

**BILL GATES: THE GENE-EDITING REVOLUTION**

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# FOREIGN AFFAIRS

## Is Democracy Dying?

### A Global Report





# FOREIGN AFFAIRS



Volume 97, Number 3

## IS DEMOCRACY DYING?

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*"Foreign Affairs . . . will tolerate wide differences of opinion. Its articles will not represent any consensus of beliefs. What is demanded of them is that they shall be competent and well informed, representing honest opinions seriously held and convincingly expressed. . . . It does not accept responsibility for the views in any articles, signed or unsigned, which appear in its pages. What it does accept is the responsibility for giving them a chance to appear."*

Archibald Cary Coolidge, Founding Editor  
Volume 1, Number 1 • September 1922



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# The Big Shift

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## How American Democracy Fails Its Way to Success

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*Walter Russell Mead*

**A**s Americans struggle to make sense of a series of uncomfortable economic changes and disturbing political developments, a worrying picture emerges: of ineffective politicians, frequent scandals, racial backsliding, polarized and irresponsible news media, populists spouting quack economic remedies, growing suspicion of elites and experts, frightening outbreaks of violence, major job losses, high-profile terrorist attacks, anti-immigrant agitation, declining social mobility, giant corporations dominating the economy, rising inequality, and the appearance of a new class of super-empowered billionaires in finance and technology-heavy industries.

That, of course, is a description of American life in the 35 years after the Civil War. The years between the assassination of President Abraham Lincoln, in 1865, and that of President William McKinley, in 1901, were among the least inspiring in the history of U.S. politics. As Reconstruction proved unsuccessful and a series of devastating depressions and panics roiled the economy, Washington failed miserably to rise to the challenges of the day.

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Not many Americans can name the drab presidents who drifted ineffectually through the corridors of the White House during those years; fewer still know the names of the senators and representatives with whom they worked. Almost no one not professionally engaged in the study of U.S. foreign policy can remember a diplomatic accomplishment between the purchase of Alaska and the construction of the Panama Canal. When the politicians of those days are dimly remembered, it is more often for scandal (“Ma, Ma, where’s my Pa?” went the campaign chant referring to President Grover Cleveland’s illegitimate child) than for any substantive accomplishment.

But if these were disappointing years in the annals of American governance, they were years of extraordinary importance in American history. This was the period in which the United States became the largest and most advanced economy in the world. As transcontinental railroads created a national market and massive industrial development created new industries and new technologies, astonishing inventions poured out steadily from the workshops of Thomas Edison and his imitators and rivals. John D. Rockefeller turned petroleum from a substance of no commercial importance into the foundation of global economic development. The United States’ financial system became as sophisticated and powerful as that of the United Kingdom.

In hindsight, it was a period in which the United States failed its way to success as the consequences of the Industrial Revolution made themselves felt. The Industrial Revolution began, of course, well before the Civil War, but its full effects were felt only later, as the United States overtook the United Kingdom as



# The Age of Insecurity

## Can Democracy Save Itself?

Ronald Inglehart

Over the past decade, many marginally democratic countries have become increasingly authoritarian. And authoritarian, xenophobic populist movements have grown strong enough to threaten democracy's long-term health in several rich, established democracies, including France, Germany, the Netherlands, Sweden, the United Kingdom, and the United States. How worried should we be about the outlook for democracy?

The good news is that ever since representative democracy first emerged, it has been spreading, pushed forward by the forces of modernization. The pattern has been one of advances followed by setbacks, but the net result has been an increasing number of democracies, from a bare handful in the nineteenth century to about 90 today. The bad news is that the world is experiencing the most severe democratic setback since the rise of fascism in the 1930s.

The immediate cause of rising support for authoritarian, xenophobic populist movements is a reaction against

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immigration (and, in the United States, rising racial equality). That reaction has been intensified by the rapid cultural change and declining job security experienced by many in the developed world. Cultural and demographic shifts are making older voters feel as though they no longer live in the country where they were born. And high-income countries are adopting job-replacing technology, such as artificial intelligence, that has the potential to make people richer and healthier but also tends to result in a winner-take-all economy.

But there is nothing inevitable about democratic decline. Rising prosperity continues to move most developing countries toward democracy—although, as always, the trajectory is not a linear one. And in the developed world, the current wave of authoritarianism will persist only if societies and governments fail to address the underlying drivers. If new political coalitions emerge to reverse the trend toward inequality and ensure that the benefits of automation are widely shared, they can put democracy back on track. But if the developed world continues on its current course, democracy could wither away. If there is nothing inevitable about democratic decline, there is also nothing inevitable about democratic resurgence.

### BY POPULAR DEMAND

Over the past two centuries, the spread of democracy has been driven by the forces of modernization. As countries urbanized and industrialized, people who were once scattered over the countryside moved into towns and cities and began working together in factories. That allowed them to communicate and organize, and the economic growth



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# The End of the Democratic Century

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## Autocracy's Global Ascendance

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*Yascha Mounk and Roberto Stefan Foa*

**A**t the height of World War II, Henry Luce, the founder of *Time* magazine, argued that the United States had amassed such wealth and power that the twentieth century would come to be known simply as “the American Century.” His prediction proved prescient: despite being challenged for supremacy by Nazi Germany and, later, the Soviet Union, the United States prevailed against its adversaries. By the turn of the millennium, its position as the most powerful and influential state in the world appeared unimpeachable. As a result, the twentieth century was marked by the dominance not just of a particular country but also of the political system it helped spread: liberal democracy.

As democracy flourished across the world, it was tempting to ascribe its

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dominance to its inherent appeal. If citizens in India, Italy, or Venezuela seemed loyal to their political system, it must have been because they had developed a deep commitment to both individual rights and collective self-determination. And if Poles and Filipinos began to make the transition from dictatorship to democracy, it must have been because they, too, shared in the universal human desire for liberal democracy.

But the events of the second half of the twentieth century can also be interpreted in a very different way. Citizens across the world were attracted to liberal democracy not simply because of its norms and values but also because it offered the most salient model of economic and geopolitical success. Civic ideals may have played their part in converting the citizens of formerly authoritarian regimes into convinced democrats, but the astounding economic growth of western Europe in the 1950s and 1960s, the victory of democratic countries in the Cold War, and the defeat or collapse of democracy's most powerful autocratic rivals were just as important.

Taking the material foundations of democratic hegemony seriously casts the story of democracy's greatest successes in a different light, and it also changes how one thinks about its current crisis. As liberal democracies have become worse at improving their citizens' living standards, populist movements that disavow liberalism are emerging from Brussels to Brasília and from Warsaw to Washington. A striking number of citizens have started to ascribe less importance to living in a democracy: whereas two-thirds of Americans above the age of 65 say it is absolutely important to them to live in a democracy, for



# Autocracy With Chinese Characteristics

## Beijing's Behind-the-Scenes Reforms

*Yuen Yuen Ang*

“Sooner or later this economy will slow,” the *New York Times* columnist Thomas Friedman declared of China in 1998. He continued: “That’s when China will need a government that is legitimate. . . . When China’s 900 million villagers get phones, and start calling each other, this will inevitably become a more open country.” At the time, just a few years after the fall of the Soviet Union, Friedman’s certainty was broadly shared. China’s economic ascent under authoritarian rule could not last; eventually, and inescapably, further economic development would bring about democratization.

Twenty years after Friedman’s prophecy, China has morphed into the world’s second-largest economy. Growth has slowed, but only because it leveled off when China reached middle-income status (not, as Friedman worried, because of a lack of “real regulatory systems”). Communications technology rapidly spread—today, 600 million Chinese citizens own smartphones and 750 million use the Internet—but the much-anticipated tsunami of political liberalization has not arrived.

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If anything, under the current regime of President Xi Jinping, the Chinese government appears more authoritarian, not less.

Most Western observers have long believed that democracy and capitalism go hand in hand, that economic liberalization both requires and propels political liberalization. China’s apparent defiance of this logic has led to two opposite conclusions. One camp insists that China represents a temporary aberration and that liberalization will come soon. But this is mostly speculation; these analysts have been incorrectly predicting the imminent collapse of the Chinese Communist Party (CCP) for decades. The other camp sees China’s success as proof that autocracies are just as good as democracies at promoting growth—if not better. As Malaysian Prime Minister Mahathir Mohamad put it in 1992, “authoritarian stability” has enabled prosperity, whereas democracy has brought “chaos and increased misery.” But not all autocracies deliver economic success. In fact, some are utterly disastrous, including China under Mao.

Both of these explanations overlook a crucial reality: since opening its markets in 1978, China has in fact pursued significant political reforms—just not in the manner that Western observers expected. Instead of instituting multi-party elections, establishing formal protections for individual rights, or allowing free expression, the CCP has made changes below the surface, reforming its vast bureaucracy to realize many of the benefits of democratization—in particular, accountability, competition, and partial limits on power—without giving up single-party control. Although these changes may appear dry and



# Eastern Europe's Illiberal Revolution

## The Long Road to Democratic Decline

*Ivan Krastev*

In 1991, when the West was busy celebrating its victory in the Cold War and the apparent spread of liberal democracy to all corners of the world, the political scientist Samuel Huntington issued a warning against excessive optimism. In an article for the *Journal of Democracy* titled "Democracy's Third Wave," Huntington pointed out that the two previous waves of democratization, from the 1820s to the 1920s and from 1945 to the 1960s, had been followed by "reverse waves," in which "democratic systems were replaced . . . by historically new forms of authoritarian rule." A third reverse wave was possible, he suggested, if new authoritarian great powers could demonstrate the continued viability of nondemocratic rule or "if people around the world come to see the United States," long a beacon of democracy, "as a fading power beset by political stagnation, economic inefficiency, and social chaos."

Huntington died in 2008, but had he lived, even he would probably have been surprised to see that liberal democracy is now under threat not only in countries that went through democratic

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transitions in recent decades, such as Brazil and Turkey, but also in the West's most established democracies. Authoritarianism, meanwhile, has reemerged in Russia and been strengthened in China, and foreign adventurism and domestic political polarization have dramatically damaged the United States' global influence and prestige.

Perhaps the most alarming development has been the change of heart in eastern Europe. Two of the region's poster children for postcommunist democratization, Hungary and Poland, have seen conservative populists win sweeping electoral victories while demonizing the political opposition, scapegoating minorities, and undermining liberal checks and balances. Other countries in the region, including the Czech Republic and Romania, seem poised to follow. In a speech in 2014, one of the new populists, Hungarian Prime Minister Viktor Orbán, outlined his position on liberalism: "A democracy is not necessarily liberal. Just because something is not liberal, it still can be a democracy." To maintain global competitiveness, he went on to say, "we have to abandon liberal methods and principles of organizing a society." Although Orbán governs a small country, the movement he represents is of global importance. In the West, where the will of the people remains the main source of political legitimacy, his style of illiberal democracy is likely to be the major alternative to liberalism in the coming decades.

Why has democracy declared war on liberalism most openly in eastern Europe? The answer lies in the peculiar nature of the revolutions of 1989, when the states of eastern Europe freed themselves from the Soviet empire. Unlike previous



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# China's New Revolution

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## The Reign of Xi Jinping

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*Elizabeth C. Economy*

Standing onstage in the auditorium of Beijing's Great Hall of the People, against a backdrop of a stylized hammer and sickle, Xi Jinping sounded a triumphant note. It was October 2017, and the Chinese leader was addressing the 19th Party Congress, the latest of the gatherings of Chinese Communist Party elites held every five years. In his three-and-a-half-hour speech, Xi, who was appointed the CCP's general secretary in 2012, declared his first term a "truly remarkable five years in the course of the development of the party and the country," a time in which China had "stood up, grown rich, and become strong." He acknowledged that the party and the country still confronted challenges, such as official corruption, inequality in living standards, and what he called "erroneous viewpoints." But overall, he insisted, China was headed in the right direction—so much so, in fact, that he recommended that other countries draw on "Chinese wisdom" and follow "a Chinese approach to solving the problems facing mankind." Not since Mao Zedong had a Chinese leader so directly suggested that others should emulate his country's model.

Xi's confidence is not without grounds. In the past five years, the Chinese leadership has made notable progress on a number of its priorities. Its much-heralded anticorruption campaign has accelerated, with the number of officials disciplined for graft increasing from some 150,000 in 2012 to more than 400,000 in 2016. Air quality in many of China's famously smoggy cities has improved measurably. In the South China Sea, Beijing has successfully advanced its sovereignty claims by militarizing existing islands and creating new ones outright, and it has steadily eroded the autonomy of Hong Kong through a series of political and legal

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# Fresh Prince

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## The Schemes and Dreams of Saudi Arabia's Next King

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*F. Gregory Gause III*

It is not often that a Ritz-Carlton becomes a detention facility. But last November, when a large slice of the Saudi elite was arrested on accusations of corruption, the luxury hotel in Riyadh became a gilded prison for hundreds of princes, billionaires, and high-ranking government officials. Behind this crackdown was the young crown prince, Mohammed bin Salman, also known as MBS, who is attempting to remake the kingdom's economy and social life, and even the House of Saud itself.

At only 32, MBS is already the most powerful figure in contemporary Saudi history, having sidelined other members of the ruling family with the full support of his father, King Salman. His concentrated authority and evident will to shake up the system make it possible for him to do great things. But he has also removed the restraints that have made Saudi foreign and domestic policy cautious, conservative, and ultimately successful amid the crises of the modern Middle East. Whether the crown prince can pull off his high-stakes gamble, which the Middle East expert Bernard Haykel terms a "revolution from above," without destabilizing his country and adding to the region's chaos remains an open question.

Conventional wisdom has it that the Saudi regime rests on a social compact among the ruling family, the religious establishment, and the economic elite. The system is lubricated by enough oil wealth to also fund a substantial welfare state. But that view is only half right. Over the decades, oil wealth has lifted the ruling family above its partners and the governing princes above the other members of the extended House of Saud. Religious elites are now state bureaucrats, not equal

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# The Right Way to Coerce North Korea

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## Ending the Threat Without Going to War

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*Victor Cha and Katrin Fraser Katz*

**W**hen it comes to North Korea, U.S. President Donald Trump's policies have been whiplash inducing. On February 23, he appeared to be gearing up for a conflict when he said that if sanctions against Pyongyang didn't work, Washington would have to move to "phase two," which could be "very, very unfortunate for the world." But just two weeks later, Trump abruptly changed course and accepted an invitation to meet with North Korean leader Kim Jong Un—a decision that caught even his own White House and State Department by surprise.

Trump's newfound enthusiasm for diplomacy has temporarily lowered the temperature on the Korean Peninsula, but it also underlines a bigger question: Does the United States have a strategy for North Korea, or are these twists and turns merely the whims of a temperamental president? In the past, rash and uninformed decisions by U.S. officials on the peninsula—such as acquiescing to Japan's occupation of Korea in 1905 and excluding Korea from the U.S. Cold War defense perimeter in 1950—have had grave consequences. The United States cannot afford a similar outcome today.

Trump's unpredictability has had some upsides. His self-proclaimed "madman" behavior may have played a role in bringing the North Koreans to the table, and the Trump administration's policy of applying, in the White House's words, "maximum pressure" has yielded some impressive results. An unprecedented summit between the U.S. and North Korean leaders could indeed bring lasting peace to Asia. But it could also go wrong: if negotiations fail, the administration might

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# Perception and Misperception on the Korean Peninsula

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## How Unwanted Wars Begin

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*Robert Jervis and Mira Rapp-Hooper*

**N**orth Korea has all but completed its quest for nuclear weapons. It has demonstrated its ability to produce boosted-fission bombs and may be able to make fusion ones, as well. It can likely miniaturize them to fit atop a missile. And it will soon be able to deliver this payload to the continental United States. North Korea's leader, Kim Jong Un, has declared his country's nuclear deterrent complete and, despite his willingness to meet with U.S. President Donald Trump, is unlikely to give it up. Yet Washington continues to demand that Pyongyang relinquish the nuclear weapons it already has, and the Trump administration has pledged that the North Korean regime will never acquire a nuclear missile that can hit the United States. The result is a new, more dangerous phase in the U.S.–North Korean relationship: a high-stakes nuclear standoff.

In March, U.S. and South Korean officials announced the possibility of a Kim-Trump meeting. But regardless of whether diplomacy proceeds or the United States turns its focus to other tools—sanctions, deterrence, even military force—the same underlying challenge will remain: the outcome of this standoff will be determined by whether and how each country can influence the other. That, in turn, will depend on the beliefs and perceptions each holds about the other. The problems of perception and misperception afflict all policymakers that

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# Opioids of the Masses

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## Stopping an American Epidemic From Going Global

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*Keith Humphreys, Jonathan P. Caulkins, and Vanda Felbab-Brown*

**I**n 2016, nearly 50,000 people died of opioid overdoses in the United States, and, per capita, almost as many died in Canada. From 2000 to 2016, more Americans died of overdoses than died in World War I and World War II combined. Yet even these grim numbers understate the impact of opioid abuse, because for every person who dies, many more live with addiction. The White House Council of Economic Advisers has estimated that the epidemic cost the U.S. economy \$504 billion in 2015, or 2.8 percent of GDP.

This public health story is now common knowledge. Less well known is the growing risk that the epidemic will spread across the globe. Facing a backlash in the United States and Canada, drug companies are turning their attention to Asia and Europe and repeating the tactics that created the crisis in the first place. At the same time, the rise of fentanyl, a highly potent synthetic opioid, has made the outbreak even deadlier and begun to reshape the global drug market, a development with significant foreign policy implications. As a result, the world is on the cusp of a global opioid epidemic, driven by the overuse of legal painkillers and worsened by the spread of fentanyl, that could mark a public health disaster of historic proportions.

Yet in the face of this terrifying possibility, the world has remained largely complacent. Governments and international organizations

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# Globalization Is Not in Retreat

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## Digital Technology and the Future of Trade

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*Susan Lund and Laura Tyson*

**B**y many standard measures, globalization is in retreat. The 2008 financial crisis and the ensuing recession brought an end to three decades of rapid growth in the trade of goods and services. Cross-border financial flows have fallen by two-thirds. In many countries that have traditionally championed globalization, including the United States and the United Kingdom, the political conversation about trade has shifted from a focus on economic benefits to concerns about job loss, dislocation, deindustrialization, and inequality. A once solid consensus that trade is a win-win proposition has given way to zero-sum thinking and calls for higher barriers. Since November 2008, according to the research group Global Trade Alert, the G-20 countries have implemented more than 6,600 protectionist measures.

But that's only part of the story. Even as its detractors erect new impediments and walk away from free-trade agreements, globalization is in fact continuing its forward march—but along new paths. In its previous incarnation, it was trade-based and Western-led. Today, globalization is being driven by digital technology and is increasingly led by China and other emerging economies. While trade predicated on global supply chains that take advantage of cheap labor is slowing, new digital technologies mean that more actors can participate in cross-border transactions than ever before, from small businesses to multinational corporations. And economic leadership is shifting east

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# Where Myanmar Went Wrong

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## From Democratic Awakening to Ethnic Cleansing

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*Zoltan Barany*

**L**ate last year, when news broke that Myanmar's military had been systematically killing members of the country's Muslim Rohingya minority, much of the world was shocked. In recent years, Myanmar (also known as Burma) had been mostly a good news story. After decades of brutal dominance by the military, the country had seen the main opposition party, the National League for Democracy, score an all-too-rare democratic triumph, winning the 2015 national elections in a landslide. The NLD's leader, Aung San Suu Kyi, an internationally celebrated dissident who had received the 1991 Nobel Peace Prize for her efforts to democratize Myanmar, became Myanmar's de facto head of state. Many analysts and officials concluded that the county was finally on the path to democratic rule. Support poured in from Western democracies, including the United States. Myanmar had long been isolated, relying almost exclusively on China, which was content to turn a blind eye to human rights abuses. Now, many hoped, Suu Kyi would lead the country into the Western-backed international order.

But such hopes overlooked a fundamental reality, one that was brought into stark relief by the slaughter of the Rohingya: Myanmar's generals continue to control much of the country's political and economic life. Suu Kyi must strike a delicate balance, advancing democratic rule without stepping on the generals' toes. Her government has no power over

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# The Ultimate Life Hacker

## A Conversation With Jennifer Doudna

**A**t the age of 12, Jennifer Doudna read James Watson's *The Double Helix* and got hooked on science in general and genetics in particular. Four decades later, she is a molecular biology professor at the University of California, Berkeley, an investigator with the Howard Hughes Medical Institute, and a researcher at the Lawrence Berkeley National Laboratory. One of the discoverers of CRISPR, a powerful new technology for gene editing, Doudna tells the story of the current genetics revolution in her gripping new memoir, *A Crack in Creation* (written with Samuel Sternberg). She spoke with *Foreign Affairs*' editor, Gideon Rose, in her office in Berkeley in February.

**You've described CRISPR as a Swiss Army knife and said that it may cause a fundamental break in human history. How can a Swiss Army knife cause a break in human history?**

Because it's a disruptive technology. CRISPR is an efficient, effective tool for editing genomes—changing the code of life, the DNA in cells.

**Humans have been modifying the genetics of various plants and animals for ages, so why is this new?**

What makes this different is that the tool is precise and programmable. We

can now change a single letter in the three billion base pairs of the human genome, for example. Ever since the discovery of the structure of DNA in the 1950s, scientists have been dreaming about being able to rewrite that code. What if you could correct mutations that cause disease or introduce new and beneficial traits into a species? Now we have a tool that can do that. And it's getting cheaper and more accessible all the time.

Instead of breeding creatures by trial and error over many generations to get the traits you want—and not even knowing what the actual code is for the DNA responsible for those traits—now you can simply splice in a trait for a bigger nose, disease resistance, better nutrition, whatever. You can do it precisely in one generation and get exactly what you want. This is changing the way modern biology is being practiced, in everything from medicine to agriculture.

**How quickly is this all happening?**

This technology is only a few years old, and there are already several clinical trials moving forward to test CRISPR-based gene editing in patients with cancer and other diseases. Agricultural products altered using CRISPR are already coming to market. Animals have already been altered using CRISPR—heavily muscled pigs, micro pigs, hornless cattle. Several CRISPR-related companies have been founded and already have market caps in the billions of dollars.

**The description in your book of how the field of gene editing evolved, with different researchers building on each other's work and propelling knowledge forward, makes it seem like the scientific community is a model of the Enlightenment in action.**

This interview has been edited and condensed.



# Gene Editing for Good

## How CRISPR Could Transform Global Development

*Bill Gates*

**T**oday, more people are living healthy, productive lives than ever before. This good news may come as a surprise, but there is plenty of evidence for it. Since the early 1990s, global child mortality has been cut in half. There have been massive reductions in cases of tuberculosis, malaria, and HIV/AIDS. The incidence of polio has decreased by 99 percent, bringing the world to the verge of eradicating a major infectious disease, a feat humanity has accomplished only once before, with smallpox. The proportion of the world's population in extreme poverty, defined by the World Bank as living on less than \$1.90 per day, has fallen from 35 percent to about 11 percent.

Continued progress is not inevitable, however, and a great deal of unnecessary suffering and inequity remains. By the end of this year, five million children under the age of five will have died—mostly in poor countries and mostly from preventable causes. Hundreds of millions of other children will continue to suffer needlessly from diseases and malnutrition that can cause lifelong cognitive and physical disabilities. And

more than 750 million people—mostly rural farm families in sub-Saharan Africa and South Asia—still live in extreme poverty, according to World Bank estimates. The women and girls among them, in particular, are denied economic opportunity.

Some of the remaining suffering can be eased by continuing to fund the development assistance programs and multilateral partnerships that are known to work. These efforts can help sustain progress, especially as the world gets better at using data to help guide the allocation of resources. But ultimately, eliminating the most persistent diseases and causes of poverty will require scientific discovery and technological innovations.

That includes CRISPR and other technologies for targeted gene editing. Over the next decade, gene editing could help humanity overcome some of the biggest and most persistent challenges in global health and development. The technology is making it much easier for scientists to discover better diagnostics, treatments, and other tools to fight diseases that still kill and disable millions of people every year, primarily the poor. It is also accelerating research that could help end extreme poverty by enabling millions of farmers in the developing world to grow crops and raise livestock that are more productive, more nutritious, and hardier. New technologies are often met with skepticism. But if the world is to continue the remarkable progress of the past few decades, it is vital that scientists, subject to safety and ethics guidelines, be encouraged to continue taking advantage of such promising tools as CRISPR.

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# The New Killer Pathogens

## Countering the Coming Bioweapons Threat

*Kate Charlet*

**M**ilitary and political leaders have worried about large-scale biological warfare for more than a century. “Blight to destroy crops, Anthrax to slay horses and cattle, Plague to poison not armies only but whole districts—such are the lines along which military science is remorselessly advancing,” Winston Churchill lamented in 1925. But despite the deadly potential of biological weapons, their actual use remains rare and (mostly) small scale. Over the last several decades, most states have given up their programs. Today, no country is openly pursuing biological weapons.

Recent breakthroughs in gene editing have generated massive excitement, but they have also reenergized fears about weaponized pathogens. Using gene-editing tools, including a system known as CRISPR, scientists are now able to modify an organism’s DNA more efficiently, flexibly, and accurately than ever before. The full range of potential applications is hard to predict, but CRISPR makes it much easier for scientists to produce changes in how organisms operate.

These technologies offer vast potential for global good. Researchers are studying

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the use of new gene-editing techniques to fix deadly genetic mutations, create disease-resistant crops, and treat cancer. Top scientists at Harvard are pursuing medical applications once thought to be out of reach, such as age reversal and transplanting pig organs into humans. But it’s not hard to imagine how gene-editing technologies could be misused. Some fear that terrorists with even moderate capabilities could develop deadlier pathogens. And laboratories, appealing to parents’ instincts to offer advantages to their children, could modify embryos in ways that cross ethical boundaries.

One of the most worrisome questions today is whether advances in biotechnology could tempt states to revive their old biological weapons programs or start new ones. Such an outcome would drastically undermine the progress of the last several decades. A revitalization of state biological weapons programs could trigger new conflicts or rekindle old arms races, destabilizing the international order.

Faced with extremes of promise and peril, policymakers must proceed with a sense of perspective. Fear-mongering or overregulation could undercut the almost unimaginable benefits of the biotechnology revolution. But failing to anticipate and manage the significant risks, including the resurgence of state biological weapons programs, would be equally problematic.

### **BIOLOGICAL WEAPONS IN HISTORY**

Understanding the risks that biological weapons pose today requires a closer look at how states have historically weighed their benefits and drawbacks. Since 1945, only six countries have publicly admitted developing biological weapons,



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# The Long Arc of Human Rights

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## A Case for Optimism

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Caroline Bettinger-López

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*Evidence for Hope: Making Human Rights Work in the 21st Century*

BY KATHRYN SIKKINK. Princeton University Press, 2017, 336 pp.

**D**oes fighting for human rights actually make a difference? Scholars, policymakers, lawyers, and activists have asked that question ever since the contemporary human rights movement emerged after World War II. At any given moment, headlines supply plenty of reasons for skepticism. Today, the news is full of reports of Rohingya refugees fleeing a campaign of murder, rape, and dispossession in Myanmar; drug users dealing with brutal, state-sponsored vigilantism in the Philippines; and immigrants and minorities facing the wrath of extreme right-wing and populist movements in European countries and the United States. It is easy to succumb to a sense of despair about the laws and institutions designed to protect human rights.

In 1968, the legal scholar Louis Henkin wrote that “almost all nations observe almost all principles of international law and almost all of their obligations almost

all of the time.” Subsequent empirical studies, primarily in the fields of international trade and international environmental law, have confirmed Henkin’s qualified optimism. But in the field of international human rights, empirical studies have sometimes led to more pessimistic conclusions. In a 2002 article in *The Yale Law Journal*, for instance, the legal scholar Oona Hathaway concluded that “although the practices of countries that have ratified human rights treaties are generally better than those of countries that have not, noncompliance with treaty obligations appears common.”

Hathaway and others who have analyzed international human rights regimes have generally focused on the efficacy of specific laws, institutions, or methodologies: for example, the number of human rights treaties that a given country has ratified, the existence of domestic legislation that reflects international norms, or the presence of national human rights institutions. But few have stepped back and considered the overall impact of the broader international human rights movement. In her new book, *Evidence for Hope*, the political scientist Kathryn Sikkink fills that gap—and the news, she reports, is better than one might fear. Drawing on decades of research into transnational civil society networks and international institutions, Sikkink counters skeptics from the left and the right who have argued that the persistence of grave human rights violations throughout the world is evidence that the international movement has failed and should be abandoned altogether. On the contrary, she concludes, the struggle for human rights has indeed made a difference: “Overall there is less violence and fewer human rights

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