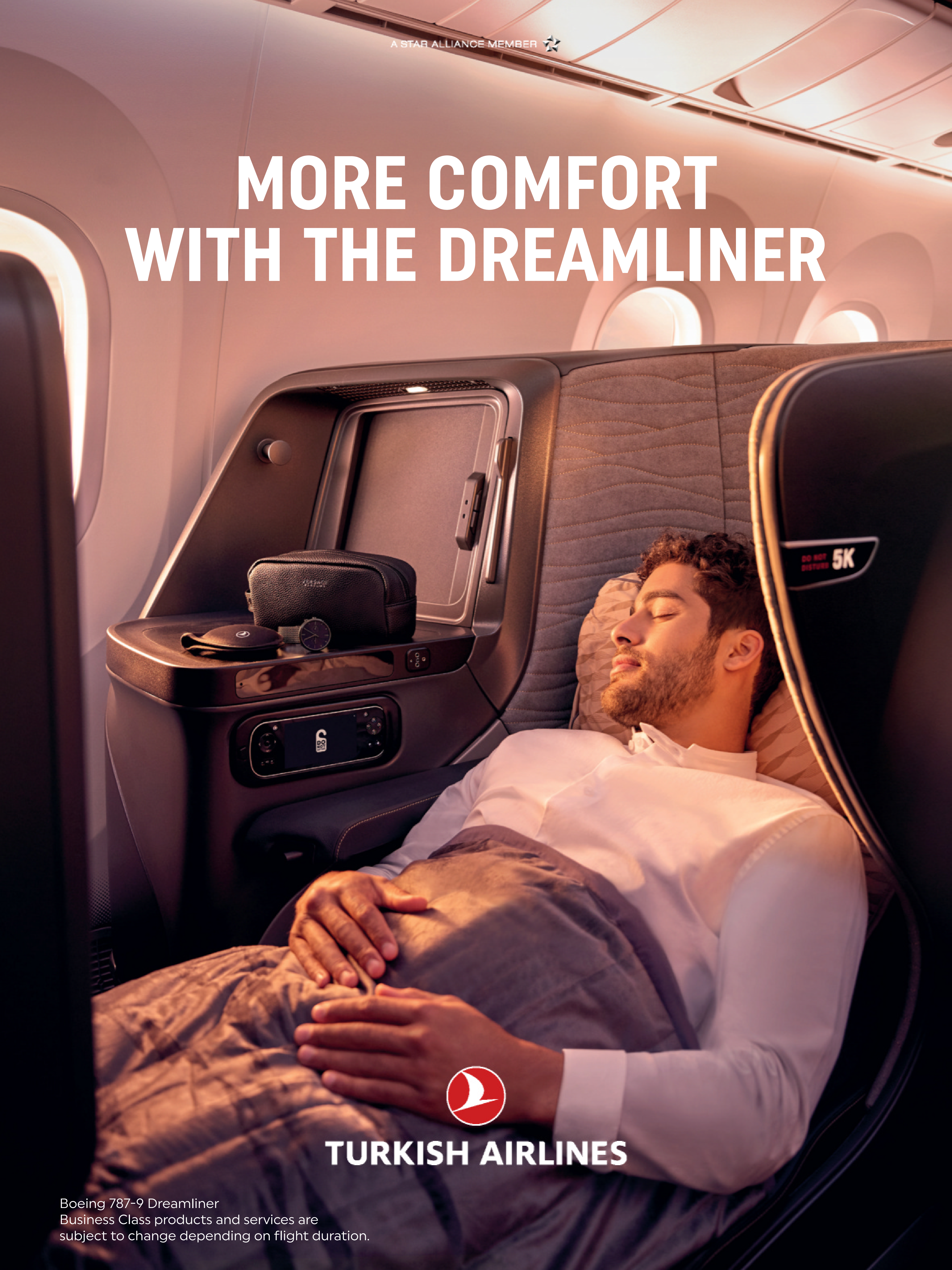
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DOUBLE ISSUE

FEBRUARY 3, 2020


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TIME

VOL. 195, NOS. 3–4 | 2020

A koala is rescued on Jan. 16 from Kangaroo Island, an area devastated by Australia's bushfires

Photograph by Adam Ferguson for TIME

ON THE COVER: *A Hong Kong protester known as Jane, 21. Photograph by Adam Ferguson for TIME*

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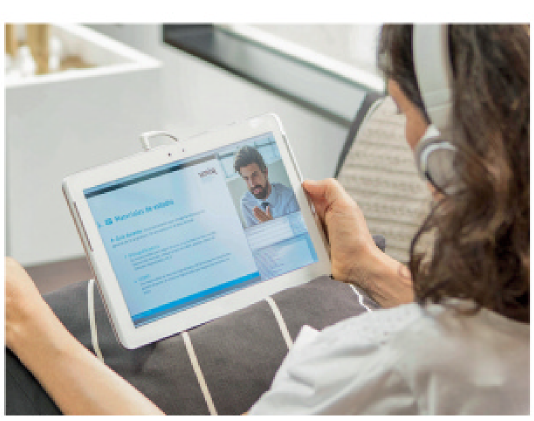
EDUCATION DISRUPTED

Online universities build a more inclusive world

In the almost 1,000 years since the first universities were founded in medieval Europe, they have proved adept at responding to the changing requirements of the societies they serve. Over the course of the last millennium, these once mainly religious establishments have evolved into the secular powerhouses of the global economy, drivers of research, innovation and social development.

Now universities are facing one of the most challenging chapters in their long history. In today's digital world, increasing numbers of employers are questioning the value of a traditional university education. At the same time, many young people are turning their backs on conventional higher education, discouraged by rising fees and outdated, low-tech teaching methods.

An UNIR graduation ceremony which saw 2770 students achieve their dream of a university degree



UNIR's virtual campus is a place to study, discuss and attend lectures

In the face of these threats, universities are embarking on a new era of transformation. While some institutions of learning are struggling to provide students with the engaging and rewarding education they demand, a new breed of university is emerging to address the need: the online, digital-only university.

"Universities that are not digitalized will disappear," says Miguel Arrufat Pujol, the CEO of Proeduca, a Spanish higher education company that owns six online university institutes. "Universities need to embrace the digital future if they are to continue to fulfil their social role as vehicles for inclusion and equality."

Proeduca, whose share price has increased by over 50% since its stock market listing this past March, runs online higher education centers in Spain, Florida, Colombia, Peru and Mexico. It serves approximately 47,000 students from around 100 countries, awarding degrees and post graduate diplomas specifically tailored to meet the needs of contemporary employers. Wherever it operates, Proeduca's institutions are providing life-changing education to people who may be unable to access a traditional university due to financial or practical constraints.

"Many people want to learn and move up in the world but they cannot attend university in person, either because they already have jobs, they live too far away or the traffic is bad," Arrufat says. "Only a digital university can reach these people. In Colombia, 20 students from a remote indigenous community all travel to another town every week just to go online, access our courses and download their homework. Our students are desperate to learn."

To provide its students with the quality of education they deserve, the company invests significantly in teacher training and development.

It has also created an interactive didactic experience that in many aspects is superior to traditional learning. Looking in on a Proeduca course, the amount of participation by students is surprising. With none of the pressure of the classroom environment, even the shiest learners freely participate in asking questions by live chat.

Reflecting Proeduca's courses reputation for quality, over 60% of the company's students now sign up based purely on the recommendation of friends and colleagues, says Arrufat.

"We are extraordinarily student-focused and our students recognize this," he says. "Our students make a huge sacrifice to study online from their homes and they deserve the very best from us.

"We use rich and engaging content and we actively encourage dialogue and participation. Our teachers may be in a different country to the student, but our students will receive more personal tutoring than in a conventional university."

At UNIR, Proeduca's largest university, the advantages of online teaching over in-person courses are clear. Elena Martínez Carro, the education faculty dean, says that because a teacher's performance can be easily monitored during an online class, teaching quality is generally higher than in traditional courses. UNIR trains all its teachers in the special techniques of online education, and it rigorously collects, analyses and acts on feedback from students. In Spain, the official accreditation standards are the same for both online and physical universities, with data research showing that satisfaction levels are often higher for UNIR's online courses. The university also uses data analytics to monitor the performance of its students and the changing requirements of the labor market. "Our aim at UNIR is to achieve academic excellence at all times, using the best technologies and the best teachers," says Martinez.

> WE HAVE BROKEN THE BARRIERS TO HIGHER EDUCATION, THE ENGINE FOR SOCIAL PROGRESS
>
> – MIGUEL ARRUFAT, CEO, PROEDUCA

6
university institutes in Spain and Latin America

47,000
students

60%
of students are women

33
is the average student age

c.2,500
classes every month

UNIR graduates with their teacher Dr. Roberto Recio

The quality of UNIR's teaching methods and the potential of online higher education are gaining increasing recognition in Spanish-speaking countries. In Ecuador, UNIR is training faculty members at public universities in the techniques of online education. As a result, tens of thousands more students can enjoy the opportunities of further education.

"The digital revolution in higher education will have tremendous benefits for the emerging economies of Latin America," says José María Vázquez, the chancellor of UNIR. "Access to education is critical both to individual growth and to the social and economic development of a country."

In a global online learning sector that is growing by around 5% a year, with an estimated worth of $240 billion by 2023, Proeduca has ambitious plans for international expansion. It aims to be the market leader, targeting the 500 million Spanish speakers around the world.

While the rewards of Proeduca's leadership in online education will be substantial for its shareholders, Arrufat says the company is looking well beyond merely financial returns.

"Our vision is to help break down the barriers to learning," he says. "We want to empower millions of people, prepare them for a fast-changing world and use higher education as a platform for building a more inclusive and sustainable society."

From the Editor

Make way

MY 11-YEAR-OLD DAUGHTER often asks me, tauntingly, what things were like "in the 20th century." Things are moving her way. It's a sign of just how quickly the globe's generational shift is occurring that when Finland's Prime Minister Sanna Marin, 34, became the world's youngest head of government on Dec. 10, she lost that distinction almost immediately. A mere 28 days later, Sebastian Kurz, 33, became Austria's Chancellor. Kurz, who had an earlier stint in the same job, regained the role via a coalition with the Green Party, whose support surged in the latest election—a result, many said, of the work of teen climate activist (and TIME 2019 Person of the Year) Greta Thunberg. "A specter is striding through Europe," read an editorial in Austria's right-leaning *Die Presse*. "Its name is the 'Greta effect.' "

The global under-30 population has been rising since 2012 and today accounts for more than half of the 7.5 billion people on the planet. What will the world look like when this new generation leads? That's the central theme of this week's feature story—adapted from TIME national correspondent Charlotte Alter's new book, *The Ones We've Been Waiting For*—and the accompanying special section. As youth the world over force us to confront the perils of inaction—and show us the possibilities from recognizing that life doesn't have to be as it is—we are beginning to see some answers.

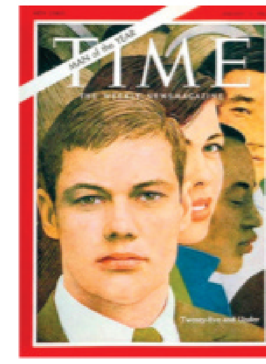
Thunberg may be the most visible, but young leaders raising their voices have become a force across the globe, in areas ranging from climate to inequality to corruption to freedom. In the past year, they've been at the forefront of movements on every continent, from the campuses of Hong Kong to the streets of Santiago, where protests were triggered in part by a social-media campaign by middle schoolers, to Antarctica, where a group of scientists joined the climate strike brandishing slogans like RISE BEFORE THE SEA LEVEL DOES!

"Love 'em or hate 'em, this much is true: one day soon, millennials will rule America," Charlotte begins her story, which—in chronicling the rise of figures like Representatives Alexandria Ocasio-Cortez and Dan Crenshaw—foreshadows the political upheaval coming as the most diverse, interconnected generation in American history begins to wield its power.

THE YOUTHQUAKE IS DRIVEN by more than politicians. They're also innovators like Gitanjali Rao, 14, who developed an app to identify and prevent cyberbullying. Or Xóchitl Guadalupe Cruz López, who, when she was 8, created a solar-powered water heater from recycled materials to provide much needed hot water to residents of her Mexican village. They're entrepreneurs like Flynn McGarry, who recently became old enough to legally drink alcohol in the locavore restaurant he runs in New York City. They're petitioners like Jamie Margolin, who testified before Congress on the urgent need for climate action. When they take power, they seek far-reaching reform; Marin, who tells TIME she got into politics "because I thought the older generation wasn't doing enough about the big issues of the future," wants to make her nation one of the first to achieve net-zero emissions.

For 1966, the year I was born, TIME named "Americans Under 25" as Person (then called "Man") of the Year—the baby boomers whom the magazine dubbed "The Inheritors." Having inherited the bounty of decades of economic growth and relative stability, the youth of the 1960s are now, by and large, the benefactors of the present. What do they—what do we—owe the inheritors of tomorrow? Clearly there is work to do.

Edward Felsenthal,
EDITOR-IN-CHIEF & CEO
@EFELSENTHAL



1966

2014

2018

2019

TALK TO US

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For the Record

590

Population of Toksook Bay, Alaska, according to the 2010 Census; as of Jan. 21, the remote village was the first community counted for the 2020 Census

‘IT BRINGS ME GREAT SADNESS THAT IT HAS COME TO THIS.’

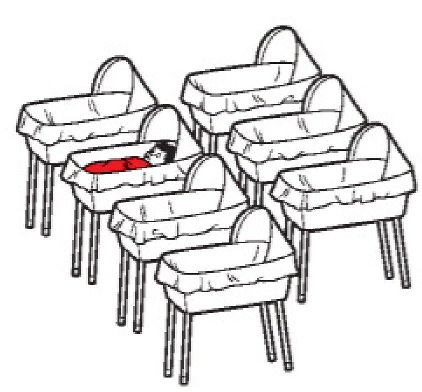
PRINCE HARRY, speaking at a Jan. 19 event, about his and his wife Meghan’s decision to step back from royal duties and give up their Royal Highness titles

‘Change is hard, especially in gymnastics.’

SIMONE BILES,
Olympic gymnast, on Jan. 20 at a new training center for USA Gymnastics, after the organization severed ties with a facility where disgraced doctor Larry Nassar abused victims

‘I don’t think the tariffs helped.’

GARY COHN,
former White House chief economic adviser, on CBS’s *Face the Nation* on Jan. 19, days after the Trump Administration signed a trade deal with China



14.65 MILLION

The number of babies born in China last year, as the country’s birth rate dropped to 10.48 per 1,000 people, its lowest point since at least 1949

‘We made a mistake.’

A NATIONAL ARCHIVES SPOKESPERSON,
on Jan. 19, on the decision to blur some signs in a photo from the 2017 Women’s March that appears in an exhibit marking the centennial of women’s suffrage

Sweethearts
The Valentine’s candy’s producer predicts possible shortages this year

Snickers
In Texas, Mars Wrigley shows off a 12-ft.-long Snickers bar, the largest ever

‘If people want to see us as the rubbish dump of the world, you dream on.’

YEO BEE YIN,
Malaysia’s Environment Minister, announcing the country was sending more than 4,000 tons of plastic waste back to the countries it came from

ILLUSTRATIONS BY BROWN BIRD DESIGN FOR TIME

SOURCES: SKY NEWS, AP, WASHINGTON POST, BLOOMBERG, KCEN, NPR

The Brief

ON GUARD
A mother and child at Daxing airport in Beijing, on Jan. 21, as China struggles with a deadly virus

INSIDE

A CAUTIOUS STEP TOWARD PEACE IN LIBYA

THE CONSTITUTIONAL QUESTION AT THE HEART OF IMPEACHMENT

THE MONTY PYTHON POLYMATH TERRY JONES

PHOTOGRAPH BY NICOLAS ASFOURI

WORLD

A deadly new virus goes global

By Charlie Campbell/Wuhan and Amy Gunia/Hong Kong

LUNAR NEW YEAR IS A TIME FOR TRAVEL across China, as people make up to 450 million trips abroad for vacation or back to their hometowns for meals with family. But a deadly virus is also on the move, putting a damper on the celebrations, which fall around Jan. 25 this year.

The outbreak of a viral pneumonia-like illness was first reported in December in Wuhan, a major city in central China. Health officials quickly identified the pathogen as a coronavirus related to the virus that caused the severe acute respiratory syndrome (SARS) outbreak, which began in southern China in 2002, killing nearly 800 people and turning bustling cities across Asia into ghost towns.

The new virus sickened more than 500 people in China and led to 17 deaths as of Jan. 22 and had been detected in Japan, Thailand, South Korea, Taiwan and Hong Kong. A day earlier, the first U.S. case was reported in a Washington State resident who'd visited China. As the virus spreads, the world watches warily, nervous that Beijing will repeat the public health fiasco of SARS.

A medical staffer moves biowaste containers past the entrance of a hospital in Wuhan, the Chinese city at the center of the coronavirus outbreak

In Wuhan, the only faces still seen on the street were hidden behind surgical masks, the wearing of which was made mandatory. At first, harsh travel restrictions like those imposed during past outbreaks were avoided, but planes and trains in and out of Wuhan were suspended indefinitely on Jan. 23. That's no small tweak: Wuhan Tianhe International Airport offers direct flights to at least 15 countries, and to hub cities such as San Francisco and Sydney. Fifteen million people were expected to travel through the city by rail, air and road during the Lunar New Year holiday, according to state media.

Meanwhile, officials in the U.S., the U.K. and elsewhere stepped up screening for passengers from Wuhan, and those in China say they've installed 35 infrared temperature scanners and more than 300 portable thermometers in the city's transit hubs—though on a Jan. 22 visit to Wuhan, TIME saw little evidence of those precautions.

CHINESE LEADERS are eager to show the world that they are tackling the outbreak head-on. One top political committee said in a later-deleted Jan. 21 social-media post that those who interfere with the effort by concealing illness "will be forever nailed to history's pillar of shame."

Still, calls for "transparency" in state media op-eds went unheeded in Wuhan, where a TIME reporter was threatened with arrest while observing workers lined up for inspection by health personnel outside the seafood market where the outbreak originated. "The government hasn't done anything really," one Wuhan resident grumbled. "They closed down places where there are sick people but haven't done anything toward prevention."

Skepticism about Beijing's response is compounded by the fact that China was caught trying to hide information on SARS in 2003. "In the SARS era, the Chinese government delay in handling the outbreak resulted in uncontrolled spread of the virus," says Michael Lai, a coronavirus researcher at Taiwan's Academia Sinica. Lai says Beijing's approach has changed. "We have to give credit. This time the authorities released the viral sequences right away so that the worldwide scientific community and public-health agencies can act rapidly."

Their next steps inspired less confidence. As the official number of cases in China remained unchanged and authorities insisted for days that there was no evidence of human-to-human transmission, academics in the U.K. produced research on Jan. 17 suggesting the outbreak had likely infected more than 40 times as many people as Beijing had confirmed. And many in China noted that cases were confirmed in Thailand and Japan before Chinese officials admitted it had spread to Chinese cities beyond Wuhan. After reporting dozens of suspected coronavirus cases in recent weeks, officials in affluent Hong Kong only reported the city's first likely cases on Jan 22.

That the Chinese government was—at least initially—censoring some social-media posts about the outbreak doesn't help. Locals in Wuhan resorted to asking foreign friends for updates from the international media. "Why is the government scared of public discussion?" wrote one user on the Twitter-like platform Weibo. "They are slow to handle the crisis but fast to shut people up."

However, once the illness moved beyond China's borders, it "caught the imagination of the international media," says Steve Tsang, director of the SOAS China Institute at the University of London. That spotlight on the coronavirus may have nudged officials into action, with President Xi Jinping issuing a Jan. 20 directive to "put people's safety and health as the top priority and take effective measures to curb the spread of the virus." Tsang says that Xi realized the need for a robust response and that Chinese officials have since "scrambled to do something to show they are acting in concert with the great leader." That spotlight is likely to stay strong—giving Beijing nowhere to hide. ◻

PREVIOUS PAGE: AFP/GETTY IMAGES; WUHAN: DAKE KANG—AP; VIRGINIA: DAVID BUTOW—REDUX

OPEN CARRY Thousands of gun-rights advocates descended on Richmond on Jan. 20 to protest gun-control measures proposed in Virginia's Democratic-controlled state legislature. Protesters were banned from carrying weapons on capitol grounds, but many came armed to demonstrate in the vicinity. Though interest in the event among white-nationalist groups had sparked fears of a repeat of the violence that rocked nearby Charlottesville in 2017, the day proceeded peacefully.

THE BULLETIN

Countries fighting over Libya pledge to stop

AT A JAN. 19 SUMMIT IN BERLIN, A DOZEN countries promised to stem interference in Libya, the North African nation that has been a battleground for competing factions and the foreign governments that back them. Leaders from Russia, Turkey and 10 other nations called for a cease-fire and agreed to sanction those that break a U.N. arms embargo. All agreed that "only a Libyan-led and Libyan-owned political process can end the conflict and bring lasting peace."

PROXY WAR Libya has been wracked by conflict since the 2011 uprising that ousted dictator Muammar Gaddafi. Last April, warlord Khalifa Haftar launched an offensive to wrest Tripoli from the U.N.-backed Government of National Accord (GNA), torpedoing a planned U.N. conference to draft a road map for Libya's future. Since then, money, munitions and mercenaries have flowed there from foreign states with interests in the oil-rich nation. Among others, Egypt and the UAE back Haftar's eastern alliance, while Turkey and Qatar support Fayez Sarraj's GNA.

DANGEROUS ESCALATION Turkey and Russia have become key influences in the conflict. In January, reports said Ankara had dispatched 2,000 foreign militiamen to shore up the GNA, which Turkey denies. Meanwhile, Turkey's President Recep Tayyip Erdogan has claimed that 2,500 personnel affiliated with a Russian security firm are bolstering Haftar, who on Jan. 14 declined to sign a permanent truce in Moscow. "He continues to be focused on a military solution," says Tim Eaton, a Libya expert at London's Chatham House.

RIFTS REMAIN Libya's factions have since taken a "small step" toward peace, Russia's Foreign Minister Sergei Lavrov said on Jan. 19, but doubts remain over the international community's ability to ensure signatories abide by its terms. Even as talks proceeded, fresh clashes broke out in Tripoli. The world may well continue to interfere, warns Galip Dalay of the Brookings Institution, "because both sides still think they can win this war." —JOSEPH HINCKS

NEWS TICKER

Africa's richest woman in hot water

Authorities in Angola are investigating Isabel dos Santos, Africa's wealthiest woman and a daughter of a former Angolan President, after media outlets on Jan. 19 published 700,000 documents purporting to show that **she misused state resources to get rich.** She has denied the claims.

U.S. court dismisses climate suit

A lawsuit brought by a group of young people intending to **force the U.S. government to address climate change,** *Juliana v. U.S.*, was dismissed on Jan. 17 by a panel of federal judges in the Ninth Circuit, on the grounds that the plaintiffs lacked legal standing. The litigants plan to ask the full court to review the decision.

China targets single-use plastics

China unveiled a plan on Jan. 20 to **drastically reduce the amount of single-use plastics** used by its 1.4 billion people. The measures include a ban on nondegradable bags in big cities by the end of 2020, in all urban centers by 2022 and everywhere by 2025. Restaurants will have to scrap plastic straws this year.

NEWS TICKER

U.N. condemns hacking of Jeff Bezos' phone

After **a number used by Saudi Crown Prince Mohammed bin Salman was linked to a hack** into the phone of Washington *Post* owner Jeff Bezos—a charge Saudi Arabia denies—U.N. experts said Jan. 22 that the hacking was meant to "influence, if not silence," the paper, which had employed murdered journalist Jamal Khashoggi.

Populists exit Norway's government

On Jan. 20, Norway's populist Progress Party pulled out of the ruling coalition after opposing the repatriation from Syria of a **Norwegian woman with suspected ISIS ties** and her two children. The remaining groups in Prime Minister Erna Solberg's center-right coalition will stay in power as a minority government.

Change in U.S. school-lunch rules

The Department of Agriculture announced on Jan. 17 a proposal to change school-meal rules championed by **former first lady Michelle Obama.** The revisions, which officials say are meant to reduce waste, would allow cafeterias to serve kids fewer fruits and vegetables.

GOOD QUESTION

Can a President be removed from office if there wasn't a crime?

BENEATH THE HEATED PARTISAN LANGUAGE surrounding President Donald Trump's impeachment trial lies a constitutional question: Can a President be removed from office even if he hasn't committed a crime? That's the key question facing the Senate now that its formal trial began in earnest on Jan. 21. The fate of Trump's presidency and the carefully calibrated balance of power between the White House and Congress hang on the answer.

House Democrats say Trump twisted U.S. foreign policy to try to stay in office, withholding defense and diplomatic aid to Ukraine to get the country to announce investigations into his political rival Joe Biden. Trump's lawyers dispute that framing of what happened—but regardless of the President's motivations, they say, there is no law saying anything he did was illegal.

"House Democrats' newly invented 'abuse of power' theory collapses at the threshold because it fails to allege any violation of law whatsoever," Trump's lawyers wrote in a brief filed on Jan. 20, arguing that the impeachment trial must concern only the legality of the President's actions, not the appropriateness of the possible reasons he undertook them. In other words, Trump's lawyers argue, his pressure on Ukraine fell within the presidency's powers to make foreign policy, whether he was doing it to root out corruption, as Trump has said, or for political advantage, as Democrats allege.

The other side flatly rejects this reading of the Constitution. The "assertion that impeachable offenses must involve criminal conduct is refuted by two centuries of precedent and, if accepted, would have intolerable consequences," House impeachment managers wrote in response on Jan. 21.

The debate among constitutional experts over what constitutes an impeachable offense is robust. But the idea that impeachable conduct need not be an actual crime is well established. In the *Federalist* papers, Alexander Hamilton wrote that impeachment should apply to cases involving "the abuse or violation of some public trust" and "injuries done immediately to the society itself."

Congress has sometimes interpreted the Constitution in this way in the modern era too. Even Trump's lawyer Alan Dershowitz sounded a different tune in 1998, during President Bill Clinton's impeachment, arguing at that time that "if you have somebody who completely corrupts the office of [the] President and who abuses trust and who poses great danger to our liberty, you don't need a technical crime" to be impeached. As Trump's trial began, Dershowitz tweeted that he wants to "retract" that previous statement.

Fortunately for Trump, no Congress in the country's history ever explicitly outlawed using the power of the presidency to help win re-election. Now Senators will have to decide whether, in the end, that's all that matters.

—TESSA BERENSON

WORLD RECORDS

So close, yet so far

Guinness World Records officials could not confirm if a Jan. 20 attempt to set a world record for the largest gathering of twins, in Colombo, Sri Lanka, had succeeded, after too many twins arrived, overwhelming the strict registration process. Here, more near misses. —*Ciara Nugent*

DOMI-NOOOOOOO
In the town of Nidda, Germany, a 2018 attempt to break the record for the most minidominoes to fall in one go failed when a fly landed on one of the tiny pieces, triggering a premature chain reaction.

MISSTEP
British endurance runner Amy Hughes, who ran 520 miles on a treadmill in one week in 2017, lost out on a world record after officials said her boyfriend, who monitored the bid, wasn't an independent witness.

EATING CROW
Cooks used 2,200 lb. of ostrich meat in a bid to make the world's largest ostrich sandwich at a food festival in Tehran in 2008. But a crowd began eating the evidence before Guinness officials could measure it.

Milestones

DIED
Jazz saxophonist and composer **Jimmy Heath,** on Jan. 19 at 93.

AGREED
By the U.S. Supreme Court on Jan. 17, to hear a case on a Trump Administration rule that would **allow employers exemptions from providing birth control coverage** under Obamacare.

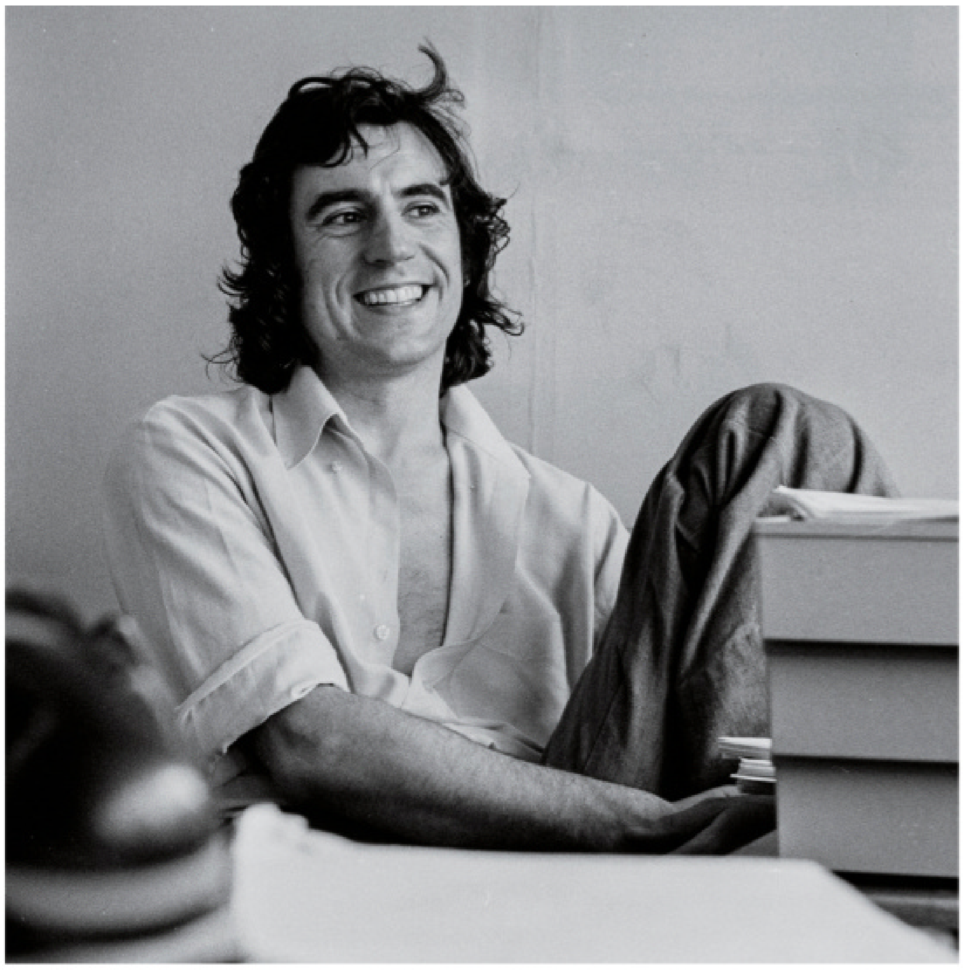
ACQUITTED
Future Forward, **one of Thailand's largest opposition parties,** on Jan. 21, after a legal petition accused it of working against the monarchy and having links to the Illuminati secret society.

REVEALED
That attempts to lower emissions of hydrofluorocarbon HFC-23, a powerful **greenhouse gas,** appear to be failing, according to a U.K. study published on Jan. 21.

EXPLODED
A SpaceX rocket, in a **successful test** of the abort function for the company's Crew Dragon spacecraft, on Jan. 19.

SENTENCED
Former Interpol president and Chinese police official Meng Hongwei, to **13.5 years in prison for bribery,** on Jan. 21. His wife said the case was politically motivated.

GATHERED
Delegates from nearly 50 nations, in Jerusalem, to mark **75 years since the Jan. 27, 1945, liberation of Auschwitz,** at the largest global political event in Israeli history.



Jones at work in 1974, in a script conference for the BBC's Monty Python's Flying Circus

DIED

Terry Jones

Monty Python's eclectic mind

WHEN THE *OXFORD ENGLISH DICTIONARY* ADDED *PYTHONESQUE* to its pages, Terry Jones didn't take it as a compliment. The mission of Monty Python, the influential comedy troupe of which Jones was a founding member, was to be "unpredictable" and "unquantifiable," he said at a reunion in 2009. To be distilled into a mere adjective meant they had "failed utterly" in that quest. But Jones, who died on Jan. 21 at the age of 77, could not be defined.

It was while studying at Oxford that Jones met Michael Palin; they eventually teamed up with John Cleese, Eric Idle, Graham Chapman and Terry Gilliam to form Monty Python. Their groundbreaking TV show, *Monty Python's Flying Circus,* combined quietly uproarious sketches with rapid-fire wordplay, historical jokes and Gilliam's surreal animation. Jones helped write a sketch about a singing, cross-dressing lumberjack, and portrayed both a nude organist and a Cardinal in the Spanish Inquisition. As the Pythons moved to feature films, Jones moved behind the camera. He directed *Monty Python's Life of Brian* while also delivering one of the film's funniest lines, dressed as a mother and declaring, "He's not the Messiah, he's a very naughty boy!"

Beyond the bounds of Pythondom, Jones wrote numerous books, published essays against the Iraq War and drafted the screenplay for David Bowie's cult classic *Labyrinth.* He also became a noted scholar of medieval history. *Monty Python and the Holy Grail* fans may laugh at that last bit, but Jones would probably be glad. —MELISSA LOCKER

NAMED

U.S.S. *Doris Miller*

Honoring history

WHEN THE JAPANESE attacked Pearl Harbor on Dec. 7, 1941, Doris Miller's role in the U.S. Navy was as a mess attendant. That didn't stop the 22-year-old from helping the injured and firing at enemy planes. The Navy credited his heroism to an "unidentified Negro messman," but black newspapers and rights groups found Miller and made him the face of a campaign to end the policy that limited African Americans to kitchen and maintenance duty in the segregated armed forces. On May 27, 1942, Miller became the first African-American Navy Cross recipient; days later, the Navy, Marine Corps and Coast Guard started enlisting African Americans into general service.

Miller remained a messman, dying in 1943 when a torpedo sank his ship. But his name grew only more prominent. At a Martin Luther King Jr. Day ceremony on Jan. 20 at Pearl Harbor, the Navy announced a new aircraft carrier, the first named after an African American: the U.S.S. *Doris Miller.*

—OLIVIA B. WAXMAN

HUGHES: SIMON STACPOOLE—MARK LEECH SPORTS PHOTOGRAPHY/GETTY IMAGES; JONES: CHRIS RIDLEY—RADIO TIMES/GETTY IMAGES; MILLER: NATIONAL ARCHIVES/THE NEW YORK TIMES/REDUX

Establishment hope **Hakeem Jeffries** moves onstage in the Democrats' fight to impeach Trump

By Alana Abramson

ON JAN. 15, WHEN SEVEN HOUSE DEMOCRATIC lawmakers marched under the ornate Capitol dome to deliver articles of impeachment against President Donald Trump to the U.S. Senate, Representative Hakeem Jeffries was the one in the third row, on the left. As an impeachment manager, Jeffries is arguing before the 100 Senators turned jurors why the two charges the House brought against the President in December—abusing the power of his office by allegedly withholding aid to Ukraine in exchange for extracting a promise of a politically beneficial investigation, and obstructing Congress as it tried to probe it—warrant his conviction and removal from office. As only the third presidential impeachment trial in the nation's history, it is by definition a gravely historic event.

And in terms of party politics, it carries immense risks for both sides: Democrats are calculating that, by building their case through the Constitutional process, the gravity of Trump's behavior will come home to voters in ways it so far has not to elected Republicans, who largely paint the proceedings as an effort to undo the last presidential election. For the GOP, the risk lay in summoning a principled defense around a President who, in making the party his own, may have stripped it of principle.

Jeffries is among those positioned for whatever comes next: a New York City native who has emerged as a rising star in the Democrat firmament, the second highest-ranked African-American member in the House and at 49, a bridge from a geriatric leadership to voters who knew who Jeffries was quoting on Day One of the trial, when, in the well of the Senate, he concluded: "And if you don't know, now you know."

In offering a reply to the question from a Trump attorney who had asked, "What are we dealing with here? Why are we here?" Jeffries did not mention Notorious B.I.G. by name. But that was part of the point. As chair of the Democratic Caucus, Jeffries ranks fifth in the House leadership, and is seen as a more mainstream alternative to prominent new activists like Ilhan Omar and Alexandria Ocasio-Cortez, who explicitly went to Washington to shake up the system. He's valued for his discipline, an establishment vanguard who can quote rappers while staying "on message."

When I met him last year in his spacious Capitol Hill office, the policy agenda of House Democrats remained front and center—regardless of whether I was asking about it. Asked about the three decades that separate him from Pelosi, 79, and House majority leader Steny Hoyer, 80, Jeffries touted their unity during Trump's government shutdown. "At this point," he continued, "we're aggressively moving forward to advance our 'For the people' agenda."

When I asked again, he grinned. "[Pelosi] embraces the perspective we bring to bear, and I'm happy to inject my own sentiments based on the experiences that I've had in Brooklyn, including the occasional hip-hop reference." A calibrated demeanor is a minimum requirement for a job that demands keeping a disparate group of Democrats united. In his weekly press briefings over the past year, Jeffries relentlessly stuck to the Democratic policy agenda when reporters were less interested in drug pricing than in intraparty divisions and impeachment. "He knows how to keep us together, and he knows how to keep us on message," said Representative Gregory Meeks, the Democrat whose district borders Jeffries' and who is close to him personally. "He's inclusive of everybody."

The combination of discipline and oratorical flair is partly why, in a chamber that emphasizes seniority, Jeffries scaled the ranks from freshman to leadership in just under six years. Jeffries grew up in Crown Heights when it was a working-class hub, not the gentrifying neighborhood it is today. He wanted to give back to his community, he says, but didn't figure out how to do it until 1992, as he watched Los Angeles implode into riots after four white police officers were acquitted in the beating of Rodney King. Transfixed by the television and angered by the blatant racial injustice, he determined he would get a law degree and ultimately run for office. "It was a searing reminder that while we had come a long way in the United States ... we still had a long way to go," he says.

HIS CHANCE DIDN'T COME right away. Jeffries lost his first two runs for the New York State assembly, the first in 2000, just three years out of New York University law school as a corporate lawyer at Paul, Weiss, Rifkind, Wharton & Garrison. In 2006 he finally got to Albany and six years later reached the U.S. House seat after effectively forcing the district's longtime incumbent into retirement through a primary challenge. His current district, which includes the Bedford-Stuyvesant neighborhood, is adjacent to his childhood home of Crown Heights.

But getting to the top tier of House leadership is a notoriously uphill climb, and less than two terms into Jeffries' tenure in Congress he considered leaving. Pelosi and her top two deputies, Hoyer and majority whip Jim Clyburn, have been in their roles for more than a decade. Other rising stars before him

JEFFRIES QUICK FACTS

Hometown pride
He's a die-hard New York sports fan—and likes both the Yankees and the Mets.

Musical preferences
He often listens to hip-hop soundtracks when he works on legislation, and has created a playlist of various rap battles.

Following in famous footsteps
He is the third African American to hold the position of Democratic caucus chair.

JARED SOARES FOR TIME

had given up and left. When New York City politicos urged Jeffries to challenge Mayor Bill de Blasio's run for re-election, he said he seriously considered it—and then Trump was elected. "There was no more important time to be in the United States Congress," he says, adding that he felt a duty to defend against Trump's "existential threat" to democracy.

Now, as a public face of the House's case against the President, Jeffries is tasked with persuading at least 20 Republican Senators the threat is strong enough that they should join Senate Democrats and vote to remove him from office. Given Trump's popularity with his base, few expect conviction. But for Democrats, the point is the effort. And Jeffries will be one of the few making it. "Someone who can express what came out of the House hearings coherently, succinctly, with passion and conviction, is going to be very important going forward in terms of the prosecution and impeachment," said Joe Crowley, the former New York Congressman who preceded Jeffries as caucus chair before Ocasio-Cortez ousted him in a primary challenge.

The role carries risks. Among the district memorabilia in Jeffries' office hangs a framed copy of the First Step Act of 2018, signed into law by a President who Jeffries compared to a leader of the Ku Klux Klan. He says the highlight of his time in the House hasn't been his election as chairman, or the moment that went viral when he nominated Pelosi on the floor for Speaker with a rap reference. It was working with top Hill Republicans and the White House, including the President's son-in-law Jared Kushner, on passing the act, a package of criminal-justice reforms that includes reducing sentences for crack cocaine, and reducing mandatory-minimum sentences. Kushner has said he was sensitized to the issues while visiting his father, who served a federal sentence for tax evasion, witness tampering and violating campaign-finance laws.

'There was no more important time to be in the United States Congress.'

REPRESENTATIVE HAKEEM JEFFRIES, on deciding not to run for mayor of New York City

"To get things done in this town you need a coalition of unusual suspects," Jeffries says. "There was a real partnership [with Kushner] that produced real results." Now, of course, it's the father-in-law who's on trial, and this time Jeffries is in the role of prosecutor. □

LightBox

Their own hands

Puerto Ricans reach for supplies in the southern city of Ponce on Jan. 18, after people broke into a warehouse and began handing out water bottles, cots, baby food and other unused resources that had apparently been waiting there, undistributed, since Hurricane Maria struck the island in 2017. Coming after a powerful Jan. 7 earthquake caused widespread damage—and led President Trump, more than a week later, to declare a major emergency there—the discovery of the stranded supplies sparked protests over the mishandling of aid for the U.S. territory.

Photograph by Ricardo Arduengo—AFP/Getty Images

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The View

NATION

A SOLUTION TO CHILD POVERTY

By Jeff Madrick

Nearly 1 in 5 American children is officially poor. That's roughly 15 million kids. But the number living with a significant deprivation—insufficient food, seriously overcrowded housing or a lack of access to medical care due to cost—is actually much higher. According to the latest studies, it's more like 1 in 3. Why do we tolerate this?

INSIDE

America has long been resistant to adequate poverty policies because of its strong strain of thinking that the poor are responsible for their own situations, no matter their suffering, but child poverty is too harmful and punishing to ignore. I, and a growing number of academics, believe there is a solution: the government should give monthly cash allowances, without conditions, to every family with kids. (Higher-income families would have much of that money taxed away.)

Today the official poverty line for a family of four in the U.S. is about $26,200, but a 2013 Gallup survey found that people think a family of four must earn $58,000 on average just to get by. My own ideal definition of a useful poverty measure would be this: the level below which we know that short- and long-term damage is being done to children.

A mountain of evidence now shows that poverty can lead to cognitive and emotional damage in children. Despite policies that have expanded access to insurance, poor kids are still less healthy than the rest of the young population. They also drop out of school at higher rates, earn less money over time and are incarcerated far more often than their better-off peers. That should be enough for us to recognize the moral tragedy that is child poverty, but we should note the broad effect too: reputable analyses show that the nation's GDP is up to $1 trillion lower because of child poverty.

When Michael Harrington's classic book, *The Other America,* called attention to America's general poverty rate of about 25% in 1962, Washington developed social programs that brought the rate down sharply. Valuable policies, including the Earned Income Tax Credit and the Child Tax Credit, have been enacted since then, but they are not enough: 1 in 3 children does not receive the full benefits of these programs because their parents do not earn enough to be eligible for them.

POOR CHILDREN HAVE many needs, but research shows that money may matter most. For example, a 2013 review of dozens of studies by London School of Economics researchers found that "Poorer children have worse cognitive, social-behavioural and health outcomes in part *because they are poorer,* and not just because poverty is correlated with other household and parental characteristics." A family with two children receiving $300 to $400 a month per child could improve their standard of living immediately. Money can buy food, heat, coats, eyeglasses and regular doctors' visits, including transportation, and help pay for childcare. It can also help reduce family stress and help parents provide a psychologically nourishing environment in which learning and social development can germinate. Studies demonstrate improved cognitive and educational performance when families are simply given more money.

An illustrative finding is what happened when a Cherokee tribe passed on thousands of dollars in casino profits to its children starting in the late '90s. Follow-up analyses showed that these children dropped out of school far less, were incarcerated in lower numbers and had higher wages over time than similar groups with no access to cash.

The historian Michael Katz correctly notes, "One of the odd aspects of the history of writing about poverty is the avoidance of the simple view that people are poor because they lack money," yet both the left and the right denigrate direct cash aid as a waste and an inducement to laziness and abuse. It is good that Democratic presidential candidate Andrew Yang has stressed the benefits of a universal basic income, citing studies that show such cash allowances do not induce the shirking of work, but his plan could cost $2.8 trillion a year and the poor would have to return welfare assistance like food stamps to receive the outlay.

For far less money—about $100 billion—the number of children living in official poverty could be cut in half. Such a policy would be a humane, practical, efficient victory for a nation too willing to neglect its poor.

Madrick is the author of Invisible Americans: The Tragic Cost of Child Poverty

SHORT READS

Highlights from stories on **time.com/ideas**

Seeing is believing

Growing up, novelist Charles Yu didn't see many people who looked like him on television. Today he thinks a lack of representation remains a problem. **"When you grow up not seeing yourself in TV America, you don't feel like you're part of real America," he writes.**

By the book

According to the Constitution, the Chief Justice of the United States is the "Presiding Officer" in an impeachment trial. Martin London, who served as former Vice President Spiro Agnew's lawyer, argues that this means John Roberts has far more power than Mitch McConnell. **"Will our 'institutionalist' Chief Justice rise to the occasion and do the right thing here?" he asks.**

Rejecting labels

Although Holly Whitaker, author of *Quit Like a Woman,* acknowledges that she stopped drinking because she struggled with alcoholism, she no longer calls herself an alcoholic. **"Alcoholism was a word that invited other people to use me as their own personal navigation system," she writes.**

THE RISK REPORT

Iran is left with few strategic options after Trump's bold move

By Ian Bremmer

SCORING LEGITIMATE foreign-policy wins has not been easy for U.S. President Donald Trump, Twitter proclamations notwithstanding. But he's just notched his biggest one yet against Iran.

Since Trump decided to pull out of the Joint Comprehensive Plan of Action (JCPOA), Iran has been careful to take only incremental steps away from the hard-fought nuclear deal in hopes that the other signatories would salvage it, but to no avail. Since then, Iran has spent the better part of a year testing U.S. limits. Cyberattacks. Harassing tankers. Shooting U.S. drones. Hitting Saudi oil facilities.

The U.S. response to all these has been notably restrained, at times infuriatingly so from the perspective of allies. When the U.S. finally did respond with the shock escalation and assassination of Qasem Soleimani, the head of the Quds Force, it sent a clear message to Iran that the U.S. was done being cautious.

Trump has argued in the past that his at-times erratic approach is to his advantage: "I don't want people to know exactly what I'm doing—or thinking. I like being unpredictable. It keeps them off balance." In a world as chaotic as ours, it's a questionable strategy (especially when it comes to dealing with our allies) but one that has paid dividends in this case.

Had Iran not shot down Ukraine International Airlines flight 752, it's possible the rest of the world would be applauding Iran for its attempt to de-escalate tensions by shooting missiles into two U.S. military bases in Iraq and giving enough warning to ensure zero fatalities (though a few U.S. troops were wounded). But as it is, the Iranians' misfire cost them any goodwill that the world was willing to spare Tehran's regime.

IRAN IS NOW under massive pressure, from within and without. The Iranian people are suffering under tightening sanctions that have brought the country's teetering economy to its knees. The European signatories to the deal, while still hoping it can be salvaged in some way, are increasingly reluctant to spend their own political capital for an Iranian leadership that seems just as determined as the U.S. to force the world to choose sides, even at the cost of civilian lives. Germany, France and the U.K. have now triggered the dispute-resolution mechanism written into the JCPOA, a clear signal to Iran that they are no longer willing to let Tehran inch closer to a nuclear weapon while they wait for the 2020 election and hope the American people vote Trump out of office.

> ***If Trump wins another term, it will be near impossible for Tehran to avoid renegotiating the nuclear deal if it wishes to escape sanctions***

At this point, waiting out Trump is the only hope Tehran has left. If Trump wins another term, it will be near impossible for Tehran to avoid renegotiating the nuclear deal if it wishes to escape sanctions. But given just how large the divide between the country's hard-liners and reformists has become, that's a tall order.

With the benefit of hindsight, it's becoming clear that the biggest mistake Iran's reformists made wasn't signing the JCPOA, but overselling the benefits of that deal to the public (a criticism that can also be lodged against the Obama Administration, if we're being honest). A diplomatic breakthrough never came for Tehran, nor the economic revitalization that was promised them.

Achieving foreign-policy breakthroughs is hard enough. Overpromising and underdelivering on those breakthroughs can be a tragic mistake—a lesson that Iran's leadership, America's and the rest of the world's leaders would do well to heed. ◻

CHILD: GETTY IMAGES; ILLUSTRATION BY KATIE KALUPSON FOR TIME

LANGUAGE

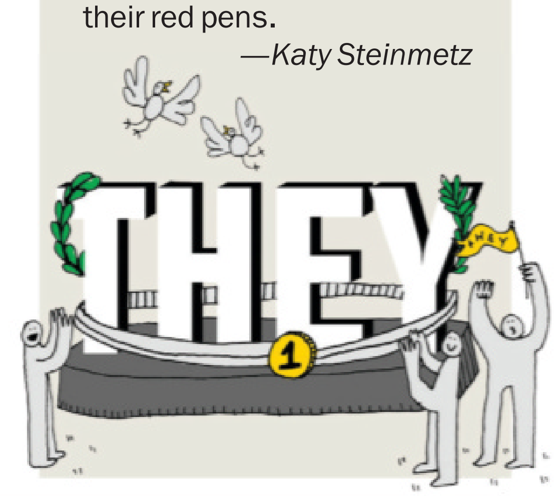
How *they* won

It is a well-known truth among linguists that the grammatical "mistakes" of one era often have a way of being proved perfectly correct by the next. In a new book, linguistics scholar Dennis Baron argues that the tide has turned for the most controversial pronoun around: the singular *they.*

For centuries, pundits have observed that English is missing a gender-neutral, third-person pronoun that could be used in place of *he* or *she* when gender is unknown or irrelevant. People have tried to fill this gap with many words that didn't fit, like generic *he,* which isn't actually generic, and hundreds of made-up pronouns like *thon* (a combination of *that* and *one*) that never took off.

The answer, Baron explains in *What's Your Pronoun?: Beyond He & She,* has always been the singular *they.* Though grammarians may insist that it be used only as a plural, the masses regularly use it in a singular way, as in "Did they leave a message?" In recent years, it's gained ground, thanks to the LGBTQ community, which has embraced it as a way to refer to nonbinary people who identify as neither men nor women. And that helped inspire influential authorities like copy editors to put down their red pens.

—*Katy Steinmetz*



Is it unethical to watch football with my son?

By Sean Gregory

AS ANOTHER SUPER BOWL APPROACHES, I KEEP THINKING about a clear September afternoon at MetLife Stadium, home of the New York Giants, and wondering if I'm a crappy dad.

For the second straight year, I was lucky enough to take my 13-year-old son Will to a Giants game. We started the day running routes around the tailgaters in the parking lot. We each attempted a pair of short field goals in the fan zone outside the stadium. Four in a row! Once the game began, we explained the nuances of a two-point conversion to the friendly British fellow to our left, ate too much and embraced when the home team scored. We wondered if we were witnessing a bit of history: promising Giants rookie quarterback Daniel Jones was playing in his first home game. The Giants cruised to a 24-3 victory.

Sure, Will's Giants didn't win a game for another 2½ months. But at least he had September.

As a parent, I try not to take such outings for granted: I'm positive my son will remember that day forever, just as I can picture the handful of NFL games my father and I attended when I was a kid in the 1980s and early 1990s. But those were more innocent days. Back then, football fans were unaware of chronic traumatic encephalopathy (CTE), the neurodegenerative disease associated with football brain trauma. A 2017 study in the *Journal of the American Medical Association* found that 110 of 111 brains of former NFL players donated for examination showed signs of CTE; several high-profile former players who have died by suicide were found to have the disease. The troubling risk of brain damage has compelled some of today's players to retire earlier than they otherwise would have. Carolina Panthers star linebacker Luke Kuechly announced on Jan. 14 that he was stepping away from the game at age 28.

As a journalist who's written a lot about the risks of playing tackle football, I would not permit Will to play. Luckily, his paternal genetics have precluded any temptation for now.

But should I be O.K. with his watching the game? Don't his eyeballs help support an enterprise that we know can damage its participants? This is on top of the laundry list of other reasons to tune out, like the stain of disturbing NFL domestic-violence incidents. Or the apparent blacklisting of a player, Colin Kaepernick, for a peaceful act of protest. Or a sudden dearth of African-American head coaches: three now, as opposed to seven in 2018. Around 60% of the NFL's players are black. There are no African-American majority owners.

Fans say they support things like player safety and free speech and racial equality. But pro football is still the most popular sport in America, and TV and digital viewership rose 5% during the regular season. On Super Bowl Sunday, in what may be America's foremost annual display of mass hypocrisy, around 100 million people will tune in. As a sportswriter who's relished the opportunity to park myself in multiple Super Bowl press boxes, I'm even more compromised. Not only have I introduced my son to a problematic game, writing about it is part of my job.

HUMANS POSSESS a healthy appetite for cognitive dissonance, notes Jim Taylor, a Bay Area psychologist specializing in sports and parenting. By watching football, "you're gaining enjoyment from other people's suffering," he says. "There's no doubt about that." We house conflicting thoughts in our brain: Football is dangerous; we love football. To ease this inherent conflict, we can either quit football cold—or at least cut back on consumption—or talk ourselves into minimizing its risks. Maybe, you tell yourself, better helmet technology or stiffer penalties for head-first tackling can actually make for a safer game. Never mind that violent collisions are inevitable.

"We tend to be hedonistic beings," says Taylor, "and choose the path that gives us the utmost pleasure." When we bring our children into the mix, we'll go to greater lengths to block out

ILLUSTRATION BY ALEX NABAUM FOR TIME

football's downside. "Not only am I a co-conspirator, now I'm making my kids a co-conspirator," he says. "There's no greater cause for dissonance than thinking that we're hurting our kids."

But giving up watching football comes at a cost. You sacrifice potential bonding experiences with your kids. You lose a common language with friends and colleagues. "I can be at a party and say, 'How about those Vikings?' and strike up an instant conversation," says Michael Bennett McNulty, a professor of philosophy at the University of Minnesota who grew up in South Dakota supporting the Minnesota Vikings. "When that bridge is lost, it can be tricky." Despite that, McNulty no longer watches the game. "Without all the individuals supporting the sport, the harms wouldn't happen," he says. "Saying one is complicit is right and justified."

In considering the ethical quandaries of watching football, my mind wandered to a fifth-grader's science project. After New England's Brandin Cooks was leveled on a helmet-to-helmet hit in the 2018 Super Bowl, Max Gorenstein, the son of one of my neighborhood friends, grew curious about the effects of football head trauma. So for the science fair, he explained the basics of CTE, and highlighted some of the players afflicted with the disease on a poster board with a football-field backdrop. He made two brains out of peach Jell-O: one of a normal brain, and one with reddish stains that represented the tau proteins that kill brain cells and signal CTE. Max's project took a top prize.

I wondered if his research had changed his football-viewing habits. Not really, it turns out. While Max no longer wants to play the game, he still pulls for the Detroit Lions (his father Doug grew up in Michigan). But he does watch football with more concern for the players. "I think I'm going to start watching less," says Max, now 12. "I feel guilty because I know football can be harmful." Doug injects a dose of parental skepticism. "I know Max loves football," he says. "I can't imagine him watching less over time. I don't think he has to or needs to. The players are adults who've chosen to take on serious risks. And in the end, the sport is not going to go away."

Though my son Will's fifth-grade science project was not about football, he's also familiar with CTE. "Any time players get hit in the head, hard, it can affect their future," he tells me when I ask him about it. "They can get depressed." But he doesn't feel bad about watching and would be plenty ticked off if I cut him off from the sport. He's also, I found out, unhappy about the NFL's treatment of Kaepernick, who has gone unsigned since the 2016 season. "Everyone is allowed to have political views," Will says. "He might have different political views than the owners, but that doesn't mean he shouldn't have a job. It would be different if he sucked. But he doesn't suck. He carried a team to the Super Bowl." But again, it's not enough to make him reconsider his fandom. "It's just part of it," Will says. "It's the one thing I don't like about the NFL. That doesn't mean I should boycott the guys on the Giants."

Even as I feel some guilt about what I'm watching, I continue to tune in week after week, often with my impressionable teenage boy by my side

HIS ANALYSIS is not that different from my own. There's a lot to dislike about football, but there's still so much I love. So even as I feel some guilt about what I'm watching, I continue to tune in week after week, often with my impressionable teenage boy by my side. To give up football would mean giving up days like the one at MetLife. Though we could bond in other ways, Will's deep love of football is now part of his personality. Abandoning the game would not just alter his fall Sunday routine but cause parental resentment my heart couldn't bear.

What I've realized, however, is that it's also not O.K. to simply be spectators. As my son gets older, I have to be better about engaging him in age-appropriate conversations about the reality of the sport. Football may bring us joy, but it's not unadulterated. And I would not be doing right by my son if I didn't continue to talk to him about both the good and the bad. It seems unlikely now, but perhaps as he gets older and learns more about these issues, he will make a different choice than the one he currently feels so sure about.

This knowledge does not prevent my dissonance from going into overdrive. Fully aware that I will watch the 49ers and the Chiefs with Will by my side, a plate of nachos between us, I still have a nagging feeling, a desire for someone to reassure me. I reach out to Ira Hyman, a psychology professor from Western Washington University who has sworn off football—"As someone who teaches my students about the risks of repeated head injuries, I'm not comfortable watching"—and ask him to give it to me straight: Am I a hypocrite? Hyman says I can take comfort in my coverage of football safety. Educating the public could lead to positive change. "I'm not going to call you a hypocrite," he tells me, with a friendly laugh.

I suspect he's just being nice. ◻

CHILDREN OF THE REVOLUTION

THE YOUNG FACES OF HONG KONG'S UPRISING

PHOTOGRAPHS BY ADAM FERGUSON FOR TIME
STORY BY LAIGNEE BARRON

AT 15 YEARS OLD, YANNUS IS TOO YOUNG TO DRIVE a car, buy a beer or donate blood. But he says he is willing to give his life in the "final battle" for Hong Kong.

"Maybe I will die for this movement," he says, at the edge of one of the pitched battles that demonstrations have frequently become over the past eight months. As protesters beside him pour Molotov cocktails, the teenager straps on a motorcycle helmet to hide his face from cameras and facial-recognition software. Like every protester TIME spoke with, Yannus gave a pseudonym out of concern for his safety. But in his pocket he keeps a handwritten will, addressed to his parents and friends. "I'm ready," he says, tapping it.

Young people around the world, in the Middle East and Latin America and beyond, are railing against sclerotic regimes, economic frustrations and backsliding democracy. In Hong Kong, a semiautonomous enclave of China with liberal traditions, the protesters are seeking to "reclaim" their city from authoritarianism. At the movement's core are high school and university students who cast themselves as urban street fighters, willing to gamble away their futures if it helps preserve their home.

When marchers first took to the streets in June, they had one goal: the withdrawal of a proposed bill that would have allowed extraditions to mainland China. The legislation was eventually scrapped, but the demands broadened amid growing fears that Beijing is eroding the unique freedoms—of press, assembly, speech—that differentiate this cosmopolitan hub of 7.5 million from the rest of China. The endgame remains murky, with no consensus among protesters over whether to ultimately seek independence, universal suffrage or some other semblance of greater autonomy. For now, they have rallied around a common enemy.

November brought not a climax but a crescendo, when police besieged two university campuses where protesters had barricaded themselves with stockpiled weapons, including bows, arrows and meat cleavers. In daring escapes, students abseiled down multistory buildings to waiting motorcyclists or swam out through sewers. The standoff gave way to relative calm during local elections on Nov. 24 in which pro-democracy candidates won a landslide. But the rallies continue, intermittent and vast. Organizers contend 1 million gathered on New Year's Day to show anger at the police's handling of the unrest. The city's Chief Executive, Carrie Lam, conceded on Jan. 7 that protest violence will persist this year.

To end the upheaval, the city's government has two options, says Andrew Junker, a sociologist at the Chinese University of Hong Kong. Either they can "arrest their way out of it," he says, or they can give in to some of the protest demands, like a formal investigation into alleged police brutality. Without political concessions, he warns, insurgency "is the logical outcome."

Many of Hong Kong's young combatants already say they would rather be martyrs than inmates, especially when convictions for offenses such as arson can lead to life sentences in prison. "I would rather die than be arrested," says Calvin, 21. "If I die, at least the fury would sustain this movement."

CALVIN CONSIDERS HIMSELF part of Hong Kong's so-called chosen generation, poised to collide with an increasingly assertive Beijing. Born around the time the U.K. ceded control of its colony in 1997, this Hong Kong generation barely identifies with the world's ascendant superpower, mostly seeing it as a threat to their way of life. Beijing agreed to maintain Hong Kong's separate legal and political systems only until 2047. Those who expect to be in late middle age by then fear they have the most to lose if the freewheeling city fails to preserve its autonomy.

On top of that, Hong Kong is one of the world's most expensive cities, where economic inequality

Previous page

"It is scary to be on the front lines, but that's not going to stop me from protecting the people behind me, from protecting Hong Kong. Even though I wasn't born until after 1997, I can see with my own eyes that Hong Kong is sinking. It is moving backward."

—**BEN**, 20

"We front liners are just a group of students, born in Hong Kong. We have no training or professional knowledge. I won't reveal how much I've escalated my use of violence, or any future plans, but I absolutely will not back down."

—**SYLVIA**, 23

"My father and mother are opposed to me going to the protests. They don't want me to protest—they call it rioting. Every time I go, I need to hide myself. [My father] doesn't know I'm on the streets."

—**JEFF,** 15

"I join demonstrations, but I don't stand in the front line. I mostly do backup and raise awareness. I've organized a lot of activities at school, such as a class boycott. We've organized film screenings and talks, hoping to politically enlighten the younger students."

—**BORIS,** 16

“I’ve tasted tear gas. I’ve been hit by a rubber bullet. I set roadblocks. No one taught me, I just saw people do it and I tried to help. I feel nervous. I can’t be scared, though, because I stand in the front lines and people stand behind me. I need to protect them. Some of them are younger than me.”
—**ZITA,** 16

is starkly visible, luxury apartments towering over "coffin" homes made up of tiny subdivided cubicles. Like others of their generation around the world, they endure a "precarious status," says Edmund Cheng, a political scientist at the City University of Hong Kong, "meaning uncertainty in the future in terms of job prospects and in terms of social mobility." Cheng says young Hong Kongers have found both a collective identity and a sense of purpose on the protest front lines.

But in their quest to safeguard their city, they have plunged a thriving metropolis into chaos. In the past, the pro-democracy uprisings mostly consisted of marches so orderly that after candlelight vigils, citizens stayed to scrape wax. Now, high-traffic neighborhoods denser than Manhattan have become scenes of bloody, fast-moving battles. At protests, violent confrontations routinely unfold as crowds thin and stroller-pushing families and older couples retreat. Masked agitators coordinate anonymously via encrypted messaging apps. Dressed in black and donning Guy Fawkes masks, they smash streetlights, burn train stations and vandalize stores they deem pro-Beijing. Some adopt tactical positions: "Firefighters" extinguish smoking gas canisters, while "fire magicians" pitch Molotov cocktails. "Chargeboys" have bloody welts from rushing police. "We are not scared of dying," goes one typical chant.

Protesters have grown more radical, authorities more repressive, and the middle ground is vanishing. Retail outlets now identify as "yellow" (pro-protests) or "blue" (pro-authorities), and people vote accordingly with their wallets. Police have seized weapons caches and defused several homemade bombs, including two found on school grounds. A man critical of the protesters was set alight in November, while police have shot three protesters with live ammunition, nonfatally. There have been two protest-related deaths: a university student who fell from height during clashes with police, and an elderly cleaner struck by a brick lobbed by a demonstrator.

Among the dozens of protesters interviewed by TIME for this story, there is widespread certainty that escalation is the only way to confront Beijing. The nonviolent Umbrella Movement of 2014 failed to achieve its goals of electoral reform, and today's generation of protesters is unwilling to abide by red lines. "Some people might say we have to kill a police officer," says M., who asked to be identified only by her initial. "I would not stop them."

Even veteran pro-democracy activists are loath to condemn violence and have credited the front liners, or "the braves" as they are called in Cantonese, with forcing the government to backtrack on the extradition bill. And while protest fatigue has set in, public opinion remains largely unified against the government. "The middle and the professional classes are furious at the government and are furious [that] they have been losing economic power for the last 15 years," says Junker.

Further concessions appear unlikely, however. Instead of acceding to political demands, Beijing has appointed a new director of the central government's liaison office in Hong Kong to act as enforcer. Since June, nearly 7,000 people have been arrested, more than 1,000 under the age of 18. The next generation of Hong Kongers are already mobilizing to join the fight, with 12-year-olds spotted on the front lines and elementary school students staging strikes and singing the protest anthem "Glory to Hong Kong."

"If they keep arresting us until no one is left on the streets, then the activity will go underground," says Sabrina, a 19-year-old student. Behind her, on a highway divider near Victoria Park, a line of graffiti spells out the front liners' ultimatum: FREEDOM OR DEATH. "There will be no telling," she says, flashing a smile, "when we will come back out and strike again." —*With reporting by* AMY GUNIA *and* HILLARY LEUNG/HONG KONG ☐

KING, 17
"My family thought I was a peaceful guy, marching. Then I told them that I was going to the front line. Since then, they worry about me."

CECI, 17
"My parents don't know we're dating. They are supportive of the protests, but they're worried about my safety, even if it's a peaceful rally."

"As a medical student, providing first aid is something I can do to help. The worst injury I had to treat was a protester who got hit in the head with a tear-gas submunition. Her whole head was bleeding, and she was coughing up blood."

—**JULY,** 23

"I joined the front line at the end of September. A lot of us have been arrested. Being arrested is not that scary. I am just worried what will happen if we lose this protest … I really love this place. It has loved me for 19 years, and if it takes me 10 years in prison to save Hong Kong, then I am willing to do this."
—**EDISON**, 19

NEXT GENERATION WORLD

The 21st century is old enough to have kids of its own. Some of them are on the pages that follow. They are the authors of tart **letters to elders** on the state of the world they are inheriting—and the wise heads insisting that workplace health include **emotional well-being** and that food also nourish the planet. They are coiled to remake **America's sclerotic politics** at the ballot box and are forcing change now in the streets of **Hong Kong** and capitals from Santiago to Baghdad. And after coming of age in the shadow of global climatic catastrophe, they bring **an urgency** that's more than the impatience of youth.

YOUTHQUAKE

American politics is still defined by the values and priorities of baby boomers. But not for long

BY CHARLOTTE ALTER

ILLUSTRATIONS BY MICHELLE THOMPSON FOR TIME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#NOT MY
ESIDENT
PROTECT OUR
IMMIGRATION
DREAM BIG FIGHT

LOVE 'EM or hate 'em, this much is true: one day soon, millennials will rule America.

This is neither wish nor warning but fact, rooted in the physics of time and the biology of human cells. Millennials—born between 1981 and 1996—are already the largest living generation and the largest age group in the workforce. They outnumber Gen X (born 1965–1980) and will soon outnumber baby boomers (born 1946–1964) among American voters. Their startups have revolutionized the economy, their tastes have shifted the culture, and their enormous appetite for social media has transformed human interaction. American politics is the next arena ripe for disruption.

When it occurs, it may feel like a revolution, in part because this generation has different political views than those in power now. Millennials are more racially diverse, more tuned in to the power of networks and systems and more socially progressive than either Gen X or baby boomers on nearly every available metric. They tend to favor government-run health care, student debt relief, marijuana legalization and criminal-justice reform, and they demand urgent government action on climate change. The millennial wave is coming: the only questions are when and how fast it will arrive.

So what's America going to look like when this generation rises to power? I spent the past three years trying to answer that question by crisscrossing the country, interviewing the young leaders who are among the first in their cohort to be elected to public office. I sat down with Democratic stars like Representative Alexandria Ocasio-Cortez, 30, and former South Bend, Ind., mayor Pete Buttigieg, 38, and Republican up-and-comers like Representatives Elise Stefanik and Dan Crenshaw, both 35. I interviewed rookie Democratic Congresswomen like Lauren Underwood, 33, and Haley Stevens, 36, and a smattering of local leaders from California to New York, including Stockton, Calif., Mayor Michael Tubbs, 29, and Ithaca, N.Y., Mayor Svante Myrick, 32. The result is my book, *The Ones We've Been Waiting For.*

'Kids of the '90s, we grew up thinking that we were going to change the world.' —*Representative Haley Stevens (D., Mich.)*

If I set out to learn what millennials believe and why, I ended up with something more compelling: a glimpse of our country's future. Millennials, after all, are starting to gain political power at a time when America looks more like a gerontocracy than ever. Donald Trump is the oldest first-term President in U.S. history, elected largely by older, white voters. He is surrounded in Washington by senior citizens like Commerce Secretary Wilbur Ross, 82, who can manage only a small window every day when he can "focus and pay attention and not fall asleep," according to one Politico report. Trump's Senate allies are similarly geriatric. Senate majority leader Mitch McConnell, 77, graduated from the University of Louisville when tuition ran just $330 a year, and Republican Senator Chuck Grassley, 86, was kindergarten age before the chocolate-chip cookie was invented, in 1938.

It's not just Republicans. Speaker of the House Nancy Pelosi, 79, and two of the top Democratic presidential

Former South Bend mayor Buttigieg with supporters at a campaign event in Des Moines, Iowa

candidates—former Vice President Joe Biden, 77, and Senator Bernie Sanders, 78—were born before the discovery of the polio vaccine and the bikini. Many of the lawmakers who must now grapple with questions of net neutrality, cyberwarfare and how to regulate Facebook were approaching retirement age when social media was invented.

Of course, age isn't everything. Sanders, whose politics broadly reflect the preferences of the rising millennial electorate, has emerged as a Democratic front runner in part because of his popularity among young voters, while Buttigieg is most popular among older, more moderate Democrats. And Supreme Court Justice Ruth Bader Ginsburg, 86, has become a hero among young liberal women.

Nor will a generational uprising come all at once. Young people have historically voted at much lower rates than older people, and factors like geography, gerrymandering and voter-suppression efforts—which tend to disenfranchise college students and new voters—will conspire to diminish the power of millennials as the largest voting bloc. It may take years or even decades for millennials to be proportionally represented in the halls of power.

But a progressive youthquake is coming. Research has shown that people's experiences in early adulthood have the greatest impact on their lifelong political leanings, and millennials, for the most part, have experienced an America riven by inequality, endless wars, a financial collapse, a student debt crisis, and inertia in the face of climate change. All that has made them distinctly more liberal than their elders. "The America we grew up in is nothing like the America our parents or our grandparents grew up in," Ocasio-Cortez told me in an interview in her Capitol Hill office last year. "A lot of what we have to deal with are issues and decisions that were made by people in generations before us."

According to Pew, 57% of millennials hold "consistently" or "mostly liberal" opinions, while only 12% report having conservative views. Even Buttigieg, who is often cast as a moderate in this Democratic presidential primary, is significantly more liberal than centrists of the previous generation, favoring universal health care, student debt relief and urgent action on climate change. He is also openly gay—which just a generation ago might have disqualified him from the South Bend mayor's office, let alone the presidency. Meanwhile, Trump is deeply unpopular among young Americans. One Harvard poll found his disapproval rate among people under the age of 30 topped 70%.

There's nothing more natural than generational turnover. Every couple of decades, a wave of elected officials begin to retire and a new generation fills the void. In the 1950s and '60s, it was the Greatest Generation, the ones who fought WW II and led a civic revival that built the national highway system and the rockets that sent men to the moon. In the '70s and '80s, the so-called Watergate babies swept into office to clean up corruption and reform institutions, ushering in a new era of entrenched partisanship. And for the past 30 years, baby boomers have been running the show. They shaped American politics according to their principles of fierce individualism, embracing privatization, tax cuts and policies rooted in "personal responsibility." Generation X's leaders, including former Georgia house minority leader Stacey Abrams and Republican Senators Marco Rubio and Josh Hawley, are now ascendant.

Millennials are next. And by understanding the forces that shaped their politics, we can understand what America might look like when they're in charge.

ON CHRISTMAS EVE 1999, 16-year-old Haley Stevens opened her journal, gripped a purple marker and wrote: HALEY'S MILLENNIUM IDEAS. Her letters were large and looping. "The polar ice caps are going to melt," she wrote. "Natural disasters and mad leaders at war … what we read and what we do became so unbalanced and money

PREVIOUS SPREAD SOURCE PHOTOS: GETTY IMAGES (8); SHUTTERSTOCK (8); THIS SPREAD: TAMIR KALIFA—THE NEW YORK TIMES/REDUX

driven." Like most diary-scribbling teenagers, she had a flair for the dramatic: "We won't stop our mistakes," she wrote. "So what the prophets predict will come true."

Back then, Stevens was just a high school junior who filled her journal with America Online instant-message chats with boys from camp. (She printed them out and saved them for later analysis.) Now she's a freshman Democratic Representative from Michigan's 11th District, one of 20 millennials who were elected to Congress in 2018 in a wave of discontent with the Trump Administration.

I first met Stevens a couple of months before she won her primary. She had never held elected office, and at that point she was a long shot to win her party's nomination, much less go on to flip her Michigan House district. Which is perhaps why she let a reporter into her mother's bright yellow kitchen to read her childhood journals and sift through boxes of old keepsakes. "I think there's a little bit of a misperception that people have about millennials: we do feel very called to service," she told me at the time. "Kids of the '90s, we grew up thinking that we were going to change the world."

The conventional wisdom has long been that young people usually lean to the left and then become more conservative as they age, buy homes, build wealth and raise families. Winston Churchill once supposedly said, "If you're not a liberal at 20, you have no heart; if you're not a conservative at 40, you have no brain." But the data tell a different story. Researchers have found that popular Presidents tend to attract young people to their party, while unpopular Presidents repel them. Those formative attitudes are persistent: if you're disenchanted by a Republican President as a teenager, you're disproportionately more likely to vote for Democrats well into your adult life. One Pew study of 2012 data found that those who turned 18 during the unpopular Republican Richard Nixon years were more likely to vote for Democrat Barack Obama, while those who turned 18 just a decade later, during the prosperous Ronald Reagan years, tended to vote for Obama's GOP opponent in the 2012 presidential race, Mitt Romney.

'One way of understanding these trend lines is asking: What happened when people were young?'
—*Andrew Gelman, Columbia University*

In several studies, Andrew Gelman, a political scientist at Columbia University, and Yair Ghitza, chief scientist at Catalist, a data provider for Democratic and progressive organizations, found that political events experienced between the ages of 14 and 24 have roughly triple the impact of events experienced later in life. (Their research focused on white voters, since longitudinal data on voters of color is more difficult to find.) "It's much more about cohort than age," Gelman says. "One way of understanding these up and down trend lines over the decades is asking: What happened when people were young?"

Consider, then, the millennial generation's experience of America so far. For many, their political awakening came on Sept. 11, 2001. Ocasio-Cortez, then a seventh-grader, remembers coming home early from school and watching the towers fall on television, wondering whether her mom would be home from work in time for the apocalypse. Representative Max Rose, then a high school freshman, surprised his parents after the tragedy by hanging an American flag in his messy teenage bedroom in New York City. Stefanik, who was a high school senior in Albany, N.Y., remembers watching a friend collapse on the floor because her sister worked in one of the towers. (The friend's sister was ultimately found safe.) "It's one of the reasons I wanted to go into public policy," Stefanik told me later. "On that day, we became a globally aware generation."

The millennials who enlisted to fight in the endless wars that followed would learn firsthand the consequences of American foreign policy. Crenshaw, who was also in high school on 9/11, lost his eye in Afghanistan while serving as a Navy SEAL, completing a mission he thought was a misguided use of resources by Obama's Pentagon. Rose was injured by an improvised explosive device in Afghanistan; his life was saved by a new kind of Stryker vehicle that has been recently funded

Stevens campaigns in her Michigan district during her 2018 congressional run

by Congress. When Buttigieg arrived in Afghanistan as a naval intelligence officer in 2014, his fellow officers told him the war was over: he spent most of his nights in his bunk, reading Tolstoy's *War and Peace* and thinking about the question Vietnam veteran John Kerry once asked during congressional testimony: "How do you ask a man to be the last man to die for a mistake?"

The young people who served in Iraq and Afghanistan often have a more comprehensive view of American military engagement than their peers. Crenshaw is a vocal supporter of American military abroad and bucked his party to oppose Trump's proposed withdrawal of troops from Syria. He often says, "We go there, so they don't come here." But while the baby boomers endured the Vietnam draft, only a small fraction of millennials have served in the military, and many see the wars as folly at best, immoral at worst. To many of them, the wars in Iraq and Afghanistan were expensive fiascoes that shattered their sense of American exceptionalism.

In 2017, just half of millennials said they thought the U.S. should take an active part in world affairs, compared with almost three-quarters of boomers. Only about a third of millennials said they thought the U.S. was the greatest country in the world.

Meanwhile, young people weren't doing great at home either. Thanks to a series of public-policy moves, including slashing federal funding for state colleges and institutionalizing debt as a means to pay for it, millennials ended up owing nearly four times as much in student loans as their parents did. The student debt burden in the U.S. now stands at $1.6 trillion, most of which is owed by younger generations.

Then came the financial crisis in 2008, which has had cascading effects for millennials and shaped many of their young political leaders. Ocasio-Cortez's father died just as the economy was melting down, and as her mother fought in court to recoup her husband's assets, Ocasio-Cortez's younger brother Gabriel noticed bank officials prowling around taking photos of their home. He had read that having a dog on the property can slow down the foreclosure process, since the bank would have to compensate its managers with hazard pay. He started leaving the family's Great Dane, Domino, on the porch.

Between student debt and the financial crisis, millennials are lagging behind boomers and Gen X-ers. One study found that nearly a decade after the recession, millennial-led households still had 34% less wealth than older generations had at their age, and the recession prevented millennials from substantially increasing their net worth. Youth unemployment spiked to 20% after the recession, and when millennials did find jobs, they were often in the gig economy, which likely meant irregular hours and no benefits. Between 1989 and 2011, the percentage of graduates covered by employer-sponsored health insurance was halved. Millennials, as a group, are more likely to have debt, less likely to have union benefits, and less likely to own a house or a car compared with the generations before them. Those who have gotten married have done so later and had fewer children. No wonder, then, that many young people today

INVENTING THE FUTURE

The next generation of innovators, chosen by the editors of *TIME for Kids*

Gitanjali Rao

LOCATION: Colorado

INVENTION: Kindly

Gitanjali Rao, 14, is already a seasoned inventor. In 2017, she won the 3M Young Scientist Challenge for a device called Tethys that uses carbon nanotube sensors to detect lead in drinking water. A year later, she won a prize in the TCS Ignite Innovation Student Challenge for inventing Epione, a tool that diagnoses early-stage prescription opioid addiction. "So many teens, especially my age, were starting to get addicted," she says. Epione works by testing blood for increased protein production in a specific gene. Gitanjali's latest brainchild is Kindly, an app that spots and prevents cyberbullying messages. Beta testing began last year. In what remains of her spare time, Gitanjali enjoys teaching; her "innovation sessions" have attracted about 20,000 young people. "I want to work with students to find and develop their passion for STEM," she says. —*Jaime Joyce*

TIME for KIDS publishes weekly magazines for U.S. elementary and middle school students

STEVENS: BRITTANY GREESON—THE NEW YORK TIMES/REDUX; ILLUSTRATION BY AISTE STANCIKAITE FOR TIME feel that 20th century systems aren't working. They want to build 21st century solutions for 21st century problems.

THE 2008 PRESIDENTIAL RACE was a galvanizing political moment for many young people. Buttigieg, who was 26 at the time, trudged through Iowa canvassing for Obama, digging out his car with his clipboard when it got stuck in the snow. Eric Lesser, who is now a Massachusetts state senator, worked as a luggage handler for Obama's campaign. Obama's victory was due in large part to youth enthusiasm: he won two-thirds of voters under 30.

Obama rose to power on a message of consensus building, and many of the young people who worked for him internalized that message. Stevens, who also worked for Hillary Clinton in the primary and for Biden's vice-presidential bid in 2008, was hired to work on the new President's auto task force. She remembers staying up all night in the Treasury Department, eating Cheerios straight out of the box as the task force tried to find a way to save the auto industry. Lauren Underwood, now a first-term Illinois Congresswoman, worked in Obama's Department of Health and Human Services, helping implement the Affordable Care Act. "We have very high goals, just like Obama did," says Lesser, who spent much of Obama's first term sitting in a tiny cubby outside the Oval Office, working as a special assistant to senior adviser David Axelrod. "But we also understood that sometimes it's the singles and doubles and triples that get you there."

Other young people were galvanized in a different way by Obama's focus on consensus. "A lot of our generation put our hopes into Barack Obama's campaign," says Waleed Shahid of Justice Democrats, a progressive organization that supports young, working-class candidates like Ocasio-Cortez in campaigns against moderate Democrats. "And then as soon as he gets into office, there's all these things that go on that are kind of disappointing to young people." If this was the best a transformative leader like Obama could do within the system, many people figured, then maybe the system itself was broken.

Ocasio-Cortez rallies fellow millennials at a Sanders campaign event in Queens, N.Y., on Oct. 19

If systems were the problem, then movements—not individuals—would be the solution. In the wake of the Obama Administration, millennials began founding and joining "leaderless" social movements like Occupy Wall Street and Black Lives Matter, demanding systemic overhauls to fix structural inequality and institutional racism. These groups rejected Obama's hopeful pragmatism. "We've never seen bipartisanship function in society," says Varshini Prakash, a leader of the Sunrise Movement, a group of young people agitating for a Green New Deal. "We've fundamentally seen our political institutions fail to fix the most existential threats of our lifetime."

So when Sanders ran for President in 2016 on a message that the system itself was rigged, his message struck a chord. Working as a bartender in New York, Ocasio-Cortez sometimes made as little as $60 in tips in a nine-hour day. "I didn't have health care, I wasn't being paid a living wage, and I didn't think that I deserved any of those things," she told a cheering crowd of Sanders supporters in late 2019, after endorsing his presidential run. "It wasn't until I heard of a man by the name of Bernie Sanders that I began to question and assert and recognize my inherent value as a human being."

Among young voters, Sanders' embrace of democratic socialism was not a liability; it was part of his appeal. Young people's approval of capitalism dropped 15 points from 2010 to 2019, according to Gallup. By 2018, fewer than half of 18-to-29-year-olds said they supported capitalism, according to an annual poll from Harvard's Institute of Politics; 39% said they supported democratic socialism. The word itself—*socialism*—became something of a generational Rorschach test: to boomers, it conjured images of Soviet gulags and Venezuelan famine;

MICHAEL NIGRO—SIPA

to millennials, it meant universal health care and day care, climate solutions and affordable housing.

None of this looks good for the GOP. Republicans have long done well among white voters, but millennials and their younger siblings in Gen Z (those born since 1997) are the most racially diverse generation in U.S. history. Republicans maintain strong ties to religious voters; millennials widely reject organized religion and are more openly LGBTQ than any generation before. On nearly every predictor of social conservatism—religion, race, wealth—millennials are headed one way and the GOP is headed another.

In the years before 2016, young Republicans urged their party to do a better job of appealing to millennials. Former GOP Representative Carlos Curbelo of Florida, first elected at age 34, pushed his party to embrace immigration reform and described a widespread acceptance of marriage equality among younger conservatives. "This is a live-and-let-live generation," he says. "We don't seek to impose our moral codes on others." Stefanik and Curbelo both pushed their party to act on climate change, an issue that many of their septuagenarian colleagues have either dismissed or ignored. (Stefanik, who first emerged as a voice of moderation in the GOP, has now taken a hard right turn, defending Trump against impeachment and signing on as a New York co-chair in his re-election campaign.)

By 2018, only 17% of millennials identified as solidly Republican

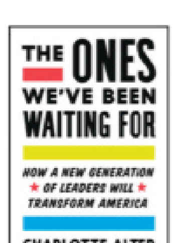
But Trump's election in 2016 scrambled young Republicans' efforts to appeal to a new generation. When Curbelo, once a rising star in the GOP, was ousted in the 2018 midterms, Trump mocked him as Carlos "Que-bella." As Trumpism rose, many young conservatives began nursing serious doubts about their party, and some jumped ship altogether. From 2015 to 2017, roughly half of young Republicans defected from the GOP, according to Pew. Over 20% came back to the party by 2017, but almost a quarter left for good, Pew found. By 2018, only 17% of millennials identified as solidly Republican.

Conservatives may find solace in the fact that young people are still much less likely to vote than their parents or grandparents. But that may be changing too. Millennial turnout was 42% in the 2018 midterms, roughly double what it was four years prior, and they voted for Democrats by roughly 2 to 1. That turnout helped send 20 millennials to Congress, from firebrand socialists like Ocasio-Cortez in New York City to moderate seat flippers like Representative Abby Finkenauer in Iowa. And nearly 60% of Americans under 30 say they definitely plan to vote in 2020.

THESE GENERATIONAL RIFTS have already defined the Democratic primary in surprising ways. Buttigieg has frequently noted that he is a member of the "school-shooting generation," and emphasized that millennials like him will be on "the business end" of climate change. When I first met Buttigieg at a coffee shop in Manhattan in 2017, he told me he thought a lot about the 2004 commencement speech that the comedian Jon Stewart gave at the College of William & Mary. "He said, 'Here's the thing about the real world: We broke it, sorry'—I think he meant grownups," Buttigieg told me, paraphrasing the speech. "He said, 'We broke it, but the thing is, if you figure out how to fix it, you get to be the next Greatest Generation.'"

Today Buttigieg is part of a quartet of top contenders in the 2020 Democratic primary. If he wins, he'll be the first millennial presidential nominee. And if the nomination goes instead to Sanders or Elizabeth Warren, both in their 70s, it will be because millennial voters have dragged the party to the left. Nearly 6 in 10 young Democrats favor the most progressive candidates: according to a January Quinnipiac poll, 39% of voters under 35 favor Sanders and 18% support Warren.

Which means that if 2016 was a skirmish, then 2020 could be an all-out generational war. It may take two years, or five years, or 10, but the boomers who run Washington today won't be around forever. A surge is coming. The elections this year could tell us if it's already here.



Adapted from Alter's book, The Ones We've Been Waiting For, *out Feb. 18*

GLOBAL YOUTH IN REVOLT

A new generation of leaders, inspired by activist movements, is driving change **BY ARYN BAKER**

IN HONG KONG, protesters called for "five demands, not one less." School strikers around the world warned, "There is no Planet B." Chileans proclaimed, "It wasn't a depression, it was just capitalism." Sudanese called for the downfall of the regime, while the Lebanese complained of "electile dysfunction."

Over the past year, citizens in Africa, Asia, Europe, Latin America and the Middle East took to the streets to raise their voices against inequality, corruption and bad governance. And while from Italy to Iraq and Venezuela to Zimbabwe they promoted wildly differing slogans, the subtext was always the same: the system is not working. The youth at the forefront of these movements are no longer content to just push for change from the fringes of power. Increasingly they are taking the reins themselves, either through the democratic process or by spearheading protest movements that command the world's attention.

Countries such as France, Ireland, Austria and Ukraine are turning to younger leaders and new styles of leadership. On Dec. 10, Finland's Sanna Marin, 34, became the world's youngest Prime Minister, only to be upstaged a few weeks later by the return of Austria's Sebastian Kurz, who was sworn in as Chancellor for a second term at the age of 33 on Jan. 7. Kurz and Marin are the latest in a wave of politicians in their 30s winning leadership roles, including New Zealand's Prime Minister Jacinda Ardern (39), Ukraine's Prime Minister Oleksiy Honcharuk (35) and El Salvador's President Nayib Bukele (38).

'Young people now are more socially liberal than young people were in the past.' —*Matt Henn*

SOURCE PHOTOS: GETTY IMAGES (7); ILLUSTRATION BY AISTE STANCIKAITE FOR TIME

These leaders may be young, but their authority is grounded in experience. Many came of age during the 2008 global financial crisis and its aftermath and have experienced firsthand the failure of globalization's promise to deliver widespread economic prosperity. Social media have exposed unacceptable levels of corruption among economic and political elites, animating demand for change. And this generation of leaders share with their constituents a commitment to make the difficult changes their elders will not—largely because they have the most to lose.

Society is no longer passing the baton to the next in line in a continuing trend of incremental change. We are witnessing a fundamental departure from politics as usual, as these young leaders respond to the demands of even younger activists acutely attuned to the injustices

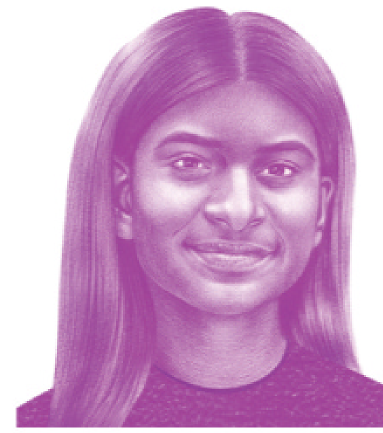
and inequalities of their era. “We grew up around people who have struggled to put food on the table,” Nadia Whittome, who was just elected the U.K.’s youngest parliamentarian at age 23, tells TIME. “We know that the crises we’re up against are huge in scale and that the solutions to them need to be equally bold and implemented urgently.”

What unites these movements is a desire to tear down and rebuild structures built by past generations. In Europe, the experience of postrecession austerity measures has cemented a new commitment to social reforms and greater public spending among the young, and their leaders are following suit. Youth-led protests in Hong Kong, India and Sudan are rebelling against conservative and repressive leadership, while in Iraq and Chile they are demanding an end to corruption. In Lebanon, where antigovernment protests drew a quarter of the population to the streets, young protesters have called for a complete overhaul of what they see as a broken political system. Across the Middle East, the outsize hopes engendered by the 2010 Arab Spring uprisings have been shattered by harsh government crackdowns combined with economic stagnation, according to a new survey of Arab youth. “For a generation of young Arabs,” Jihad Azour, director of the IMF’s Middle East and Central Asia department, writes in the survey’s preface, “a decade that began with the promise of change nears its end with tens of millions still longing for peace, prosperity, and the opportunity for a better future.”

THE EXPERIENCE OF today’s older generations might suggest the young will shift rightward as their stakes in society grow. After all, today’s conservative-voting boomers came of age amid the countercultural revolutions of the 1960s. But today’s youth are unlikely to shed their progressive values over time, according to current research. “Young people now are more socially liberal than young people were in the past,” says Matt Henn, a professor of social research at the U.K.’s Nottingham Trent University. “People’s views on key values such as concerns over the climate emergency, support for investment in public services rather than privatization … are not necessarily going to dissipate over time. These are fundamental values that, research suggests, broadly stay with people into later life.”

This new generation of young leaders is not exclusively liberal, however. Austria’s Kurz is a conservative, right-leaning nationalist. Yet as head of a coalition that now includes the progressive Green Party, he will have to answer to the demands of younger activists and voters. And they are increasingly impatient for change; today’s youth activists, fearful the time to act is running out, expect progress and delivery on an accelerated timetable. That, even more than their progressive tendencies, is likely to shape policy for years to come, no matter the age of their leaders. *—With reporting by* JOSEPH HINCKS/ISTANBUL *and* BILLY PERRIGO *and* CIARA NUGENT/LONDON □

INVENTING THE FUTURE



Riya Karumanchi

LOCATION: Ontario, Canada

INVENTION: SmartCane

When she was 14, Riya Karumanchi met a woman who used a white cane to navigate. Riya was surprised that even with the cane, the woman struggled to get around. As a tech-obsessed teenager, she assumed the cane came loaded with cutting-edge technology. “It’s just a stick,” Riya says. “My initial thought was like, What? How is nobody working on this?” So she engineered a device now called SmartCane. This stick can sense wet surfaces and other obstacles, vibrating to alert the user to treacherous situations. GPS navigation gives directions using patterned vibration and audio. An emergency button acts as a lifeline to emergency responders or loved ones. Riya is now 16, the SmartCane team numbers three, and the effort has more than $83,000 in funding. The team’s hope is to one day distribute the product through the Canadian National Institute for the Blind. —*Shay Maunz*

TIME for Kids publishes weekly magazines for U.S. elementary and middle school students

THE WORLD WE LEAVE THEM

Young people are right to be angry. They should have seats at every table **BY KLAUS SCHWAB**

AN INTERGENERATIONAL crisis is—increasingly—under way. We have created a system that disproportionately rewards the happy few, underfunds social security and infrastructure, and puts at risk the health of the planet as a whole. Young people are right to be deeply concerned and angry about this, seeing it as a betrayal of their future. But we can't let that realization stifle us. 2020 should be the year in which we start thinking and acting long-term again and make intergenerational parity the norm. But how?

Many young people will look back at the 2010s with mixed feelings at best. At the beginning of the decade, the youth-driven Arab Spring ended in disappointment. In the West, at the same time, demands for a fairer system from the Occupy and Indignados movements similarly remained largely unanswered. And around the world, young protesters throughout the decade became frustrated at the inaction on social and environmental issues.

Going into 2020, youth around the world are still upset. Greta Thunberg became the voice of an entire generation when she expressed her disillusionment over climate inaction at a U.N. meeting in September. "How dare you continue to look away," she said to those in charge, "and come here saying that you're doing enough when the politics and solutions needed are still nowhere in sight? How dare you look at a younger generation for hope?"

If we don't act to repair intergenerational inequity, a crisis between generations may become inevitable

Her generation is right in being so indignant. The window for action on climate change is closing at a rapid rate, and that's just one of many problems in the system. In many societies, there is also a lack of social mobility; a problem of generational wealth accumulation; an underfunding of social security, health and infrastructure; and a backwardness in educational and training systems. The worst hit are almost invariably the young.

In the U.S., one of the most striking ways this intergenerational inequity can be seen is in the share of wealth held by each generation. As Christopher Ingraham of the Washington *Post* calculated, by the time the median baby boomer was 35 in 1990, that generation held over a fifth of American wealth. Generation X, which hit a median age of 35 by 2008, had accumulated less than a tenth of U.S. wealth by that same age. Millennials, though not yet 35 on average, accounted for only 3% of U.S. wealth by 2018.

Another obvious sign of this imbalance is the debt that's been loaded onto the rising generation. Until the early 1980s, U.S. national debt rarely exceeded 40% of GDP, and at times stood as low as 30%. Then it exploded. By the end of 2019, U.S. federal debt stood at over 105% of GDP. It is burdening youth even as they struggle to repay their own student and other debt, and even as the infrastructure they inherit is increasingly crumbling and needs urgent replacing.

And then, of course, there is the imbalance in caring for the planet. The economic boom of the past 75 years came at a high price: almost all of the CO_2 "budget" the world had to avoid catastrophic warming is now used up. If we want to avoid even 2° of warming, the next generations both in the U.S. and around the world will either have to stop leading the energy-consuming lifestyle of their parents or Western peers altogether—or come up with clean alternatives in less than a decade.

The good news is that such inequities are no law of nature. Throughout history, societies have corrected their course many times. Just think about how we ended the acid-rain crisis that was threatening our forests and cities, or how the creation of the European Union put a permanent end to war among its member states.

But the current cycle of intergenerational injustice won't end by itself. If we don't act now to alter course and repair intergenerational inequity, a crisis between generations may become inevitable. The system we have created today is still a zero-sum game where at least one side wins. But when generations quarrel instead of collaborate, lose-lose may become the norm.

So what can be done? Three actions come to mind. The first is to make sure youth get a seat at the table in decisionmaking. Greta Thunberg and her Fridays for Future movement didn't ask for permission—they just went ahead and joined the conversation on climate change. Given how impactful this movement has been, we should now integrate such involvement at every level of decisionmaking.

WE ARE COMMITTED to doing our part. At our annual meeting in Davos, we have added 12 changemakers under 20 years of age as part of our youth participants—next to 50 "Global Shapers" who are under 30 and dozens of "Young Global Leaders" who are under 40. In other meetings too, whether global, national or local, the voice of this new generation must be heard. Intergenerational parity matters.

In Finland, the new coalition government shows that such generational representation can be achieved in politics at the highest level. Prime Minister Sanna Marin is 34, and three of the four other leaders of her coalition government—who all happen to be women—are also under 35. But the government equally counts several senior ministers who are over 55 years of age, ensuring diversity in the Finnish government not only in gender, ideology and language, but in age too.

The second step is to have a grand future debate and foster an intergenerational mind-set. If the U.S. Social Security system is no longer funded beyond the next 15 years, as is currently the projected case, all societal partners should make a pact to ensure its future funding. If we have only a few years left to avoid cataclysmic climate change, all parties should accordingly prioritize their efforts and reorient their energy toward the climate crisis. And if social mobility and wealth transfers have stalled, we should act to structurally change that.

Some countries are already experimenting with a more intergenerational mind-set in decisionmaking. In Austria, notably, the new government brings together the conservatives with the green party, a first for such a coalition in Europe. "It is possible to slash taxes and make environment-friendly tax policies," Chancellor Sebastian Kurz commented. "It is possible to protect the environment and protect the borders." The government in this way is bringing together the interests of the typically older conservative voters with those of the typically younger green voters. It is as if the GOP in the U.S. came together with the architects of the Green New Deal.

And third, we should ensure that all policymaking and business decisions go through and pass an intergenerational-impact test. Similar procedures already exist in companies for ensuring their practices are compliant with gender-parity or diversity standards, or their human-rights impact across the entire supply chain. We should now measure the effect that any and all policies and business decisions have across generations. One such study in Australia, for example, showed that government policies were in great part responsible for the widening gap in homeownership between the old and the young.

Greta Thunberg's generation is right in being so indignant

Having more such intergenerational-impact tests available would help eliminate many discriminatory practices that are currently still in vogue. It would redirect government resources, for example, from deficit spending on current accounts to investments in green infrastructure that will last for generations. And it would mean investors divest their fossil-fuel portfolio and build up a green-energy one—another initiative that's under way under auspices of the World Economic Forum.

This is what ultimately gives me hope: that the world as we know it today doesn't need to be the one we leave behind for young people. We can create a more inclusive and sustainable world if we commit ourselves to doing so.

What we need is an ideological framework that leads to economic development and social progress. The stakeholder concept, which the forum has promoted over the past 50 years, stipulates that government, business and civil society are stakeholders of our global future and that we have a shared responsibility to shape this future in collaborative ways.

The median age of the world is less than 30 years old, which means that young people are actually the most important—and most affected—stakeholders when talking about our global future. These are also the people who have the most innovative ideas and energy to build a better society for tomorrow. We should move away from a narrative of production and consumption to one of sharing and caring. Young people are the best placed to lead this change. Let's give them that opportunity.

Schwab is the founder and executive chair of the World Economic Forum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Listen Up

As the new decade begins, TIME asked young activists to write open letters to their elders expressing their vision of a world where young people can survive and thrive. From gun violence to refugee rights, gender equality to climate change, their letters are a snapshot of what matters not just to the authors but to everyone coming of age in an era of global turmoil.

EMMA GONZÁLEZ

Stop sacrificing our futures

THE YOUTH OF THIS WORLD are watching you destroy our lives before they have begun. We are losing our futures, our sanity and our lives, all because you want more money and more power.

Everyone I know has depression or anxiety or worse. Almost none of us can deal with these illnesses because we can't afford the treatment, and our society has such a stigma against talking about mental health that most of us can't even recognize the symptoms. I watch my friends turn to substance abuse to deal with their problems, and engage in risky behavior because they don't care about living past 25. This is our reality, and it's your fault.

If you are in a position of power, you need to aim to make the world a better place for everyone living here, not just yourself and your donors. That means fewer guns, less plastic, more therapy, more education. Stop investing in nonrenewable resources and police institutions and private prisons, and start investing in health care and education. Stop allowing violence to persist and being shocked when the youth are softer and gentler than you. Stop utilizing the abusive and manipulative systems that were created for you. Instead, help people of color, women, LGBT+ people, young people, disabled and differently abled people, and immigrants obtain an education, food, clean water, safe housing, jobs, health care and political power.

If you really want to change the way we live our lives, ask us what problems we face and how we think we should solve them, and maybe listen this time. We need positive change, and if you don't make it happen, we will. We would much rather do it together.

González, 20, is a Parkland survivor and gun-violence-prevention advocate

ILLUSTRATIONS BY GLUEKIT FOR TIME

MOHAMED MOHAMUD

Rethink laws on refugees

TODAY, THE NUMBER OF PEOPLE DISPLACED AROUND THE WORLD IS 70 MILLION AND RISING. BUT THE SYSTEMS WE HAVE IN PLACE TO DEAL WITH THE CRISIS AREN'T WORKING. WE MUST REFORM REFUGEE POLICIES TO HELP PEOPLE ON THE GROUND. WE NEED TO MOVE AWAY FROM TRYING TO IMPROVE REFUGEE CAMPS TO TRYING TO CLOSE THEM. WE NEED LEGAL STRUCTURES TO GIVE BASIC HUMAN RIGHTS TO REFUGEES: WORK PERMITS, FREEDOM OF MOVEMENT AND PATHWAYS TO CITIZENSHIP FOR THOSE OF US BORN IN CAMPS. WE NEED A PATH OUT OF THE INDEFINITE MISERY OF STATELESSNESS THAT RECOGNIZES OUR HUMANITY. FOR THIS, WE ASK YOUR HELP.

Mohamud, 29, is a Somalian refugee and a 2019 Davos co-chair

SOURCE PHOTOS: GONZÁLEZ, HAMEISTER. MURAD: GETTY IMAGES; MOHAMUD: COURTESY PHOTO

NADIA MURAD

Help us stamp out genocide

IN 2014, MY LIFE changed forever when ISIS invaded my home region of Sinjar and began ethnically cleansing Iraq of all Yezidis. They killed approximately 5,000 of us and took over 6,400, mostly women and children, into captivity, many as sexual slaves.

After I escaped captivity, I knew I must fight to end the genocide against the Yezidis. I began to tell the world about what happened to my people and to advocate for female survivors of sexual violence globally. Five years later, I am disheartened by the lack of progress. Hundreds of thousands of Yezidis remain displaced, ISIS perpetrators have not been publicly tried for their crimes, and over 3,000 of our women and children are still missing. If the global community cannot unite to aid survivors of sexual slavery and terrorism in Iraq, what does it say about our ability to create change globally?

While survivors like me can bring public awareness to issues affecting communities in crisis, for there to be tangible change the international community must act swiftly. My organization, Nadia's Initiative, works to leave a safer, more just world for future generations. However, we cannot do it on our own. States need to recognize the Yezidi genocide and hold perpetrators of mass atrocities like ISIS publicly accountable in court, sending a clear global message.

International leaders have the power to influence change and shift conversations about global crises. I ask them to work with survivors to prevent mass atrocities from happening. Together, let's make "Never again" a reality.

Murad, 27, is an Iraqi Yezidi 2018 Nobel Peace Prize laureate

'The world is severely out of balance, thanks to the historic oppression of feminine power.' —Jade Hameister

JADE HAMEISTER

Empower women to save the earth

Before turning 16, I skied to the North Pole, crossed the Greenland ice cap and became one of the few women in history to set a new route to the South Pole from the coast of Antarctica. Traveling 1,300 km on ice confirmed for me that global warming is an undeniable truth, but I desperately want to be optimistic. The long-term fix is available: ensure young women globally are encouraged to be more rather than less.

The world is severely out of balance, thanks to the historic suppression of feminine power. For too long, women were merely childbearers and men's property, while the male ego dominated. In many cultures that remains the case today. Gender balance will only be restored when young women globally have access to education, programs and resources to grow in the directions of their dreams. I'm lucky enough to be one of the relatively privileged ones, but every young woman, including the 130 million girls around the world not attending school, deserves the opportunity to take charge of their lives.

It staggers me that no one is focused on the exponential growth in the human population as the biggest threat to our environment. It seems to be taboo for our leaders to talk about. The most sensible way to address our exploding population is by educating and empowering young women, ensuring they make their own decisions over how many children they have and when. Only through your actions today will this dream be possible.

Hameister, 18, is an Australian explorer

FLYNN MCGARRY

Invest in our creativity

I STARTED COOKING when I was 10. With tremendous support from my family and others in my profession, I worked my way through kitchens in L.A. and New York to hone the craft. I opened my first pop-up restaurant at age 13.

Beginning to develop a craft, especially at a young age, is a fragile process. If I hadn't been encouraged by mentors and partners, I wouldn't have had the confidence to learn more. We are in an era so focused on immediacy that it is difficult for any talent to be given the chance to develop or the opportunity to stand out. Lack of support for young artists creates resentment where there could be beauty, originality and change.

When we don't invest in young people or we push them to conform, we end up with a lack of genuine creativity. I owe my success to the artistic freedom I was given. It inspired me to work hard and, most importantly, think in the abstract, which can impact any industry in need of fresh ideas.

McGarry, 21, is an American chef; his restaurant, Gem, is in New York

JAMIE MARGOLIN

Make us a Green New Deal

MY GENERATION IS called Generation Z, the last letter of the English alphabet. If we humans continue with our fossil-fuel addiction and putting profits over the rights of children to breathe and live, then that terminal name will be fitting.

It doesn't have to be this way. In order to save everything that matters, it's time to say goodbye to the habits of the past. We are calling on our leaders to enact Green New Deals in their home countries or to introduce radical deconstructions of the root systems of oppression and capitalism that caused the climate crisis in the first place. No more "cap and trade," no more buying and selling your way out of a problem caused by buying and selling.

We the youth are calling upon you to restore our faith in you to be able to put our lives first. We hear you say that you love us, but this time we need you to act on the climate crisis in a way that will make us actually believe it.

So get to it. Time is not on our side.

Margolin, 18, is a Colombian-American activist and the founder of Zero Hour

> *'In order to save everything that matters, it's time to say goodbye to the habits of the past.'* —Jamie Margolin

MARI COPENY

Give us back our childhoods

WHEN I WAS 6, THE KIDS IN MY COMMUNITY OF FLINT, MICH., HAD TO LEARN TO NOT USE THE WATER THAT FLOWED FROM OUR TAP. IT WAS POISONING US, BECAUSE THE POLITICIANS GAMBLED WITH OUR LIVES. ADULTS SAY CHILDREN ARE THE MOST PRECIOUS THINGS IN THE WORLD AND THAT WE SHOULD BE PROTECTED. BUT THOSE SAME ADULTS CONTINUE TO FAIL US. IT'S TIME FOR THOSE IN CHARGE TO GIVE US A SEAT AT THE TABLE AND TAKE CARE OF OUR FUTURES SO WE CAN FOCUS ON JUST BEING KIDS A LITTLE MORE.

Copeny, 13, is an American youth activist

SOURCE PHOTOS: ALBRIGHT, COPENY, MARGOLIN, MCGARRY: GETTY IMAGES; BYANYIMA: REUTERS

The View From Here

Hindsight, as the saying goes, is 20/20. So, as well as soliciting letters from young people to their elders, TIME asked six global leaders to write to a young person or people of their own choosing. The authors have decades of experience in the fields of statecraft, human-rights work and innovation—and together their open letters reflect a feeling of hope that despite the challenges young people face, they also hold the power to improve the planet.

WINNIE BYANYIMA

A letter to Lucy

Lucy is a young HIV-positive domestic worker in Kenya

I WAS THINKING about you today, Lucy, and wondering how you were doing. You still don't have a contract or earn the minimum wage, even though a landmark 2012 ruling granted Kenyan domestic workers the same basic labor rights as other workers. You must continue to fight. You can't afford not to. Use that fire I saw in you when you fought for access to HIV medicines—because it works! Treatment coverage in Kenya has risen from 29% in 2010 to 68% in 2018, thanks in large part to collective demands for access. So call on the network of people living with HIV to stand up for change. I'm so glad you've now joined the workers' movement too, and by uniting we can be stronger together. You can be the glue that binds these groups to demand change. You are strong, you are respected, you are powerful, and working together you can make a real difference.

Young women like you in Kenya and across Africa shouldn't have to work for a pittance. You shouldn't have to worry about having no food on the table because you have to buy medicines for your children. You shouldn't have to fear gender-based violence. No, Lucy, no one should be submitted to this. So continue to fight with me, and to fight for your rights.

Byanyima is executive director of UNAIDS

'Keep speaking out. Democracy is not a spectator sport.' —*Madeleine Albright*

MADELEINE ALBRIGHT

A letter to my students

One of my favorite quotations these days is from Robert Frost: "Now that I am old, my teachers are the young." Although there is not a lot to relish about aging, I am grateful it has given me the opportunity to learn from you. I have been inspired by how your generation has already spoken out forcefully on the environment; racial justice; and the rights and dignity of women, immigrants and refugees.

But your voices will need to grow even louder in the future. The lessons my generation learned during World War II and the Cold War about the benefits of multilateral cooperation and the dangers of unbridled jingoism and dangerous ideologies are no longer top of mind. I have no nostalgia for the past, but it carries lessons we should heed: aggressors must be resisted; the truth must be defended; and intolerance cannot be allowed to hide behind the mask of national pride.

Freedom's saga has just begun, and I put my faith in you to write the next chapter of that story. Keep speaking out, keep marching, keep participating. Democracy is not a spectator sport.

Albright was the U.S. Secretary of State from 1997 to 2001 and teaches at Georgetown University in Washington

ELLEN JOHNSON SIRLEAF

A letter to Mmonbeydo

Mmonbeydo Nadine Joah is a Liberian law student and women's-rights activist.

THE WORLD MAY SEEM a dark and challenging place. Every day we hear stories across the world of rape, abuse, discrimination. We fear the climate crisis and see its destructive reality across the globe. We see the rule of law under attack from those meant to uphold it.

But there is so much to be hopeful about, and young women like you give me hope. We need to mentor and support girls and to listen to their voices and dreams. Our women's movements must not only represent the interests and views of the elite but make sure all women are included, especially those on the margins.

It may seem like a time of pushback for women's rights globally. And yes, we need to make sure the rights women won over many generations are not diluted or destroyed. But it is also a time when our collective voice is strong. It is a time when fearless young women, such as Malala, Greta and yourself, speak truth to power and shame leaders for inaction.

Do not feel weak or discouraged when opposed. Don't be afraid to dream boldly or to dream what seems impossible.

Johnson Sirleaf is a former President of Liberia, a Nobel Peace laureate and a member of the Elders

> *'We need to mentor and support girls and to listen to their voices and dreams.'* —Ellen Johnson Sirleaf

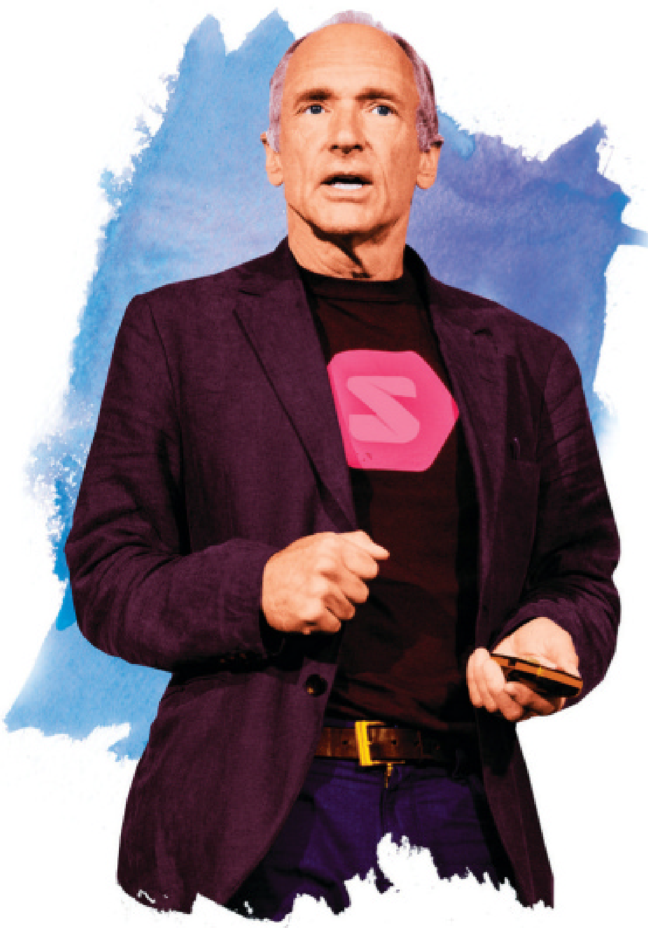
LIZ SHULER

A letter to American graduates

YOUR GENERATION HAS ALWAYS KNOWN THAT YOU CAN'T WAIT FOR CHANGE TO HAPPEN. INSTEAD, YOU SHARE PETITIONS ON SOCIAL MEDIA, ORGANIZE MARCHES AND MAKE YOUR VOICES HEARD. YOU'RE COLLABORATIVE, CIVIC-MINDED AND TECHNOLOGICALLY CONNECTED, AND THAT'S WHAT MAKES YOU STRONG. SO JOIN US. LET'S FACE THE CHANGING ECONOMY AND WORKPLACE TOGETHER. WE NEED YOUR BEST IDEAS. LET A UNION BE A VEHICLE FOR YOUR BOLDEST GOALS—THE BIGGER, THE BETTER.

Shuler is secretary-treasurer of the AFL-CIO labor union

SOURCE PHOTOS: BACHELET, BERNERS-LEE, JOHNSON SIRLEAF: GETTY IMAGES; SHULER: COURTESY PHOTO



TIM BERNERS-LEE

A letter to Nigeria's STEM students

The World Wide Web has improved millions of lives and transformed how we communicate, collaborate and create. But almost half the world's population remains unconnected, and digital platforms don't work equally well for everyone, with many women and girls particularly underserved.

When I visited you at the Women's Technology Empowerment Centre in Lagos during the web's 30th birthday, you filled me with hope. As you become businesspeople, policymakers and content creators, your skills and perspectives will help make the web richer for everyone.

You can already make a difference. When you go online, write about your experiences and hopes for the future. Make sure your culture, beliefs and local languages are represented on the web. And use your coding skills to solve challenges specific to Nigeria and West Africa. When you do this you will make life better for yourself and others in Lagos, while improving the web as a whole.

Today's web has challenges we all need to fix. That's why I've launched a new Contract for the Web as a global plan for a web that serves all humanity. We need tech leaders to design systems that are safe, empowering and that protect your rights and democracy. We need companies to think beyond short-term revenue and user growth and to develop sustainable business practices that people trust. Ambitious, coordinated action and new web technologies are vital. With your leadership, the web's next 30 years will be greater than the last. I can't wait to explore the web that you all create.

Berners-Lee is a computer scientist, inventor of the World Wide Web and Inrupt CTO

'Governments which try to rule through fear will fail, because people like you will resist them.' —*Michelle Bachelet*

MICHELLE BACHELET

A letter to young activists

THIS IS NOT an easy time to be young, but it is a great one: a time you, your ideas and your activism can make a real difference to humanity. Across the world, young people are becoming alive to the urgent need that they participate in decisions, safeguard human rights and save our world. I pay tribute to their brave and peaceful activism. Already, some governments have responded to mass protests with significant reforms. Others have not—not yet. But I am confident that your demands will prevail.

As a young woman in Chile, I experienced dictatorship and a deeply polarized society. I saw what it does to a country when people are forced to live in deprivation and fear. But I was also fortunate to live among people who manifested compassion and generosity, even in the face of violence and poverty. Among the many lessons learned: Hatred is not baked in to human nature. It can be healed. And governments which try to rule through fear will fail because you, and others like you, will resist.

Remember this: no matter how grave and tangled the crisis, core values will steer you to the path of solutions. We are not alone. Other people matter. Justice matters. By understanding others' points of view; by acting with integrity to advance justice; by seeking to build on your respect for other people and all forms of life; by looking to construct, and advance—rather than to destroy—you will be able to achieve greater human dignity and human rights.

Bachelet is the U.N. High Commissioner for Human Rights and a former President of Chile

MAHATHIR MOHAMAD

Advice from the world's oldest state leader

IN MY SEVEN DECADES INVOLVED IN POLITICS, THE MOST IMPORTANT LESSON I LEARNED IS THE VALUE OF REALITY. THERE ARE THINGS I CAN DO, SO I DO THEM. THERE ARE THINGS I CANNOT DO, SO I ACCEPT THAT AND GO ON WITH WHAT I CAN DO.

IF I WERE A YOUNG MAN STARTING OUT TODAY, I CAN'T SAY I WOULD DO ANYTHING DIFFERENT—I WOULD STILL WORK TOWARD HELPING IN THE DEVELOPMENT OF MY COUNTRY SO I AND OTHER MALAYSIANS WOULD BE RESPECTED BY THE WORLD. BUT YOUNG PEOPLE TODAY LIVE IN A DIFFERENT WORLD. THERE ARE SO MANY THINGS HAPPENING, IT CAN BE DIFFICULT TO FOCUS THEIR EFFORTS. IF THEY GET DISTRACTED, THEY MIGHT RESORT TO CHASING ARTIFICIAL HAPPINESS. SO MY ADVICE TO THE LEADERS OF TOMORROW IS TO STAY FOCUSED ON WHAT MATTERS.

Mahathir, 94, is the Prime Minister of Malaysia

'I don't think that fighting climate change means higher costs and a worse future. It's the opposite.' —*Sanna Marin*

FINN DE SIÈCLE

The world's youngest female head of government wants equality, not celebrity

BY LISA ABEND/HELSINKI

THE PHOTOGRAPHER IS trying to coax the Prime Minister of Finland into a three-quarter pose, with knees turned slightly to the side, hands demurely joined in her lap. But Sanna Marin isn't having it. Just 11 days after taking office, she faces the camera squarely, legs slightly apart, and rests her hands firmly on her thighs. "This is how you would do it if I were a man," she says.

Finland's new leader has good reason to think about how she is portrayed. After her predecessor resigned on Dec. 3, the 34-year-old became the youngest Prime Minister in Finnish history and the world's youngest female state leader as well. That status earned her and her coalition government (all five party leaders are women, and four are below the age of 35) global headlines. But for Marin, the focus on attributes out of her control has been more a distraction than a cause for celebration. "It's more work," she says of the attention. "Of course, it's also a great opportunity for Finland to present itself, and I'm grateful for that. But I think if you focus on the issues, and not the person, it's easier."

MARIN HAS BEEN focusing on the issues for most of her adult life. Raised by her mother and her mother's same-sex partner after her parents separated when she was very young, she didn't grow up dreaming of being Prime Minister. "I could never have imagined that. Politicians and politics seemed very far away," she says of her working-class upbringing. She was the first in her family to attend university, and it was only there that she developed a political conscience. "My background influenced how I see society, how I see equality between people," she says. "But it's not because I'm from a rainbow family that I'm in politics. I'm in politics because I thought that the older generation wasn't doing enough about the big issues of the future. I needed to act. I couldn't just think, It's somebody else's job."

It became her job officially in 2012, when she

MAHATHIR: ADAM DEAN—THE NEW YORK TIMES/REDUX; MARIN: MARIE HALD—INSTITUTE FOR TIME

Marin at Kesäranta, the official residence of the Finnish Prime Minister, in Helsinki on Dec. 20

was elected to the city council of Tampere, Finland's third largest city. She was elected to Parliament three years later, and when her center-left Social Democrats, led by Antti Rinne, won the April 2019 election, Marin was named Transportation Minister. Then in December, after a two-week postal strike that spread to other industries, Rinne lost the support of one of his coalition partners and resigned. The party elected her to take his place.

Marin now sits atop a government in which 12 of the 19 Cabinet positions are filled by women. But in Finland, which has had female Prime Ministers twice before and ranks third in parity on the 2020 World Economic Forum's Global Gender Gap Report, that's not considered remarkable. "We have long been pioneers in gender equality," the Prime Minister says of her country, which was also the first European nation to grant all women the right to vote. "So, maybe it's not as big a deal in Finland as it would be somewhere else."

That doesn't mean there's nothing left to accomplish when it comes to equality. Marin ranks closing the pay gap (Finnish women earn €0.83¢ for every €1 men earn) and persuading men to take their fair share of parental leave as key concerns. Before taking office, she also expressed support for the idea of moving the country to a four-day workweek, in order to allow parents more time with their families.

Climate change is also a central pillar of her agenda. The government she oversees has pledged to become carbon neutral by 2035. If successful, Finland would be one of the first countries in the world to achieve net-zero emissions. Traffic emissions will be cut 50% by 2030, she says, through a mix of public-transportation initiatives, subsidies for renewable fuels and the development of new technologies. "It will also create jobs and opportunities for Finland. I don't think that fighting climate change means higher costs and a worse future. I think it's the opposite."

She faces a serious challenge convincing the rest of her country of that, however. Recent polls have shown her Social Democrats slipping markedly against the now leading Finns, a nationalist populist party that opposes immigration and has decried the expense of the government's education and climate plans. "Traditional parties need to take a look in the mirror," she says in response. "One of the reasons European countries fell into populism is how we solved the financial crisis—many people lost their jobs and their hope in the future. That is the ground where populism grows. Making decisions that help people educate themselves, that raise the well-being of individuals and families—that's the best way to fight populism."

A SELF-CONFESSED IDEALIST who is also "very pragmatic," she understands that in these divisive times, simple answers and loud voices often win out. But she sees her job as building consensus rather than inflaming passions. It's one of the things she appreciates about the Finnish way of doing things, as is her fellow citizens' ingrained politeness. Asked whether she worries about protecting her privacy now that she is Prime Minister, she laughs. "No, because it is Finland, thank God," she says. Every weekend she returns to her home to be with her husband and small daughter, and she says she shops at the local grocery store like anyone else. "Maybe someone will come up and say, 'Oh, it's so nice to meet you.' But that's it. I can be a normal person."

Maybe so, but as the global media attention suggests, there are plenty who are looking to her to join the newly growing ranks of young, female role models. Yet once again, in her quiet, firm way, she rejects the label. "I don't think it's because of their age or gender," she says. "Greta Thunberg is not a role model because she's a young girl. It's because she's a voice for climate. She's talking about issues, and that's what inspires people."

Still, Marin will admit one area where having an all-women government makes a difference. "We Finns have our sauna," the Prime Minister says with a slight smile. "And traditionally, it's where we make decisions. So now that we have five women in charge, we can all go to the sauna together and make the decisions there." □

HOW TO SAVE CAPITALISM

Businesses and governments must collaborate better to create opportunity for all **BY JAMIE DIMON**

CAPITALISM MAY BE at a tipping point. For too long, policymakers, governments and business leaders have done a poor job of helping those who have been left behind, and lost sight of how capitalism can create more opportunity for all.

It's not hard to see why some are losing faith in our system, particularly the younger generation. Health care costs are excessively high and unpredictable, often causing financial distress. Students are too often graduating without the skills to get good jobs and saddled with too much debt. Infrastructure is rapidly deteriorating. And maybe most importantly, wages, particularly at the low end, have not been growing enough.

That might explain why some Americans and politicians are turning to the "hot" new trend of socialism as a cure-all for society's ills. Of course socialism isn't new, and everywhere it has taken root in the past it has failed. In a traditional socialist system the government controls the means of production, and often decides how and where the citizens work rather than leaving those decisions up to the private sector. Socialism inevitably produces stagnation, corruption and the specter of authoritarian bureaucrats maintaining power by interfering with the economy and individual lives. I believe this would be a disaster for our country. True freedom is inexorably linked with the free enterprise that capitalism guarantees, and we mustn't forget that.

Most people want to be able to care for their families and to advance their well-being. They also want the security of a well-functioning social safety net that treats people humanely. It's my belief that capitalism is the best system to provide these for our society. It has done an exceptional job of doing so in the past, and it will in the future. But unless we make meaningful changes, it could be irreparably damaged.

Dimon has led America's largest bank since 2005, and chairs the Business Roundtable, a collective of U.S. CEOs

BEN BAKER—REDUX

Capitalism must be modified to do a better job of creating a healthier society, one that is more inclusive and creates more opportunity for more people. That means meaningful changes like rebuilding our education system and providing skills training, affordable health care policies, substantial infrastructure investment, and sensible immigration reform and climate policies. That's just a start.

I AM OPTIMISTIC that this is possible as we enter a new decade. In August, more than 180 CEOs of leading U.S. companies signed the Business Roundtable's new statement of corporate purpose, committing to creating economic opportunity for all of their stakeholders: customers, employees, suppliers, communities and shareholders. It's a call to action to do more for everyone who works for us, and society in general.

Many businesses are rethinking their role in society. For example, our company JPMorgan Chase has made a $200 million investment in the city of Detroit, where we've been in business for more than 85 years. Local firms, government and communities are pragmatically working together to ensure that the city's comeback benefits as many residents as possible. Our investment is paying dividends as the city creates small businesses, good jobs and affordable housing. This is a win both for the people of Detroit and for our company.

There are hundreds of other examples like this; United Technologies has invested $1.3 billion through its Employee Scholar Program, helping workers earn more than 40,200 degrees. Oracle hosts a high school on its corporate campus to help teach design thinking and competency with technology. As we learn from one another, we should be able to accelerate these efforts. We also need strong advocates and partners in Washington, D.C., and at the state and local levels for sound policies that help more Americans share in economic prosperity. Good government is essential.

Americans are increasingly polarized in many areas of our lives, from where we live to whom we are friends with and how we get our news. This has manifested in crippling partisanship, especially in our nation's capital. Yet there are policymakers in both parties who want to work together to advance real solutions. The business community is ready to build these bridges.

Capitalism has been the most successful economic system in history. But we can improve upon it to help solve society's problems and lift up more people. Now is the time.

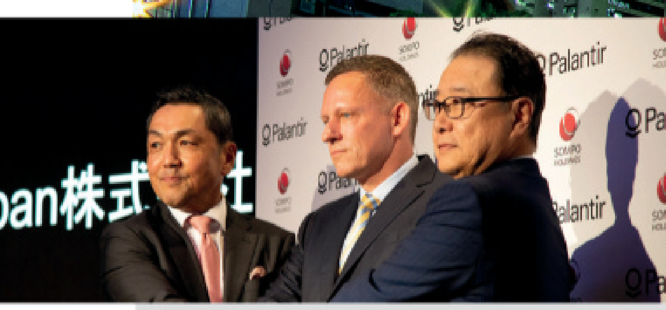
Dimon is chairman and CEO of JPMorgan Chase

CONTENT FROM SOMPO HOLDINGS

An Alliance to Advance Society

SOMPO—Japan's traditional insurance provider—is transforming into a global force for innovation, advanced technology, health and wellbeing.

We co-founded Palantir Japan to promote the security, health, and wellbeing of Japanese organizations and society.



NEWLY FOUNDED PALANTIR TECHNOLOGIES JAPAN WILL BE A FORCE FOR GLOBAL INNOVATION

Partnerships are essential. When your mission is to create a better world, the odds of success are lower if you go at it alone. As strong or as smart as any one person or organization may be, joining forces with the right allies will multiply their power to bring about positive change.

In late November 2019, two of the world's most visionary companies forged a new partnership: Palantir Technologies of the United States and Sompo Holdings of Japan. At a joint venture signing in Tokyo, they established Palantir Technologies Japan with the aim of creating positive change through technology. The company has the potential to transform government and business through a suite of advanced data integration and analytics technologies that take digital transformation to an unprecedented level.

The new venture is the first significant foray in Asia by Silicon Valley-based Palantir, the flagship company of renowned tech investor Peter Thiel of Paypal. Palantir's Foundry platform has a roster of clients that spans the public and private sectors, and includes industries such as aviation, financial services, healthcare, manufacturing, and logistics. Palantir's Gotham platform has enabled government agencies to analyze data to deliver intelligence and forensic analytics for global safety and security.

"We have the privilege of partnering with some of the most innovative and enduring companies in the world, including SOMPO, a leader in its field," said Dr. Alexander Karp, co-founder and CEO of Palantir Technologies. "Our joint venture investment in Japan reflects our belief that the union of industrial expertise, built over decades on the front lines of business, together with the right software will be the primary driver of economic outperformance moving forward."

"We co-founded Palantir Japan to promote the security, health, and wellbeing of Japanese organizations and society. Palantir Japan will provide a world-class platform solution to support intelligent decision-making,'' said Koichi Narasaki, Group Chief Digital Officer, Executive Vice President and Executive Officer, Sompo Holdings, and Chief Executive Officer of the new company.

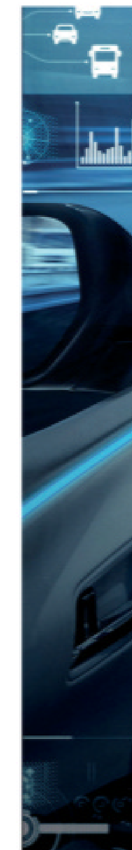
SOMPO, one of Japan's largest insurance and healthcare companies, is at the forefront of next-generation business methods and technologies in the more than 30 countries where it operates. The company is devoted to building what it calls "A Theme Park for Security, Health and Wellbeing."

Rather than merely responding after a disaster, accident, or other events, SOMPO sees its role as an architect of health and safety. It provides solutions that reduce the likelihood of accidents, illnesses, or other negative occurrences.

Palantir's software turns massive datasets into usable assets for daily decisions. Gotham and Foundry allow analysts to detect patterns and relationships that otherwise go unseen, unlocking the full potential of artificial intelligence. Imagine the ability to identify markers for disease years before they affect your health. Or envision plugging holes in cyber-defenses before hackers ever discover them.

This work is taking the promise of AI and making it operational. Gotham and Foundry are designed to enhance privacy and civil liberties. They provide the right users the secure data they need to take action.

As partners in an era of profound change, SOMPO and Palantir have pledged to work together to ensure this new era in one that will be safer and healthier for everyone.



Collaborating for Sustainable Global Solutions

SOMPO OF JAPAN IS PARTNERING TO SUPPORT SOCIETIES AND COMMUNITIES AROUND THE WORLD THROUGH TECHNOLOGY AND INNOVATION

At this year's World Economic Forum in Davos, representatives of governments, business, civil society, and communities will collaborate on charting a course to achieve the UN's 17 Sustainable Development Goals (SDGs). Every individual has a role to play. We are all stakeholders in this global mission to eliminate hunger, promote health and wellbeing, and combat climate change. With the Fourth Industrial Revolution upon us, we must ensure that technology is used for the health, security and wellbeing of all.

Health and wellbeing start with diet and nutrition. Achieving the SDGs of no hunger and good health requires food that is safe, good quality, affordable, and abundant. We rely on farmers for food security. But who can farmers rely on in the face of climate change, extreme weather, environmental, and other threats to their crops and livelihoods?

AgriSompo offers solutions. At Sompo International, a global specialty provider of property and casualty insurance outside Japan, AgriSompo works with farmers in more than 30 countries on six continents to manage risk and mitigate losses. With access to extensive data, innovative software platforms and cutting-edge analytics, AgriSompo offers growers specialized product expertise, advanced technologies, and an insurance partner with exceptional financial strength.

Few things impact farmers more than the weather. AgriSompo pioneered weather index insurance in northeastern Thailand, where farmers annually battle droughts and floods. AgriSompo also works with agro-technology firms globally such as our exclusive partnership with CropTrak, a U.S.-based tech company that collects, tracks, and verifies data along the entire food supply chain. Through these strategic alliances, the company customizes solutions that support and address farmers concerns, enabling them to make better or more intelligent business decisions, improve traceability, satisfy sustainability reporting, and deliver healthy, nutritious food to markets.

Advances in nutrition, health, and medicine are allowing us to live longer than ever before. How can we provide seniors with the care, facilities, and systems they need to live lives of quality as their numbers continue to rise?

SOMPO is working on solutions. Last February, SOMPO founded Future Care Lab in Japan, a research facility where caregivers can team up with technology so seniors can live with independence, dignity, and full medical and health support.

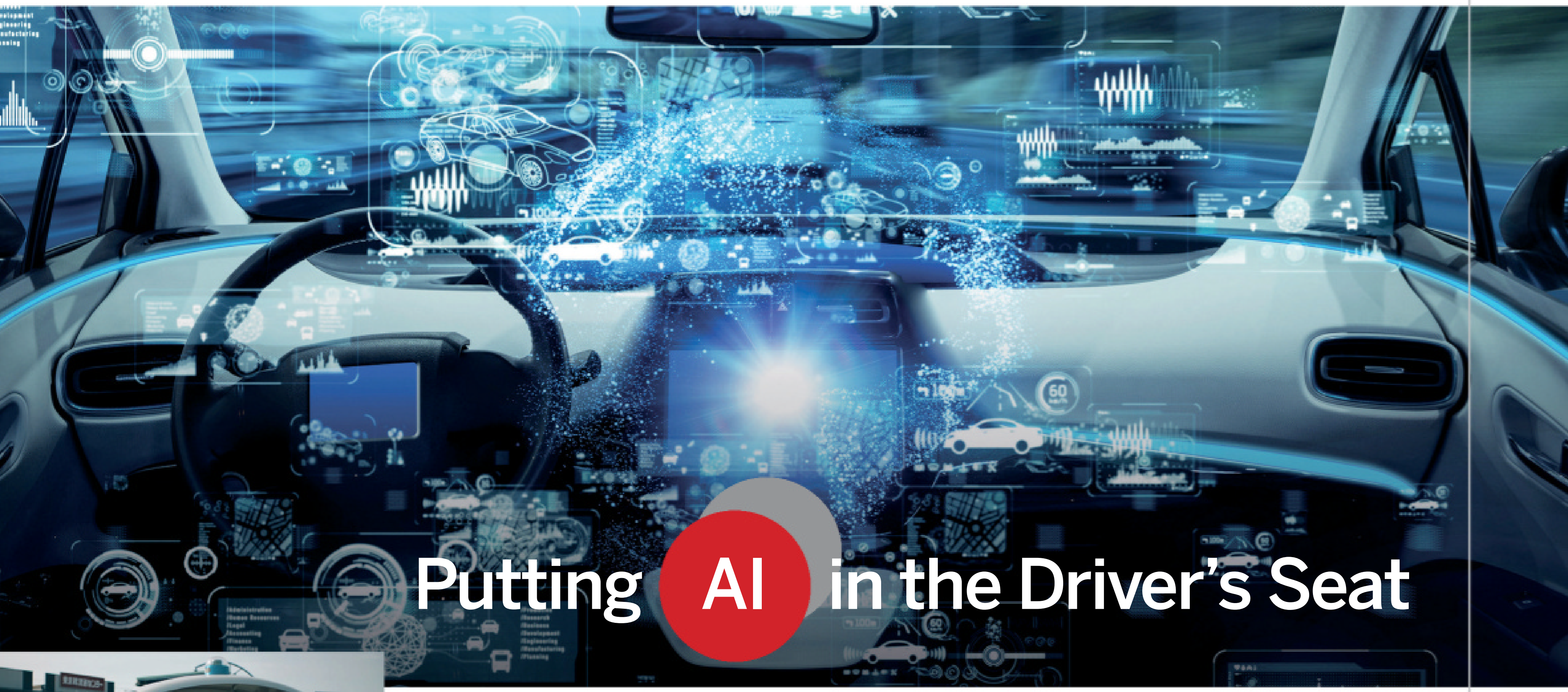
Future Care Lab is the latest addition to SOMPO's "A Theme Park for Security, Health and Wellbeing," a mission to go beyond the traditional role of an insurance company and become a proactive partner in building richer, more fulfilling lives.

SOMPO is now a leading nursing home operator in Japan with over 300 facilities. But a shortage of qualified caregivers is growing. At Future Care Lab, staff members collect and monitor residents' data using the Internet of Things, analyzing the information in real-time to craft personalized care plans. For instance, Sleep Scan bed sensors examine sleep patterns in deep detail, while providing information on heartbeat and breathing for evidence-based care.

SOMPO's commitment to preventing dementia has led to a Comprehensive Alliance Agreement with Japan's "National Center for Geriatrics and Gerontology" in addition to securing the advisory services of Professor Miia Kivipelto of the Karolinska Institutet, a leading authority in this field.

Until scientists can find a cure, SOMPO has formulated several types of insurance and services to ensure people with dementia receive long-term care. The company is disseminating information on dementia prevention while training caregivers, family members, and others in dementia understanding and support.

Caring for the elderly requires collaboration. SOMPO will continue building partnerships to enhance the lives of our seniors and create a more sustainable world. Now and in the future.



Putting AI in the Driver's Seat

SOMPO'S RESEARCH IS ACCELERATING THE ADOPTION OF AUTONOMOUS VEHICLES

New technology can be enticing or intimidating. Few new technologies, however, have aroused more anxiety and misunderstanding than artificial intelligence, or AI. Is AI a force for good or a threat to jobs and security? Sompo Japan Nipponkoa, a major subsidiary of property and casualty insurance in Japan, believes that AI can transform our lives in positive ways. And there is no better way to put that belief to the test than to test drive an AI-controlled autonomous vehicle.

In an ideal world, self-driving vehicles would be a boon. They could reduce accidents, bring public transport to remote areas, provide mobility to those unable to drive themselves, and bring efficiency, cost savings, and environmental benefits. In the real world, many of us would hesitate to turn over control of our cars and put AI in the driver's seat. Even though AI already handles many vehicle support systems without drivers realizing it.

SOMPO is working on solutions to ease driver concerns and ensure autonomous vehicles will be the safest and smartest vehicles on the road. The company is engaged in experimentation, innovation, and partnerships to achieve that outcome. In 2018, SOMPO opened the Connected Support Center, a facility dedicated to testing self-driving cars and associated technologies. SOMPO's research uses the latest advances in the Internet of Things. The center develops and conducts trials of remote monitoring and control interventions to prevent and respond to accidents.

That brand of research may seem unusual for an insurance company. Not for SOMPO. Research and development are part of the company's pivot from being an insurer that responds to accidents to becoming a provider of solutions and services to prevent accidents. It exemplifies SOMPO's vision of building "A Theme Park for Security, Health and Wellbeing" to serve and advance society.

To get more mileage out of its research, SOMPO recently forged a partnership with Tier IV, a deep tech startup that provides automated driving technology to build safe intelligent vehicles, and Aisan Technology, which creates high-precision 3D mapping and drive-simulation technologies. Using SOMPO's big data, they are jointly developing Level IV Discovery, an insurtech solution for safe and systematic pilot testing of autonomous vehicles.

SOMPO is working on solutions to ease driver concerns and ensure autonomous vehicles will be the safest and smartest vehicles on the road.

Level IV Discovery is essential for local governments and transportation operators aiming to introduce automated driving services for their constituents and customers. Earlier this year, the partners began testing Level IV Discovery prototypes and plan to start offering practical solutions for municipalities and companies in 2020. The wealth of data these prototypes are collecting will inform risk analysis as well as refine self-driving technology and lay a foundation for more discoveries.

Discoveries are at the heart of the Fourth Industrial Revolution. As we accelerate into this new technological era, SOMPO is determined to use its big data, ingenuity, and innovative spirit as a force for good; to ensure that our journey into the future will be smooth, safe, and beneficial for all. Sit back and enjoy the ride.

SOMPO HOLDINGS

PROFILE

‘I DEFIED THE ODDS AND CHALLENGES THAT FACED ME AT BIRTH, AND NOW IT’S TIME TO DEFY GRAVITY.’

Never mind the wheelchair: Eddie Ndopu has a degree from Oxford, works for the U.N.—and plans to go to space

BY JEFFREY KLUGER

THERE CAN BE irony in even the happiest of sentiments—a fact that is surely not lost on Eddie Ndopu. The son of a South African mother and a Namibian father, Ndopu was born in 1990, the year Namibia attained its independence from South Africa, and just four years before Nelson Mandela became South Africa’s first black President.

Ndopu and his demographic cohort in the southern part of Africa became known as the “born free” generation—a sentiment suited to a time and a place when apartheid and other old oppressions were being cast aside. But for Ndopu, freedom lasted only until he turned 2. It was then that he was diagnosed with spinal muscular atrophy (SMA), a degenerative condition that would weaken him, require the use of a

PHOTOGRAPH BY JONATHAN TORGOVNIK FOR TIME wheelchair and kill him by age 5.

Except he didn't die. Ndopu is now 29 and can look back with wonder at the path he's traveled. "I have outlived myself by 25 years," he marvels.

Like many people granted a span of years they did not expect to have—consider Stephen Hawking—Ndopu has made the most of his good fortune. He attended Oxford, graduating with a master's degree in public policy. As a young, black, physically disabled man, as he describes himself, he campaigns for intersectional diversity and the rights of people who would in the past have been multiply oppressed. This year he was selected by the U.N. as one of 17 global ambassadors for its Sustainable Development Goals, an ambitious list of targets including eliminating poverty and hunger, ensuring gender equality, and providing clean water and sanitation, all across the globe.

One more thing: Ndopu is trying to go to space. "I defied the odds and challenges that faced me at birth," he says, "and now it's time to defy gravity." He hopes to time his journey for the U.N. General Assembly in September 2020, and to address the international body while flying weightlessly above it. "I want to be able to use zero G as a stage," Ndopu says. "If I have five minutes to talk to the world, what would I say to capture humanity's attention?"

PERHAPS IT WILL be something like the mission statement of the global fund he's established to encourage public-private investment to address the range of obstacles that prevent people with disabilities from fully participating in society. That includes such goals as making buildings and transit wheelchair accessible, improving technologies that enable those who can't use a keyboard to engage with computers, and fostering job-training programs for the disabled. The fund has the backing of the U.N. and the World Economic Forum, and so far $40 million has been pledged, with a target of $100 million by 2020.

Ndopu's plans to go to space will require a lot of collaboration and more than a few lucky breaks. He is in discussions with two aerospace companies (he can't yet disclose which) racing to make commercial space travel available to anyone who can afford the six-figure ticket. The flights, if they happen, would be brief—just 15-minute suborbital lob shots. But they would cross the so-called Kármán line, a boundary generally accepted to be 100 km (62 miles) up, which earns a person astronaut wings. "I want to become the first disabled person in space," he says. Traditionally,

> **'I have outlived myself by 25 years.'**

astronaut status has been reserved for the sublimely abled, and Ndopu's flight could be a paradigm shift, a dramatic democratization of space travel.

The mission is by no means a sure thing, with technical hurdles being the biggest challenge. Private companies have been struggling for years to get the space-tourism business going, and while progress is being made, it's quite slow—set back by a 2014 crash of a Virgin Galactic spacecraft, which killed one pilot and injured another.

In the event that the rockets aren't ready to fly by Ndopu's September target date, he will instead opt for a parabolic flight aboard a zero-G airplane, an ordinary jet that creates brief, repeated intervals of weightlessness as it swoops through a series of sine-wave-like arcs. If the timing for the flight does not coincide with the General Assembly—it could happen earlier, depending on aircraft availability—Ndopu will videotape his message to be shown when the U.N. does gather.

The altitude of a parabolic flight is nowhere near the Kármán line, and Ndopu will not earn any astronaut wings. But he will still broadcast to the General Assembly, and he will still float free from the wheelchair that typically confines him—a lyrical triumph of physics over physique, similar to the parabolic flight taken by Hawking in 2007, 11 years before his death.

Hawking inspired millions with his flight, and Ndopu hopes to do the same. "I often say I am a kaleidoscope of identities and experiences," he says. "I think my story resonates with a cross section of society." ◻

INVENTING THE FUTURE

Erin Smith

LOCATION: San Francisco

INVENTION: FacePrint

In 2016, Erin Smith, then 16, watched old videos of Michael J. Fox. She recalls noticing that "when he laughed or smiled, it came off as emotionally distant." The early symptom of Parkinson's is called facial masking, and for a science-fair project, Smith chose to explore it. She filmed some 15 nursing-home residents as they watched Super Bowl commercials, then screened their expressions using off-the-shelf facial-recognition software. After seeing the results, the Michael J. Fox Foundation funded a more robust study with around 500 patients that led Smith to develop FacePrint, an AI tool that analyzes video footage for signs of Parkinson's. Now 19, Smith is studying neuroscience and computer science at Stanford University, and working with its medical school to get FacePrint to the point where it can diagnose Parkinson's long before traditional tests are able to do so.

—Shay Maunz

TIME for KIDS publishes weekly magazines for U.S. elementary and middle school students

ILLUSTRATION BY AISTE STANCIKAITE FOR TIME

FEEDING A CH

Leafy greens grow under LED lights in an indoor vertical farm run by AeroFarms

ANGING WORLD

Dinner as we've known it takes a toll on the planet. As businesses invest in making meat without animals and crops without soil, the question is whether consumers will buy in

BY ALANA SEMUELS

FARMERS HAVE GROWN food in roughly the same way for thousands of years: planting seeds and watching them grow; raising animals from birth to slaughter; hoping that nature provides them the right amounts of rain and sun.

Now, entrepreneurs say they have a better idea. Agriculture in its current form is bad for the planet, they say—fields for crops and animal grazing occupy land where trees could be planted, and farming sucks up vast amounts of increasingly precious water. Why not make food in a completely different way, maybe growing lettuce in skyscrapers and creating meat from cells in a petri dish?

There is a dire need to change how food is produced. An August U.N. report prepared by more than 100 experts warned that exploitation of land and water is already putting pressure on humanity's ability to feed itself. Those pressures will grow as the world's population reaches 9.7 billion by 2050 and as high temperatures and floods make it more difficult to grow crops in some regions. That's why mission-driven entrepreneurs and funders see food tech as the ultimate investment opportunity, making money while also creating food that makes the planet a better place.

The result has been billions of dollars invested in companies that promise to reinvent the food that ends up on your dinner plate. More than 47 companies making meat and dairy products from plants, including Impossible Foods and Beyond Meat, have raised $2.29 billion from venture capitalists in the past decade, one-quarter of it invested in 2019 alone, according to PitchBook, which tracks private equity and venture capital worldwide. Shares of Beyond Meat, which sells plant-based meat substitutes in grocery stores and in restaurants including Dunkin' and TGI Fridays, are trading at roughly three times their IPO price. Nearly 40 more companies trying to grow proteins like meat and fish from cells, such as the Dutch company Mosa Meat and the San Diego firm BlueNalu, have raised $1.1 billion, almost all of that funding in the past five years, PitchBook says. While most of the investment is from venture capitalists, a

PLANET-FRIENDLY EATING

Companies are raising billions pledging to make food that is better for the planet; this often means using plants, not animals, to make meat and cheese, and growing food indoors to conserve land and water. Memphis Meats, right, is one of a handful of startups trying to grow beef and chicken from cells

VERTICAL VEGETABLE FARMS

Plenty grows leafy greens year-round in a fully automated farm in South San Francisco, and may soon add strawberries. Wind and solar help power the LED lights that grow the vegetables

INSECTS

Exo calls crickets the perfect protein source, since they are high in essential amino acids, B12 and iron; it sells cricket protein bars and whole roasted crickets

PLANT-BASED PROTEIN

Just (formerly Hampton Creek) launched its egg product made from mung beans in late 2018 in grocery stores; it's now sold by dozens of restaurant chains and grocers like Walmart

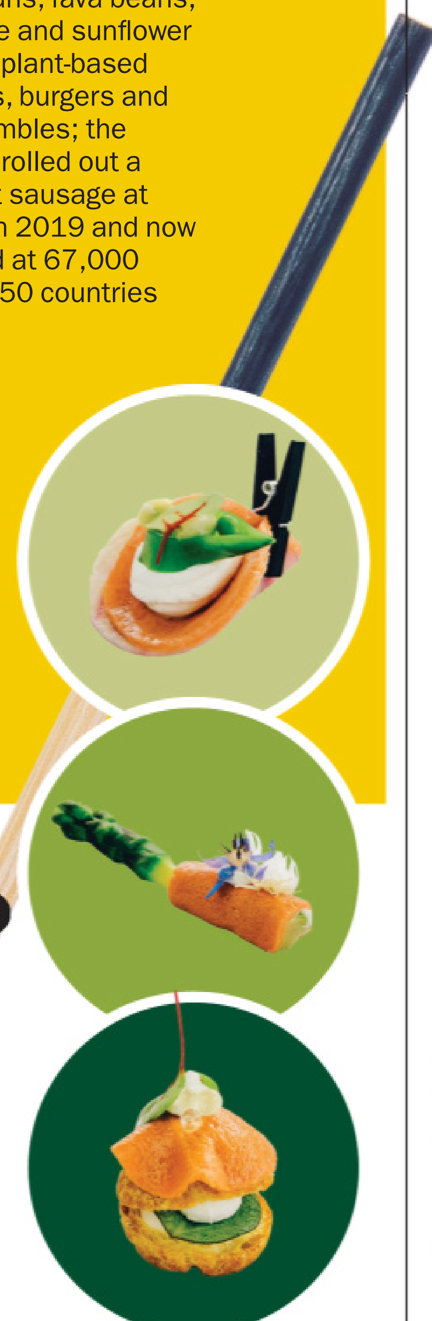
LAB-GROWN PROTEIN

Mosa Meat's chief scientific officer Mark Post, then a professor, unveiled the first hamburger grown from cells in 2013 for $280,400; to make cultured meat, it takes animal cells, feeds them with nutrients and grows them in a bioreactor

PREVIOUS SPREAD: AEROFARMS; CLOCKWISE FROM TOP LEFT: MEMPHIS MEATS, BEYOND MEAT, HUEL, SOLAR FOODS, ODONTELLA, MOSA MEAT, JUST, EXO, SPENCER LOWELL—PLENTY

PLANT-BASED MEAT

Beyond Meat uses sources including peas, mung beans, fava beans, brown rice and sunflower to create plant-based sausages, burgers and meat crumbles; the company rolled out a breakfast sausage at Dunkin' in 2019 and now sells food at 67,000 stores in 50 countries



Odontella combines algae and microalgae into a substance with the texture and flavor of salmon, then wood-smokes it to create a vegan product called Solmon. After selling at vegan grocery stores in Europe, it is now scaling up production to expand to restaurants globally in 2020

MEAL REPLACEMENT

Huel makes powders and drinks that it says are nutritionally equivalent to a meal and that contain 27 essential vitamins and minerals, as well as carbohydrates, protein, fat, fiber and phytonutrients; it's sold more than 50 million meals in 80 countries

PROTEIN FROM THIN AIR

Solar Foods uses microbial fermentation—a process similar to producing yeast—to grow a protein resembling wheat flour from water, nutrients and carbon dioxide handful of countries, including the Netherlands, Japan and New Zealand, have funded research into lab-grown meat.

Startups are thinking beyond meat too. Indoor-agriculture companies such as Plenty in California and AeroFarms in New Jersey, which grow food in tightly packed towers called vertical farms, have together raised more than $300 million. A competitor, Crop One, is partnering with Emirates Flight Catering to build a 130,000-sq.-ft. vertical farm in Dubai, which will be the world's largest. Exo, which makes cricket protein bars and sells whole-roasted crickets, was acquired by the Aspire Food Group in 2018, and Soylent, a meal-replacement beverage, has raised more than $70 million.

"We're on the cusp of some breakthroughs in the development of food," said Jeff Housenbold, a partner at SoftBank who headed the firm's investment in Plenty, a vertical farm.

But the billions of dollars being poured into startups may not change farming anytime soon. Some scientists are dubious that the many companies that say they can grow fish and steak from cells will actually be able to do so on a large scale in the next decade. Plant-based-meat companies, which have reached millions of consumers, are still scrambling to make a burger that tastes as satisfying as conventional meat. Vertical farms are expensive to run because they have to use power to provide the one thing that's free in traditional farming: light from the sun. "The timescales of disrupting the agriculture industry are not what they are in the software industry," says David Lobell, director of the Center on Food Security and the Environment at Stanford University. "People who have come from tech and get into ag are often frustrated by the pace of change."

CONSUMERS SEEM TO be in no hurry to change their food habits, despite climate concerns. More than a decade ago, after a U.N. report found that farmed animals produced 35% to 40% of all methane emissions, newspapers including the Baltimore *Sun* encouraged consumers to "save the planet with a vegetarian diet." But despite a plethora of other reports since then suggesting that eating meat contributes to climate change, meat consumption has climbed and is at an all-time high in the U.S. Global meat consumption rose by an average of 1.9% a year in the decade leading up to 2017, about twice as fast as population growth.

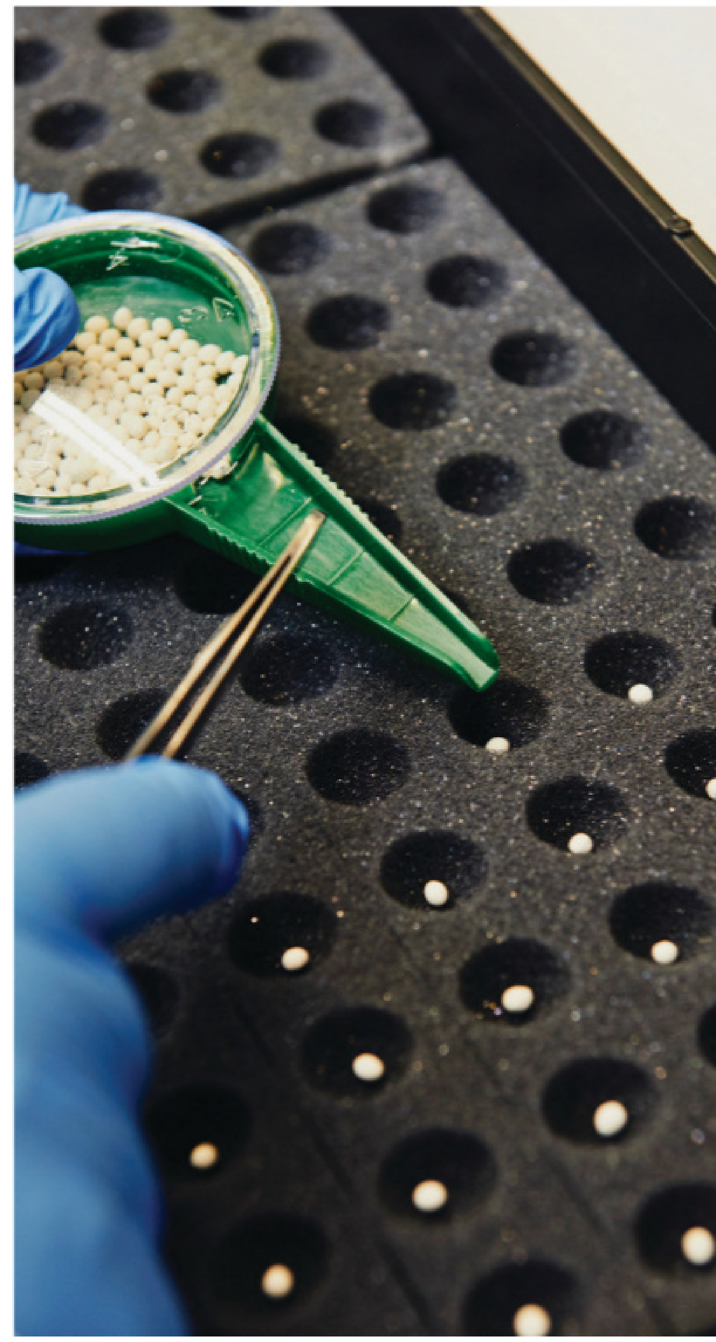
The money poured into food startups may just reflect wishful thinking on the part of investors who want to do something about the climate, even if consumers won't follow. "The idea that new tech can fix a major problem that threatens the life of your grandchild is very tempting," says Benjamin Aldes Wurgaft, the author of *Meat Planet,* a book about the future of food. "People hate to feel disempowered—they always want to have a lever to pull."

The August U.N. report put a number on just how much the agricultural system contributes to climate change. From 21% to 37% of greenhouse-gas emissions caused by humans derive from agriculture and food processing, according to the report. Using land in different ways, like planting more trees instead of grazing cattle, can help mitigate climate change, said Cynthia Rosenzweig, a senior research scientist at the NASA Goddard Institute for Space Studies and one of the authors of the report. But as the world's population grows, trees are instead being cut down to grow crops. "There's the potential for real competition between mitigating climate change and ensuring food security," she said.

Food startups are quick to tout their environmental benefits. BlueNalu cultures fish tissue from cells to help avoid overfishing at a time when demand for seafood is growing. Plenty, the vertical-farming company, says it can grow the same amount of fruits and vegetables on a space the size of a soccer goal as is usually grown on a football field, while using 1% to 5% of the water of a traditional farm. Just egg products, which are made from mung beans, require a fraction of the water and carbon dioxide needed to produce other proteins, including beef, pork, chicken and even tofu.

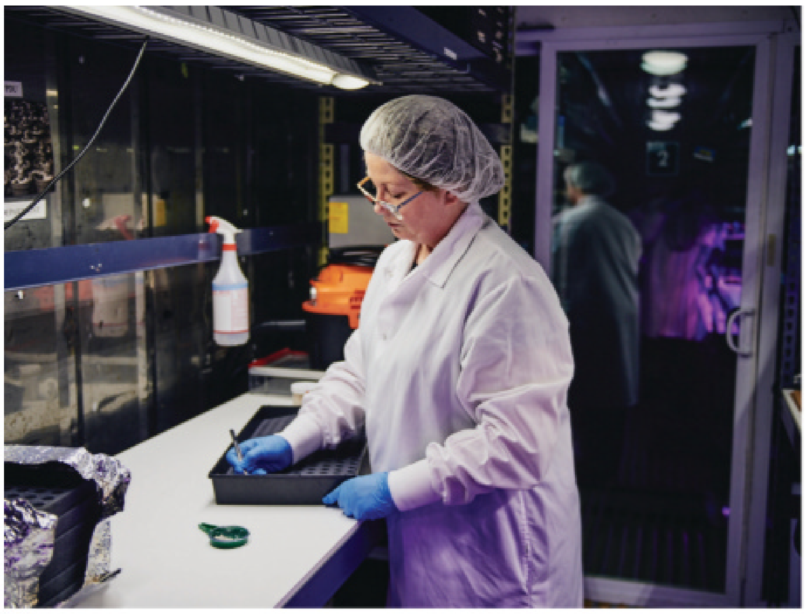
Food-tech companies say younger generations care more about the planet than older ones, and so will choose climate-friendly foods. Of all the consumers polled by Michigan State University who said they were already eating plant-based meat, nearly half were under 40. Besides, the companies say, their products are healthier. Conventional meat contains cholesterol and doesn't have the fiber and complex carbohydrates that plant-based meat has, says Bruce Friedrich, executive director of the Good Food Institute, which advocates for cultured and plant-based meat. Crops grown locally in vertical farms are fresher, so people will eat more of them, and since they're grown indoors, they don't use pesticides, companies like Plenty say.

Getting people to give up hamburgers or sausages is tough



TONY LUONG FOR TIME

But traditional food companies have challenged food-tech companies at every step. "What's hiding in your plant-based meat?" the Center for Consumer Freedom, a nonprofit supported by restaurants and food companies, asked in a full-page ad directing consumers to a website that compared plant-based meat with dog food. Chipotle CEO Brian Niccol said meat substitutes "wouldn't fit" into Chipotle's menu because of the "processing" required to make a plant taste like meat. Congressional lawmakers have introduced a bill supported by the U.S.



At an indoor farm owned by Crop One, seeds placed in trays will be grown into leafy greens using hydroponics

Cattlemen's Association that would require makers of plant-based and cell-cultured meat to put the word *imitation* on their labels, following dozens of states that have passed or introduced bills requiring plant-based-food companies to label their products "imitation meat."

The taste and health obstacles facing plant-based-meat companies are driving more entrepreneurs to the lab-grown-meat space. But meat grown from cells might not be ready for public consumption anytime soon. The process starts with putting an animal like a cow under anesthesia, cutting open a muscle and removing a small sample of tissue. Scientists use enzymes to break that tissue down into muscle and fat cells, which are then put, along with a growth medium, into a bioreactor that looks like the fermentation tanks where beer is brewed. Then the cells multiply.

But meat has been grown from cells only on a small scale. Growth mediums, which include fetal bovine serum (essentially blood from a cow fetus), are costly, and scientists have struggled to ensure that cells grown in larger containers get enough oxygen and nutrients. No cellular-agriculture company has explained how these obstacles have been overcome, says Ricardo San Martin, research director at the Alternative Meats Lab at the University of California, Berkeley. They are very evasive, he said. "When you ask them A, they answer B." Growing meat from cells for public consumption "is not going to happen on a large scale anytime soon," says San Martin, "maybe even ever."

There is almost no publicly funded research on lab-grown meat, and private companies aren't forthcoming about their methods. But cellular-agriculture startups have been granted only a small number of patents despite their high valuations, says Babak Kusha, a patent lawyer at Kilpatrick Townsend.

SCALING OBSTACLES ALSO exist in vertical farming, and two vertical-farming startups already went out of business in 2016 and 2017. Plants need a tremendous amount of light to photosynthesize, about 50 times more than humans need to see, says Neil Mattson, a professor of plant science at Cornell University who is conducting a large-scale study of vertical farms. Vertical farms use LED lights to grow plants, and though the costs of LED lights have fallen significantly in recent years, lettuce grown in vertical farms in New York and Chicago was twice as expensive as lettuce grown in the California fields and shipped to those cities, according to a study co-authored by Mattson. Labor was costlier in New York and Chicago, and the structures that housed the vertical farms were expensive to build and maintain. Vertical-farm companies are experimenting with using solar and wind power to reduce their energy bills, but Mattson believes vertical farms will be cost-effective only when renewable-energy prices fall.

Food-tech companies say big change can happen now. In a lab in Boston looking out onto a dry dock where ships are repaired, Motif FoodWorks is preparing to ramp up production of animal-free ingredients that make plant-based food taste better. With the help of advances in synthetic biology, Motif inserts genes into yeast microbes to create things like animal-free milk-protein isolates that could make almond milk creamier.

Motif's lab uses computer-assisted machines to tinker with ingredients in test tubes the size of pencils, a scene far removed from that of a muddy dairy farm in rural America, where big companies currently get milk-protein isolates from cow's milk. But Michael Leonard, the chief technology officer at Motif, says it's the future of food. The cost of sequencing genomes has fallen dramatically, and computers have become more adept at scanning genomes to find alternative sources of protein, he says. Motif plans to have its first products ready to sell to food giants by 2021, when consumers will have become much more comfortable with the intersection of technology and food. "I think what we'll see over time with the undeniable reality of population growth is the need to do more with less," he says. "And I think plant-based eating can really help to bring that into balance." ◻

62% Share of people ages 20 to 37 who report feeling comfortable discussing their mental health at work

PHOTO-ILLUSTRATION BY MATT CHASE FOR TIME

When every day is a MENTAL HEALTH DAY

The younger the worker, the less likely they will suffer in silence. That's an opportunity for companies

BY MANDY OAKLANDER

MADALYN PARKER HAD been at her first job only a few months when the depression and anxiety set in. She had beaten back both in college, where she became so depressed that she stopped eating and going to classes. It nearly prevented her from graduating.

She kept her history to herself when she accepted a job as a web developer at the small software company Olark in 2014. But as the youngest (and only female) engineer, "I started getting panic attacks about work and being really, really stressed about not getting enough done," says Parker, now 29. She went in to her Ann Arbor, Mich.,

32% Share of people ages 54 to 72 who say they are comfortable discussing the same office later and later, then less and less. Her performance slipped. Parker pulled aside the chief technology officer at a conference. "'I don't think it's going to go away, so I feel like I should be open about it at work,'" she remembers telling him, and bracing for the worst. "Instead, his response was, 'I wonder who else feels like this.'"

Parker had stumbled into a new kind of workplace—one as attuned to mental health as the people working in it, especially the young people. The Olark executive she'd approached, who is now 34 and the COO, ended up doing a presentation with her to colleagues, sharing his experience with burnout. The company's unlimited-vacation policy allowed Parker to take all the sick leave she needed, and she worked from home more. "I'm taking today and tomorrow to focus on my mental health," her out-of-office message read one day in 2017. "Hopefully I'll be back next week refreshed and back to 100%."

The CEO replied. "I just wanted to personally thank you for sending emails like this," he wrote. "Every time you do, I use it as a reminder of the importance of using sick days for mental health—I can't believe this is not standard practice at all organizations." Parker posted the exchange to Twitter, and more than 43,000 people have liked it, including some millennials asking about job openings. Though she's moved on to a different company, it still gets retweeted every day.

MENTAL ILLNESS IS rising in every country in the world. Depression is so common and debilitating that it's one of the leading causes of disability worldwide and, coupled with anxiety, costs the global economy about $1 trillion a year in lost productivity, according to the World Health Organization. Among millennials (who are ages 24 to 39 in 2020), depression is the fastest-growing health condition, the Blue Cross Blue Shield Association recently found. And it doesn't stay home. In a forthcoming survey from the charity Mind, of 31,100 U.K. employees who reported ever having a mental-health issue, 52% also said they had experienced poor mental health at their current workplace.

Employees are less and less likely to hide it at their jobs. A 2019 poll by the American Psychiatric Association found 62% of people ages 20 to 37 feel comfortable discussing their mental health at work, compared with about half as many people ages 54 to 72. And when they don't feel supported by their jobs, many leave. Half of millennials—and 75% of Gen Z-ers, who in 2020 are ages 23 and under—said they had voluntarily or involuntarily left a job in part because of mental-health reasons, according to a 2019 survey of 1,500 U.S. workers by Mind Share Partners, a nonprofit that provides mental-health training for corporations.

75%
Share of Gen Z-ers who report leaving a job at least in part because of mental-health reasons

In the competition for valued employees, companies now see mental-health fluency as crucial. Beyond baseline coverage, global firms like Bank of America, KKR, Booz Allen Hamilton and Unilever are offering innovative solutions, from training employees to spot signs of depression in one another to fostering a less hierarchical vibe.

"Workplace culture has really changed from the baby-boomer generation," says Kelly Greenwood, CEO of Mind Share Partners, which she founded after a leave of absence from a past job because of anxiety. "You're supposed to be 'on' 24/7 and responsive to your company in a way that never existed in previous generations. The experience of being in a junior role now is much different from what it used to be." Many young workers are also shouldering education debt as well as higher living costs. At the same time, discussing mental health grows more normalized. "Gen Z or millennials have often grown up going to therapy or [being] on medication, and increasingly, there are more and more mental-health clubs in high schools and colleges," Greenwood says. "There's a huge culture clash that happens when these folks graduate college and all of a sudden show up in a workplace where mental health is a taboo topic."

When Michaela Chai started going to therapy on campus at University of California, Berkeley, she'd first turn off the location tracker on her phone. She didn't want her friends who used the Find My Friends app to know where she was. "Growing up in an Asian family, we didn't really acknowledge invisible illnesses," says Chai, 22. "I was so scared about being found out." She withdrew from her friends and thought about dropping out of college. But after being diagnosed with depression and starting medication, she felt better, eventually becoming something of a mental-health ambassador on campus.

Chai will soon bring that spirit to the workplace. If her future company doesn't have a mental-health support group for employees, she plans to start one. And she wants to be transparent with her managers. "If I were to have my depression come back, I would definitely want to be open about it, rather than try to hide it," she says. "It's affected my academic performance, and I'm sure it would affect my work performance."

The new rallying cry for companies trying to appeal to Chai's generation is to bring your whole self to work. They're starting at the top. When Paul Greenberg was the CEO of CollegeHumor, a comedy website, in 2012, he was having strong suicidal thoughts. He had struggled with depression all his life and had hidden it from everyone at work. Electroconvulsive therapy finally helped. In 2018, after starting a digital-video firm called Butter Works, he wrote about his experience in the *Hollywood Reporter* to help people with mental illness feel less alone.

"I wanted to go public with this," he says. "It's too important. This is a personal matter for me, but it's also a work matter for our employees and our company, and this will help us all succeed better."

As CEO of Butter Works, Greenberg promotes a culture where employees can put their mental health first. He bought a pricey insurance plan that covers out-of-network providers, which many mental-health professionals are. He tells employees and clients that he has a therapy appointment or a ketamine treatment in the same way he'd mention a lunch meeting. "I'm trying to create an atmosphere where people feel this is totally destigmatized, in the same appropriate way you'd talk about anything personal at work," he says. Since he revealed his mental-health

PREVIOUS PAGES: SOURCE PHOTO: SHUTTERSTOCK issues, younger employees have confided in him about their own, he says. "As soon as you normalize it, other people do too."

At larger organizations, even the most supportive culture rings hollow if managers don't telegraph it. The investment firm KKR will soon issue a handbook to managers that spells out, for the first time, how they should support the mental health of their employees. "It's a starting point for us to remind managers that it's really critical for them to model these behaviors that support a culture of health at the firm, where ultimately employees feel empowered to make proactive decisions around how they manage their own health and well-being without feeling like they're going to be penalized in some way," says Christopher Kim, global head of benefits at KKR, "whether that means going to see a doctor, getting a mammogram, spending time with a therapist, going to the gym or taking a run in the middle of the day."

In 2019, Bank of America launched a 15-month manager-training program focused on resiliency and stress management, as well as signs of anxiety or stress to watch for in their direct reports. "We're not trying to turn our managers into psychiatrists and psychologists and clinical professionals," says Chris Fabro, global head of compensation and benefits for the bank. "But we have a responsibility for the wellness of our teammates, and as a manager, you have a responsibility to understand the programs and resources that are available." The same year, American Express developed its first online training addressing mental health, available to all employees. "We were really positively surprised how many people took advantage of it," says David Kasiarz, executive vice president of colleague total rewards and well-being.

Companies often stay quiet about mental health for the same reasons people do. When Booz Allen Hamilton added mental health to its employee-wellness program in 2015, "even my own team of HR professionals were a little nervous about going into this," says chief people officer Betty Thompson. "They weren't sure they were equipped to deal with what might come forward to them." Now, when employees disclose issues, an accommodations team figures out how best to help, perhaps offering a quieter space to work or a more flexible schedule. In 2018 and 2019, the firm also trained all employees to spot the warning signs of depression.

Support can come from colleagues too. "We're definitely seeing a growing number of peer-to-peer support programs being developed in the workplace," says Darcy Gruttadaro, director of the Center for Workplace Mental Health at the American Psychiatric Association Foundation. "Connecting with others is really important, because mental-health conditions can be very isolating." More than 200 companies—including Unilever, Starbucks and Zappos—have used Mental Health First Aid at Work, a four- to eight-hour in-person course that teaches people how to talk to struggling colleagues and where to refer them. "We have had to turn people away and schedule more courses" because it's so popular, says Cathryn Gunther, associate vice president of global population health at Merck, where employees who take the longer version of the course are designated as resources (identified by a custom email signature or a small button on their lapels—the company is still testing ideas) for other employees to go to.

When Chai graduates from Berkeley in May and decides where to work, "it definitely comes down to the culture," she says. "Not how much money I'm making, but is this going to be healthy for me on a day-to-day basis, having the sort of hours I'm expected to work? My relationship with my manager: Will it be more top-down, or are we going to be able to have more face-to-face or horizontal check-ins?"

That's the price of admission for access to more and more young workers. And smart companies understand. "I think it's going to take us speaking up for what we want," Chai says. "But I think they're definitely going to get on board." ◻

$1 trillion

The annual cost to the global economy in lost productivity due to anxiety and depression disorders

FIGHTING THE GOOD FIGHT

An unjust war made me an activist. The lessons we learned still apply 50 years on BY JOHN KERRY

I CAN'T TELL you the exact moment I realized how many powerful people belonging to the previous generation were failing ours, but I will never forget the feeling. It animates me still today. It was the feeling of coming home from a war knowing politicians were mouthing words about a conflict that looked completely different from the one they'd sent us to fight, only to read the leaked Pentagon Papers and learn so many were saying one thing publicly while privately knowing another. It made me angry. But more importantly, it made me an activist.

Five decades ago, I spent two years of my life working with other young veterans to end a war that had gone wrong. We were attacked. We were criticized. We were spied on. We were even arrested. But it was worth it; a democracy relies on free speech, but it relies even more on the speech being truthful. It is the truth after all that sets us free. Speaking the hard truth is never free, but the price it comes with is one each generation must pay to right a wrong.

Today's younger generation is speaking their truth about climate change, and it feels familiar. In 1971, Richard Nixon sat in the darkness of the Oval Office stewing about me, slandering me, spending a U.S. President's precious time attacking a 27-year-old naval officer. The tapes weren't revealed for decades. Give Donald Trump credit for one thing only: his temper tantrums are all on Twitter. Imagine a man in his 70s insulting a young woman for daring to speak science to power. How topsy-turvy the world must look to a 17-year-old Greta Thunberg that she, and not the leader of the free world, is held to a standard of maturity and adulthood that Trump has never felt bound by.

A war made the young people of my generation grow up years too soon, but for young people today it is the climate crisis, and the realization that they are currently at the losing end of perhaps the greatest abdication of generational responsibility in history. Failed by adults, they've had to become the adults themselves.

Kerry, in 1972, protests the Vietnam War at Arlington National Cemetery

Young people today see too many people in power who have been so ideological, so dysfunctional, so weak or so stubborn that they have failed to act on knowledge that has been confirmed by science for decades—a bill we are asking their generation to pay if we don't act now.

So, from the Sunrise Movement to the Future Coalition, young people are organizing, educating, striking and protesting. And we need them. But even more, we need to do something that my generation eventually learned was necessary. We must at last connect the grassroots with the grass tops.

I SPENT YEARS as a full-time activist, pushing and prodding, raising money to help keep the lights on in our office and fund the marches and demonstrations. But ultimately I realized we had to touch not just the hearts of the veterans and families who walked with us on the National Mall in Washington, but also the people of open minds who served under the dome of the U.S. Capitol and on the other side of the dais at which I testified as a witness. I had a voice, but they had a gavel.

Like my generation of activists, today's generation can't do it alone. Young people can scold and shame, but they can't command the floor of Congress or in parliaments around the world, make decisions in the White House Situation Room or cast the votes in corporate boardrooms that are needed to alter our current course.

We must bring together the younger generation, with its moral clarity, and the older generation, which controls many of the levers of power. It's why I am building World War Zero, a coalition of people of all walks of life joining together to respond to this great challenge of our time, much in the same way we mobilized to respond to World War II. We want to unite the passion and energy of the young activists with the change-making power of policymakers, diplomats, CEOs, military and civic leaders.

When I was 27 and protesting a war gone wrong, sometimes those on the other side would confront us with the slogan "My country, right or wrong." And to them we would reply, "Yes, my country, right or wrong. When right, keep it right—and when wrong, make it right." To beat the climate crisis, to win the war to achieve zero emissions, we need to help young people make our world right, right now.

Kerry was U.S. Secretary of State from 2013 to 2017

STEVEN CLEVENGER—CORBIS/GETTY IMAGES

> “OUR JOB IS TO ENHANCE THE LIVES OF EVERYONE WHO LIVES IN A PROPERTY IN DUBAI.”
> –
> KHALIFA AL SUWAIDI, CEO, ERES

DUBAI SETS THE PACE IN PROPERTY INNOVATION

On top of favorable demographics and a strong economy, Dubai’s dedication to transparency and to technology is helping it attract new investors and provide owners and residents with increasingly efficient services.

In the two decades since Dubai first emerged as a global hub for financial services, transport and tourism, the Emirate has developed into one of the world’s most dynamic real estate markets, with some $70 billion in transactions recorded in 2018.

Supported by a diversified and open economy and by a growing population, Dubai is a magnet for investment in all segments of the property business.

The Dubai Land Department (DLD), and the DLD’s technology arm Emirates Real Estate Solutions (ERES) are on a mission to introduce the latest innovations into the residential real estate market. It now takes just one hour to register a property in Dubai, making the DLD the fastest real estate transaction registry in the world.

“Our job is to enhance the lives of everyone who lives in a property in Dubai,” says Khalifa Al Suwaidi, the CEO of ERES. “Whether a resident of Dubai is moving into a new home or selling their house, ERES will make sure that they will receive the most efficient service possible, using the latest technologies to minimize red tape and to ensure a smooth outcome for everyone involved.

“Everybody who works at ERES has their fingers on the pulse of property technology, from mobile apps to blockchain to artificial intelligence. If a new technology can make a difference to the experience of our customers, then we will implement it.”

With that goal in mind, one of the latest innovations to emerge from ERES is Dubai REST, a mobile app that enables property owners, tenants, brokers, investors and other industry players to access a wide range of real estate information and services on their smartphones.

Thanks to REST, it is now possible to buy, sell or lease a property in Dubai online, eliminating any need to visit a government department.

For everyday activities such as checking the current market value of their property in Dubai, calculating rental returns, or paying a service charge, all that an owner needs to do is use the REST app on their smartphone, and they can do this at any time and from anywhere.

With initials standing for Real Estate Self Transaction, REST is of particular benefit to the high proportion of people who own a property in Dubai but who live outside the Emirate. Currently, more than 20% of the DLD’s customers are believed to live abroad. If buyer and seller both agree, REST enables them to conclude so-called smart contracts based on blockchain and complete a sale entirely online.

“A potential buyer in America can find a property that he likes in Dubai and buy it from an owner in Spain, all on REST,” Al Suwaidi says. “With REST, we can provide services to homeowners and potential investors from all across the globe.”

REST enables Dubai’s more than 500,000 renters to view and download their tenancy agreements, to register, renew or cancel leases, sign rental contracts, and even to securely submit rental disputes to the authorities using blockchain.

“Renters used to have to go to seven different offices,” Al Suwaidi says. “We have combined all of that into just one mobile application.

“As with all our investments in technology, our main aim with REST is to make life easier for the people who own or live in a property. More than one million customers use DLD services every year, and we want to provide them with the fastest services and the very best user experience in the world of real estate.”

CLOSING THE GENDER DATA GAP

We need to change our algorithms and Big Data to include women **BY CAROLINE CRIADO PEREZ**

DID YOU HEAR the one about how aid workers rebuilt homes after a flood—and forgot to include kitchens? How about the entrepreneur whose product was dismissed by funders as too “niche”—but whose femtech company, Chiaro, is now on track for more than $100 million in 2020? Or the female sexual-dysfunction drug that was tested for its interaction with alcohol on 23 men . . . and only two women? Not finding any of these funny? Maybe that’s because they’re not jokes.

From cars that are 71% less safe for women than men (because they’ve been designed using a 50th-percentile male dummy), to voice-recognition technology that is 70% less likely to accurately understand women than men (because many algorithms are trained on 70% male data sets), to medication that doesn’t work when a woman is on her period (because women weren’t included in the clinical trials), we are living in a world that has been designed for men because for the most part, we haven’t been collecting data on women. This is the gender data gap. And if we want to design a world that works for the woman of the future as well as it works for the man of the present, we’re going to have to close it.

Closing this data gap is both easy and hard. It’s easy because it has a very simple solution: collect sex-disaggregated data. But it’s hard because the gender data gap is not the product of a conspiracy by a group of misogynistic data scientists. It is simply the result of an everyday bias that affects pretty much all of us: when we say *human,* 9 times out of 10, we mean men.

Even when we try to fix gender disparities, we still often end up using men as the default—a tendency I have christened the Henry Higgins effect, after *My Fair Lady*’s leading man who memorably complains, “Why can’t a woman be more like a man?” The Henry Higgins effect was visible when an executive whose voice-recognition system failed to recognize women’s voices suggested that women should undergo hours of training to fix “the many issues with women’s voices,” rather than, you know, fixing the many issues with his voice-recognition software that doesn’t recognize the voices of half the human population.

But it’s also visible in more well-meaning attempts to address gender biases. Many workplace initiatives aimed at closing gender-pay and -promotion gaps focus on fixing the women, assuming that they, rather than systems that underpromote them, are the problem. Women need confidence training. They need to be taught to negotiate for pay raises. Well, actually, the evidence suggests that women are asking for pay raises as often as men—they’re just less likely to get them. Perhaps the issue here is not the women, but a system that doesn’t account for gender bias?

THERE ARE REASONS beyond fairness to fix systems that are arguably primed to overpromote men: homogeneity is bad for business. Even with the best will in the world, a group of white middle-class men from America are going to have gaps in their knowledge, and they aren’t necessarily going to know what those gaps are. Which is how you end up with a “comprehensive” health tracker app that can’t track your period. And I don’t believe Apple hates periods; I believe that Apple forgot periods exist.

The gender data gap and its default male origins have been disadvantaging women for millennia, but in a world where we increasingly outsource our decision-making to algorithms trained on data with a great big hole in it, this problem is set to get a lot more serious very quickly. And if we don’t choose to correct the mistakes of

CRUZ LÓPEZ: ILLUSTRATION BY AISTE STANCIKAITE FOR TIME

the past now, we will blunder into a future where we have literally coded them in.

Part of the problem is our blind faith in AI. When tech entrepreneur David Heinemeier Hansson complained to Apple that his wife was given a limit for her credit card 20 times lower than his, despite having a higher credit score, he was informed by workers at the company that it was not discrimination, it was "just the algorithm." Having accepted that we humans are hopelessly flawed and biased, we are turning to artificial intelligence to save us.

But algorithms are only as good as the data we feed them, and when it comes to women, that data is practically nonexistent. Worse, algorithms amplify our biases back to us. One University of Washington study found that when an algorithm was trained on an image data set where pictures of cooking were 33% more likely to feature women than men, the algorithm increased the disparity to 68%. That is, pictures of men were labeled as female just because they were in front of a stove.

Labeling a man as female may not feel like an egregious example of algorithmic bias, but imagine an amplified bias like that let loose in hiring. This has already happened to Amazon, which had to abandon an AI program after it favored men over women for suggested hiring. And that's just one algorithm that we know about: 72% of CVs in the U.S. never reached human eyes as of 2016, and robots trained on the posture, facial expressions and vocal tone of "top-performing employees" have been introduced to interview processes. Are these top-performing employees gender- and ethnically diverse, and if not, has the algorithm accounted for this? We often don't know because most algorithms are protected as proprietary software, but the evidence isn't promising.

Women are not a confounding factor to be eliminated

Even more concerning is the introduction of AI into medical diagnostics, where the data gap and a male-biased curriculum already leaves women 50% more likely to be misdiagnosed if they have a heart attack. And yet there is little evidence of developers' accounting for this bias. A recent paper detailed an algorithm that was intended to predict heart attacks five years before they happen: it was trained on heavily male-dominated studies, even though we know there are major sex differences in risk factors for cardiovascular disease such as diabetes and smoking. So will this AI predict heart attacks in women? It's impossible to say, because the paper doesn't include enough sex-disaggregated data.

There are solutions to these problems if we choose to acknowledge them. A 2016 paper on "word-embeddings" (learning techniques that are essential for search algorithms) explained a new methodology that reduced gender stereotyping (e.g., "He is to doctor as she is to nurse") by over two-thirds, while leaving gender-appropriate word associations (e.g., "He is to prostate cancer as she is to ovarian cancer") intact. The authors of the University of Washington image-labeling study devised a new algorithm that decreased bias amplification by 47.5%. But these examples are very much the exception.

If we want to design a just future, we must acknowledge—and mitigate against—this fundamental bias that frames women as atypical. Women are not a confounding factor to be eliminated from research like so many rogue data points. In this new world where data is king (and I use that term advisedly), it's time for us to finally start counting women as the entirely average humans that they are.

Criado Perez is the author of Invisible Women: Data Bias in a World Designed for Men

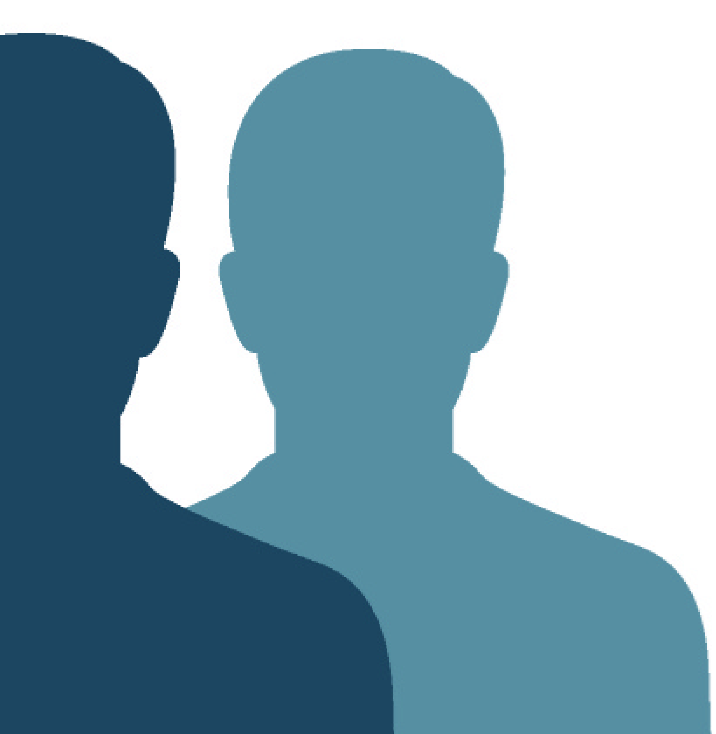


ILLUSTRATION BY ANNA PARINI FOR TIME

INVENTING THE FUTURE

Xóchitl Guadalupe Cruz López

LOCATION: Chiapas, Mexico

INVENTION: Warm Bath

When she was 8, Xóchitl Guadalupe Cruz López lived in a home that was often without hot water. The same was true for many other residents of San Cristóbal de las Casas. "People here have to take baths with cold water. They have a lot of respiratory diseases," she told TIME through an interpreter. "I wanted to do something." So Xóchitl created Warm Bath, a solar-powered water heater made of easy-to-get recycled objects, including water bottles, plastic connectors and rubber hose. It costs about $30 to assemble. Xóchitl made Warm Bath with the National Autonomous University of Mexico's adopt-a-talent science program, PAUTA. In 2018, she was the first child to receive the university's Institute of Nuclear Sciences' Recognition for Women award. Now 11, Xóchitl plans to apply for a patent this year.

—Constance Gibbs

TIME KIDS *publishes weekly magazines for U.S. elementary and middle school students*

Innovations to look out for in 2020 and beyond

BY DON STEINBERG

FUTURE FACTS

Mushroom couture

Fashionable leather-like garments of the future may be grown from mushrooms. Companies like San Francisco's MycoWorks are pioneering eco-friendly alternatives to animal hides that can be easily dyed, textured and sewed.

Accessorize for health

A growing wardrobe of wearable health sensors—from pulse-monitoring earrings to skin-sensing tattoos—will monitor our vital functions around the clock. In the future, they could work with communicating apps that store our genetic profiles, helping doctors and AI systems detect irregularities, predict disease risks and customize medicines.

BIGGER THAN A THUMB DRIVE

DNA packs information so tightly that researchers have suggested it could store the Internet in a shoebox. Microsoft and others are developing ways to convert digital data into synthetic DNA built out of four bases of the genetic code.

FLYING SOLDIERS

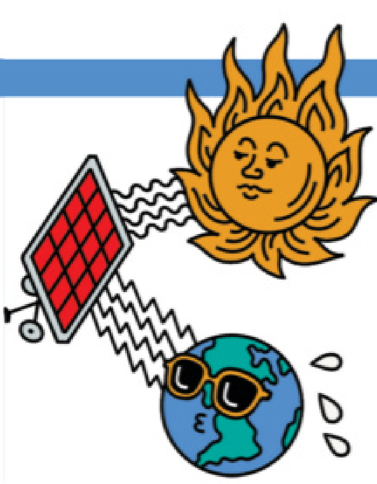
After enabling short-hop human solo flight with their jet-pack bodysuit, the personal-flight pioneers at England's Gravity Industries recently demonstrated a version of the suit with a shoulder-mounted, helmet-controlled air rifle. (The company declined to say whether it is working with a military on the project.)

HEY UMP, GET A NEW LENS!

Major League Baseball could try out an electronic strike zone within the next five seasons, which would use Doppler radar to call balls and strikes and relay them to human umpires on the field. Last year, an independent minor league became the first to test the system, and in December, the Major League Baseball Umpires Association agreed to cooperate if the automated system is called up to the big leagues.

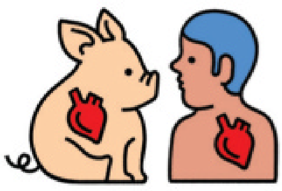
STEALING EXTRA SUNSHINE

Orbiting power stations in space could capture solar energy 24 hours a day, convert it to electricity and beam it to earth via laser or microwave antenna. The technology may be cost-effective by the 2040s, according to the International Academy of Astronautics.



ONLINE DATING ALTERS HUMAN EVOLUTION

Algorithms that help match mates on dating services are shaping new generations of humanity. Studies show about 40% of heterosexual couples meet online today, and one estimate forecasts half of babies born in 2037 will be to couples who first connected on the Internet.



Human parts from animals

Chinese scientists recently bred piglets born with monkey cells in them. Researchers from California's Salk Institute created embryos containing both human and monkey cells. These and other similar sci-fi-sounding experiments are aimed at creating transplantable human organs, which are often in short supply.

THE FASTEST RIDE ON LAND

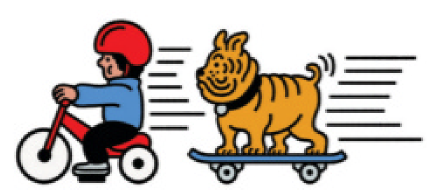
Multiple global companies are developing Hyperloop projects that can shoot passenger trains through tubes at more than 600 m.p.h. That's New York City to L.A. in under five hours, or to D.C. in 30 minutes. Services could go commercial by the 2030s, enabling extreme work commutes.

SPORTS ARENAS AS CASINOS

Washington, D.C.'s Capital One Arena—home to NBA, WNBA and NHL teams—is set to become the first professional U.S. sports facility to have a sports-betting operation inside the building. With sports gambling legalized in D.C. and some states, leagues and team owners will want a piece of the multibillion-dollar action, and wagering on player performance at the game could become as common as buying hot dogs.

Collecting space junk

Defunct satellites and bits of other debris in low earth orbit pose a hazard to communications equipment and future exploration. So it's cleanup time. The European Space Agency plans to launch a robotic vacuum cleaner into orbit in 2025, and private companies like Japan's Astroscale are developing debris-scooping equipment.



VIRTUAL-REALITY GOGGLES FOR SENIORS

Virtual-reality headsets may become common in senior living facilities, allowing residents to simulate traveling and interact with memory-stimulating audiovisual content. More than 1 in 5 Americans will be over age 65 by 2040.

MORE CAR-FREE ZONES

Many city centers, islands and historic villages around the world restrict cars. Culdesac Tempe may be the first of many built-from-scratch neighborhoods in the U.S. to forbid private cars completely when it opens this year. The Arizona development will allow scooters, bikes and visiting ride-sharing services, and there will be access to light-rail transport.

AT HOME AT THE MALL

As brick-and-mortar retail weakens, more owners will repurpose malls into housing/shopping/dining complexes, eyeing demographic shifts that could create the need for millions of new senior housing units in coming years. Transformations have begun at the vacant Four Seasons mall outside Minneapolis, Skyview on the Ridge in Irondequoit, N.Y., and others.

Scrubbing the seas

Forecasts predict that by the mid-2000s, there will be more plastic than fish in the sea, along with numerous waterborne chemicals that can affect health and the environment. Early efforts to create a scalable cleanup solution finally bore fruit in 2019 and could start to have a real impact in the next decade.

ILLUSTRATIONS BY TOMI UM FOR TIME

FORGOTTEN COUNTRY

Most Australians don't spend a lot of time thinking about the bush. The wildfires remind us what we could lose

BY BELINDA LUSCOMBE | PHOTOGRAPHS BY ADAM FERGUSON FOR TIME

Orange smoke fills the sky near a property north of Moruya, New South Wales, on Jan. 4

"SMELL THAT?" MY HUSBAND GAVE ME A LOOK AS WE waited by Sydney Airport's luggage carousel. It was smoke, not unpleasant, like a distant neighbor's wood fire, but persistent and odd in a place that's usually redolent of coffee, duty-free perfume and burning jet fuel. He had insisted we stock up on face masks before we left the U.S., over my objections that he was overreacting, and now raised his eyebrows knowingly.

Having grown up pretty much next to the Australian bush, I had watched the news of infernos in my homeland with skepticism. Bushfires were to my childhood like blizzards were to my adult life in America's Northeast: an inevitable feature of the landscape for which you had to be prepared. As young journalists, we used to joke each summer about who would be the first to write the phrase *the whole state is a tinderbox*.

My family home had endured two close calls. During the scarier of these, my dad's shirt briefly caught fire as he tried to save the chickens. Both the poultry and the parent survived. Foxes—or something—took the chickens in later years. My father's life was now being threatened by less exotic hazards with fancier names: pericarditis and an evolving occipital infarction—a bad heart and a stroke. Hence the trip.

As I watched the national evening news, alerts flashed across the screen that people who lived on specific streets in Western Australia needed "to act immediately to survive," and others were instructed it was "too late to leave; seek shelter." But these dramatic bulletins got less attention than the gasping tennis players at the Australian Open. This is true to form; Australians spend a lot of time not thinking about their bushland. We all assume it will continue to behave as it ever has, cleaning the air and surviving on what little water humans aren't using. But Australia, particularly in the east where the worst fires are, has just endured the driest three-year period on record, part of a pattern of changes in its already extreme climate.

I got many anxious inquiries about my family from kind American friends, but while the fires were devastating and deadly in a way even Australians are unused to—at least 29 people have died in a three-month period—very few of my relatives were under immediate threat. More than eight times as much land has burned in Australia as in the California fires in 2018, but Australia has lost fewer than one-seventh as many homes. The long, less telegenic drought has been far more ruinous to farms and livelihoods.

IT'S HARD TO EXPLAIN to citizens of more populous countries how vast and empty and inhospitable is the bush, as Australians universally refer to the national parks and scrubby wilderness that make up most of their country. Locals will defend to the death its beauty, but in the same way people defend a difficult uncle. They love him; they don't actually want to hang with him.

As a child I rarely explored the 8 sq. mi. of national park just behind my house, because the chances of seeing a cute marsupial or pretty flower were tiny and the chances of getting bitten or stung or scratched by ornery insects or vicious plants were almost 100%. (A recent British guest of my parents was foolish enough to break a twig off a plant and became temporarily blinded by poisonous sap that squirted into his eye.)

The Australian wilderness is just not very come-hither. It never changes. The leaves never redden or fall. The trees grow

Charred remains of trees in Flinders Chase National Park on Kangaroo Island on Jan. 16

A koala found on Kangaroo Island on Jan. 16; one estimate put the animal loss during this bushfire season at 1 billion

Birds fly in an orange sky as seen on Jan. 4 from Princes Highway between Ulladulla and Batemans Bay, New South Wales

very slowly. There's no sudden riot of bluebells or daffodils. The view from my parents' house is essentially the same as it has been for 30 years, month in and out: constant gray-green foliage and tree trunks one local poet described as the color of dried blood. When I started hiking in the northern hemisphere, it all felt so cushy and easy, like an upgrade to business class.

For Australia's first known human inhabitants, the bush was just as difficult and omnipresent, but it was—and still is—sacred. Hills, rocks, waterfalls, plants, even animals, are believed to hold the spirits of ancestral beings. The land is holy ground; humans are only there to preserve it. For non-indigenous Australians, 40% of whom shelter in its two biggest cities, the bush is just there; it fades into the background much as the smell of smoke stopped being noticeable a few hours after we arrived and we had to check an air-quality app to ascertain whether the skies were gray from smoke or rain clouds. (I still haven't used a face mask.)

Fire is the only event that offers any change to the bush at all. In fact, my favorite time to explore when I was growing up was after it had burned and the tree trunks were black and threw everything else into sharp relief. Once cleared of the thick, low-lying scrub, striated sandstone ledges and caves became visible. You could make out how trees were literally growing out of rocks. Several months ago, anticipating a tough bushfire season, firefighters had strategically burned parts of the bush nearest my parents' home to thin it out, and as I walked through the day after I arrived, I saw four wallabies, more than I had seen in half a life's worth of walks combined.

Just as a parental illness will force offspring to notice frailties they'd overlooked, the fires have suddenly made Australians pay attention to parts of their country they don't think about often. Normally a reliable carbon absorber, the bush instead has pumped hundreds of millions of tons of carbon dioxide into the atmosphere, along with enough smoke to briefly make Australian cities the most polluted in the world. The specter of half-burned koalas drinking from water bottles and kangaroos fleeing the flames has made it very clear that even though the bush looks like a wall of unchanging and impenetrable wilderness, it teems with life. One estimate put the animal loss at a billion creatures, but the truth is, nobody knows. Most of that which is burned Australians didn't consider inhabited.

In many ways, the fires—and the smoke—are how the Australian bush announces that she will not be ignored. They're a reminder that even apex predators like humans are vulnerable. They're a reminder that things we take for granted and don't visit enough, like parents, will not be around forever. Nature always wins.

But fires are also one of the ways the Australian bush regenerates. In November, my cousin's ex, an eccentric who actually lives in the bush, had to flee with his dog. He lost two sheds and a car, but his home and cat survived. The trees that were scorched on his property have started to sprout little leafy collars as the seeds below the bark that germinate only after being burned spring to life. Every day he sees new signs of life. More locally, the rains have announced that at least part of the gray sky is clouds. The Australian bush will probably rise again from her fever. The question is, can she find a way to keep her neighbors interested in her recovery? ☐

Sarah Rugendyke, 7, sits on a play castle that was burned on her family's property in Cobargo on Jan. 20; an out-of-control bushfire devastated the tourist town about 240 miles south of Sydney on New Year's Eve

Marox, left, and Winnie with their owners, Paul Giarrusso and Diane Marolla, whose divorce led to a bitter custody battle over the dogs

The New Custody Battle

When couples divorce, changing laws may decide who gets to keep the family pet

BY MELISSA CHAN

PAUL GIARRUSSO RARELY CRIES. BUT THE 59-YEAR-OLD from Rhode Island wept after his ex-wife decided that he could no longer see their two dogs, Marox and Winnie. "It tortured me," he says. "In our whole divorce, that was the only thing that could hurt me."

For nearly two years, Giarrusso fought for custody of the pets in family court and then in the state supreme court, spending about $15,000 in legal fees. "I went through hell," Giarrusso says. The fight was worth it, he says, when a judge in April 2019 said Giarrusso could have the dogs on Tuesdays and Wednesdays every week. When Giarrusso finally saw them again, Marox, a 16-year-old miniature Italian greyhound, and Winnie, a 14-year-old dachshund-Chihuahua mix, covered him in slobbery kisses.

"These dogs are like kids," says Giarrusso, a high school and college sports referee who has no children. "They're everything to me."

They're also everything to his ex Diane Marolla, whose custom-made shower curtain is a grid of photos of the dogs and whose license plate reads MAROX 1. "I will compromise everything," she says, "but I won't compromise these dogs."

The custody dispute was unusual enough that it attracted local media coverage, but divorce attorneys say these fights are becoming more common as state courts confront divorce laws that fail to recognize that in ever more homes, not every crucial bond is between humans. In the past three years, three states have changed their divorce statutes to treat pets more as

PHOTOGRAPHS BY SAGE SOHIER FOR TIME

family members than as mere chattel to be divided by couples, like sofas and TVs. Rhode Island, Pennsylvania and Washington, D.C., have legislation pending that would do the same.

"There's a perception that animal legislation isn't as important as other legislation," says Rhode Island state representative Charlene Lima, a Democrat, the sponsor of her state's bill and the owner of a 9-year-old Siberian husky. "I think that's a complete fallacy." So do divorce lawyers, who say courts are ill prepared to adjudicate pet-custody battles, leading to dragged-out fights. In 2013, when the New York County Supreme Court had to step into a couple's quarrel over a miniature dachshund named Joey, it acknowledged that changes in the way society regards pets all but guarantee these cases will increase.

"People who love their dogs almost always love them forever," Matthew Cooper, the dog-owning justice wrote as he considered Joey's future. "The same cannot always be said for those who marry."

The couple in Joey's case eventually reached a custody agreement on their own, but Cooper, in his ponderings, cited several other custody feuds involving dogs, and one cat, that judges had to settle.

In 1897, the U.S. Supreme Court ruled that citizen-owned dogs were personal property, but animals were far less understood at the time. Dogs in particular were kept primarily to make money for their owners through labor or breeding, until America's transformation from a mostly rural society to an urban one. "They changed from a working animal to our companions," says Barbara Gislason, a Minnesota family lawyer and the author of *Pet Law and Custody.*

Nowadays, 80% of owners view their pets as family members, according to a survey by the American Veterinary Medical Association (AVMA). More dogs and cats are adopted from shelters, friends or relatives, or taken in as strays, than are purchased from stores and breeders. Nearly all cat owners and more than half of dog owners describe their pets as mixed breeds or mutts.

"All of a sudden, with animals that have no street value, people are pouring in thousands of dollars to save them," Gislason says. "Now it's not just about what work the animal is going to do. It's about something deeper."

Marolla, who shares custody of dogs Marox and Winnie with her ex-husband, takes them for a walk

Estimates of pet ownership today range from 56.8% to more than 65% of U.S. households. The higher figure comes from the American Pet Products Association trade group and would mark a record high. Millennials are the majority of pet owners and may be caring for pets the way they would care for the children they're not having—the 2018 birth rate was the lowest in 32 years. Of 1,139 millennial pet owners surveyed in 2018 by TD Ameritrade, nearly 70% said they would take leave from work to care for a new pet if they could. Nearly 80% of women and almost 60% of men surveyed said they considered their pet their "fur baby." The number of pets with health insurance jumped 18% from 2017 to more than 2 million in 2018. All of this has fueled a need for veterinarians. The U.S. Bureau of Labor Statistics predicts jobs for vets and vet technicians will grow by nearly 20% by 2028.

One survey of Hurricane Katrina survivors found that 44% of those who refused to evacuate in advance of the 2005 storm that swamped New Orleans cited pets as the reason. This reluctance to leave a deadly situation spurred passage in 2006 of a federal law requiring state and local officials to include pets and service animals in disaster planning, from evacuation scenarios to shelters. Still, people don't want to be separated from their animals in times of crisis. As Hurricane Harvey floodwaters poured into his family's Houston home in 2017, Isiah Courtney trudged through waist-deep water with his 85-lb. pit bull in his arms. "I couldn't leave him behind," Courtney, 30, says of his dog Bruce, who's now 4. "I couldn't let anything happen to him."

When Giarrusso and Marolla filed for divorce in 2016 after 23 years of marriage, both knew that a judge was likely to split up the dogs. That's because Marox technically belonged to Giarrusso and Winnie was Marolla's, and family judges generally assign pets to the owner whose name is on adoption papers or other official documents. But the dogs had bonded, so the couple agreed that Marolla would keep them and her ex would have visitation rights. They even had a plan in case one of them moved out of state: Giarrusso would get the dogs for three months each summer, for a week at Christmas, in February and in April.

The system worked until Marolla, in spring 2017, canceled the visitation arrangement. In court documents, she accused Giarrusso of not properly caring for Marox and Winnie—an allegation he denied. During a court hearing, Marolla said the "final straw" for her came when she went to pick up the dogs from Giarrusso and discovered that Marox was missing. During a nearly two-hour search through the neighborhood, Marolla testified, she was so distraught that she was "puking on the side of the road."

"It was like a someone-died feeling," she tells TIME. When they found Marox—safe in the house but shut inside a closet—Marolla canceled Giarrusso's visitation rights, prompting the court dispute.

"I knew it would be an uphill battle," Marolla says of her quest for full custody. But the 54-year-old social worker says she only wanted to protect her pets. "I just want these dogs to be healthy and happy until the day they leave this planet," she says.

In Kentucky, a woman's attachment to her cats, Beanie and Kacey, landed her behind bars. Lynn Goldstein was jailed for 30 days in 2001 after she repeatedly refused a judge's order to give her ex-husband custody of the cats. She was caught hiding the felines at a friend's office. "I would walk through hell and fire for those animals," said Goldstein, who eventually was forced to let her ex-husband take the cats.

IN 2017, Alaska became the first state to require judges in divorce cases to consider the pet's well-being, similar to a standard applied in child-custody cases. The provisions, which the Animal Legal Defense Fund (ALDF) called "groundbreaking and unique," allow joint ownership of a pet and the inclusion of pets in domestic-violence protection orders. The bill was the brainchild of the late state representative Max Gruenberg, who as a family lawyer had once handled a custody case involving a sled-dog team. It inspired Illinois to follow suit in 2018 and California in January 2019.

Animal advocates point to science, among other things, in arguing that pets are more than mere property. We now understand that animals have awareness and, depending on the species, emotions and intuitiveness. Dogs understand us and, in their own way, love us—though researchers warn that there is often bias in the way we interpret their behavior; the dog who appears to be offering comfort with a nuzzle may instead be seeking comfort. Other animal behavior is less

Giarrusso gets to spend Tuesdays and Wednesdays each week with Marox, left, and Winnie

ambiguous. Elephants appear unmistakably to mourn their dead—even caressing their bones. Crows, jays and other corvids fashion tools from paper clips to fetch food. Octopuses, with their central nervous systems and brains distributed across eight limbs, have managed cunning escapes from their tanks.

"Our views toward animals, the inherent value that they have and all of the ways they are distinct from other forms of property—I think people are becoming more aware of that," says Cristina Stella, a senior staff attorney at the ALDF.

But passage of new animal-rights laws doesn't come easily, and opposition has come from unexpected sources. In Rhode Island, opponents of Lima's proposed legislation include the AVMA, which fears legal repercussions for veterinary workers if pets are given elevated status in divorce court. "While the AVMA and its members clearly love pets and recognize their importance to their owners, we also believe that their current legal classification as property is appropriate," AVMA spokesperson Michael San Filippo said in a statement.

The American Kennel Club, which registers purebreds, and Michael Forte, chief judge of the Rhode Island family court, also oppose Lima's bill—currently tabled for further study—arguing that the state is already capable of fairly adjudicating pet issues.

It wasn't until 2014 that all 50 states had felony laws against animal cruelty. On Nov. 25, 2019, President Donald Trump signed a bipartisan bill that makes animal cruelty a federal crime. Kitty Block, president and CEO of the Humane Society of the United States, said the passage "marks a new era in the codification of kindness to animals within federal law." At least 34 states let judges include pets in domestic-violence protection orders.

Animal lovers say a change in divorce law can't be far behind.

When Giarrusso and Marolla married in 1993, neither expected their union to crumble. They also had no idea the fight for their pets would be the most painful part of their divorce. "Boy, was I in for a rude awakening," Giarrusso says. By the time the legal dispute was over, Marolla had paid $38,000 in legal fees. "I spent my whole savings," she says, her voice trembling. "It's gone." But she finds comfort in her dogs five days a week, and Marolla and Giarrusso agree on at least one thing: courts and naysayers should acknowledge the pain couples endure when neither can bear to part with their pets.

"If you had to go through this," Giarrusso says, "you'd probably have a change of heart." ☐

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UP, UP AND AWAY
The cast of *The Good Place* embarks on its final voyage

ESSAY

The last great network sitcom heads for TV heaven

By Judy Berman

INSIDE

A NEW MOB MOVIE FROM AN ITALIAN MAESTRO

LIDIA YUKNAVITCH UNVEILS HIDDEN WORLDS

THE GOOD PLACE ALWAYS SOUNDED LIKE a match made in TV heaven: Beloved star Kristen Bell. Comedy veteran Ted Danson. And creator Mike Schur, a prolific writer and producer who'd made his name as a driving force behind acclaimed sitcoms *The Office, Parks and Recreation* and *Brooklyn Nine-Nine*.

As we approach the end of its four-season run, however, it's clear the show was a gamble for all involved—including NBC, which believed in Schur enough to let him run with a wild idea. Though trailers suggested a fantastical take on his typical bighearted ensemble comedies, *The Good Place* quickly revealed itself to be a very funny but also quite earnest disquisition on moral philosophy.

The saga begins with Bell's Eleanor Shellstrop opening her eyes outside the office of the avuncular Michael (Danson). She has died and gone to the Good Place, he explains. As an "architect" in this quasisecular heaven, one inhabited by only the purest human souls, he's built a neighborhood of fro-yo shops and dream houses where she'll spend eternity with her soul mate, philosophy professor Chidi Anagonye (William Jackson Harper).

The rub is, she's not supposed to be there. Eleanor is selfishness incarnate. So, is she morally obligated to tell Michael the truth, even if it means condemning herself to the Bad Place? How about Chidi? Does it change anything when, in the final moments of the premiere, her presence unleashes chaos upon the neighborhood? Then again, what if an eternity of torture isn't the punishment that fits Eleanor's relatively mundane crimes?

So begins the cascade of ethical dilemmas that catalyze her resolution to become a better person, in hopes of saving her soul. With Chidi as their teacher, and help from a scene-stealing omniscient afterlife Siri (D'Arcy Carden's Janet), Eleanor and another possibly doomed couple (Jameela Jamil's snobby Tahani and Manny Jacinto's dim Jason) study moral philosophy. The show reboots itself often, as the characters discover that Michael's poor excuse for heaven is actually a *No Exit* scenario and, eventually, that their quest for salvation will decide nothing less than the fate of humanity.

Though it never quite attracted the massive audiences or awards recognition it deserves, *The Good Place* will end its run (with a 90-minute finale airing Jan. 30) as one of the best TV shows of its time. While packing episodes of screen time with well-wrought jokes and devising twist after game-changing plot twist, Schur's team has challenged viewers to grapple with big ideas and crafted a surprisingly sharp reading of human nature—one that's neither overly naive nor wholly depressing—amid the moral crises of the Donald Trump era. It may also turn out to be the last great show to air on a broadcast network.

WITH ITS FAST PRODUCTION CYCLES and constant demand for relevant script fodder, TV has a unique capacity to engage the cultural conversation as it happens—and creators are especially attuned to that potential in these hyperpoliticized times. Climate anxiety haunted *Game of Thrones*. For years now, the Black Lives Matter movement has been inspiring shows that meditate on race and policing: *Shots Fired, Seven Seconds, When They See Us*. #MeToo brought reckonings with powerful men like Roger Ailes, Michael Jackson and R. Kelly. Immigration is the central theme of Freeform's *Party of Five* reboot and the Apple TV+ anthology *Little America*.

TV is also grappling explicitly with the most polarizing character alive: our President. While late-night hosts, *Saturday Night Live* and parody shows like *Our Cartoon President* got repetitive years ago, even before his election win, Trump has been the bogeyman of dramas from *Scandal* to *American Horror Story*. Some of these portraits are entertaining, but few provide novel insight into a personality whose daily violations of political norms have turned pundits into broken records. And they don't speak to the souls of viewers living in an era of widespread moral confusion.

That's where *The Good Place* comes in. More than a sitcom with philosophical subtext, it exists specifically to explore, as Schur has put it, "what it means to be a good person." Though the stakes keeps shifting, what has remained constant throughout its run are weekly demonstrations of how seemingly abstract ideas like utilitarianism, contractualism (whose urtext, Harvard professor emeritus T.M. Scanlon's *What We Owe to Each Other*, gets frequent shout-outs) and Kant's categorical imperative underpin every decision we make. When the show tackled Philippa Foot's classic "trolley problem"—which asks whether it's right to put one person in danger in order to save five—Michael conjured an actual speeding trolley.

Schur is hardly the only TV creator

Bell directs Danson during a Season 4 episode of The Good Place

THE SHOW CHALLENGED VIEWERS TO GRAPPLE WITH BIG IDEAS AND CRAFTED A SHARP READING OF HUMAN NATURE

COLLEEN HAYES—NBC (2)

offending more conservative viewers who constitute a significant portion of their older audiences, or simply their long-standing tradition of catering to middle-of-the-road taste, broadcasters have seemed particularly averse to political controversy lately. CBS stalwart *The Good Wife* begat *The Good Fight,* but episodes of that great (and outspokenly anti-Trump) spin-off debut on pay platform CBS All Access. Like *The Simpsons* before it, Fox's current adult-animation highlight *Bob's Burgers,* now in its 10th season, is starting to show its age. The CW's most inventive shows, *Jane the Virgin* and *Crazy Ex-Girlfriend,* ended their runs in 2019. Now, its youth-focused slate is all superheroes, reboots and *Riverdale* clones.

For decades, NBC was the gold standard for sitcoms. It had *Seinfeld, 30 Rock, The Cosby Show, Sanford and Son, Cheers, Community* and Schur's shows. Without *The Good Place,* only the good but not groundbreaking *Brooklyn Nine-Nine* and *Superstore* will carry the torch. It remains to be seen whether Schur's upcoming projects will appear on NBC, its soon-to-be-launched streaming service Peacock or elsewhere in the company's multiplatform empire.

It's probably not a coincidence that so many revivals of extraordinary network shows of the past—*Arrested Development, Twin Peaks, Veronica Mars, The Twilight Zone*—have turned up on cable and streaming, with their younger, more affluent audiences. (Meanwhile, ABC pandered to working-class viewers with the ill-fated decision to bring back *Roseanne.*) Even PBS is hemorrhaging beloved series: *The Great British Baking Show* is now on Netflix, and *Sesame Street* episodes premiere on HBO. We may have an excess of TV in 2020, but if you want the good stuff, you have to pay for it. That isn't an option for everyone.

Maybe the devolution of free viewing options doesn't seem like such a tragedy; anyone can borrow a book from a library, after all. But as TV cements its place as the predominant popular art form of our politically and economically polarized time, it matters that anyone with TV could watch *The Good Place.* As Schur put it in a speech at Notre Dame, "If television can't make us better people, then nothing can." ◻

probing the nature of good and evil, right and wrong. Some of the best, most timely dramas of the late 2010s—*Better Call Saul, Fargo, Watchmen*—posed similar questions. Yet none has dared to write a prescription as explicit as the one *The Good Place* is now careering toward. In such complex times, it's selfishness, complacency and a lack of empathy that make a genuinely bad person, Schur told BuzzFeed last fall: "What matters is that you're trying."

IF *THE GOOD PLACE* isn't a total outlier in the vast matrix of Peak TV, which reportedly cranked out more than 500 scripted programs in 2019, it's certainly the only show with such lofty ambitions still airing on a broadcast network. Over the past decade, viewers have abandoned the Big Five (NBC, CBS, ABC, Fox and the CW) in droves—first for cable, then streaming. Many of broadcasters' most innovative creators, from Shonda Rhimes and Ryan Murphy to Damon Lindelof and Amy Sherman-Palladino, have followed. (Schur, by contrast, reupped with Universal Television, NBC's production subsidiary, in a multiyear deal last March.) The vanguards of a younger cohort—Phoebe Waller-Bridge, Donald Glover, Issa Rae, Sam Esmail, *BoJack Horseman*'s Raphael Bob-Waksberg—essentially bypassed the networks entirely.

As a result, excellence is harder than ever to find on the Big Five. And though the overall shift has been gradual, the past few years have seen the networks' few remaining standouts wrap up, only to be replaced by formulaic doctor and lawyer shows, saccharine family sitcoms and bland reality competitions. (Who's excited for *The Masked Dancer*?) Whether it's the result of their dependence on advertisers, fear of

Garner endures the anxiety behind a seemingly glamorous job in The Assistant

REVIEW

Sugar and stress on the lowest rung

By Stephanie Zacharek

MOVIES ABOUT JOBS AND THE TOLL they can take on the human psyche are a tough sell. How do you dramatize fatigue, anxiety and repressed ennui without boring an audience to bits? The best approach is to use an actor's face to carry the burden, which is what Kitty Green does in her quietly harrowing debut feature *The Assistant,* set during one interminably stressful workday.

Julia Garner plays Jane, a recent college grad working an entry-level job at a hip film-production outfit, which evokes an earlier iteration of the Weinstein Co. The job comes with perks: in the morning, there's a car to pick her up from her nondescript apartment building in Queens. But it shows up before dawn, and, bundled into a caterpillar-like scarf to fend off the cold, she grabs a few more minutes of much needed sleep in the back seat. Jane has to be the first in the office, to turn on the lights, to make the coffee, to tidy up around her boss's desk. She finds a woman's earring in his lair and places it discreetly in her desk drawer; it's part of her job to look away from his questionable extracurricular activities.

Jane hopes to become a film producer, but for now, she's on the ladder's bottom rung. Two slightly more experienced colleagues (John Orsini and Noah Robbins) show occasional kindness, but they also radiate a malicious hope that she'll fail, listening in voyeuristically as the bully-mogul boss berates her for something that isn't her fault. (He's never seen, though we hear his bark through the phone.) Later, after a different blowup, he'll semiapologize to her with an email that reeks of patronizing, and sinister, control: "I'm tough on you because I'm gonna make you great."

'If we want women in power, the entire system needs to be completely stripped apart and rebuilt.'

Director **KITTY GREEN**, in *Entertainment Weekly*

THERE'S A #METOO component of *The Assistant,* but that's not the film's focus. Instead, Green—director of the 2017 documentary *Casting JonBenet*—captures the jagged texture of the lives of overworked millennials and Gen Z-ers, though anybody who has ever been pushed to the point of exhaustion in an entry-level gig will relate. For so many young people, women in particular, workplace exploitation is granular—you don't have to be the victim of outright sexual assault or threats to be affected by a higher-up's bad behavior. Garner is perfectly cast, a pixie of steel. You can see by the stern set of Jane's lips and by the way, time and again, she just barely represses an eye roll, that she's tough enough to handle all of this—and yet she knows she shouldn't have to.

At the end of a workday, stressed-out people often crave a drink or a smoke. Jane instead turns to carbs and sugar, in the form of a giant deli muffin that she can't even finish. It's a tiny flourish that cracks your heart open. When you're young, everyone tells you that you have to work hard to get ahead. But how hard is too hard, and what's unreasonable? *The Assistant* captures that shaky sliver of youth when you don't yet know the answer to those questions. ◻

THE ASSISTANT: BLEECKER STREET; THE TRAITOR: SONY PICTURES CLASSICS; THE GENTLEMEN: CHRISTOPHER RAPHAEL

REVIEW

An Italian Mob drama from a master

At age 80, Italian filmmaker Marco Bellocchio is one of the world's greatest living directors. But if some American filmgoers are familiar with his revered 1965 *Fists in the Pocket,* many are unlikely to have seen his more recent films, like the superb 2009 *Vincere,* about Mussolini's possible secret wife Ida Dalser.

Bellocchio's latest, *The Traitor,* is another modern classic: Pierfrancesco Favino gives a meaty, multilayered performance as Tommaso Buscetta, the Mafia foot soldier who helped bring down Cosa Nostra in 1980s Italy. Early in the decade, as the heroin trade forces a rift between Sicilian Mob bosses, Buscetta flees to Brazil; meanwhile, at home, two of his sons are brutally murdered. Eventually extradited by the Brazilian police, Buscetta makes a decision that tears his life apart and radically changes the face of crime in his home country.

Grim betrayals, chilling dream sequences, assassins dressed as monks: this is muscular, invigorating filmmaking, a counterpart of sorts to Martin Scorsese's *The Irishman.* The world may belong to the young, but maestros like Bellocchio show what it means to get better with age. —*S.Z.*

REVIEW

Not nearly as classy as advertised

GUY RITCHIE MADE HIS PRESENCE known with a bang in 1998, when the scrappy, street-thug symphony *Lock, Stock and Two Smoking Barrels* became a surprise hit. In the years since, he has given us two garish but entertaining Sherlock Holmes movies, a live-action version of *Aladdin* and one sleek, truly terrific spy caper, *The Man From U.N.C.L.E.* His latest, *The Gentlemen,* is a shotgun wedding between the brash verve of his earlier pictures and *Man From U.N.C.L.E.*–style elegance. It should be a match made in heaven, but the union just doesn't take.

Matthew McConaughey stars as entrepreneur and natty dresser Mickey Pearson, an American in England who has made a fortune for himself by pulling off a minor miracle: he grows the finest marijuana in a small country with little available green space. (The movie's most amusing sequence is a montage of countryside walkers, gently but feistily asserting their legal rights to tromp with their walking sticks wherever they please.) Looking to spend more time with the wife he adores, Michelle Dockery's Rosalind, he hopes to sell his enterprise to an American "Jewish billionaire playboy" (Jeremy Strong, who delivers his lines in a bewildering monotone as flat as the Great Plains). But the deal isn't as simple as it seems, and in old-school Guy Ritchie fashion, a panoply of refined criminals and street toughs—including Pearson's cucumber-cool right-hand man (Charlie Hunnam) and a classy gangster named Dry Eye (Henry Golding)—crowd into the act, mixing it up in numerous choppy sequences of stylized brutality.

It should be fun—but it isn't. Ritchie, who wrote the screenplay from a story he conceived with Ivan Atkinson and Marn Davies, veers into territory that's possibly anti-Semitic and maybe a little racist. It's all a lark, so we're not supposed to care, but some of the gags still leave a bitter aftertaste. A few of the performances—Hugh Grant as a sleazy blackmailer, Colin Farrell as a pugnacious but principled boxing coach—are enjoyable, but the movie's star, McConaughey, is the weakest link. He's often an enormously appealing performer, but this is McConaughey in philosophical Lincoln-commercial mode, not freewheeling *The Beach Bum* mode. And car-commercial McConaughey is the worst McConaughey—stuck up, willfully obtuse, not funny. Here, he may be a gentleman. But he's still a dud. —S.Z.

Golding, McConaughey and Hunnam try to make a gentleman's agreement

FICTION

Land mines within

By Annabel Gutterman

THE ORPHANED TEENAGERS AT THE CENTER OF Paul Yoon's latest novel like to fantasize about traveling to far-off places at night. They go to Paris or the moon. One visits a "very large" ship. As their days dip into darkness, 17-year-olds Prany and Alisak and 16-year-old Noi, Prany's sister, imagine that they are anywhere other than the bombed-out makeshift hospital where they sleep each evening.

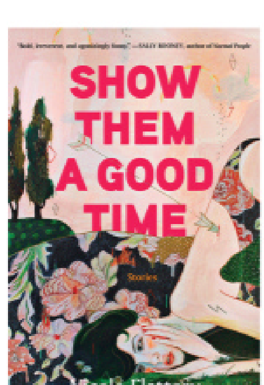
In *Run Me to Earth,* the group of childhood friends assists a doctor by transporting supplies across 1960s Laos, where bombs rain down, leaving many injured or dead. But when they return from their trips, the three watch the stars through a slit in the ceiling and dream of all the places they'd rather be. Home is not one of those places, because home no longer exists for these characters. Places that were once comfortable and familiar to the teens are now ravaged by war; people they loved have been lost to unrelenting violence. Instead, Prany, Alisak and Noi develop an intense fascination with the intricacies of brutality. At one point, Alisak wishes he could witness a plane come down just to learn how the bombs are stored.

As he demonstrated in his 2013 debut novel, *Snow Hunters,* about a Korean War refugee who tries to rebuild his life in Brazil, Yoon's greatest skill lies in crafting subtle moments that underline the strange and specific sadness inherent to trauma. Alisak reflects on his troubled childhood, when his diminutive size made him a frequent target of violence, and reveals that he once swallowed a tooth during a beating. "There were times this fact bothered him more than his own hunger or the sudden volley of gunfire," Yoon writes.

But *Run Me to Earth* is more than a narrative of coming of age during wartime. The novel spans decades, following the characters after an evacuation sends them on radically different paths. As the book flips between perspectives, each character is catapulted back, time and again, to crushingly detailed memories of their shared youth. Before they make their escape, Noi finds herself stuck in a particularly vicious flashback from her childhood, in which she is asked to strip for an older man.

In *Snow Hunters,* Yoon played with structure to showcase the impact of violence on his protagonist over several years. Here, his decision to begin the book when the characters are young proves devastating and essential. In understated prose, he shows how they grow out of their teenage voices amid their fight for survival. As children around the world continue to grow up surrounded by violence and war, authors like Yoon seek to understand how experiencing those horrors shapes the adults they eventually become. And in *Run Me to Earth,* those horrors are scattered like unexploded bombs, waiting to go off at any time. ◻

A darker truth



What's it like to be single when the world reaches its expiration date? A middle-aged divorcée in the last story of Nicole Flattery's electric debut collection likens the experience of online dating during the apocalypse to scheduling a dentist appointment. To her, it feels like "the same dim sense of obligation, the same knowledge that a man was going to examine her and decide something was horribly awry."

Show Them a Good Time features eight short stories that deliver a familiar—but decidedly darker—vision of modern womanhood. In one, a woman coping with grief begins to grow a mysterious hump on her back. In another, the girlfriend of a comedian becomes frustrated by her partner's obsession with a laugh track, which he plays before bed to "improve" his routine. And in the collection's most tragic tale, an author looks back on a childhood spent in swimming pools after the death of her mother. One

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A sophomore novel and a collection of 20 stories are among the most anticipated books of 2020

SHORT STORIES

Living on the edge

By Nicholas Mancusi

LIDIA YUKNAVITCH, AUTHOR OF SUCH celebrated books as *The Book of Joan* and *The Small Backs of Children,* once presented a viral TED talk titled "The Beauty of Being a Misfit." The characters in *Verge,* her new collection of short stories, are misfits too: rejects and refugees and runaways and an addict turned yuppie, all of whom are desperate to make sense of the alienation that separates them from their families, from society or from their own bodies.

In "The Organ Runner," an Eastern European girl whose hand is medically reattached after a combine-harvester accident becomes a talented transporter of black-market human organs, before exacting a grim revenge. In "Cosmos," a janitor at a planetarium uses the detritus he finds discarded under the auditorium seats to construct a fantasy city on his dining-room table in his off-hours. "He saw that his superficial efforts with refuse were the key," Yuknavitch writes, "that decay itself was the giver of life, the secret of the universe, the place from which all stars collapse and all systems tower and all logic gets born and then falls." And in "Cusp," a young woman experiments with her burgeoning agency by smuggling drugs to the men in a nearby prison, where her brother finds himself incarcerated.

'Decay itself was the giver of life, the secret of the universe, the place from which all stars collapse'

But the collection's slim masterpiece is "Beatings," a short, bodily stunner of a story about a man with a heart condition who spends his time boxing a heavy bag and playing the cello. While he is boxing, "Ideas seize, recede, then again raise and rise. Fisted speed dug deep and jab extended until it is shot strung back to the shoulder." And while making music, "His fingers carry the crouch of a dream in which chaos orders and slows and sings ... the notes rebody a body." With the powers of her prose on full, incandescent display, 6½ pages is all Yuknavitch needs to illuminate the connections between the body and the spirit, the fists and the heart, both beating in their losing battles.

In these 20 efficient and affecting stories, Yuknavitch unveils the hidden worlds, layered under the one we know, that can be accessed only via trauma, displacement and pain. There is a vein of the wisdom of the grotesque throughout; as one character reflects after harming herself, "this was all a little disgusting, the kind of story that would make the listener lean a little away from her." But the damaged beauty of these misfits keeps the reader leaning in. ◻

YUKNAVITCH: WILLIAM ANTHONY

swim lands her and her sister in the hospital. The hallways, she describes, are "like a drained pool."

Flattery's biting descriptions of recognizable spaces—restaurants, college campuses, offices—help root more absurdist elements in reality. She's not afraid to showcase her humor, either, even when the subject matter dips into bleaker territory. *Show Them a Good Time* is a little uncomfortable in this way, shifting tones, from light to dark, sometimes in a single sentence.

Flattery's story "Parrot," from *Show Them a Good Time,* won the 2019 An Post Irish Book Awards prize for short story of the year

But that discomfort urges readers to think about how women find direction in chaos, whether it's brought on by the end of the world or a boyfriend's bizarre nighttime habit. The characters learn how to be agents of change in their own lives, which in turn allows them to move outside the boxes society has placed them in: daughter, girlfriend, sister. In this way, Flattery leads them to discover their own voices, no matter how strange they might be. *—A.G.*

7 Questions

William Gibson The sci-fi novelist on inventing the term *cyberspace,* the surprising way AI could be truly intelligent and the ending he regrets

In the same way Hunter S. Thompson and Pablo Picasso gave us gonzo journalism and Cubism, you've been credited with creating cyberpunk and inventing the term *cyberspace.* How do you plead? I remember early in my career looking at a yellow legal on which I wrote down *infospace* and *dataspace,* and they just looked woefully unsexy. Then I wrote *cyberspace* and it just rolled off the tongue. Since then I've discovered that a Scandinavian artist previously used it in an abstract painting. *Cyberpunk* is not my coinage. I was with a group of sci-fi writers and someone called us that, and I said, "Don't buy this." We were already marginalized as sci-fi writers. Cyberpunk would marginalize us further.

Much of your work takes place in the near future, though in your new book, *Agency,* you look a full century ahead. Is there a certain plausibility and accountability in not moving too far ahead in time? If one wants to escape the present, one goes for the galactic empire 600 years from now, but I'm not interested in that. And even if one writes about 600 years from now, in 100 years, people will still see it as something written in 2020 because it will bear all those attitudes.

'IF ONE WANTS TO ESCAPE THE PRESENT, ONE GOES FOR THE GALACTIC EMPIRE 600 YEARS FROM NOW'

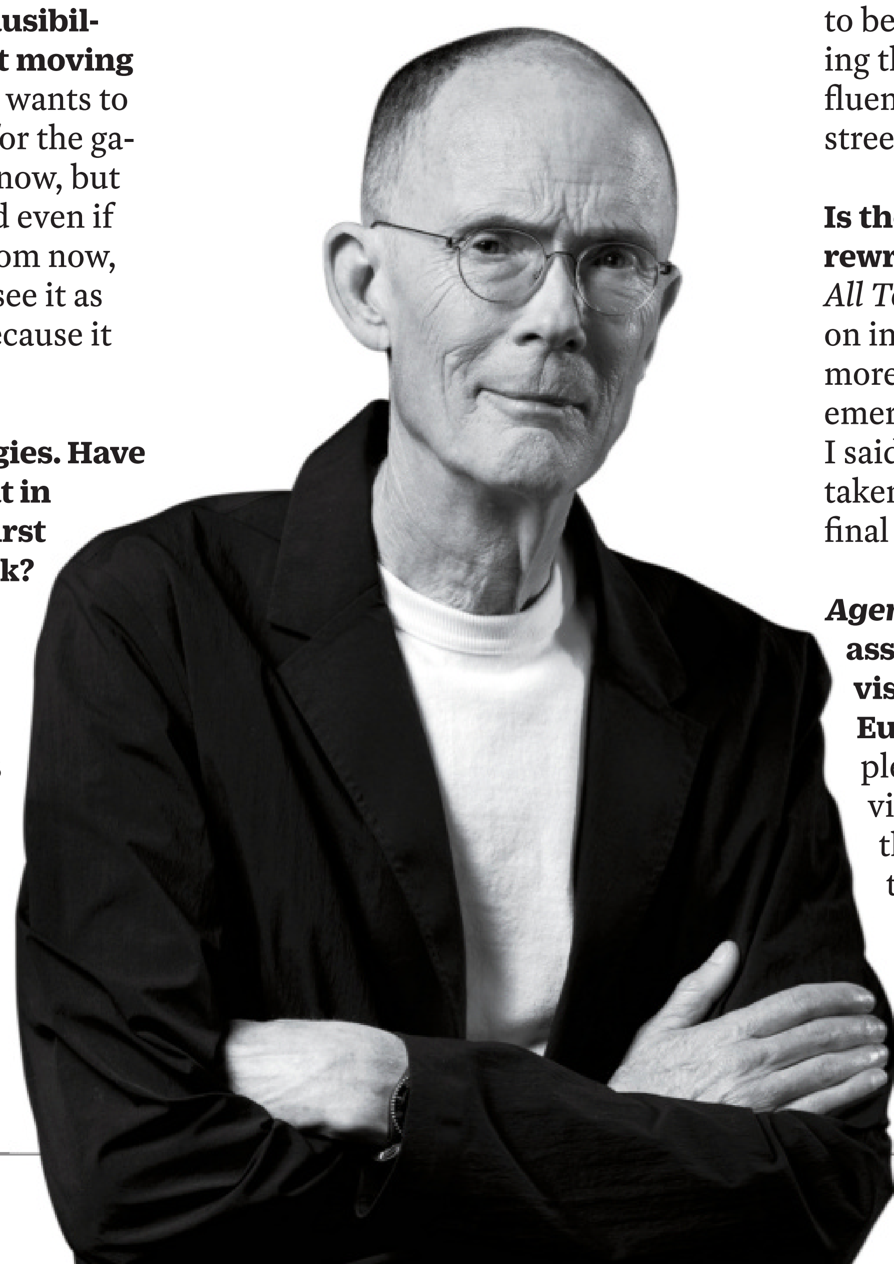
Nine of your books are trilogies. Have you gone into them with that in mind, or did you begin the first of each as a stand-alone book? I absolutely intended the first ones to be stand-alone, and I have never been able to stick to that. *Agency* is more conventionally a sequel [to 2014's *The Peripheral*] because I've gone back to the same characters. In past sequels, I've dealt with other characters having different experiences in the same world.

You're credited with a sort of clairvoyance for foreseeing the Internet and VR. Is there anything you've gotten wrong? I can imagine a bright 12-year-old picking up [1984's] *Neuromancer* and thinking it's a book about something happening to all the cell phones because I didn't predict them. Sometimes I've been right and wrong at the same time. I could not imagine the complete collapse of the Soviet Union, so I wrote it as sort of non–fully capitalist economic backwater. If I had simply called it Russia, I'd have been right on the dot.

If you had to leave science fiction and try another genre entirely, what would it be? I would try something that isn't identifiable as genre fiction, but you get into practical considerations like packaging. I get a guilty feeling because I think if I were someone running into an airport bookstore and buying [2010's] *Zero History,* thinking it's going to be a thriller. Then suddenly I'm reading this extended meditation on the influence of military-garment design on street wear. I'd be pretty disappointed.

Is there a book of yours you would rewrite? When I was finishing [1999's] *All Tomorrow's Parties,* I had a lot going on in my life, and I could have done more with the final moment and the emergence of the singularity. In effect, I said "and it happens." I would have taken a two-month break and done a final pass on the last 30 pages.

***Agency* includes an intelligent digital assistant named Eunice. Do you envision a world partly populated by Eunices?** I'm not positive; even people who know a lot about AI are divided. It's been posited that what we think of as sentient AI is more likely to be a heavily modified human consciousness in a living human body who has all of the capacities of the system and is no longer human. All of my Eunice-like characters are really a longing for a better Siri or Alexa. —JEFFREY KLUGER



MICHAEL O'SHEA


HELP
SAVE
THE
FRIDGE
The fridge needs help. Because much of the energy we need to power it produces waste, pollutes the atmosphere and changes the climate. We can transition the way we produce and use energy in a way that will contribute to a sustainable future. We're campaigning in countries all around the world to provide the solutions for governments, for companies and for all members of society to make the right choices about energy conservation and use. And you, as an individual, can help just by the choices you make. Help us look after the world where you live at **panda.org**
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