just as she was beginning to write *The Last Man*. The untimely death of one of her closest friends only compounded her sorrow over losing her husband Percy to drowning; three children she bore and one they fostered to malaria, fever, or other illnesses; her sister Fanny and Percy's first wife, Harriet, to suicide; and her mother, Mary Wollstonecraft, to sepsis after giving birth to her.

In fathomless grief, Shelley confided to her journal, "The Last Man! Yes, I may well describe that solitary being's feelings, feeling myself as the last relic of a beloved race, my companions extinct before me." With the death of Byron, the plague of war had come to touch her personally, just as it had touched the life of the bereaved refugee she met on the road, a decade before, near Le Pavillon-Saint-Julie.

Shelley's story of the pathology of the plague in *The Last Man* follows many of the details of Sophocles' fictional representation of the plague of Thebes in *Oedipus Rex* and Thucydides' eyewitness report of the plague of Athens. Blood is a common theme among them. Verney's wife, Idris, spews blood from her mouth as she dies of the plague. Sophocles' priest speaks of the "red waves of death" caused by the plague of Thebes. Thucydides describes sores, red skin, blisters, and internal burning that drove people to run, naked, to plunge themselves in water.

Indications that Thucydides' chronicle of the plague (which he caught and survived) likely served as a source for Shelley include their common emphasis on its initial infection of the upper respiratory system, then its swift descent to cause organ damage and internal bleeding in the rest of the body. Both Shelley and Thucydides depict people dropping dead from the plague within days of exposure, apparently through a combination of airborne and person-to-person transmission. The classicist Christopher Mackie argues that the plague of Athens was probably either smallpox or epidemic typhus, based on Thucydides' graphic depiction of its welts and wasting effects.

Shelley was familiar with typhus. It killed Allegra Byron, the young daughter of her sister Claire Clairmont and Lord Byron, while the girl was confined in an Italian convent by her father in 1822. Shelley also would have known of smallpox—if only through some of her favorite literary works, such as Jean-Jacques Rousseau's 1761 novel *Julie, or the New Heloise*—before she herself fell ill from it on a visit to France in 1828. As the biographer Miranda Seymour relates, when Shelley woke up in Paris and looked into the mirror to see her pretty face disfigured by pockmarks, she physically identified with Frankenstein's so-called monster for the first time.

The epidemiology of the plagues of Shelley and Thucydides is also similar. Both are said to have originated in North Africa, whence they spread by trade routes and war. During the second Peloponnesian War, the Athenian military leader Pericles told his people to hide behind the city walls to secure themselves against the Spartan invaders. His strategic confinement of the masses in a closed space turned Athens into a petri dish for plague. Ironically, even Pericles—best remembered for his funeral oration—fell to the disease.

Finally, like Thucydides, Shelley does not explain the plague in terms of orthodox or traditional religious belief. Neither of their plagues are god-sent, as they are in Homer and the Bible. Just like Thucydides, Shelley depicts plague as

Shelley dramatized war as a plague upon humanity.

escalating within wider and deeper patterns of human social and political conflict.

THE NEW MONSTER

The historian Mike Davis has set forth a similar political thesis about the origins of pandemics of the twentieth and twenty-first centuries. In his 2005 book, *The Monster at Our Door*, he speculated that the avian flu—after lethal outbreaks in 1997 and 2003—would be the next mammoth pandemic to overwhelm human and other life forms on Earth. He updated the book in 2020 to address COVID-19, retitling it *The Monster Enters*.

In the riveting new introduction—written while in lockdown in his garage last April—Davis argues that globalized capitalism is the political disease that drives pandemics to grow and spread, whether they are coronaviruses (such as SARS of 2003, MERS of 2012, or SARS-CoV-2 of 2020) or influenza A viruses (such as the Spanish Flu of 1918, the Asian Flu of 1957–58, or the Hong Kong Flu of 1968). Davis contends that "multinational capital has been the driver of disease evolution through the burning or logging out of tropical forests, the proliferation of factory farming, the explosive growth of slums and concomitantly of 'informal employment,' and the failure of the pharmaceutical industry to find profit in mass producing lifeline antivirals, new-generation antibiotics, and universal vaccines."

Davis pinpoints some of the blame for our current pandemic on the elite class of international travelers—whether flying or cruising for business or pleasure—who unwittingly transported the novel coronavirus from the Wuhan wet market around the world in late 2019 and early 2020, and seeded outbreaks in major cities such as Seattle, Paris, Milan, London, and New York. The virus may have jumped from bats to humans near Wuhan, but it was human social, economic, and political behavior that turned SARS-CoV-2 into a global disaster. This political analysis of the origins and pathways of plague is one that Davis shares with the father of history and political science, Thucydides, and the mother of modern political science fiction, Mary Shelley.

As a political scientist and a scholar of political science fiction, I follow in the footsteps of Davis, Shelley, and Thucydides in advancing a political theory of the origins and spread of pandemics like COVID-19. Whether we treat plagues in literary terms as metaphors for the problems that beset humanity, or we conceive them in political terms as products of our social choices and behaviors, people are ultimately responsible for them. Given the difficulty of disentangling the various social and political causes behind COVID-19, we ought to pause and consider the responses of past thinkers to the contagions that beset them.

In the canon of plague literature, from Thucydides to Davis, Shelley stands out as a philosophical model for surviving and transcending pestilence, both real and metaphorical, with an uncommon mix of political awareness and existential grace. As she shows in her journals, each of us must grapple with plagues on a personal level, often in isolation or despair. But we also must reckon with our social and political responsibility for contagions on a global scale, as she had the vision to imagine in her post-apocalyptic pandemic novel, *The Last Man*. ∎

The Pot of Race War and the Kettle of Holy War

Marwan M. Kraidy

As the American reckoning with race unfolded during the Trump presidency, a motley crew of white supremacists, white nationalists, and miscellaneous far-right groups rose to prominence in the United States and elsewhere. This alarming development has led analysts to identify similarities between these groups and violent Islamist organizations like Islamic State. Growing recognition of parallels between "foreign" and "domestic" perpetrators of terror is a welcome development, not least because it undermines the notion that Islamic State is "exceptional."

Nonetheless, comparative commentary so far has focused to a large extent on the two formations' deft deployment of social media, particularly Twitter, for recruitment, organization, and propaganda. It is time we move beyond the focus on technology alone and begin paying attention to deeper equivalences between white power and radical Islamist groups at the levels of identity, history, and ideology in order to be able to tease out the implications of this mirroring.

As we set out to achieve a greater understanding of violent extremism, Thomas Hegghammer's *The Caravan* and Kathleen Belew's *Bring the War Home* are useful companions. Each meticulously researched book, based on a wealth of primary sources and accessible to the general educated public as much as to the specialist, offers a sweeping view of the respective movement under study. Belew retraces the historical evolution of the white power movement in the United States with intricate detail, just as Hegghammer does with the mujahideen movement in Afghanistan and Pakistan. But the

Bring the War Home: The White Power Movement and Paramilitary America
Kathleen Belew
Harvard University Press, 2018

The Caravan: Abdallah Azzam and the Rise of Global Jihad
Thomas Hegghammer
Cambridge University Press, 2020

value of both volumes resides in large measure in the authors' accounts of the crucial transnational traffic of people, ideas, and weapons that make the white power and violent Islamist movements fascinating to study and difficult to comprehend. Even more importantly, these two books emphasize that white power and violent Islamism are global movements.

Each volume on its own makes for a riveting and informative read, but it is when you study them in tandem (as I did because I am completing a comparative project on the topic) that you realize the degree to which the two movements converge. I find it helpful to think of this resonance musically, following the late Edward Said's adaptation of musical language to understand literature, society, and culture by means of what he called "contrapuntal reading." Counterpoint refers to links between multiple musical voices that are interdependent in harmony but autonomous in melody or rhythm, creating a dialogue of contrasts and oppositions. It is useful to consider white power and violent Islamist movements as ideological counterpoints.

SEEDED BY AMERICAN MILITARISM

Looked at in this way, the parallels between radical Islamists and the white power movement in the United States are uncanny. Belew and Hegghammer each make the compelling point that these are geographically widespread movements with deep histories, and not distinct groups, or, for that matter, loose affiliations of "lone wolves"—a notion Belew demolishes by highlighting connections between individual members and the broader white power movement. Even seemingly individual actions are enmeshed in ideological tissue and communities of resentment and violence. Hence Belew's apt insistence that "white power movement" is an appropriate umbrella

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designation for the many race-focused far-right groups in the United States.

The 1967 Six-Day War in the Middle East and the Vietnam War were watershed events that reverberated in the emergence of the violent Islamist and white power movements and shaped their outlooks. Just as the 1967 defeat of Arab armies planted the idea of armed resistance under the aegis of Islam in the mind of the young Palestinian teacher Abdullah al-Azzam (the anchor of Hegghammer's study, who would go on to become a pivotal figure in the anti-Soviet mujahideen movement in Afghanistan), so, too, would defeat in Vietnam seed Louis Beam (a movement pioneer in Belew's account) with the idea of militarizing the Ku Klux Klan under the umbrella of a white power revolution. An important lesson we learn from both volumes is that extremist movements thrive in the crucible of war, from Vietnam and Egypt to Afghanistan and Iraq. They also fester in the aftermath of war: the resentment of occupation, the bitterness of defeat, the fury at "betrayal."

If the Vietnam War catalyzed the white power movement and the second invasion of Iraq incubated Islamic State, what these movements have in common is that they were shaped by US military interventions around the world in the three decades between the two wars. Increasingly, as occurred during the Iraqi insurgency, the two movements glimpse each other in theaters of combat waged as much by militants and mercenaries as by regular soldiers. US global militarism is a common denominator.

Both the white power and violent Islamist movements are transnational, drawing likeminded militants from multiple nations and capitalizing on the global traffic of soldiers, weapons, and images. They are both rapidly changing war machines that witness constant internal strife and transformation, with groups emerging, merging, consolidating, and disappearing before irrupting again in a different guise. Both have designated the state a target of violent action: white power since the July 1983 declaration of war at the Aryan Nations World Congress in Idaho; violent Islamism since defeat in the 1967 war.

Extremism in the name of a more (in the case of violent Islamists) or less (white power extremists) declared religious affiliation pervades both movements and endows a mix of sociopathy and criminality with a higher purpose. No wonder both recruit heavily in prisons. Since they prize weapons and explosives expertise, military personnel—including a disturbing number of active-duty personnel in the United States associated with white power groups—swell the ranks of these extremist movements.

A more explicitly comparative study would plumb parallels between Louis Beam and Abu Mus'ab al-Zarqawi as pioneering ideologues and organizers, or between foundational books like William Luther Pierce's *The Turner Diaries* and Abi Bakr Naji's *The Administration of Anarchy*, or even between the two movements' respective applications of the notion of "leaderless resistance." The conspiratorial tone, the embattled identity, the vengeful plots against the state, the schemes of takeover in multiple stages, the apocalyptic fervor—all these are uncanny resonances between two movements that grew thousands of miles apart, but were connected to each other and were both shaped by a history of US militarism.

POLARIZED IDENTITIES, MEDIA FLAIR

A binary, Manichean worldview, fueled by a conspiratorial sensibility, characterizes both race war and holy war. Writings and speeches pit a putatively righteous white nation or global Sunni *umma* against myriad enemies, chief among them the prevailing state authorities and visibly different groups: racial, religious, linguistic, and sexual minorities. In its starkest manifestations of polarizing either-or, with-me-or-against-me talk, this rhetoric associates the self with life and the other with death.

This worldview may appear to have irrupted into public view recently, in Islamic State's magazines or in the 2019 online white power diatribe by the mass murderer who attacked two mosques in Christchurch, New Zealand. Yet the ideas of eternal victimhood, natural superiority of the in-group, and abiding antagonism that undergird the extremist imagination have been congealing since at least the 1970s in their contemporary iterations, and all the way back to the nineteenth century with the first wave of the Ku Klux Klan.

Another commonality is that adherents of both movements espouse reactionary gender roles that confine women to reproduction and domestic service. Although Hegghammer's book does not

> *Extremist movements thrive in the crucible of war.*

explicitly focus on gender, Belew devotes a chapter to women in the white power movement, and what she describes resonates vividly with my own reading of Islamic State's primary texts as much as it echoes the tenor of the Christchurch massacre perpetrator's "manifesto," which depicts women as both the weakest link and the most potent symbol of the white race, requiring protection from "hordes" of Black, Brown, and Muslim men cast as "invaders" of the white race's exclusive civilization. Overall, the gender worldview of these groups is enfolded in their binary, polarized, and besieged identities.

This mindset is nurtured by active spheres of cultural production, including enterprising uses of technology and vibrant propaganda apparatuses. Hollywood films, with their simplistic "good guy versus bad guy" setups and spectacular visual effects of violence and explosions, have inspired and been used by both movements as sources of emulation and tools of community building. Islamic State video productions have used direct footage and mimicked entire scenes from US action adventure movies by directors ranging from Quentin Tarantino to Kathryn Bigelow. Meanwhile, Tinseltown producers have echoed the stories of Louis Beam and other white supremacists and separatists in blockbusters like *The Deer Hunter* and *Red Dawn*. Islamic State organized collective viewings of *Flames of War*, a September 2014 hour-long documentary glorifying the group's early conquests, in its Media Spots—official locations for reading and viewing caliphal propaganda—much as David Duke and the Federated Knights of the Ku Klux Klan held screenings of D. W. Griffith's 1915 film *Birth of a Nation* in the 1970s. Hollywood is in symbiosis with both movements, as chronicler or inspiration.

Together, the books by Belew and Hegghammer demonstrate how extremist groups have consistently been pioneers in the use of the media characteristic of the era in which they emerge, qualifying contemporary hyperbolic laments about Islamic State's "sophisticated" media operation and strategic communication "savvy." Some of the most significant trends in the development of extremist media, whether of white power or Islamist groups, hark back to the 1980s.

Louis Beam organized newspapers, pamphlets, and, most notably, computers, which in the mid-1970s had reached a size small enough to fit in a home—"minicomputers"—and by the early 1980s had achieved mass penetration in the United States. (*Time* magazine's 1983 Man of the Year, Belew reminds us, was the computer.) Beam harnessed emerging computer-to-computer networks, which would eventually form the Internet, to connect geographically far-flung white power groups through Liberty Net. Its trove of propaganda and how-to tips was a forerunner of today's jihadi accounts on encrypted messaging platforms like Telegram, inviting recruits to connect "online with the Aryan national brain trust."

Beam was not the only propagandist to use media to construct an exclusive identity pitted against the outside world. Also in the 1970s, as Hegghammer documents, publications like the Muslim Brotherhood's *al-Mujtama'* shaped a sense of a Muslim community besieged by foes, giving rise to the language of enemy-as-Crusader that would feature in the pages of Islamic State's publication *Dabiq*. By the late 1970s, production quality improved and distribution expanded, partly because of developments in technology.

FACES OF HATRED

In the rising visibility of assorted militias and white identity organizations, the proliferation of eccentric but lethal groups like the Boogaloo Bois and the Proud Boys, and the threat of an insurgency to follow defeat in the ballot box—all egged on from the highest pulpit in the land—the specter of widespread violence and the toppling of social order has come to the United States. We cannot be lulled into the false comfort of believing that the white power movement could never wreak havoc in ways similar to al-Qaeda and Islamic State.

An argument can be made that what stands between US society and generalized violence by armed extremists (which some citizens, particularly in Black and Brown communities, have already experienced) are functioning state institutions. But one would have to be blind not to notice the steady weakening of these institutions and the rising violence in American society. Ideological hardening and tribal political retrenchment are pulling this society apart, and hatred's many faces—xenophobia, anti-Blackness, Islamophobia, anti-Semitism, and more—scowl in broad daylight. The militia plot to kidnap Michigan Governor Gretchen Whitmer in October 2020 should be understood as the red flag that it is. In the counterpoint between Whitmer's would-be kidnappers and the Islamic State militants who have targeted Iraqi municipal, provincial, and tribal leaders, the rhythm is heavy as lead, and the melody is morbid. ∎