DOUBLE ISSUE

APRIL 25 / MAY 2, 2022

TIME

Earth, Inc.

HOW BUSINESS TOOK ON THE CLIMATE FIGHT

BY JUSTIN WORLAND

THE ECOPRENEURS

BY EDWARD FELSENTHAL

GREEN MINING

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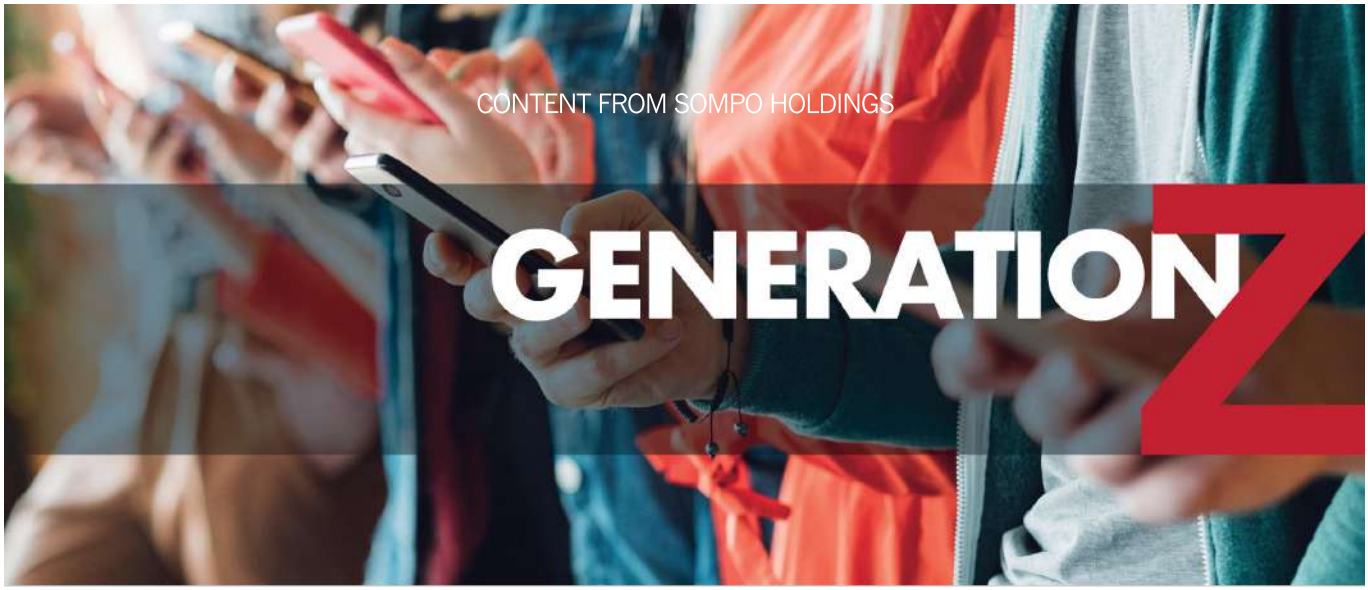
+

TIME 2030 IDEAS FOR THE FUTURE



We live in a time of uncertainty and change. Profound social disruption, affecting how we work, how we learn or entertain ourselves, as well existential threats to our existence from climate change and environmental degradation, pose challenges to our social fabric as well as our physical and emotional well-being.

These challenges are arguably more keenly felt by younger generations, in particular Generation Z and to a lesser extent, Millennials. Generation Z for instance are struggling with comparatively higher rates of anxiety, depression and mental health conditions. Almost one in three people aged 18-25 years have been diagnosed with a mental health condition compared to just 14.1% of those aged over 50 years old.

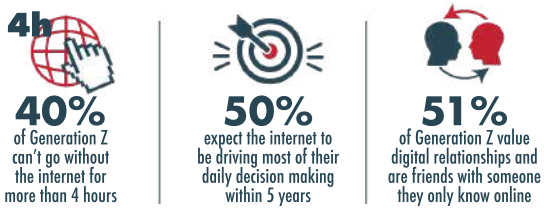
Generation Z and Millennials have been born into, grown up with, and are likely to inhabit longer, a world that is changing at an eye-watering pace, disrupting social norms and 'the way things are done', throwing up new, often seemingly intractable, problems and generating well-being pressure points that verge on crisis level.

It has become pretty clear that these generations have also taken it upon themselves to find solutions to much of what ails them and the world. Effectively deploying their generation-particular experience and relationship with the internet, data and technology to effect positive change.

DIGITAL-FIRST GENERATION

Generation Z and Millennials' unique developmental path, attached at the hip, as it were to the internet, has rendered them uniquely educationally, emotionally and ethically equipped to tackle, head-on, many of the challenges facing them and the world.

Much of this capability stems from their seemingly natural and effortless relationship with digital, data and technology, and their inherent ability to use these to effect positive change in their personal lives as well as on the world.



Generation Z in particular are children of the internet, having never known a world without it. What does this mean for their point of view of the world, their approach to problem solving and their values?

In the first place, their view of the world is not, as it is in previous generations, divided in the physical and the digital. On the contrary, digital worlds and physical worlds have blended into one (expected) seamless experience. They are so connected to the web that their identities, their relationships, their passions and self expression are inextricably entwined with it. They don't simply view the internet as a source of knowledge and information but(far more importantly to them) as a means of social connection, and everything they do from shopping to learning to hanging out with friends to recreating and to maintaining physical and emotional well-being is done online.

According to a recent study by WPEngine 40% of generation Z can't go without the internet for more than 4 hours without feeling uncomfortable and over 50% expect the internet to be driving most of their daily decision making within 5 years.

Relationships, that for previous generations, required at least some in-person contact, can for Generation Z, exist solely online— 51% of Generation Z value digital relationships and are friends with someone they only know online.

All these measures far exceed previous generations and demonstrate a comfort level and familiarity with the internet that subsequently provides the means for Generation Z to uniquely seek out solutions and meet needs, express themselves and live their values. For example, the same study has 74% of Generation Z believing that they can be part of a social movement even if only through social media.

And 68% of Generation Z believe that websites will soon talk to each other to offer a seamless experience one to the other and, importantly, in the near future, to provide predictive and highly personalized experiences. Highly personalized and predictive services feature prominently in the expectations of Generation Z interacting with, for example, healthcare providers and related products and services. Such beliefs and trust in the internet to be the primary vehicle by means of which Generation Z act upon the world is undergirded by two concomitant corollaries of that intertwined relationship—comfort and familiarity with, and knowledge and skill sets in, data and technology.

AND DESIGNING THE FUTURE OF WELL-BEING

AHEAD OF TIME

Generation Z are the first generation to be born into the internet but also to grow up completely immersed in technology. They are, however, more than simply comfortable with data and technology—they don't merely see data and technology as, for instance tools or means to augment or impact the physical world—something to be deployed to manage life, but rather as an immutable part of life itself, not separate from their existence, but, like the internet, a defining part of it. And, they are comfortable exchanging data on who they are and what they do—even how they feel, as well as other intimate facets of their personal lives, if they believe what they get in return is of value to them.

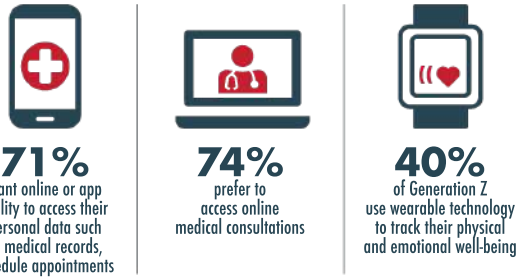
The world as a whole belatedly began to embrace technology-led solutions to mitigate the inimical effects of COVID-19 induced social isolation, pivoting to maintaining productivity and work relationships via internet based technologies such as Zoom and for instance, by addressing well-being concerns through telemedicine.

For Generation Z, however, their expectations and behavior were already laid down by the integral role that the internet, digital and, data and technology, played in their lives. Benefits such as ease of access, convenience, social connection, transparency and speed had long been sown in the experience and executions of Generation Z.

When it comes to well-being, for instance, Millennials and Generation Z have adopted digital access to healthcare services at a higher rate than other generations. According to one study for example, 71% of Millennials want online or app ability to access their personal data such as medical records, schedule appointments and, 74% prefer to access online medical consultations. And Generation Z, who prefer a mix of online and physical medical consultations, nonetheless, are more likely to use social media and online reviews to make decisions concerning their well-being.

Drawing on their use of the digital world for social connections they seek advice, reviews and referrals from friends and their communities to, for example, choose doctors or providers who are able to provide digital well-being experiences.

Generation Z are more likely than the generations preceding them to use technology for real time monitoring of behavior and to help track their habits—including what they eat, how they sleep, and how they manage their finances and maintain well-being. Over 40% of Generation Z use wearable technology to track their physical and emotional well-being and then use that data to help make health decisions.



POSITIVE TRANSFORMATION

Generation Z are using the internet, social media, and data and technology to help create healthier, happier lives for themselves, as well as to effect positive social change on the world. Their use of data and technology is radically transforming how we approach some of the central pillars of a rich, happy and rewarding life—work, social interaction, entertainment, creatively and health and well-being.

Increasingly we are turning to the ambitions and competencies of Generation Z and Millennials in the development of technologies for the world to transition to a more sustainable way of living and to ensure the well-being of current and future populations.

It is through leveraging data and technology that Generation Z in particular have been able to push the boundaries of self-care and at the same time provide healthcare and well-being providers with the information to provide better health outcomes.

Arguably, perhaps one of the least obvious benefits effected by Generation Z's data and technology-focused approach to engaging the world, is its power, when combined with effective storytelling, to spread ideas and inspire action.

And when we think about, for example, what the future of health and well-being looks like, it is increasingly one that is being made in the image of the beliefs, and digital behaviors of Generation Z.

SOMPO HOLDINGS

Taking stock of blueberry plants on a Stockton, Calif., farm owned by Farmland LP

Photograph by Cayce Clifford for TIME

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What you said about ...

TIME'S 2022 LIST of the 100 Most Influential Companies (April 11/April 18) generated discussion among business leaders online. Verizon Business CEO Tami Erwin on Twitter pointed to a trend she observed: "Some amazing women leading the companies on this list."

On Instagram, reality TV star Kris Jenner congratulated her daughter Kim Kardashian, SKIMS shapewear founder, for her company's inclusion, writing: "I'm so proud of my stunningly beautiful, kind and smart @kimkardashian!! What an amazing accomplishment!!!!!"

TV show creator Mindy Kaling wrote on Instagram that she hoped her cover would inspire young people: "I hope there are people out there—young women of color in particular—who see this cover, get inspired, and ask themselves 'Why not me?'"

Per the cover featuring Amazon CEO Andy Jassy, Amazon executive Jeffrey Kratz tweeted: "Excited to see what's to come under Andy's leadership." Eric Feldman, head of Airbnb's U.S. federal affairs team, wrote on Twitter that "as the son of two refugees," he was proud the company had been recognized for its "work housing refugees. This effort has been deeply meaningful and impactful."

The 10 Innovative Teachers

With all the challenges of conducting school during a pandemic, teachers keep finding news ways to move forward in their classrooms. TIME will profile 10 teachers who are shaping their field at the end of May. Educators can nominate themselves, or be nominated by others. Submissions will be open through May 4. Nominate a teacher at **time.com/teachers-form**

Nominations

The Webby Awards honor the best of the internet, and this year TIME is nominated for three. TIME100 Talks, TIME's online event series, is nominated in two Virtual & Remote categories: for Best Series, and for Media, Entertainment & Sports series. And TIME for Kids' podcast *TIME for Kids Explains* is also nominated, in the Kids & Family category. Vote for the nominees at **vote.webbyawards.com**

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On the covers

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Tune In

In the run-up to Earth Day on April 22, TIME100 Talks is set to host a conversation about sustainability on April 15 that will include actor and climate activist Don Cheadle and the former President of Ireland Mary Robinson. To mark Asian American Pacific Islander Heritage Month in May, TIME will host a summmit on May 6 convening leaders, actors, and activists to talk about identity and creativity. Keep up with all episodes at **time.com/time100talks**

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TEACHERS: FROM TOP LEFT, CLOCKWISE: CAYCE CLIFFORD FOR TIME; MICHELLE GUSTAFSON FOR TIME; BEN HASTY—MEDIANEWS GROUP/READING EAGLE/GETTY IMAGES; DAMON CASAREZ FOR TIME (2); COURTESY: ELIAS WILLIAMS FOR TIME

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‘THE DEBATE WE WILL HAVE IN THE NEXT 15 DAYS IS DECISIVE FOR OUR COUNTRY AND FOR EUROPE.’

EMMANUEL MACRON, President of France, to supporters after April 10 election results placed him in an April 24 runoff with far-right candidate Marine Le Pen

‘I cried like a baby.’

SCOTTIE SCHEFFLER, the 25-year-old American winner of golf’s Masters Tournament, speaking to reporters on April 10 about his nerves before the event

$55 MILLION

Cost of a seat on SpaceX’s April 8 flight to the International Space Station, which carried three wealthy businessmen for a stay of more than a week

‘I believe this is for the best.’

PARAG AGRAWAL, Twitter CEO, on Elon Musk’s decision not to join the company’s board

‘This is not only a New York City problem. This rage, this violence, these guns, these relentless shooters are an American problem.’

ERIC ADAMS, New York City mayor, at a press conference after the April 12 mass shooting at a Brooklyn subway station that left at least 23 people injured

10 YEARS

Length of time Will Smith is banned from attending Academy events, after slapping comedian Chris Rock during the Oscars, the Academy of Motion Picture Arts and Sciences announced on April 8

‘The American people are fed up with this over-dramatization of a riot.’

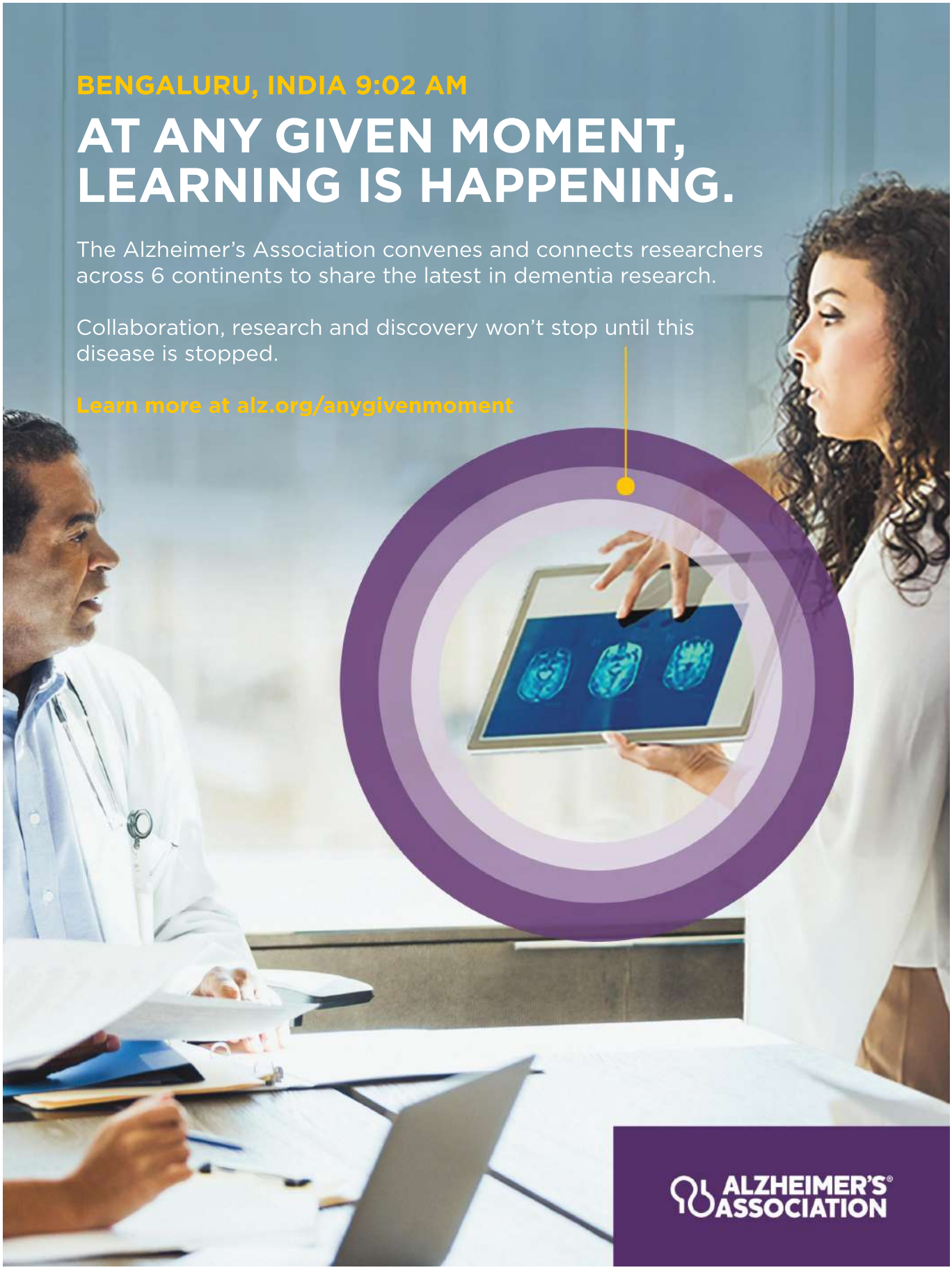
MARJORIE TAYLOR GREENE, U.S. Representative from Georgia, in an April 10 video, on the Jan. 6 attack at the U.S. Capitol

‘Something fundamental in our understanding of nature is wrong.’

DAVE TOBACK, a particle physicist at Texas A&M University, in an April 7 AP interview about an experiment that challenged the “standard model” scientists use to explain the cosmos

ILLUSTRATIONS BY BROWN BIRD DESIGN FOR TIME

SOURCES: THE NEW YORK TIMES; ASSOCIATED PRESS; CBS NEWS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The Brief

A CRIME SCENE

BY SIMON SHUSTER/ BUCHA, UKRAINE

Russia's attacks on civilians could change the course of the war

INSIDE

PHOTOGRAPH BY SERGEI SUPINSKY

SOMETHING TERRIBLE HAPPENED IN THE BASEment of the children's summer camp in Bucha. The steps leading down to its unlocked door were lousy with trash from Russian army rations: dried macaroni, empty juice boxes, tins of meat. Standing at the bottom of the stairwell, Volodymyr Roslik, the camp groundskeeper, looked up and raised an eyebrow at me, as if to offer one more chance to reconsider going in.

The airless tunnel behind that door resembled a series of torture chambers divided by concrete walls. There was a room that appeared to be used for executions at the front, its walls pocked with bullet holes. In the next room stood two chairs, an empty jug, and a wooden plank. In another, the Russians had brought in two metal bedsprings and leaned them against the wall. To Ukrainian investigators, the tableaux suggested that prisoners were tortured here: tied to the bedsprings and interrogated; strapped to the plank and waterboarded.

"The signs of torture were also on the bodies," says Taras Shapravskyi, the deputy mayor of Bucha. Five dead men in civilian clothes were found in that chamber, he told me. "They had burns, bruises, lacerations." It was dark when the groundskeeper took me there the following week and shone a flashlight in the room where they had lain. Two pools of dried blood ran down a wall into the dirt, next to a fleece hat that appeared to have a bullet hole.

The Russian forces withdrew in the first days of April from this commuter town 15 miles outside the Ukrainian capital. Before the invasion, Bucha was well known in Kyiv as a place to get away, to drop kids off at the summer camp for a couple of weeks or take them to a ropes course called the Crazy Squirrel. Now Bucha is a byword for war crimes, like Srebrenica or My Lai. Scores of bodies littered the streets when the Russians left. A mass grave still occupies the churchyard. Shops and homes lie vacant, pillaged, and burned. More than 400 civilians were found dead here, according to local authorities, nearly all with fatal gunshot wounds. "These were not the victims of shelling or aerial bombardment," says Mykhailo Podolyak, an adviser to Ukrainian President Volodymyr Zelensky. "These were intentional killings, close-up and systematic."

Inside the summer camp for children ages 7 to 16, the Russians set up a garrison from which to terrorize the town, shooting at civilian passersby and bringing prisoners down into the basement. Local officials and witnesses to the violence told me the occupying force displayed a total lack of military discipline. Empty liquor bottles lay among snipers' nests dug beside a playground. Dirty mattresses and cigarette butts littered an administrative building, which was strewn with an odd trove of loot apparently taken from local homes: an old boom box, costume jewelry, a leather briefcase, none of it valuable enough for the occupiers to carry as they fled. In one room, the Russians left a pile of hair shorn off with clippers. On the floor of another sat two lumps of human excrement. "This was no army," says Roslik, the camp groundskeeper. "This was a horde."

A crane lifts a corpse from a mass grave in Bucha; authorities say more than 400 civilians were murdered

THE SCENES OF DEPRAVITY they left behind have changed the course of the war in Ukraine. The Russian army's crimes, described in both Kyiv and Washington as a campaign resembling genocide, have hardened the will of Western governments to arm Ukraine and narrowed the space for a negotiated peace. Leaders from across Europe have come through Bucha to see the devastation for themselves. They

PREVIOUS PAGE: AFP/GETTY IMAGES; THESE PAGES: RODRIGO ABD—AP

The Brief is reported by Eloise Barry, Madeleine Carlisle, Chad de Guzman, Leslie Dickstein, Mariah Espada, Tara Law, Sanya Mansoor, Ciara Nugent, Billy Perrigo,

emerged voicing new pledges of support for Zelensky, promising more than a billion dollars in military aid from the E.U. alone.

"You stand here today and see what happened," Zelensky told reporters on a visit to Bucha on April 4, days after the Russians withdrew. "We know that thousands of people have been killed and tortured," he added, "with extremities cut off, women raped, children killed." Less than a week later, at least 50 more Ukrainians—nearly all of them women, children, and the elderly—were slain in a rocket attack against a train station in Kramatorsk, where they had gone to flee the country's eastern regions, the focus of the war's next phase.

David Arakhamia, the lead Ukrainian negotiator in talks with Moscow, says Bucha made it difficult to face the envoys of Russian President Vladimir Putin. "We wanted to stop the process altogether," he told me. "We wanted revenge, not diplomacy." But Zelensky urged the team to carry on, "even if there is only a 1% chance of peace after Bucha," says the negotiator, who has continued holding talks with the Russians almost every day.

At the same time, investigators have fanned out across the country

to document apparent Russian war crimes. A team of experts from France has come to help Ukraine gather documentation for an international tribunal. "The evidence is mounting," U.S. President Joe Biden told reporters on April 12. "I called it genocide because it's become clearer and clearer that Putin is just trying to wipe out even the idea of being Ukrainian."

Moscow knows how bad this is. The Foreign Ministry in Moscow has accused Ukraine of "staging" the massacre to make the Russian forces look bad. Putin called Bucha a "fake." His propaganda channels offered theories to undermine the grim reality with doubt. They suggested that crisis actors had posed as corpses in videos of Bucha. They claimed that "foreign mercenaries" came to town and killed people after the Russians withdrew.

But the barbarity was too blatant, and witnessed by too many people. The local government estimates that around 3,700 people remained in the town during the occupation. Their stories of looting, torture, rape, and murder are consistent with the evidence emerging from the ground.

Dead bodies found in the basement of a children's summer camp

BEFORE THE INVASION, life in Bucha centered around the Church of St. Andrew, whose golden domes reach upward from a hill near city hall. The parish priest, Father Andriy Halavin, was officiating a funeral on the second day of the invasion, Feb. 25, as a battle raged for control of an airport just north of town. Explosions and helicopters ripped through the air, close enough to drown out his sermon at the graveside.

The battle went on for several days. The Russians needed that airport to land an invading force outside the capital, and the Ukrainians put up a ferocious fight, shelling the runways and blowing up a bridge to block the advance of Russian tanks into Kyiv. "All of this was happening over our heads—the flames, the booms," Halavin recalls.

Control of Bucha changed hands at least twice before the Russians managed to seize the town in the first week of March. The battle had cost them dearly, and it left them angry. More than a dozen burned-out Russian tanks and personnel carriers stood in the streets. As the Russians dug in, they set up artillery positions in a local school and moved into the dormitories at the children's summer camp.

Halavin considered keeping his church open as a sanctuary for locals. But he says he changed his mind after the Russian troops began going house to house, kicking in doors and dragging entire families into the streets. At one point the church itself came under fire, leaving deep gashes in the walls. "The soldiers were shooting at anything that moved. Men, women, children," Halavin told me. "To cross the street was to stare death in the eyes."

'The soldiers were shooting at anything that moved. Men, women, children.'

FATHER ANDRIY HALAVIN

The priest stashed away his robes and did his best to stay out of sight. A few times during the monthlong occupation, he snuck back into the church to pray and fetch some candles for his home. By the second week, the smell of death in parts of Bucha became hard to bear. The morgue was full, and it was too dangerous to take bodies to the cemetery. Many victims were left in the road or covered with just enough soil to keep the dogs away.

A local coroner then asked Halavin to help organize a burial in the churchyard. The priest consented. On March 10, they dug a trench and waited for a truck to come from the morgue with a few dozen bodies. "There was no way to have a ceremony or any sermons at the grave," he says. "It was all done quickly, with a few hurried prayers."

FROM LEFT: ANASTASIA VLASOVA—GETTY IMAGES; NATALIE KEYSSAR

Children's toys and bicycles lie inside a damaged apartment building in Bucha on April 3

THE TRENCH WAS STILL THERE, in the church's shadow, when the congregation gathered for Sunday mass on April 10, their first since the end of the occupation. Most of the bodies had already been exhumed and sent to the morgue for identification and a proper burial. A long plastic sheet was draped over those who remained in the pit, to keep the crows at bay.

Olha Ivanitska, an elderly parishioner, saw two of her friends as she limped into the church's vestibule. She embraced them and touched their cheeks with her hands. "You're still alive," she said. "We're still alive."

They knew they were lucky. As they emerged from their homes, from their basements and bunkers, the people of Bucha often found their friends missing or dead, their streets full of wrecked military vehicles, their neighbors' homes shelled into rubble.

Some residents set out to assess the damage and rebuild. Leonid Chernenko, a janitor at School No. 3, came back to work on April 10 to check what the Russians had stolen. "All the computers are gone," he told me while fumbling with the keys to the boiler room. That was the least of the problems. Sappers had not had time to check the school for booby traps and mines. More than a hundred empty boxes of Russian artillery shells lay in the schoolyard among empty beer bottles and army rations. Most of the windows had been shattered.

Around the school, many of the victims of the Bucha massacre still lie in temporary graves. One of them is at the edge of the children's summer camp. Igor Kasenok, who lives across the street, told me he dug that grave one day in March. The man inside it had made the mistake of approaching the Russians on foot, Kasenok said. The soldiers shot him and left him there.

Kasenok found the body in the street the next day, when he went to fetch some firewood for the stove in his basement, a cluttered warren he had shared during the occupation with more than 30 of his neighbors and many of their pets. Kasenok gave the dead man the dignity of a burial, fashioning a cross out of some boards. "They could have shot me too for that," he said while showing me the plot.

As we spoke, Kasenok's wife came out, trailed by a pair of cats. We began to talk about their grandchildren. All three of them live around Luhansk, in a part of Ukraine the Russians took in early March. Kasenok and his wife haven't heard from them since.

The urge to reassure the couple made me stammer, and the only thing that came to mind was the summer camp across the street. I suggested that maybe one day, after Bucha rebuilds, the kids could come visit and play over there. "Better to raze the place," Kasenok answered. "It's a place of killing now." ◻

WORLD

Ukraine is the world's crucible

BY PETER POMERANTSEV

AS SHE LAY DYING IN A NORTH LONDON HOSPITAL, my grandmother started to hallucinate scenes from her Ukrainian childhood. All around the ward she saw starving children, skeletal, collapsing in the long white strip-light corridors—lying, leaning, barely breathing by the hospital beds. At first, my mother and I couldn't understand what she was referring to. What children? There were only old people in the ward.

Then we realized Galina Ivanovna was surrounded by suppressed memories from her childhood. She was back on Sumska, the elegant high street of her hometown of Kharkiv. She was back in 1932, the height of Stalin's man-made famine meant to break the resistance of the Ukrainian peasantry to his rule. His victims were staggering from the countryside into the city in search of food, their dead bodies scattered across the dusty road.

Today dead bodies are scattered along Sumska again. Kharkiv's residential areas are under merciless bombardment. Many more dead civilians lie in the streets of Bucha and Irpin. A conservative estimate puts the number in the mid-1,000s so far, and that figure doesn't include the 5,000 who the mayor of Mariupol says perished in his still besieged city. The murders break our sense of time, of progress. "Can this sort of vicious slaughter of civilians be happening now, in Europe, in 2022?" some ask.

Once again a dictator in the Kremlin is trying to break the spirit of Ukrainians, wipe out the very idea of a sovereign Ukraine.

But this time he is being stopped. The cycle is being broken. This matters not just for Ukraine but the whole world. For the same reason Ukraine is the crucible of so much horror in history—it has also produced ideas, stories, and policies that define good from bad for us all. It must again.

WHAT WE ARE WITNESSING in Ukraine is a repeat violation, a repeat abuse.

In the 19th century, it was the czars who banned Ukrainian language books, schools, jailed Ukrainian patriots, and dismissed the region as mere "Little Russia." In the 1930s, Stalin not only starved (at least) 3.9 million peasants, but also executed Ukrainian intellectuals and artists, many of them in Kharkiv. In the 1970s, my mother's generation, it was the turn of Ukrainian dissidents to face decade-long sentences in "special regime camps" for daring to ask for Ukrainian language rights. Nor is it just Ukrainians who are continuously oppressed in Ukraine. This is the territory of some of the worst pogroms against Jews in the Russian Empire; the Soviet's forcible removal of Tatars from their ancestral home in Crimea; the scene of some of World War II's most death-drenched battles.

The place where global disasters come into focus

Precisely by virtue of being such a concentration of cataclysms, the place where the world's evils can coagulate, Ukraine is the place that gives birth to its antidotes. Consider Hersch Lauterpacht, a lawyer who grew up in Lviv in the early 20th century, surrounded by pogroms, and who lost his parents in the Holocaust after the Nazis took the city in 1941. These experiences made him dwell on the need for individuals to have universal rights beyond the power of the state they lived in. An innovative idea that we now take for granted. Lauterpacht came up with the concept of "crimes against humanity," a charge leveled against the Nazi leadership at the Nuremberg trials. Another Lviv-educated lawyer, Raphael Lemkin, gave us the ultimate concept to define the depths of evil: genocide, the systemic mass murder of whole groups of people. This revolutionary concept was also used, after much resistance from other lawyers, at Nuremberg.

Perhaps in part because of its proximity to Western Europe, Ukraine is

WOLFGANG SCHWAN—ANADOLU AGENCY/GETTY IMAGES

The scene at a Bucha mass grave on April 8

the place where global disasters get more visibility and come into focus. While elsewhere they might go nearly unnoticed, in Ukraine these crimes bump up against a set of legal, academic, cultural, and media institutions that force us all to start to make sense of them and look for solutions to them.

AT APPROXIMATELY 1 A.M. on the fourth week of Russia's latest invasion of Ukraine, I slipped out of my Lviv hotel room and made my way to the train station. It was curfew, and the city was pitch dark and utterly empty. Lviv is so beautifully preserved, its just-rightly jaded Art Nouveau buildings give such a well-worn patina of time, that you never know what century you are in. On this curfew night I could have been in any century. Lemkin and Lauterpacht were on my mind, and I shared their city.

I was on my way to Kyiv for an editorial meeting on a new project to record testimony and tell stories about the Kremlin's crimes in Ukraine. The project will produce material for transitional justice, but also create an archive that journalists, documentary filmmakers, playwrights, photographers, and policymakers can use to tell this story further. But as the train rumbled through the night, with the muffled, gentle, disquieting thuds of artillery fire as we approached the capital, I struggled to define what specific "rights" and what larger "story" we would tell. Was the Russian bombardment of civilians a war crime? Most likely. But in captured cities there were also many disappearances, murders, executions: more human-rights abuses than war crimes. Though I didn't know it at the time, a few kilometers away from Kyiv, in Bucha, Russian soldiers were likely executing and raping civilians. Soon the world would know what had happened there and many would be calling this a potential "crime against humanity."

But none of these categories seem satisfactory. Putin's speeches and Russia's actions were aimed at far more than just killing and maiming. Putin has made it perfectly clear that he doesn't think Ukraine is a real country, that any Ukrainians who think of it as a sovereign state with its own distinct culture are actually "Nazis" controlled by America and who need to be eliminated. Like in the 1930s, there are reportedly kill lists with the names of activists, cultural figures, politicians. Whole chunks of the population of captured cities like Mariupol are being removed to Russia. History, reality, memory are being destroyed and rewritten. Putin and his spin doctors propose rewriting the story of Ukraine, its people, their lives, and their right to define their own meaning.

Such mass reordering of reality, obliteration of memory and history feels far beyond mere "war crimes." The best term of what Putin is up to that I actually heard came from a friend who had campaigned endlessly to stop Russia's atrocities in Syria. What was under attack, she argued, was the "right to exist." This may be legally hazy, but for me it captured the essence of Putin's wars in Chechnya, Syria, and now Ukraine, as well as his oppression inside Russia. His aim is always to take away the right of people to define who they are, their future, their meaning. He wants to control not just who lives and dies—but reality itself. And he wants to destroy every vestige of humanitarian and human-rights law: because impunity is true power.

Once again, Ukraine is making us rethink our values, our laws, our policies, our defense. This war is not just a problem you can "localize" to Russia and Ukraine. There's an increasingly coordinated network of dictatorships and soft authoritarians who think the 21st century belongs to them. Working out how to help Ukraine win is the first step to fathom this defining question. A global fault line in our thinking, one that we wanted to ignore, is being made apparent in Ukraine. Ukrainian writer Igor Pomerantsev (my father) once defined poetry as a bat flying through the night suddenly illuminated in the flashlight of our focus. That metaphor can apply to politics as well. Ukraine is the place where the invisible is surfaced, where the suppressed will be remembered, where horror is made into meaning. For their freedom and ours.

Pomerantsev is the author of This Is Not Propaganda: Adventures in the War Against Reality

NEWS TICKER

Biden waives ethanol rule to drop gas price

President Joe Biden announced on April 12 that he will suspend a summertime ban on sales of higher-ethanol gasoline blends, in an **attempt to lower rising gas prices** amid the current rampant rates of inflation. The AP estimates the move will lower gas prices by only about 10¢ a gallon at a limited number of gas stations.

Mexico's President to stay in office

Mexico's President Andrés Manuel López Obrador won a referendum on April 11, with over 90% of voters saying **they wanted the President to stay in office** rather than step down. But the referendum's ultimate turnout was low—less than 19%, per early figures.

Okla. enacts near total abortion ban

On April 12, Oklahoma's GOP Governor Kevin Stitt signed a law **banning nearly all abortions** at any point during pregnancy. Under the measure, anyone convicted of performing an abortion would face up to 10 years in prison and a $100,000 fine. The law comes as the Supreme Court mulls a Mississippi law banning abortion after 15 weeks.

THE BULLETIN

Migrants await the end of pandemic-era border policy

ON THE MORNING OF APRIL 7, ATOP the Paso del Norte Bridge that connects Ciudad Juárez and downtown El Paso, Texas, 30-year-old Magdalena and her 10-year-old son were waiting to see if they would be allowed to enter the U.S. They migrated from Guatemala in September after facing threats of gang violence, and had since attempted to cross into the U.S. twice. Both times, they were expelled back to Juárez under Title 42—a controversial public-health measure that has allowed U.S. Customs and Border Protection since the start of the COVID-19 pandemic to immediately expel migrants, circumventing the normal immigration procedure.

EXPULSION On April 1, the U.S. Centers for Disease Control and Prevention announced that it will end Title 42 expulsions on May 23. The decision set in motion a series of cascading events, including lawsuits, political grandstanding, and new legislation that would make Title 42 permanent. Experts say ending the measure may help trigger a wave of new migration to the U.S.-Mexico border this spring.

URGENCY For migrants already waiting on the border, May 23 can't come soon enough. Mexican shelters are already overcrowded, and many, including Magdalena's son, who has a heart condition, need special medical attention. Nearly 10,000 cases of violence against migrants expelled under Title 42 have been documented since the start of the Biden Administration alone, according to Human Rights First.

POLITICS Conservative Democrats and Republicans in Washington are working to reverse the Biden Administration's decision to end Title 42. With midterm elections approaching in November, immigration is poised to become a hot-button political issue, the topic of searing attack ads and social media posts, with people like Magdalena and her son waiting on a bridge caught in the middle.

—JASMINE AGUILERA

Land protest

A young Oro Wari Indigenous man takes part in the 10-day-long Terra Livre (Free Land) protest in Brasília on April 10. The annual camp, led by Indigenous peoples from across Brazil, set up in the capital to protest draft laws that would authorize new mining on Indigenous land in the Amazon. The Oro Wari live in Rondônia, an Amazon frontier state that is already the site of rampant deforestation, displacement, and human-rights abuses.

BRAZIL: AMANDA PEROBELLI—REUTERS; WHITE HOUSE: ANDREW HARNIK—AP; GOTTFRIED: STEVE EICHNER—WIREIMAGE/GETTY IMAGES

CONFIRMED

Ketanji Brown Jackson

Supreme Court first

KETANJI BROWN JACKSON WAS confirmed by the U.S. Senate on April 6, becoming the first Black woman Justice in the nation's history.

The 53-47 vote reflected a measure of bipartisan support. Republican Senators Mitt Romney of Utah, Susan Collins of Maine, and Lisa Murkowski of Alaska joined the Senate's 50 Democrats to support Jackson's confirmation.

Her historic confirmation will not change the ideological makeup of the Supreme Court. She joins a bench with a 6-3 conservative majority—and she'll be part of the smallest liberal wing in a generation. Former colleagues and mentors of Jackson's tell TIME they expect she will strive to be in the majority with her colleagues whenever possible, seeking out compromise and consensus from the minority position.

Jackson is the first Democratic appointee to the high court in 13 years, and she brings professional experience the bench otherwise lacks, including expertise on matters of criminal justice and sentencing disparities. Most recently a judge on the D.C. Circuit Court, Jackson will be the first former public defender to ever serve on the Supreme Court.

THE BIPARTISAN VOTE counts as a win for President Joe Biden, after a contentious confirmation process. Democrats' narrow control of the Senate all but ensured Republicans could not block Jackson's confirmation, and Senators in both parties publicly acknowledged she is qualified for the position. But her confirmation hearings were still heated—at times tinged with racial undertones—and the ugliness of the process helped sway at least two Republicans to vote for her. Both Murkowski and Collins commented on the broken and increasingly partisan confirmation process when announcing their support.

Judge Jackson, accompanied by President Joe Biden and Vice President Kamala Harris, on April 8

'Even in the darkest times, there are bright lights.'

—CHUCK SCHUMER, SENATE MAJORITY LEADER

The high court could reshape major elements of American life in coming months with expected rulings on abortion access and gun rights. Its own status is unclear. Progressives are pushing to add seats to the bench or impose judicial term limits, citing in part the GOP's refusal in early 2016 to take up then President Obama's nominee to replace the late Justice Antonin Scalia.

Justice Stephen Breyer is set to retire at the end of June, and Jackson will fill his seat next term, which will include consequential cases such as two challenges to affirmative action in higher education. While Jackson will recuse herself from a case centering on Harvard, she has not said she'll recuse herself from a challenge to the University of North Carolina's policy. It could be the first case in which she weighs in on some of the most critical questions before American society. And she'll speak with a voice and perspective never before represented in the storied institution.

—MADELEINE CARLISLE

DIED

> **Gilbert Gottfried,** actor and comedian, on April 12, at 67.

> NFL quarterback **Dwayne Haskins,** on April 9, at 24, after being hit by a truck.

RE-ELECTED

Viktor Orban, for his fourth consecutive term as **Prime Minister of Hungary,** after a landslide win on April 3.

HIRED

Journalist Marina Ovsyannikova, by **German newspaper *Die Welt,*** on April 11. She quit her job at a Russian outlet after an on-air protest.

WON

Singer **Ed Sheeran,** in a court copyright case over his 2017 hit "Shape of You," on April 6. A judge ruled he had not plagiarized the song.

ADDED

A third **gender option of "X"** on U.S. passports, as of April 11, following a State Department change last year.

WORLD

Parents in China protest COVID-19 child separation

BY REBECCA KANTHOR/SHANGHAI

A health worker conducts a COVID-19 swab test during a lockdown in Shanghai on April 10

YOGA INSTRUCTOR JENNY TAO WAS home with her family in their one-bedroom Shanghai apartment in March when she got the phone call. She and her husband had tested positive for COVID-19. They were taken to a special hospital with their 3-year-old son, who also tested positive. However, their 10-year-old daughter, who had received a negative result, was sent on her own to a quarantine medical center. When she tested positive the next day, she was transferred to the hospital, but to a separate ward from the rest of her family.

"My daughter was alone in the hospital for five days," says Tao. "We made many phone calls. They kept saying the kids have to go to the children's ward and there's staff there to take care of them. But in reality, there was no one taking care of our daughter. All the kids in the ward had to take care of themselves. The situation in the ward was a bit chaotic, and they barely saw any nurses except at mealtimes." Finally, a doctor approved her daughter's transfer, reuniting the family.

China's dynamic zero-COVID policy requires those who test positive, including infants and children, to isolate in quarantine facilities or hospitals. The practice has been carried out in cities throughout China since the beginning of the pandemic. An Israeli businessman, who asked that his name not be used for fear of backlash from authorities, tells TIME that two of his children, ages 9 and 13, were isolated in a Shanghai hospital for a month after testing positive in March 2020. Health workers in hazmat suits arrived at their door in the middle of the night to take them away. "I had to wake them up and tell them, 'Boys, you are positive and you have to go to the hospital,'" he says.

A fast-moving outbreak of the Omicron COVID-19 variant in Shanghai, mainland China's most populous and international city, is demonstrating the drawbacks of the country's approach. The entire city of 25 million people went into lockdown on April 1 after some 10,000 cases were detected. Since then, public anger has begun spilling over onto social media.

'Children, especially young kids, need their parents by their side to take care of them.'

JENNY TAO, SHANGHAI RESIDENT

Public transport as well as the use of private vehicles has been suspended, making it difficult for people with medical conditions to access doctors and hospitals. Residents are unable to leave their homes, even to purchase essential items, and delivery services have been overwhelmed. Many people have reported trouble getting enough food to feed their families.

But the child-separation policy has been a particular source of anger. Parents began openly calling for an end to the policy after videos of unaccompanied infants crying in a Shanghai COVID-19 hospital went viral online. Foreign diplomats from more than 30 nations sent letters to the government to protest the practice. On April 12, the U.S. ordered all nonessential government staff to leave Shanghai.

Since the pandemic began, China's case numbers have been kept low compared with those in the rest of the world because of exacting COVID restrictions. Mortality has also been low: until March, China recorded fewer than 5,000 deaths, the large majority from early 2020. But after more than two years, patience may be wearing thin.

OFFICIALS HAVE NOW MADE what could be a rare concession—announcing on April 6 that some children who test positive for COVID-19 would not be separated from their parents. Tao, who was released from the hospital with her family the same day the announcement was made, says it's a positive development. "Children, especially young kids, need their parents by their side to take care of them," she says.

But while speaking with TIME after the government statement was released, one parent heard that his son's classmate had tested positive. The family remains unclear on whether their child will be sent to a quarantine facility alone. For many Chinese people, the fear of getting COVID-19 is not about getting sick—it's about having to submit to China's strict pandemic measures. ◻

HECTOR RETAMAL—AFP/GETTY IMAGES

BUSINESS

Blending new flavors in an ancient cup

BY ROB CHILTON

DUBAI MAY NOT IMMEDIATELY COME TO MIND AS ONE OF the world's foremost coffee capitals. But over the past five years, the local coffee scene has developed to the point where the city should be considered right up there with global coffee meccas like Melbourne, Seattle, and Portland, Ore., argues local entrepreneur Karim Hassan. "Dubai is definitely top five," he says.

He should know. Back in 2015, Hassan founded Seven Fortunes, which has since grown into one of the most successful of a crop of Dubai-based small-batch coffee roasteries, many of which are experimenting with bold flavors and novel blends. Indeed, Dubai is in the middle of an explosion in all things coffee; registrations for local coffee businesses spiked nearly 150% last year, to 171 applications compared with 69 in 2020. Seven Fortunes' roasts, meanwhile, are now offered at around 100 cafés, hotels, and restaurants around Dubai and elsewhere in the Middle East.

Coffee has deep cultural roots in Dubai—it's "in the blood of the people," says culinary expert Holly Williams-Lloyd, founder of the Huntr, a Dubai food site. But in the past, drinkers preferred traditional Arabic styles and big-batch offerings from foreign chains. Hassan and others like him found success by introducing new, often exotic and complex blends, though his roasts weren't an immediate hit. "People were expecting traditional dark-chocolate flavors, so when they tried my coffee that had flavor profiles of mango, pineapple, and passion fruit, they freaked out," he says. "Education was a huge part of the business in the early days."

Hassan started Seven Fortunes as a "side hustle" when he was 22 and working in finance at HSBC; it's a product of his personal frustration with the boring local offerings of the time. "I wasn't satisfied with the quality of the coffee that was being offered in the market, so I started making it myself," he says. Before long, he was selling his blends to area businesses—including his former employer. But his early success came at a cost. "I was super driven, working 19-hour days," he says. "I burned out many times and should have had a better work-life balance."

Still, Hassan stuck with it, learning about both beans and bean counting as he went. "I was young when I started the business; I didn't have a clear vision or years of experience. I had to learn by doing," he says. Hassan's dedication and coffee obsession have made him and Seven Fortunes "stand out in [Dubai's] competitive coffee market," says local food critic Laura Coughlin.

AS IT DID with almost every business in the world, the COVID-19 pandemic took a big toll on Seven Fortunes beginning in March 2020, affecting every part of its supply chain. "Some of the farmers are small producers who we order from a year in advance. They grow their crop based on the expectation that I am going to buy it. We all took a hit," says Hassan.

NATALIE NACCACHE FOR TIME

Karim Hassan of Seven Fortunes Coffee Roasters in Dubai on Feb. 17

With restrictions lifted, it's business as usual in Dubai and Hassan is focused on growth. The company generated $4.1 million in 2021, up 25% year on year. He is particularly proud of Seven Fortunes' expansion into his home country of Egypt, where he now has 20 outposts. And he's eagerly awaiting a shipment of a rare coffee variety from East Africa called Eugenioides; Seven Fortunes is one of only 10 roasteries in the world set to receive a share of the crop, which boasts a unique sweet flavor. "It's a big win for us," Hassan says. "It's like a high-end diamond."

Mellon Foundation head **Elizabeth Alexander** on *The Trayvon Generation* and the power of monuments

BY BELINDA LUSCOMBE

POETRY IS RARELY A PAYING GIG. NEVER HAS been. John Donne was a priest. Langston Hughes was a newspaper columnist and a lecturer. William Carlos Williams was a pediatrician. But it's possible that Elizabeth Alexander has taken the day job to a whole new level: she's currently the president of the Andrew W. Mellon Foundation, the biggest U.S. nonprofit dedicated to the arts and humanities. Its endowment sits at about $9 billion.

Having a poetry insider at the head of a big grantmaking institute does not mean, however, that poets have moved to the front of the line for funding. Alexander has a much more ambitious vision for the role that the arts and culture play in the formation of society. And during the pandemic she codified it, in her 16th book, *The Trayvon Generation*. It's a series of meditations on cultural and artistic artifacts that illuminate "the color line," which she identifies as "a fundamental, formative, and constitutive problem" in the U.S., and on the role the arts and humanities play in both drawing and erasing that line. Alexander is like a cultural archaeologist, dusting off and examining relics and shedding new light on the society that produced them. Except in this case, the relics are still in use.

Alexander offers a real-life example of the role artists can play when she brings a poet's clarity of language to the fraught national discussion of critical race theory (CRT), which, she writes, "provides tools helpful for understanding that race is a social category and not a biological fact and that racism is best understood systemically rather than instance by instance." Why then has CRT become such a national flash point? "The term has been hijacked," says Alexander from her home desk in New York City, in front of an enormous abstract landscape painting, "and is now a misnomer and doesn't describe the intellectual tradition that comes from the academy."

Her book, which sprang from an essay in the *New Yorker,* is an exploration of whether cultural expression can shape a world where Black mothers' sons, like Trayvon—and Michael Brown and Tamir Rice and Stephon Clark and Ahmaud Arbery and Daunte Wright and too many others—can be safer. "I hope that the ways in which the humanities move along the racial conversation in this country—thorny, difficult, unsettled," she writes, "will help us think in terms of process rather than finish line and leave us ever more open to the complexities that the humanities and the arts can reveal to us."

The humanities, of course, have a spotty record when it comes to oppression. Alexander heaps particular scorn on Stone Mountain, a Georgia vacation destination, where people picnic in the shadow of the largest bas-relief sculpture in the world (90 ft. high), of three Confederate generals, which was completed in the 1970s. "It is a shrine to white supremacy, standing today," says Alexander. "I think people should be curious about that." Curious too was the timing of a stained-glass window at Washington National Cathedral that featured Stonewall Jackson and Robert E. Lee. It was installed in the 1950s, shortly after, Alexander notes, *Brown v. Board of Education* banned school segregation. "These figures are put up as worthy of veneration," she says, "when in fact, they were traitors to this country in a war that was lost."

IN A WAY, the book acts as a background briefing on Alexander's vision for the biggest initiative in the Mellon Foundation's history, a $250 million five-year plan to help rethink monuments. "How do we tell the story of who we are and who we have been, in public spaces and in the built environment?" she asks. The Monuments Project will sponsor new public art fixtures and museums, finance research into how many monuments there are and what they celebrate, and help recontextualize some existing works.

It will also support the removal of some monuments, but only, Alexander notes, when "communities come to us, to say, 'We've done the work, and this is our idea for why we no longer want this.'" She points to the National Cathedral as an example.

ALEXANDER QUICK FACTS

Supporting the arts in crisis

In June 2021, the Mellon Foundation launched a $125 million program to help financially support 2,400 artists as part of an effort to rebuild New York City's creative economy during the COVID-19 pandemic.

Lessons from a painting

Alexander keeps by her bed a small painting made by her late husband Ficre Ghebreyesus; on the back of the painting is written: "I wake up grateful, for life is a gift."

Presidential poetry

At Barack Obama's first Inauguration, Alexander delivered her poem "Praise Song for the Day."

Mellon money

The Mellon Foundation was created in 1969 by the heirs of the banker and former Secretary of the Treasury Andrew W. Mellon. Today it hands out over $400 million a year in grants to support education, preserving history and the arts.

DEMETRIUS FREEMAN—THE NEW YORK TIMES/REDUX

"The [congregation] themselves looked up and said, 'Why is this here? This is what those people stand for; and this symbol in a church is an impediment to worship.' And so they took out the windows and made a decision to put something else in." Mellon is helping fund the new window installation, which will include an inscription of a new poem by Alexander.

The poet's ascent to the leadership of one of America's richest philanthropies was in some ways unlikely and in others, very unsurprising. Raised in Washington, D.C., by a lawyer father—he was the first Black Secretary of the Army—and an academic mother, she grew up steeped in politics and social change. Her brother Mark was an adviser to the Obama presidential campaign. She's an artist, or as she calls it "an organizer of words." She published her first book of poetry, *The Venus Hottentot,* when she was just 28 years old, and five more since. She's been a finalist for a Pulitzer (twice), and she read at the 44th President's first Inauguration.

'Art and history are the indelibles.'

—ELIZABETH ALEXANDER

And then there's her academic career—Alexander taught at Yale University for 15 years, and headed up its African American studies department for four. An unexpected stint at the Ford Foundation while she was teaching at Columbia led to the top job at Mellon. She says she still misses the rhythms of the classroom—she has new-school-year energy every September—but feels very mission-driven.

Mellon has increased its giving to rebuild arts and cultural organizations and communities hollowed out by the pandemic, and is boosting access to books and education in prisons. "These are opportunities that could end tomorrow," Alexander says. "So I am trying to do it as intensely as I can, as bountifully as I can, as well as I can, as sharply as I can, because I know it's not going to be forever."

Alexander got a hard lesson on the nonforever nature of life 10 years ago, when her husband Ficre Ghebreyesus, an Eritrean painter and chef, died suddenly while exercising. They had two pre-teenage sons. Ghebreyesus, who eschewed self-promotion to paint more, was not a well-known artist in his life, but this year his work will be featured in the Venice Biennale. "A responsibility that I was left with is: What do I do with almost a thousand paintings?" Alexander says. "I certainly never took my eye off that ball, because I knew that his work had something profoundly beautiful to share."

Although she no longer has time to write poetry, Alexander believes *The Trayvon Generation* springs from the same well. "Art and history are the indelibles," she writes. "They outlive flesh. They offer us a compass or a lantern with which to move through the wilderness and allow us to imagine something different and better." ◻

Women at the Estonian Defence League firing range in Manniku on March 27

DISPATCH

Estonian civilians prepare to defend themselves

BY LISA ABEND/KLOOGA, ESTONIA

THE AMBUSH CAME AT DAWN. MOMENTS BEFORE, THE only sound in the frigid forest of Klooga, 40 km west of the Estonian capital Tallinn, had been light snoring coming from beneath a handful of camouflaged tarps. But seconds after machine-gun fire broke their sleep, several fighters erupted from their makeshift shelters and began returning fire. Flashes from their rifles illuminated the still dark woods, while blue smoke poured from a bomb intended to obscure the enemy's path.

Within minutes, the battle was over. Although the outnumbered fighters did not manage to vanquish the opposing force, Kaia, an accountant who had left her baby at home that weekend in order to train them, was pleased with the training exercise. "They did pretty well," she said of the volunteers in the Estonian Defence League (EDL) she was helping instruct. "They stayed calm, and they held their ground."

The Baltic states of Estonia, Latvia, and Lithuania have been preparing to do the same. A shared border with Russia, and a painful history of Soviet occupation that began in the 1940s and saw the deportation and imprisonment of hundreds of thousands of citizens, spurred all three nations to join NATO once they regained independence in the 1990s. It has also led them to adopt a broad, society-wide approach to defense that has proved especially relevant more recently, as Russia has ramped up disinformation efforts in the region. Nowhere is that more evident than in Estonia, where 15,000 ordinary citizens like Kaia spend several weekends each year training in guerrilla warfare as part of the EDL. And since Russia invaded Ukraine in February, heightened fears that the Baltics could be the Kremlin's next target have spurred thousands more to sign up.

'We are ready to put our blood on the line.'

HENRI, 20, AN ESTONIAN VOLUNTEER

"We are not conscripts. We are not regular army," said Henri, 20, a participant in the Klooga "ambush" who works in sales. (Most members speaking with TIME preferred not to give their last names as a security precaution.) "We are ordinary Estonian men and women ready to put our blood on the line for every inch a possible occupier would want to gain of our land."

ESTONIA TAKES PROTECTING its population of 1.3 million seriously. Its defense budget is proportionately the third highest among NATO countries, and while there are only 7,000 active-duty soldiers in its military, it bulks up its defense and deterrence capabilities with reservists and with the EDL, which is the region's largest volunteer force. At the start of 2022, it counted some 15,000 members, plus 10,700 in youth groups and a women's defense organization that provides support to the fighting units. That already added up to nearly 2% of the population, and since Russia invaded Ukraine on Feb. 24, the organization has received roughly 2,000 new applications for membership.

Most members are unpaid, though the Ministry of Defence funds their training and supplies weapons. "I truly believe that Estonians will grab a weapon or a tool against the Russian invaders," says Lauri Abel, the ministry's Under Secretary for Defence Readiness. A former commander of the Tallinn EDL, Abel sees the corps' civilian status as crucial to its success. "They're the link between the armed forces and society. They are everywhere, working in different companies. They carry the defense spirit to society."

Even before the war in Ukraine, a full 57% of Estonians said they would be willing to participate in their country's defense; some 80% approve of the EDL. It helps explain what induced Katlin, a 36-year-old who works in the financial sector, to spend a below-zero

PHOTOGRAPHS BY BIRGIT PUVE FOR TIME

Sunday in late March in the snow, learning to make impromptu stretchers that could be used to haul wounded comrades out of the woods. "I wear heels five days a week. So this," she says, gesturing to her heavy flak jacket and boots, "is a big difference. But I want the knowledge, and I want to be prepared."

Preparation is at the heart of the league. New recruits spend eight weekends in basic training, where they learn to fire and clean weapons, to handle explosives, and a range of other survival skills. After passing a final test, they are allowed to keep their state-issued weapons at home. "I don't know many countries in the world where the state entrusts its citizens to have combat weapons at their homes, just in case," said one veteran member. "If we are suddenly attacked, I don't need to go to a certain point to get my gear. I can just step out of my front door, walk 20 ft. into the bushes, and then I'm dangerous."

Against a conventional army with its large battalions and rigid formations, the EDL's small, local units are intended to be much more agile. "One of our original principles is that you fight in the area you are from," says Major Rene Toomse, who oversees the EDL's training programs. "The point is that during peacetime you have time to learn all the terrain: you know where you can hide, where you can produce good ambushes—it's your turf. Imagine what kind of leverage that gives you against an invading enemy. They have no idea where to go, and you know every inch."

The EDL hasn't yet had to test its abilities in a real conflict, but it collaborates with the Estonian military and with other NATO forces in war games and joint exercises, and is a major reason why researchers at the Rand organization consider Estonia's total defense capabilities to be among "the most developed" of the Baltic states.

That serves as reassurance in a country where many believe that should Ukraine fall, they will be next. After sitting in on the Klooga unit's practice ambush, Major Toomse drove to a target range where a different unit was spending its Sunday learning to fire two-person antitank weapons called Carl-Gustafs. "If Russia thinks it can reoccupy Estonia or any Baltic country," Toomse said, "it's going to be a disaster for them." ◻

QUICK TALK

Prime Minister Kaja Kallas

TIME sat down with Estonia's leader in Tallinn in late March to discuss the war in Ukraine and the threat Putin poses to the Baltic states

Given what you've seen from the response in Western countries, do you think leaders have woken up to the threat from Putin yet? The attitudes are different than they were before Feb. 24. Before, there were many who were watching this through the lens of the democratic world. But what I was saying then, and what is clear now, is that he's a dictator. He doesn't care that he's hurting his own country. That's why we have to do everything to stop the war. If Putin wins, or even has the view that he has won this war, then his appetite will only grow.

How do you assess the risk now of Russian aggression to Estonia in particular, and the Baltic states in general? We are part of NATO, and there haven't been any attacks on NATO countries. And it's also why we made the decision to join NATO years ago—that was one of the fundamental decisions that we made for our defense. As they say, it's easy to break one finger, but it's hard to break a fist. A fist is much stronger in a fight.

What role do you think Estonians' collective memory of Soviet occupation plays now in shaping both Estonia's response to this war and your own response as Prime Minister? In these last 30 years, we have become a boring country where freedom is taken for granted. And that's good, because our young people don't live in fear. But every family has a history of how they suffered during the Soviet times, due to the mass deportations, the killings, the shelling of the towns. What is happening now in Ukraine, where we hear people are being deported from Mariupol, brings back those very painful memories.

We thought that we would never see such things again. And that's why we have to do everything we can to help Ukraine.

We have a totally different experience with war than some big countries that have been empires before. If you go around in certain European countries, you see monuments to the big war heroes—but these are all war heroes who conquered. Whereas for us, war means utter destruction, and is something that could never be seen as a positive thing.

I've noticed in the Baltic countries that there's a sense that "we understand better than Western countries what Russia is like." Do you feel the war has become a sort of "we told you so" moment? A bit. It's impolite to say, but we have been talking about this for years. My father was Foreign Minister when we were negotiating to join NATO. And he was asked repeatedly, "Why do you need this? Russia does not pose a threat anymore." Well, we knew our neighbor then and we know our neighbor now. —*L.A.*


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The View

WORLD

THE LOOMING FOOD CRISIS

BY SCOTT IRWIN

Imagine driving the 600 miles between Indianapolis and Omaha. You see field after field after field of corn and soybeans. The U.S. Department of Agriculture recently projected farmers in the three states you drive across—Indiana, Illinois, and Iowa—will plant 56 million acres of corn and soybeans in 2022. It turns out this is roughly equivalent to the size of planted crop acreage in Ukraine.

INSIDE

This helps put into geographic perspective the huge size of the potential crop area put at risk by the Ukraine war. So is the world facing a full-blown food crisis brought on by the conflict between Ukraine and Russia?

Since the breakup of the Soviet Union in 1991, Ukraine has regained its traditional position as one of the most important breadbaskets of the world. More than 55% of Ukraine's land area is "farmable," and it has some of the most productive soils on the globe. According to the USDA, Ukraine produces about 4% of global corn and wheat supplies, 7% of barley, and 31% of sunflower oil.

It is not just the size of Ukrainian crop production that is worrisome for global food supplies, but the fact that so much of it is exported. Ukraine is now the fifth largest exporter of wheat in the world, supplying 10% of global wheat exports. Ukrainian farmers have fallen in love with corn, and now contribute nearly 15% of global exports.

Of particular concern is the destination of Ukraine's agricultural exports. In the wheat market, the main buyers include Bangladesh, Egypt, Indonesia, and Pakistan, all countries with rapidly growing populations and limited means for dealing with shortfalls. This is not as a big a concern for Ukraine's corn exports, as China is its main buyer and runs a surplus.

The big question is whether the impact of the Ukrainian conflict on global grain supplies is likely to be similar to a severe drought, or something much worse. There is definitely the potential for the latter. A drought typically does not entirely zero out crop acreage in a major producing nation. This is where the timing of the Russian invasion is so important. The planting window for spring crops in Ukraine is basically the same as it is in the U.S. corn belt: April and May. Once the war started, it was easy to see it spilling into the spring planting season and severely affecting the ability of farmers to sow their crops.

The obstacles that Ukrainian farmers face at the present time are certainly formidable. There is no prospect of planting spring crops in the areas with active fighting. Other parts of the country so far spared fighting still face shortages of fuel, labor, and other crop inputs, especially fertilizer. Just imagine how many Ukrainian farmers have taken up arms and are fighting somewhere in the nation right now.

A farmer wears a bulletproof vest during crop sowing 30 km from the front line in the Zaporizhzhia region in southeastern Ukraine

DMYTRO SMOLIYENKO—UKRINFORM/FUTURE PUBLISHING/GETTY IMAGES

GOING AGAINST this pessimistic view is the inherent resourcefulness of farmers. There is room for a bit of optimism on this front given the recent pullback of Russian troops away from territories in the north. This means that large chunks of Ukrainian crop production are now not as directly threatened by the fighting. But heavy fighting continues in the eastern and southern regions of Ukraine.

The Ukrainian Agricultural Ministry surprised many by saying that it expects 70% of spring crops to be planted, and up to 80% if "de-mining" is completed in northern areas previously occupied by Russia. While all of Ukraine's spring crops are obviously not going to get planted, this suggests the worst-case scenarios are not likely to happen. It is now safe to assume that at least half of Ukraine's spring crops will be planted, and I will not be surprised if two-thirds is planted.

There is still a long way to go in terms of getting their crops out of the field. Then there is the issue of getting the crops out of the country even if they are produced. This may turn out to be the real bottleneck. International shipping from southern Ukrainian ports along the Black Sea is at a complete standstill, and is likely to remain that way as long as the war continues. It is impossible to get insurance on shipping in this area. Progress is being made in rerouting crop exports from Ukraine via rail and truck, but this is more expensive, with much lower capacity.

World grain markets are in the process of sending signals to producers and consumers to make needed adjustments; hence the higher prices. If Ukrainian farmers get as much of their crops planted and harvested as I think they will, then the shortfall will not be as severe as was feared. While the world may avoid a food-production crisis, there is likely to be a food affordability crisis in parts of the world. Ukrainian (and Russian) wheat imports are a staple in the diet of many less-developed nations in the Middle East and Africa. As grain markets do their job of cutting demand in the face of smaller supplies, the poor in importing countries will be priced out of the market. This does not bode well for the well-being of millions of people around the world, or political stability in many less-developed nations. The situation deserves careful monitoring, and the provision of as much help from rich countries as can be summoned.

Irwin is the Laurence J. Norton chair in the Department of Agricultural and Consumer Economics at the University of Illinois

The View is reported by Mariah Espada, Nik Popli, and Simmone Shah

THE RISK REPORT BY IAN BREMMER

After Imran Khan, Pakistan resets

FOLLOWING WEEKS of political turmoil, Pakistan's Prime Minister Imran Khan is out, Shehbaz Sharif is in, and the country's streak of political dysfunction continues. No elected Prime Minister has ever served a full five-year term, though Khan is the first to be removed by a vote of no confidence in Parliament. This sad statistic is explained by constant infighting among the nation's political factions, a culture of official corruption, and frequent interventions of military leaders determined to protect their prerogatives.

Many of those who voted for the charismatic Khan in 2018 hoped he might end these cycles of failure. He came from neither the Bhutto nor Sharif factions, the dynasties that had dominated Pakistan's modern politics. His status as a genuine political outsider gave credibility to his campaign pledge to attack the country's endemic graft. He also appeared to have the blessing of the perpetually meddlesome military. But four years later, Khan has fallen victim to tough economic times. Inflation, including for food, is hitting record highs. Unemployment is high; debts and deficits are rising.

But his increasingly controversial foreign policy also played a big role in his ouster by helping to poison his relationship with Pakistan's military brass. The generals have long signaled that good working relationships with both China and the U.S. are critical to Pakistan's security. They know that China is the more reliable long-term ally against India, Pakistan's chief rival, and that Chinese investment remains crucial for the future of Pakistan's economy. But they also know that the U.S. and E.U. are Pakistan's lead export markets, and that good relations with the International Monetary Fund, in which the U.S. plays a crucial role, are important for Pakistan's economic well-being.

Good working relationships with China and the U.S. are critical

IMRAN KHAN APPEARED headed in another direction. In recent weeks, he tried to boost his popularity by playing to the anti-American hostility of his core voters. He set off alarm bells in Washington and among Pakistan's generals with a visit to Vladimir Putin in Moscow on the first day of Russia's invasion of Ukraine. That trip was long-planned, and its purpose was to secure badly needed Russian natural gas for Pakistan's economy. But Khan has done little to discourage the suspicion that he's a fan of Russia's President. His government then abstained from voting to condemn Russia's invasion.

When his parliamentary coalition began to fracture, and it appeared the military supported a bid by lawmakers to oust him via a vote of no confidence, Khan blamed a conspiracy led by "the West," by which he surely meant the U.S., to push him aside in favor of someone Washington likes better. Now he's out.

The new Prime Minister, Shehbaz Sharif, represents a reversion to the "old Pakistan," according to Khan and his supporters. Sharif is the 70-year-old younger brother of former PM Nawaz Sharif. He's also a veteran politician and a former chief minister of Punjab. His primary task will be to try to restore the nation's economic stability at a time when broader threats to the global economy will continue to create obstacles. But this new government will also return foreign policy to the "old Pakistan" model by working hard at the increasingly daunting task of keeping good relations with both America and China. ◻

HEALTH

A NEW DRUG EPIDEMIC

There's a new drug beginning to spread rapidly through the street drug supply in the U.S.: xylazine, an animal tranquilizer, increasingly used as a synthetic cutting agent for opioids like heroin. We recently published a study, based on years of research, which found that xylazine is popping up in cities all over the country.

Xylazine is almost never seen by itself. Instead, it is typically added to drug formulations containing fentanyl, a family of powerful opioids made in underground labs. Over the past 10 years, synthetically produced fentanyl—a particularly addictive drug—has largely taken over the illicit opioid market. Combined with poor quality controls inherent to clandestine supply chains, this has ushered in the deadliest overdose crisis in recorded history. The U.S. now has an overdose death rate more than double the second highest country (Estonia) and nearly 20 times the global average. Consumers are drawn to fentanyl for its powerful psychoactive effects. But fentanyl is very short-acting, and keeping cravings at bay can require injecting up to five or six times per day, rather than perhaps just two or three if using heroin. This is where xylazine comes in: it extends the effect of fentanyl—or, as this is often put on the street, "it gives it legs." Adding xylazine to a hit can postpone cravings and withdrawal symptoms for twice as long as fentanyl alone. Its risks are substantial.

As xylazine and other synthetics spread nationally, we must use evidence-based strategies like harm reduction to counter the most lethal drug crisis in recorded history.

—Joseph Friedman, M.D./ Ph.D. candidate at UCLA, and Philippe Bourgois, professor at UCLA

The Coronavirus Brief

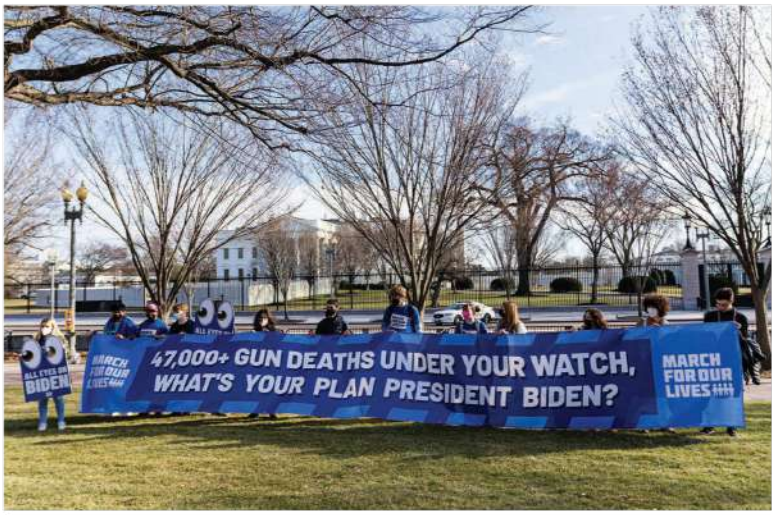
By Tara Law

HEALTH REPORTER

The verdict is in: during the last Omicron-driven spike in COVID-19 cases, those who received a booster shot of an mRNA vaccine were more strongly protected against hospitalization and severe disease than those who did not. It's less certain if that level of vaccination will continue to protect people from severe disease, or if boosters must be altered to address new variants. These questions were among the issues raised at the FDA vaccine advisory committee meeting in April, which grappled with an overall problem: Will our vaccine efforts always have to play catchup to new variants and outbreaks, or is there a strategy to get ahead of the virus?

Short-term, **scientists are still debating whether to widely recommend a second booster of an mRNA vaccine**—that is, a fourth shot overall. Studies in both the lab and the real world show that protection provided by vaccines wanes over time, and based on this evidence, the FDA authorized a second booster for anyone over 50 and for immunocompromised people over 12 on March 29. Some public-health experts think it makes sense to extend that recommendation to everyone. Others are not so sure, noting that the current strategy of pursuing new waves with more boosters of the same vaccines is unsustainable and won't provide durable protection that can withstand different variants. Many FDA committee members suggested an approach where people would get a multi-vaccine booster shot targeting a range of variants to provide longer-lasting immunity. Studies of such boosters are now under way.

For everything you need to know about COVID-19, subscribe at **time.com/coronavirus**



March for Our Lives protests near the White House on March 1

The D.C. Brief

By Philip Elliott

WASHINGTON CORRESPONDENT

FOR THE FIRST FEW YEARS OF Barack Obama's presidency, the White House persuaded immigration activists to hold their fire. The incoming team had to first rebuild the economy and make sure automakers didn't shutter after the 2008 financial meltdown. Then came a massive health care reboot. Then Supreme Court nominations, a Republican takeover of Congress, and the President's own re-election.

And then. And then. And then. There always seemed to be something keeping immigration from the front burner. By the time it finally emerged as a priority, Obama was in his second term and politically lame, by D.C. standards. The immigration lobby labeled him "the deporter in chief," and relationships broke down.

So why does this history matter in Washington right now? **As gun-violence prevention groups work to build support, they're studying what happens when allies give an Administration a pass.** And they don't like the historical precedent of deferring to the White House, especially one whose power may have an expiration date.

"[Biden]'s a friend to the movement, sure. We can call him that. But he's not a leader, and that's what we really need," says Zeenat Yahya of March for Our Lives, the youth movement that emerged in the wake of the 2018 high school shooting in Parkland, Fla.

March for Our Lives, Guns Down America, and Change the Ref on April 8 published Biden's report card on gun violence, and the grade is a D+. The timing was matched to the one-year anniversary of Biden's standing in the Rose Garden with an agenda to curb mass shootings. "The reality is: a year later that commitment has proven to be false," says Igor Volsky, the co-founder and executive director of Guns Down America.

In conversations with leaders of these groups, it's clear this isn't the verdict they wanted to deliver. But Biden, who was the Obama era's in-house expert on guns, has clearly come up short on his promises to curb gun violence. If the White House doesn't see the looming political threat of a fractured coalition, they should. After all, it wasn't that long ago that some current Administration officials were protesting Obama's immigration policies at the White House gates.

For more insights from Washington, sign up for TIME's politics newsletter at **time.com/theDCbrief**

MARCH FOR OUR LIVES: ERIC LEE—BLOOMBERG/GETTY IMAGES; ILLUSTRATION BY BELA JUDE FOR TIME

EDUCATION

Why college rejections aren't always bad news

BY S. MITRA KALITA

IN THE SPRING OF 1994, I CRIED OVER BEING DENIED admission at Northwestern and Columbia—and three other elite universities. A close friend failed to console me by saying, "Rejection builds character." But she was right. Nearly three decades later, I trace so much of who I am, and the career I've built, to that awful week.

Rutgers, where I ended up, was huge, and there was a need to prove myself, quickly define what I stood for, and distinguish myself from the crowd. I now realize the string of rejections left a bit of a chip on my shoulder and forced me to compensate for a lack of pedigree. This (constant) hustle proved invaluable in both traditional career ascension and my more recent entrepreneurial endeavors.

Over the past few weeks, millions of high school students learned their own college admission fates. Today, it's harder than ever to get into a selective college or university. The trend line, ironically, comes as enrollment at U.S. colleges is plummeting. Meanwhile, employers like IBM, facing labor shortages, dangle six-figure offers and training programs to high school graduates. Here's what college-admission experts advise when things don't quite work out:

Don't take rejection personally. Most experts agree that record application numbers (hastened by test-optional policies) mean there's no way for overwhelmed admissions offices to take the time applications deserve. "Yours maybe got eight minutes of their time and two minutes in a committee room, if they discussed you at all," says Ron Lieber, author of *The Price You Pay for College*.

Anecdotally, experts say there is a high number of students on wait lists this year. The waiting game is tough. But look at it another way: the graduating classes of high school and college have experienced unprecedented uncertainty in their young lives. The resulting resilience is a major asset for employers.

Not all decisions are in your hands, but one thing in your control is your character. The first question Hafeez Lakhani, founder and president of Lakhani Coaching, a college-admission prep and consulting firm, asks clients is "How are you doing in cultivating a fulfilling high school career?"

There's often confusion. Fulfilling to whom? Admissions officers? Parents? "Then you see their eyes open up because they realize you must be fulfilling to you first. Then others will notice," Lakhani says.

That's not to say that those rejected from their dream schools had no character. But for both those who got in and those who didn't, it's wise to spend some time figuring out your "character story," Lakhani says. The question of what you stand for is asked at life's every turn: to get into classes, clubs, grad school, jobs, the boardroom.

The question of what you stand for is asked at life's every turn

Where to find that purpose? A gap year could help here. Research has shown that gap-year students get in less trouble, are more likely to graduate on time, and have higher GPAs, which in turn can lead to stronger job opportunities, Lieber writes.

JEFFREY SELINGO WRITES in his book *Who Gets In and Why* that graduates of so-called elite schools vs. state universities are barely distinguishable. "For 40 years, top-ranked institutions have sold us on these distinctions, telling prospective students and their families that the brand name on the degree is what matters most when it comes to success after college … For economists, it's a much more nuanced answer than before: majors and skills might count for more in the job market than the college itself."

Employers are also rethinking elite institutions. For ages, the best internships went to students and graduates of top 20 colleges. That's changing as diversity, equity, and inclusion efforts extend to the source of recruitment, looking beyond the Ivy League.

Parents should also look beyond admissions. What if we focused less on admissions and instead on how to make high school as fulfilling as possible, or considered alternative options for the road ahead? "If we teach our young people that they are no 'less' because of a rejection—and no 'more' because of an admission," says Becky Munsterer Sabky, author of *Valedictorians at the Gate,* "it can remind them what matters most is not the name on their college sweatshirt, but who is wearing it."

Kalita is a co-founder and CEO of URL Media, publisher of Epicenter-NYC, and columnist for Charter, in partnership with TIME

ESSAY

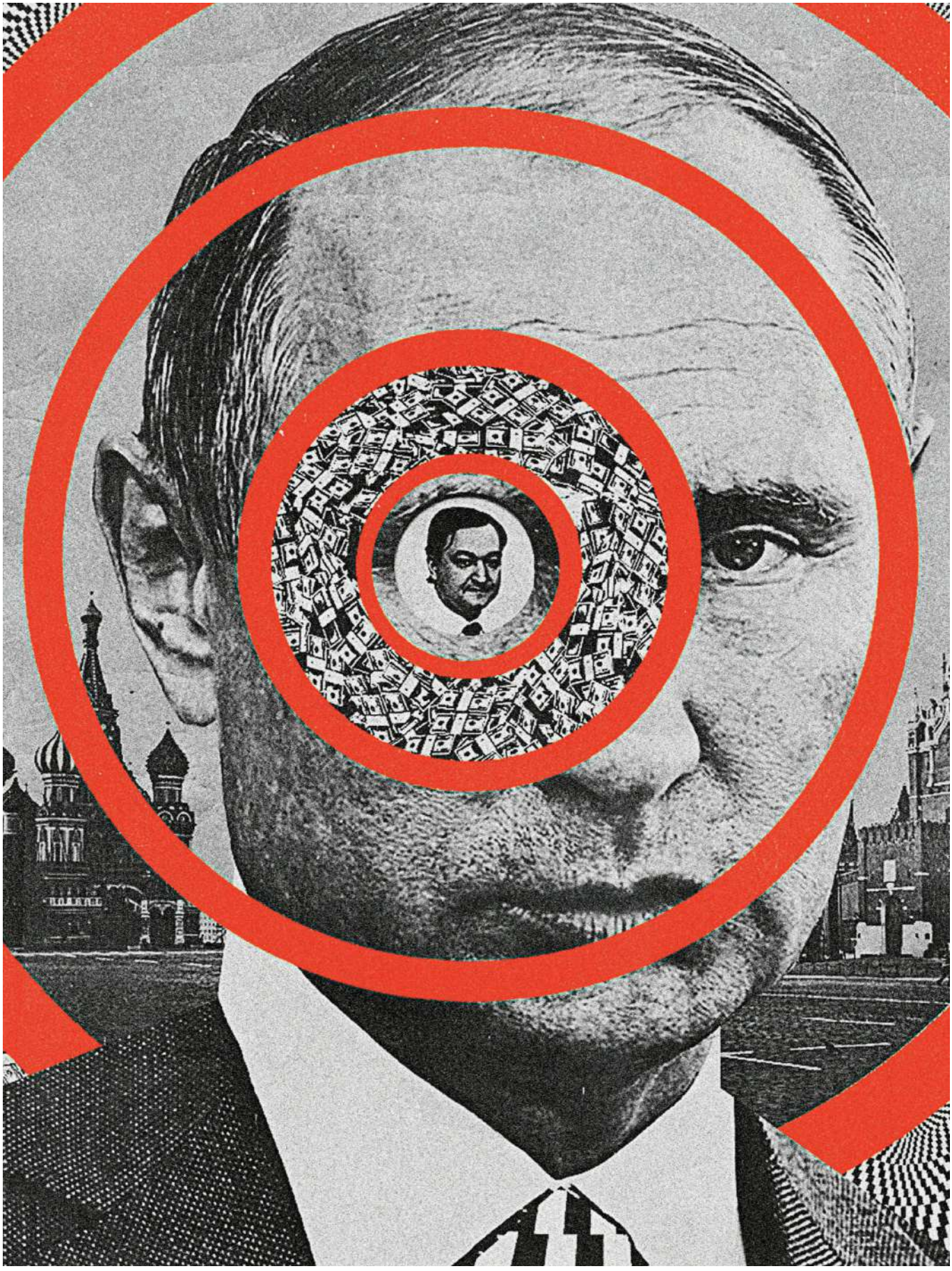
FOLLOW THE MONEY

I learned the hard way what Russia's president cares about most

BY BILL BROWDER

Sergei Magnitsky, center, was murdered after documenting corruption in Putin's government

ILLUSTRATION BY LINCOLN AGNEW FOR TIME



AS WE WATCH THE MURDEROUS CARnage that Putin has unleashed against innocent Ukrainians, we are all trying to understand his motivations. Some say he's reacting to NATO expansion; others contend that Putin can't abide a Western-leaning Ukraine. Still others offer that Putin so laments the breakup of the Soviet Union that he wants to reassemble it.

From my perspective, it's not due to any of these reasons. It's simply about money. Unlike most other governments, Russia's is not there to serve the people, but to enrich senior officials through endemic corruption. The more senior you are, the richer you get. And the most senior person, Vladimir Putin, has become the richest. I estimate his wealth to be well north of $200 billion.

I've seen how Russian corruption works with my own eyes. For a decade, between 1996 and 2005, I ran the largest foreign investment firm in Russia. My business model was simple: buy deeply undervalued shares in Russian companies, expose these companies' corruption, and then watch their share prices rise as the companies were forced to clean up. It worked like a charm. However, as you can imagine, the oligarchs and corrupt officials who were doing the stealing weren't too happy with me. In November 2005, I was kicked out of the country and declared a threat to Russian national security.

I moved to London and regrouped with my small team. We also went about liquidating the fund's Russian assets. In 2006, our holding companies reported a profit of $1 billion, paying $230 million in taxes to the Russian treasury. I was done with Russia.

But Russia was not done with me.

In 2007, my office in Moscow was raided by the Russian Interior Ministry. All of our documents were seized, and these were used to perpetrate a highly complex tax rebate fraud scheme to steal $230 million from the Russian treasury that our investment holding companies had previously paid.

My lawyer, Sergei Magnitsky, discovered the crime, testified against the officials involved, and in retaliation was arrested. He was held for 358 days, tortured, and killed on Nov. 16, 2009, in Russian police custody. He was only 37 years old. He left behind a wife, a 7-year-old son, and a loving mother.

Since then, it has been my life's mission to get justice for Sergei. Unfortunately, it was impossible to get justice in Russia. The Russian government promoted the people who had killed Sergei, giving them state honors. Three years after Sergei's murder, the Russian government put him on trial in the first ever case against a dead man in Russian history.

This story is a microcosm of what happens every day in Russia. You need to multiply the crime that Sergei discovered by 1,000 to begin to appreciate how much has been stolen by Putin and his cronies.

The problem for Putin is that this level of corruption is unsustainable. Russia presents itself as a democracy to its people. And those people are the ones deprived of health care, education, paved roads, and a decent standard of living so that senior officials in the Putin regime can enjoy yachts, private jets, and villas in the south of France. No matter what Russian propagandists peddle, eventually people will get angry. Putin looked around, and what he saw frightened him. In Kazakhstan, another corrupt dictator, Nursultan Nazarbayev, was ousted in January. In Belarus, President Alexander Lukashenko was almost ousted following the fraudulent 2019 election. It was only because of Putin's intervention that Lukashenko is still in power.

So Putin dug into the dictator's playbook and started a war. Now, instead of the Russian people being mad at him, they can be mad at "Nazified" Ukrainians, or the U.S., or NATO.

PUTIN HAS NO REGARD FOR HUMAN LIFE AND ONLY LUSTS OVER POWER AND MONEY

So far, he seems to be succeeding, with his approval ratings in Russia around 83%.

It is now plain that Putin is evil. This is not breathless hyperbole. It is fact. He has no regard for human life and only lusts over power and money. In his calculus, money is power, and vice versa.

Amazingly, Putin himself has now been sanctioned by the West. But finding the whereabouts of his money is no easy task. I've spent the last 14 years trying to understand the dark money flowing out of Russia. Once we found it, there was a huge price to pay.

ON APRIL 3, 2016, the British newspaper the *Guardian* published an article titled, "Revealed: the $2bn offshore trail that leads to Vladimir Putin." The author was part of a consortium of 370 journalists from 80 countries reporting on a data leak known as the Panama Papers.

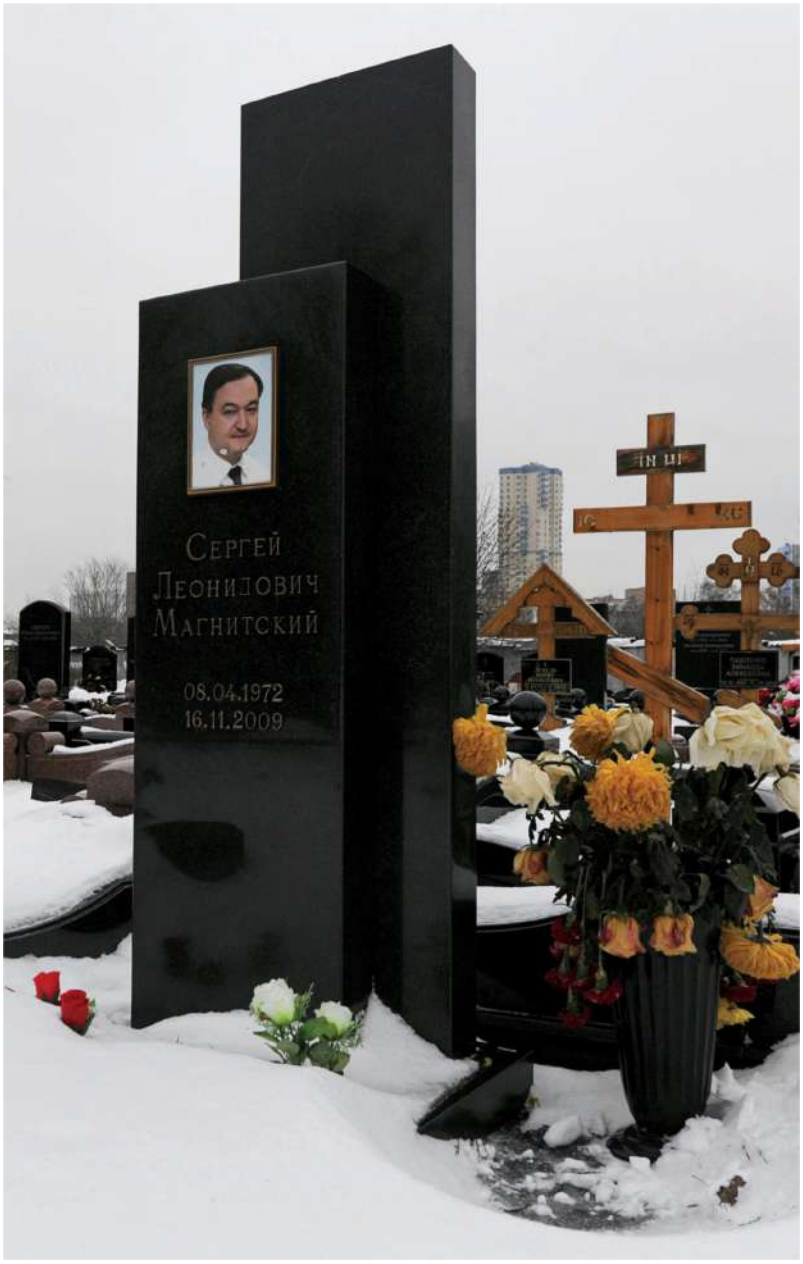
Central to the leak were over 11 million documents held by the Panamanian law firm Mossack Fonseca. The files revealed financial details of hundreds of thousands of offshore companies and accounts belonging to wealthy people from around the world.

The articles were divided by country, and each country had a star. In Russia, that star was a classical cellist named Sergei Roldugin.

Roldugin wasn't just a cellist, but also Putin's best friend, going back to the 1970s. Even though Roldugin professed to drive a used car and play a secondhand cello, he controlled companies that had accumulated billions of dollars of assets since Putin took power, effectively making him the richest musician in the world.

A quick Google search reveals that the richest musicians are Jay-Z, Sir Paul McCartney, and Sir Andrew Lloyd Webber, who are each worth around $1.25 billion. Yo-Yo Ma is probably the world's wealthiest cellist, and he's worth "only" about $25 million.

How had Roldugin become so wealthy? The answer, in my opinion, is that this cellist was serving as a nominee



ANDREY SMIRNOV—AFP/GETTY IMAGES; PREVIOUS PAGES: GETTY IMAGES

The headstone for lawyer Sergei Magnitsky, for whom the Magnitsky Act is named, on Dec. 7, 2012

for his longtime friend Vladimir Putin.

As anyone who follows Russia knows, Putin loves money. But because he's President, he can only earn his official salary (which is around $300,000 a year), and he can't hold any assets beyond those he accumulated before he was in government. If he did, anyone who got hold of a copy of a bank statement or a property registry with his name on it could use it as leverage to blackmail him. Putin is well aware of this, because he's used this tactic on many occasions against his own enemies.

Therefore, Putin needed others to hold his money so that no paper trail led back to him. For this, he needed people he could trust. In any mafia-like organization, these people are rare birds. There is no commodity more valuable than trust.

Roldugin was one such person for Putin. From the moment the two had met on the streets of Leningrad in their 20s, they were like brothers. Roldugin introduced Putin to his wife; he was the godfather to Putin's firstborn daughter; and through the decades they had remained the closest of friends.

For us, this news was potentially even more dramatic. If we could somehow link any of the $230 million tax refund that Sergei Magnitsky had been killed over to Putin through Roldugin, it would be a game changer.

Two days later, an obscure Lithuanian website reported that one of the companies linked to Roldugin had received $800,000 from an account at a Lithuanian bank. This account belonged to a shell company called Delco Networks.

We searched our money-laundering database and found that this $800,000 was connected to the $230 million tax refund. After leaving Russia, the money had passed through a series of banks in Moldova, Estonia, and, ultimately, Lithuania.

We could now link the crime that Sergei Magnitsky had exposed and been killed over to Roldugin. And from Roldugin, we could link it to Russian president Vladimir Putin.

This explained everything.

When Sergei was killed, Putin could have had the perpetrators of the tax rebate fraud prosecuted, but he didn't. When the international community demanded justice for Sergei, Putin exonerated everyone involved. When the Magnitsky Act passed in the U.S., freezing all assets of those implicated in Sergei's murder, Putin retaliated by banning the adoption of Russian orphans by American families. Before the law passed, Putin's government had even arranged for Dmitry Klyuev, a convicted mobster, along with his consigliere, Andrei Pavlov, both private citizens, to attend the OSCE Parliamentary Assembly in Monaco to lobby against the Magnitsky Act, as if they were some sort of special government envoys.

Why had Putin gone to such lengths to protect a group of crooked officials and organized criminals?

Because, quite simply, he was

protecting himself.

Out of $230 million, $800,000 is a pittance. But sums like these add up. It's like charging $5 for a toll. For one car, it's nothing, but after a million cars, you've collected a fortune.

Mossack Fonseca was merely one of hundreds of offshore trust companies. If these other companies' books were similarly exposed, I was sure we would find other trustees of Vladimir Putin who had received other tranches of the $230 million. And this was just one crime among thousands and thousands of crimes that had taken place in Russia since Putin took power.

We were looking at the tip of an enormous iceberg.

The Magnitsky Act says that Russian human-rights violators will have their assets frozen in the West. It also says that beneficiaries of the $230 million crime will be sanctioned. That Putin was a human-rights violator was not in dispute, but now he ticked both boxes.

The Magnitsky Act put all of his wealth and power at risk. That made him a very angry man. His crusade against the Magnitsky Act wasn't just philosophical, it was personal.

We had genuinely hit Vladimir Putin's Achilles' heel.

AT 8 A.M. on Monday, July 16, 2018, Trump and Putin were in the midst of their summit in Helsinki. I was in Aspen with my family. I set up my laptop at the end of the dining room table, a view of the mountains to the west over my shoulder.

I needed to get some work done, and I didn't want any distractions. My kids usually run riot all over the house, but that day I put the dining room off-limits. I also put restraints on myself, laying down my phone. After two hours of work, I turned over my phone. The screen was flush with notifications. I had dozens of messages—texts, emails, DMs, voicemails, everything.

I opened the first email. "Bill, are you watching Helsinki??"

I scrolled through my inbox. "That was the scariest, most f-cked-up thing I have ever seen," one friend said. Another wrote, "If you need a place to hide, we will put you in our mountain house!"

What the hell was going on? I found the earliest email about Helsinki, from the journalist Ali Velshi at MSNBC. The subject was to the point: "Putin talking about you now."

President Trump, left, and President Putin after their meeting in Helsinki on July 16, 2018

F-ck.

I put down my phone and went online. It didn't take long to find the post-summit press conference. The two leaders were onstage at twin lecterns, and their body language couldn't have been more different. Putin looked like he owned the place, while Trump glowered and slumped his shoulders, looking anything but presidential.

The shocking moment came when a Reuters reporter asked President Putin, "Will you consider extraditing the 12 Russian officials that were indicted last week by a U.S. grand jury?" Robert Mueller, the special counsel who had been in charge of investigating Russian involvement in the 2016 presidential election, as well as possible Russian links to the Trump campaign, had made an unexpected announcement the week before. His office was indicting 12 Russian officers of the GRU, Russia's military intelligence wing, accusing them of hacking the Democratic National Committee and interfering in the election to help Trump win.

Putin smiled and nodded confidently, looking like he'd spent the whole weekend preparing for this moment. "We can meet you halfway … We can actually permit representatives of the U.S., including this very commission headed by Mr. Mueller. We can let them into the country. They can be present at questioning. In this case there's another condition. This kind of effort should be a mutual one. We would expect that the Americans would reciprocate … For instance, we can bring up Mr. Browder in this particular case."

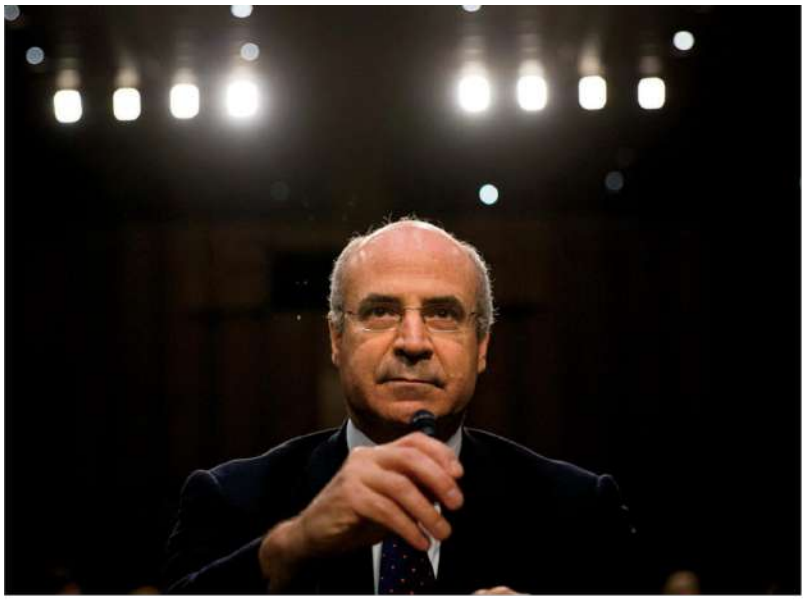
I had to watch it several times to make sure that I'd heard it correctly. Somehow, Putin, standing next to the President of the United States, was suggesting swapping 12 Russian GRU officers—for me!

I waited for Trump's reaction. Surely, he would reject this out of hand.

But he didn't. "I think that's an incredible offer," he said, suggesting he was ready to trade me.

Rationally, I understood the gravity of the situation, but emotionally I was too shaken to take it in. It was like being in a serious car accident. I knew I'd just been injured, but I had no idea how badly.

As I tried to assess the damage, the main thing I kept coming back to was whether it was safe for me to stay in America. My original, nebulous concern



Browder testifies before the Senate Judiciary Committee on Capitol Hill on July 27, 2017

that some Russian assassin might try to kill me had now been overtaken by the very real fear that the President of the United States would hand me over to the Russians.

My first inclination was to get the hell out of America. But my wife Elena calmed me down and convinced me to stay. "Right now," she said, "the world wants to know: Who is Bill Browder?"

She was right. I spent the rest of that day on TV, explaining the Magnitsky Act to anyone who'd listen. My main message? Putin is evil, and this idea of his was nothing more than a test for the West. Would the West pass? Only time would tell.

THE NEXT MORNING, at 6:30 a.m., my wife Elena jolted me awake, waving a piece of paper in my face. "You've got to see this, honey!"

Elena is originally from Russia, and she'd gotten up before sunrise to read the Russian news. That morning, the Russian Prosecutor General's Office had issued a list of 11 additional people the Russians wanted the U.S. to hand over in exchange for the 12 GRU officers. Russians love symmetry in these matters. The U.S. wanted 12, which meant Russia wanted 12.

I propped myself up and took the paper. The Russians wanted Mike McFaul, the former U.S. ambassador to Russia; my friend Kyle Parker, the congressional staffer who originally drafted the Magnitsky Act; three special agents from the Department of Homeland Security who had been involved in investigating a Russian money-laundering scheme involving a Cyprus-registered company named Prevezon that had received some of the $230 million; Jonathan Winer, the Washington lawyer and former State Department official who had come up with the original idea for the Magnitsky Act; and David Kramer, another ex–State Department official and the former head of the human rights organization Freedom House, who'd advocated for the Magnitsky Act alongside Boris Nemtsov and me. There were four additional names on the list, but the main common denominators were either involvement in the Magnitsky Act or participation in the Prevezon case.

What were the Russians accusing us of? The day before, Putin alleged that my "business associates" and I had "earned over $1.5 billion in Russia," "never paid any taxes," and then, to get Trump's attention, gave "$400 million as a contribution to the campaign of Hillary Clinton." (The actual amount was zero.) Putin went on to say, "We have solid reason to believe that some intelligence officers guided these transactions." Putin was accusing Ambassador McFaul, Kyle Parker, the three DHS agents, and everyone else on the list of being part of my "criminal enterprise."

This was classic Russian projection. We weren't the victims; they were. They weren't the criminals; we were. Instead of the Dmitry Klyuev Organized Crime Group working with corrupt Russian officials to launder vast sums of money, it was the Bill Browder Organized Crime Group working with corrupt American officials to launder vast sums of money.

It was one thing to go after a private person like me, who wasn't even an American citizen [Browder is British]. That might have been distasteful, but in the final analysis, how many people cared about me? It was entirely different to ask for a former U.S. ambassador, a congressional staffer, and rank-and-file DHS agents. If Trump obliged Putin, it would set a disastrous precedent.

The day after that, at a White House press conference, Maggie Haberman from the New York *Times* asked Trump's press secretary Sarah Huckabee Sanders, "Is [President Trump] open to having U.S. officials questioned by Russia?"

Huckabee Sanders didn't waver. She said that Trump "said it was an interesting idea. He wants to work with his team and determine if there is any validity that would be helpful to the process."

The tidal wave of indignation was towering, and the Senate quickly organized a vote on a resolution calling on Trump never to follow through on Putin's "incredible offer."

The Administration could sense this wave was about to come crashing down on them. An hour before the vote, the White House finally backtracked.

That afternoon, the Senate voted on the resolution. It passed 98-0.

No one would be handed over to the Russians.

Adapted from Browder's Freezing Order: A True Story of Money Laundering, Murder, and Surviving Vladimir Putin's Wrath, *published by Simon & Schuster*

FROM LEFT: YURI KADOBNOV—AFP/GETTY IMAGES; DREW ANGERER—GETTY IMAGES

Michael Williams' casket is carried toward his plot at Woodlawn Park Memorial Cemetery in Westwego, La., on May 18, 2020

PHOTOGRAPH BY KATHLEEN FLYNN

NATION

The Stories of Our Sorrow

Roughly 1 million people have died of COVID-19 in the U.S. Each death was more than a number

WHY WE MUST LOOK AT GRIEF

BY REBECCA SOFFER

"WOW, I JUST CAN'T imagine." That's what people emailed, texted, and uttered after my parents died. They couldn't imagine losing a mother to a violent car accident or a father, a mere four years later, to a heart attack in the middle of the night while he was traveling abroad. I was 34 and felt truly alone, and while talking to someone about my grief would have helped immeasurably, "I can't imagine" felt like the opposite of an invitation—it felt like a warning. *Don't even try to share, I won't get it.* But if my grief was too hard for me, and it was too hard for others, what was I supposed to do with it?

"I can't imagine." Families and individuals who have lost children, siblings, partners, and friends hear it all the time, this confession of an inability to imagine the worst, the unspeakable, the most feared event. I understand why people offer the phrase—as an earnest gesture of solace or a filler in lieu of anything else—but it rarely brings comfort. More often, the recipients are left feeling even more isolated at a time when grief has already banished them to a cold, dark place.

The truth is, it's not that we can't imagine the experience. It's that we don't want to. In saying that the deep loss someone is feeling is too unbearable to picture, what we're really doing is drawing a line: *not mine, not ours, only yours.* Perhaps we think we might prevent this pain, this chaos, this fear and uncertainty, from reaching our own lives. But if this global pandemic has taught us anything, it's that grief doesn't work that way. Grief belongs or will belong to everybody, if not today then someday.

IN 2013, I CO-FOUNDED a publication and global community called Modern Loss, which is centered on helping people move through the long arc of grief. The other day I was aimlessly scrolling through our Instagram history and stopped cold at a post from Feb. 22, 2021, that announced 500,000 deaths from COVID-19 in the U.S. I scrolled back further, to Sept. 23, 2020, and found another post marking a grim milestone: 200,000. The number was described at the time as "unfathomable."

Now we're at roughly 1 million. A number that equals the population of Austin, or, perhaps more fittingly for these times, of Odesa, Ukraine, at least until recently. A number that feels at once make-believe and overwhelming. The actual number could be as high as 200,000 more, given the excess deaths that surpass typical mortality rates and seem to stem directly or indirectly from the pandemic.

"Can you imagine?" For a while, we had a pretty good excuse not to: we set off on this terrible adventure under an Administration that tried to convince us that we should not be afraid of this new virus, nor should we let it "dominate" our lives. The government tried to disconnect us from reality when reality was disconnecting us from the humans with whom we used to spend our days: co-workers, relatives, neighbors, the shop owner on the corner. For so long, we were physically separated from one another, trying to deal with our own "new normals," which likely involved the addition of too many roles and the subtraction of others. Aside from glimpses on screens, we didn't see the insides of other people's homes. And so we didn't see the people who inhabit those homes going through the motions of daily life after a loved one's death.

But now, as we attempt to more fully resume in-person interactions (at least between variants), we must force ourselves

PREVIOUS PAGES: PROPUBLICA; THESE PAGES: KENT NISHIMURA—LOS ANGELES TIMES/GETTY IMAGES

to look, pay attention, and see who and what has been lost. We must do our best to seek out and learn people's stories. We must check in on those we know, but also ask a stranger, "How are you?" and actually listen to the answer. And if someone throws a fit about the temperature of the milk in their latte, we must remember that we don't know what kind of grief they might be shouldering, due to COVID-19 or otherwise. Not all masks are visible.

We must engage with these stories, however difficult, for so many reasons: Public health is failing us (last week I paid $200 for a required rapid PCR test, one that

Visitors at the *In America: Remember* public art installation on the National Mall in Washington on Sept. 20

had been free of charge until March). Congressional Democrats included national bereavement job-protection policies in the Build Back Better Act proposal and then couldn't pass it. We recently pathologized grief in the *Diagnostic and Statistical Manual of Mental Disorders* under the term *prolonged grief disorder.* And we feel so lonely.

This pandemic is not going anywhere; there will surely be milestones beyond the million-death mark. And the "grief pandemic" will far outlast the public-health emergency. Researchers last year found that for every COVID-19 death, there are nine people who are directly affected—the "bereavement multiplier," they call it.

IT'S HARD TO KNOW what to say in the face of all this devastation, but it can be so much worse to say nothing at all. What I've witnessed, what I know to be true, is that storytelling is how we bring one another into our loss experiences and offer meaningful, powerful support. This means telling stories about our lost loved ones—that little joke they told so often that the rest of the family would start rolling their eyes upon hearing the first word, that thing they used to cook that somehow made everything OK, that time they messed up big-time and taught us an important lesson because of it, that special way they held us in their gaze. But it also means talking about our own suffering in the wake of that person's death—the longing we feel when the nightly phone calls we've come to expect suddenly stop, the breakdowns in public settings, the moments we are completely focused on something else and then remember.

Talking about how we're feeling, how we're coping, what we miss about our person (or, possibly, people) lessens the burden of sadness. Sharing memories keeps those we've lost present in our hearts and minds, and reminds us that the intensity of our grief is a sign of having loved deeply. Storytelling is how we create community, pull one another through the darkness, realize what others are going through—financially, psychologically, physically, intimately, logistically. It inspires us to speak up for more government support and protection, and it destigmatizes something that should never have been a stigma in the first place. Storytelling, not numbers, is how we make people feel acknowledged. And acknowledgment is essential to the healing process. This requires our imagination, not to make ourselves miserable, but to make the experience of grief communal and, most important, survivable.

In *Hamilton,* there is a song about grief called "It's Quiet Uptown," in which the cast sings about Alexander and his wife Eliza enduring the "unimaginable"—the death of their child.

> *There are moments that the words don't reach*
> *There's a grace too powerful to name*
> *We push away what we can never understand*
> *We push away the unimaginable*

Every time the track comes up on my playlist, I consider skipping to the next one. Surely I could use something happier, more hopeful, more distracting, something that could serve as an innocuous aural background. Every time, I consider pushing it away. And yet, I listen. And then, I imagine.

Soffer is the author of The Modern Loss Handbook: An Interactive Guide to Moving Through Grief and Building Your Resilience

The pandemic has affected us all, but certain groups have suffered disproportionately throughout it. TIME spoke with three people who lost family members to the same devastating disease—COVID-19—but under very different circumstances

Kious "James" Kelly, above, and with his sister Marya Patrice Sherron

KIOUS 'JAMES' KELLY

NEW YORK CITY, AGE 48

When COVID-19 began to ravage the U.S. in March 2020, health care workers were highly exposed to the virus. Many did not have access to adequate personal protective equipment—including Kious "James" Kelly, an assistant nurse manager at Mount Sinai West hospital in New York City. On March 24, Kelly died from COVID-19 after helping his team care for patients with the new disease.

His sister Marya Patrice Sherron, a 48-year-old writer and consultant who appeared on the most recent season of Survivor, *remembers his life and impact.*

MY BROTHER HAS ALWAYS been my hero and my idol. I remember always running to him because he could literally fix anything. When I was a kid, the saying was "If you're in trouble, go to James. James will fix it." He was so logical and methodical, but also humorous, super smart, and talented artistically.

He was 2½ years older than me, but I acted 10 years older than him. He would dance in the grocery store, leaping and pirouetting. I hated it as a kid. I was so embarrassed. He did not care. The world was his stage. It didn't matter where we were; if he was gonna dance, he was gonna dance. That is actually one of my fondest memories now.

He eventually moved to New York City and became a dancer, but it's a short career. I remember him calling me and saying, "For my second act, I want to help people." So that's what he did, by becoming a nurse.

It was very hard, but he loved being a nurse. He had this special way with his patients. Every time he walked into a room, it got brighter and warmer. You couldn't not notice he was there. He just had a powerful and peaceful yet exciting aura. Everybody responded.

When COVID-19 first started spreading in New York City in 2020, I didn't know enough to be afraid for him. I was very stressed about our parents, because they're older and had both been sick the year before. It didn't occur to me to be worried about James, because there was so much we didn't know at that point.

His sickness happened so fast. I found out he had COVID-19 on March 18, 2020. He was intubated and put on a ventilator the same day. When he texted me to tell me that he had COVID, I knew that my worry had been in the wrong place. I remember lying there in bed with this very heavy

COURTESY MARYA PATRICE SHERRON (2); COURTESY HEATHER PERRYMAN-JANKS (2)

feeling. It was hard to even get someone on the phone with us at the hospital. He passed on March 24, 2020.

I blame the hospital for his death in the moments that I need someone to blame, but I don't when I'm more logical. They had issues with getting people personal protective equipment, but I realize that they really didn't know what to do either. It's so tragic, but I don't know that there really is someone at fault.

Hitting 1 million deaths in the U.S. is overwhelming to think about. I have screenshots from when the death toll was around 600. When my brother passed, it was still under 1,000 in the U.S. I hate saying this, but there's part of me that has just had to shut down a little bit emotionally, after going through two years of people not wearing masks, not getting vaccinated, so much death. It's all been so hurtful. It's almost too much to digest. My brother didn't even have an opportunity to get vaccinated.

I wish I could just scream on a mountain, "Love your neighbor." It sounds so clichéd, but my mask isn't for me; it is because I'm thinking about someone else and preventing them from going through what my family went through. If I can do something to keep others safe, then I'm going to. That's all it comes down to. Every single one of those people who died has impacted the circle around them, whether it's kids or mothers or siblings or people in the community. We can't understand that when we just see the number. It's very difficult, very sad, and to some degree, unnecessary.

I want to be more like James. Even in his absence, he left me with some very beautiful gifts. He lived fearlessly, and he pursued his dreams whatever they were. Dream big, live big, and don't regret things. Those values are just ingrained in me now, partly to make him proud.

I'm finally going to be fearless. It's so strange for something so hurtful to also produce fruit, to bloom and flower. He continues to give me gifts from the way that he lived his life. I'm grateful that I got to be his sister.

—*As told to* JAMIE DUCHARME

In one week, the author, top left, lost her mother Brenda Perryman and her grandmother Pearlie Louie, above

BRENDA PERRYMAN AND PEARLIE LOUIE

DETROIT, AGES 71 AND 100

COVID-19 has killed people of color far beyond proportion. One reason is that these groups have higher rates of underlying conditions than white Americans. For example, up to 40% of Americans who died from COVID-19 had diabetes, a condition that hits Black Americans hard.

Brenda Perryman, 71, had Type 2 diabetes and died in April 2020. Her 100-year-old mother, Pearlie Louie, was on dialysis and died a week later. Both succumbed to COVID-19. Had a vaccine been available, they would have qualified for priority access to the shots. Heather Perryman-Tanks remembers her mother and grandmother and the mark they left on their city. ▶

MY MOTHER WAS FAMOUS here. After she died, I woke up to her face on the news on three different stations saying that today we lost someone special. She was a drama teacher at a high school and an advocate for the arts with the city of Detroit. She taught students and years later taught their children. Everywhere we went, people stopped her and said, "Ms. Perryman, Ms. Perryman, we wanted to say hello." She was always out doing public speaking for the arts and hugging people and all that, so I think that's how she caught COVID.

She first got sick around March 20, 2020, and I could hear her coughing real bad. I was like, "Mom, you sound terrible," and she said, "I'm fine." But by the 26th, she had to go to the hospital—and that was the last time I laid eyes on her in person. Later, I saw her on FaceTime when she was in the hospital and had the breathing mask on.

She said, "Heather, I'm not doing well."

I screamed, "Mom, you've got to fight for me—please fight, please fight!"

I called the doctor, and all he could say was "Well, she's got diabetes, and if we can't get her breathing again, I don't know what to tell you." They called us later and said they had to ventilate her. I questioned whether it was necessary, but my mother had already agreed to it, so there was nothing I could do.

They wouldn't let me or my husband in to see her, so he drove me to the parking garage near the hospital, and I just cried and screamed for my mom from the outside. She died a week later.

My grandmother was in a nursing home at the time, and she knew my mother was sick. They tested everyone at the nursing home, and everybody who was sick, they sent to the hospital. My grandmother had COVID-19, so she went. I called her on the Tuesday before she died and asked her how she was doing. She was still in her right mind, and she said, "I'm just resting." But I could hear that her breath was leaving her.

My mother passed on April 5. The doctors told us not to tell my grandmother that she had died, so we didn't. My grandmother died on April 12. She was 100, and it took COVID-19 to kill her.

My mother and grandmother were best friends, and I always knew that when my grandmother died, I would have to comfort my mother. As it turned out, I didn't have to comfort either one of them. But still, I lost half of my heart when they died. To lose them both within a week was like an out-of-body experience for me.

I ALWAYS KNEW THAT WHEN MY GRANDMOTHER DIED, I WOULD HAVE TO COMFORT MY MOTHER. AS IT TURNED OUT, I DIDN'T HAVE TO COMFORT EITHER ONE OF THEM

The African American community was really hit pretty hard by COVID. They always say that African Americans have more underlying conditions—more diabetes, more heart failure, more whatnot. I'm not going to say anybody did Black people wrong. But down here in our part of Detroit, you rarely saw anybody in the Caucasian community die. It was always in our community. Somebody's uncle, somebody's brother, somebody's mother.

This was early in the pandemic, and the hospitals didn't know what they were doing. They were sometimes just sending people home, and they died there. It was so overwhelming.

We're reaching 1 million people dying. I see those numbers on TV and think, Oh my God, I can't believe that. You never think that you will be part of that or anybody you know will be part of that. But my mother and my grandmother are two little people who are part of that statistic. Later on, my husband's grandmother died of COVID-19 too, so it's actually three people. The disease hit this family hard.

That's why I feel like with the vaccines available now, I should do all I can—for my mother and my grandmother. I preach vaccines. My son is 16, and he's had his booster. I don't want him to have to go through what they went through.

—As told to JEFFREY KLUGER

COURTESY ELARA BROWN (2)

Elana Brown with her parents Clint and Carla Smith, also at far left

CLINT AND CARLA SMITH

HOGANSVILLE, GA., AGES 62 AND 62

After vaccines became widely available in the U.S., the burden of COVID-19 deaths shifted onto unvaccinated adults—and onto heavily Republican parts of the country, where uptake of the shots was lowest (a trend that continues today).

In August 2021, during the Delta variant surge, husband and wife Brandon "Clint" Smith and Carla Smith of Hogansville, Ga., died from COVID-19, two days apart. Neither had been vaccinated. Elana Brown, 33, remembers her parents.

YOU HOPE THAT EVEN IF you have to lose one parent, at least you'll have the other. But when you haven't even had a chance to grieve the first one before the second one goes, there are no words for that. It's a double punch straight to your heart.

They were good people. They were fun. Mom was super eccentric; she took her turtle, Houdini, in her purse everywhere she went. Dad was quiet, one of those listen-before-you-speak people. They got married when I was 13, but I was friends with him first; he was the guy next door, a motorcycle-riding long-haired bachelor. But he was just a soft, cuddly teddy bear. I called him Daddy from 4 years old on.

My parents were extremely religious. I feel like sometimes they took it too far. It reached conspiracy-theory level: they said Trump was great but Biden was the Antichrist. I begged them to get the vaccine. They felt like COVID was a hoax at first, and they thought the vaccines were filled with microchips. They felt like right now, we're at the end times, and the vaccine had the "mark of the beast," a sign of evil. They were so mad when I posted on Facebook that I'd gotten vaccinated. They were like, "You don't know that they're not tracking you, you don't know that it doesn't cause cancer. I really hope that you don't die."

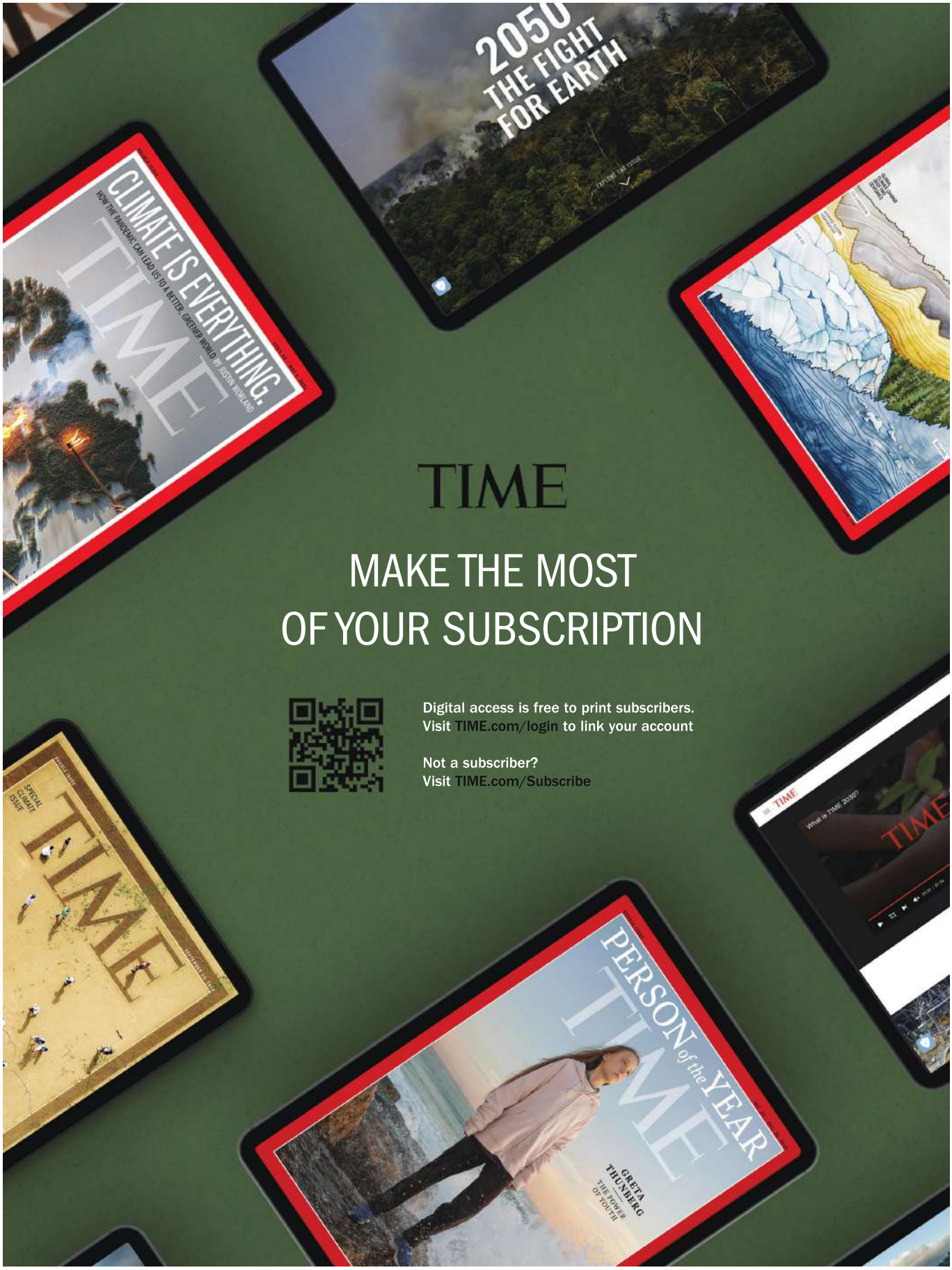
In counseling, I'm still working through how they contracted COVID-19. My parents told me that when they brought a friend to a hospital emergency room, they had felt led to pray for a man sitting in the corner. Before they even touched him, he told them, "You may want to get away from me. I have COVID-19, and I'm really sick." But they laid hands on him and prayed for him. Less than a week later, my mom had shortness of breath.

I had to make the call to take them off life support a couple weeks later. After we took my mom off, the nurse turned the iPad so I could see her. It was terrifying; she didn't look alive. She always loved to hear me sing, so I sang one of her favorite songs.

The exact same day, my dad's organs began to shut down. I know this sounds crazy, but I think he could feel that she was gone. He loved her with every fiber of his being. Before he went on the ventilator, he called me, and we said, "I love you." With Mom, I didn't get to say goodbye.

I'm angry because they didn't have to die. They didn't even have to contract COVID that day. It feels very selfish. I don't want to speak ill of the dead—especially not my parents—but I feel like they should have thought about what it would do to the people around them. I've never seen so much pain in my grandmother's eyes. All she could say was, "You are not supposed to outlive your children." Oh, it made my heart just crack into a million pieces.

I tell other unvaccinated people about the suffering my parents went through: how in the end, I wasn't allowed to go into their room and hold their hand and tell them that I love them as they died. Everybody's like, "I know that God is going to save me." And they're right, except he already did. He had these brilliant people come up with a vaccine that can save you. And you refuse to accept his help. —*As told to* TARA LAW



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For better or for worse, corporations are more involved than ever in how the world handles the climate crisis

INSIDE

PHOTO-ILLUSTRATION BY C.J. BURTON FOR TIME

The business of our future

BY EDWARD FELSENTHAL, EDITOR-IN-CHIEF & CEO

FOR MORE THAN A QUARTER OF A CENTURY, AMID growing signs of the ravages of global warming, the U.N. has brought together representatives from almost every country on the planet to work together on solutions. While the private sector has generally had a presence at the annual meetings, known as COPs (Conference of the Parties), their focus has been on government actors—the heads of state and diplomats who attend. But at the most recent one, something was different. Thousands of corporate executives and entrepreneurs flooded into Glasgow to be part of the event. For many, including myself, it was their first COP.

The meeting's shifting makeup reflected a new paradigm in the climate fight. Until now, the general assumption has been that governments would be at the center of any path forward. This is "a war in which all nations must be allies," TIME said in naming "Endangered Earth" as Planet of the Year for 1988, in lieu of a Person of the Year. Since then, despite progress in climate diplomacy, it has become all too clear that political will is far from where it needs to be.

Ecopreneurs will be critical to the planet's future

All of which has put the private sector in the driver's seat, a once unthinkable development that is the theme of this issue and a focus for us going forward at TIME. It is a moment of both opportunity and risk, giving businesses enormous power over what the energy transition looks like and whether it succeeds. Many companies—urged on by employees, customers, and investors—are seeking to reduce emissions and "offset" carbon footprints. But business as a whole is only just beginning to respond to the crisis. Untangling the options, and ensuring those commitments are real, is among the great challenges we face.

One of the biggest opportunities lies in the massive private investment under way in climate tech—with a total of $87.5 billion invested over H2 2020 and H1 2021 (second half of 2020 and first half of 2021), per consulting group PwC's report on the sector. But first we must face the challenge of deploying much more aggressively the technology we already have, such as renewable energy through solar and wind, which are in many cases now cheaper than traditional alternatives; electrification of anything that can be electrified; "cleaner" aluminum, cement, and steel; cookstoves that promote cleaner cooking; and reforestation and other nature-based approaches.

A second challenge is looking further ahead, to 2050, when we'll need a lot of new technologies to have a shot at keeping global warming below 1.5°C. While science is clear that cutting emissions is the top priority, we're already far behind the curve. Getting to net zero will also require removing some of the carbon that's already in the atmosphere—an immensely complex process that is seeing hundreds of millions of dollars in investment but may well take decades to scale and become financially viable.

POTENTIALLY MORE TRANSFORMATIVE is what everyone can do—indeed must do—to make a difference. Climate is, after all, everything, as senior correspondent Justin Worland put it in a cover story a year ago. That's also why we continue to step up our coverage in this area. When I started at TIME nine years ago, there was one designated climate journalist. Under the leadership of editorial director Elijah Wolfson, we've built a growing team that covers climate every day and in every issue. Today, nearly all of our journalists contribute in some way to that coverage, with about 1 in 4 doing so regularly.

We're also increasing our focus on the role of the growing ranks of individuals, innovators, and businesses around the world that are stepping in—scaling technical and nature-based projects, developing new energy sources, supporting climate-vulnerable communities around the world. We call them "ecopreneurs," environmentally focused entrepreneurs taking risks that—along with the critical work of fossil-fuel reduction and increased awareness—will be integral to the planet's future. In the first in a new series, you'll find in this issue senior correspondent Aryn Baker's interview with one of those individuals, Impossible Mining's Renee Grogan.

At TIME, we're also now ecopreneurs ourselves. Since becoming independent in late 2018, nearly 100 years after our founding, we've launched several new businesses built on the authority of our brand, including TIME Studios, our TIME100 Events, and our web3 expansion. (We call ourselves a century-old startup for good reason.) Our newest division is CO2, a climate-action platform that aims to help guide every sized business, including ours, in becoming net zero and nature-positive. "Our mission is to serve all those who want to have a climate impact but find it hard to know the right thing to do, and challenging to find the bandwidth to do it," says Simon Mulcahy, who recently joined TIME as president of sustainability and will lead CO2.

TIME through its history has served as a guide to the future, and we are excited to take on a broader role in ensuring a sustainable one. We'll keep you posted. ◻


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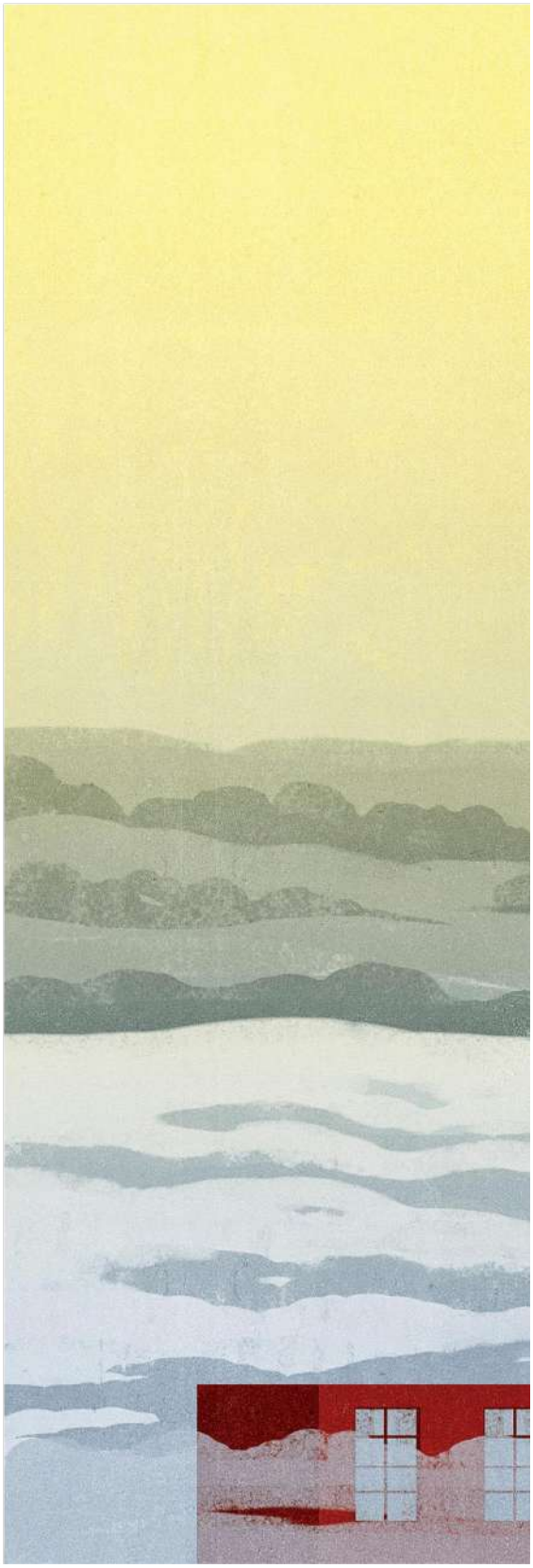
BUSINESS

Climate Goes Private

PLANET EARTH'S FUTURE NOW RESTS IN THE HANDS OF BIG BUSINESS BY JUSTIN WORLAND



ON A BRISK MONDAY IN HOUSTON IN EARLY March, dozens of protesters gathered across the street from the giant Hilton hotel hosting CERAWeek, the energy industry's hallmark annual conference. Their signs accused the corporate executives inside of betraying humanity in pursuit of financial return. STOP EXTRACTING OUR FUTURE, read one. PEOPLE OVER PROFIT, read another. Two days later, in a standing-room-only hotel ballroom, Jennifer Granholm, the U.S. Secretary of Energy, offered a different message to the executives: the Biden Administration needs your help to tackle climate change. The scene encapsulated this moment in the fight against global warming: some of the most ardent activists say companies can't be trusted; governments are saying they must play a role.

They already are. The U.S. Department of Energy has partnered with private companies to bolster the clean-energy supply chain, expand electric-vehicle charging, and commercialize new green technologies, among a range of other initiatives. In total, the agency is gearing up to spend tens of billions of dollars on public-private partnerships to speed up the energy transition. "I'm here to extend a hand of partnership," Granholm told the crowd. "We want you to power this country for the next 100 years with zero-carbon technologies."

Across the Biden Administration, and around the world, government officials have increasingly

focused their attention on the private sector—treating companies not just as entities to regulate but also as core partners. We "need to accelerate our transition" off fossil fuels, says Brian Deese, director of President Biden's National Economic Council. "And that … will only happen if the American private sector, including the incumbent energy producers in the U.S., utilities and otherwise, are an inextricable part of that process."

For some, the emergence of the private sector as a key ally in the efforts to tackle climate change is an indication of the power of capitalism to tackle societal challenges; for others it's a sign of capitalism's corruption of public institutions. In the three decades since the climate crisis became part of the global agenda, scientists, activists, and politicians have largely assumed that government would need to dictate the terms of the transition. But around the world, legislative attempts to tackle climate change have repeatedly failed. Meanwhile, investors and corporate executives have become more aware of the threat climate change poses to their business and open to working to address its causes. Those developments have laid the foundation for a new approach to climate action: government and nonprofits partnering with the private sector to do more—a new structure that carries both enormous opportunity and enormous risk.

Just 100 global companies were responsible for 71% of the world's greenhouse-gas emissions over the past three decades, according to data from CDP, a nonprofit that tracks climate disclosure, and pushing the private sector to step up is already showing dividends. Last fall, more than 1,000 companies collectively worth some $23 trillion set emission-reduction goals that line up with the Paris Agreement. "We are in the early stages of a sustainability revolution that has the magnitude and scale of the Industrial Revolution," says Al Gore, the former U.S. Vice President, who won the Nobel Peace Prize for his work on climate change. "In every sector of the economy, companies are competing vigorously to eliminate unnecessary waste to become radically more energy efficient, and focus on the sharp reduction of their emissions."

Despite that momentum, risks abound. Companies have an incentive to make big commitments, but they need a credible system to set the rules of the road and ensure that those pledges can be scrutinized. Even then, corporate progress is unlikely to add up to enough without clear policy that incentivizes good behavior and punishes bad behavior. "To catalyze business, we need governments to lead and set strong policies," says Lisa Jackson, vice president of environment, policy, and social initiatives at Apple and a former head of the U.S. Environmental Protection Agency. "That's just what the science says."

ILLUSTRATION BY SHOUT FOR TIME

CHRISTOPHE ARCHAMBAULT—POOL/REUTERS

Nor are companies built to address the array of social challenges—millions displaced, millions more with livelihoods destroyed, the escalating health ailments—that will arise from climate change and the transition needed to address it. "The private sector has been surprisingly aggressive on climate in the last 12 months," says Michael Greenstone, former chief economist in President Barack Obama's Council of Economic Advisers. But "there's no real substitute for a coherent climate policy."

It's increasingly hard to imagine how we find such a policy in time. In February, the IPCC, the U.N.'s climate-science body, warned of a "rapidly closing window of opportunity to secure a livable and sustainable future." Emissions need to peak by 2025 in order to have a decent chance of limiting warming to 1.5°C. In a landmark report outlining the possible levers to cut global emissions, the IPCC found that private-sector initiatives, if followed through, could make a "significant" contribution to that goal. The group assessed the impact of 10 private-sector initiatives, and found they could result in a total of 26 gigatons in reduced or avoided emissions by 2030—equivalent to more than five years of U.S. carbon pollution.

How this partnership between government and industry plays out will shape not just the trajectory of emissions over the coming years and decades, but also the future of democratic governance and how society will manage the now inevitable social disruption that will result from climate change.

TO UNDERSTAND HOW we got here, it's helpful to look back to a remarkable coincidence of history. Climate change entered public consciousness at the same time that, in the U.S., the zeitgeist turned against government's playing a robust role in society. In 1988, when then NASA scientist James Hansen offered his now famous warning that the planet was already warming as a result of human activity, American voters had spent eight years hearing President Ronald Reagan tell them that government lay at the root of society's problems.

So it's perhaps no wonder that in the decades that followed, government attempts to tackle a new problem, unprecedented in scope and scale, encountered roadblocks. That effort began in earnest in 1992 as heads of government from around the world gathered in Rio de Janeiro to inaugurate a new U.N. framework to address climate change. Every year since, with the pandemic-related exception of 2020, countries have met to hash out solutions to the problem. But in the first two decades of talks, a comprehensive solution failed to break through. In the U.S., the lagging climate policy can in large part be attributed to the then pervasive free-market ideology, which dictated that businesses exist to make a profit. From the 1990s and into the new century, fossil-fuel companies as well as heavy industry spent millions denying the existence of the problem and funding organizations that opposed climate rules. Other firms remained on the sidelines of an issue that seemed unrelated to their core business. The results in the political arena were clear. President Bill Clinton tried to pass an energy tax in Congress, but a concerted lobbying effort from manufacturers and the energy industry doomed the plan. President George W. Bush publicly questioned the science of climate change and appointed executives from the oil and gas industry to senior positions in his Administration. Obama pursued comprehensive climate legislation that would have capped companies' emissions in 2009; the legislation failed to make it to the floor of the Senate after a prominent group of businesses condemned it.

But around that time, many business leaders began to feel pressure to do something on climate for the first time. Prioritizing environmental, social, and corporate governance concerns in investing, or ESG for short, had risen from a niche idea in the early 1990s to a mainstream approach to investment two decades later. At that point, a growing flow of reports from financial institutions warned of the economic consequences of inaction. And key voices in the business community—from Michael Bloomberg to Bill Gates—took the message on the road, telling CEOs to take climate change seriously. From 2012 to 2014, the value of investment in the U.S. earmarked for funds that took into account ESG issues close to doubled, to nearly $7 trillion, according to data from the U.S. SIF Foundation, a nonprofit that advocates for sustainable investment strategies.

To foster this momentum, government leaders sought to bring business into the policymaking conversation. Their goal was to create what is often

The launch of a key climate coalition for businesses in 2017 with Bill Gates, Michael Bloomberg, and others

referred to as a virtuous cycle: if they could get commitments from the private sector on climate issues, they argued, it would theoretically push government to do more, which in turn would push companies to double down. In 2015, that approach was put into practice as a group of business leaders showed up in Paris to talk with government officials. The result: CEOs declared their commitment to reducing emissions, and the final text of the Paris Agreement created a formalized framework for involving private companies in the official U.N. process.

Just a year later, the U.S. elected Donald Trump as President and began to unravel the country's environmental rules. Five months into office, he announced that he would take the U.S. out of the Paris Agreement. Within hours, 20 *Fortune* 500 companies declared that they were "still in" the global climate deal and would cut their emissions in hopes of keeping the U.S. on track. By the time Trump left office, more than 2,300 American companies had joined the coalition. For many pushing climate action, working with the private sector became the best path forward.

The most important private-sector push came from the institutional investors at the center of the global economy, who control trillions of dollars in assets and are invested in every sector and essentially every publicly traded firm. When you own a little bit of everything, the scenarios portending climate-driven economic decline are terrifying. "We're too big to just take all of our hundreds of billions and try to find a nice safe place for that money," Anne Simpson, then director of board governance and sustainability at CalPERS, California's $500 billion state pension fund, told me in 2019. "We're exposed to these systemic risks, so we have to fix things."

With the U.S. government on the sidelines, these investors joined together to send a signal. When French President Emmanuel Macron hosted a climate summit in Paris in December 2017, he brought together investors controlling $68 trillion in assets to launch Climate Action 100+. In the beginning, members of this consortium used their status as high-profile investors to push emission reductions in 100 publicly traded companies through one-on-one engagements with high-level executives.

"All of this made for a reorganization of the politics of climate," says Laurence Tubiana, a key framer of the Paris Agreement who now heads the European Climate Foundation. "It has now crystallized into something new: a strong coalition between business, financial institutions, investors, and governments."

ALL THESE THREADS came together last year in Glasgow at the U.N. climate conference. Walking around the Scottish Events Center last November, it would have been easy to forget that the conference was ostensibly for government officials. An observer could easily spot, among the 40,000 attendees, high-profile business leaders mingling in the hallway. And by many accounts, the most significant news involved the private sector. Six major automakers joined with national governments to declare they would produce 100% zero-emissions passenger vehicles no later than 2040. A group of financial institutions representing $130 trillion in assets committed to aligning its investments and operations with the Paris Agreement.

But emissions are not the only concern. In Glasgow, activists complained about being excluded from negotiating rooms while business leaders were ushered onstage. "It now looks more like a trade summit rather than a climate convention," says Asad Rehman, who organized for COP26 Coalition, a climate-justice group. These activists worry about what the resulting government decisions look like when they're made hand in hand with businesses. "The very people who created this crisis are now positioning themselves as the people who will solve it," says Rehman. "The decisions being made seem very much to be locking us into a particular approach to solve the crisis—and, of course, that approach is not necessarily in the best interest of the people."

Last December, just a few weeks after returning to the U.S. from Glasgow, I caught a flight from Chicago to Washington, D.C., on what United Airlines billed as the first flight operated with an engine running only on a lower-carbon alternative to jet fuel. As we approached Reagan airport, Scott Kirby,

Greenpeace activists protest corporate involvement at the COP26 U.N. climate talks in November 2021

the airline's CEO, told me about the coalition—including companies like Deloitte, HP, and Microsoft—that he is forming to help bring the fuel to market. "This is not just about United Airlines; this is about building a new industry," Kirby told me. "To do that, we've got to have a lot of airlines participate, we've got to have partners participate . . . and we've got to have government participate." Kirby had chosen Washington as the destination for this flight for a reason: to truly deploy the technology would require some help from the U.S. government.

The Biden Administration has been eager to serve as a partner, proposing a tax credit for sustainable aviation fuel—and aviation is just the tip of the iceberg. The Administration has sought to partner on climate with companies across the country and across industries. "That's him availing every tool he's got," says Ali Zaidi, Biden's deputy national climate adviser, of the President's private-sector engagement.

That approach is also based in a sense of realism: the technologies we need to cut emissions over the next decade exist today, and any reasonable consideration of how the world can cut carbon emissions means deploying those technologies as quickly as possible—largely by getting companies to adopt them. We need "to take the technology that DOE has spent so many years working on and actually get it in the hands of consumers," says Jigar Shah, who runs the department's Loan Program Office and has $40 billion to invest in promising companies and make that happen.

Last September, I watched in the back of the room in Geneva as John Kerry, Biden's special presidential envoy for climate, pitched the Administration's approach to CEOs of some of the world's biggest companies, presenting more than 30 slides detailing a new program to catalyze production of clean technologies, in sectors ranging from air travel to steel manufacturing. Instead of government mandates, Kerry proposed that companies themselves take the lead by making deals to purchase clean technology.

The truth is that in 2022, Big Business has the power to influence—and halt—basically anything the government does. "I am convinced, unless the private sector buys into this, there won't be a sufficient public-sector path created, because the private sector has the power to prevent that," Kerry told me in September. "The private sector has enormous power. And our tax code reflects that in this country. And what we need is our environmental policy to reflect the reality."

It makes sense then that from the outset, the Biden Administration's climate-spending plan—dubbed Build Back Better—has focused primarily on carrots rather than sticks. That is, it included a laundry list of rewards for companies doing positive things—namely tax credits for clean energy and subsidies for technologies like electric vehicles. Still, the most influential trade groups that lobby in Washington on behalf of big businesses refused to back the overall legislation—because it required an increase in corporate taxes.

In the coming weeks, as negotiations for a revamped climate-spending bill accelerate, businesses will have another chance to show they are serious about climate policy. It brings to mind a key moment in a panel I moderated in April last year with Granholm and a handful of top corporate executives working to reduce their companies' emissions. "There are a lot of members of Congress that could learn from your words. And it's not to get political, but sometimes folks just need to hear," she told them. "To the extent you can, we'd be really grateful, because we feel like our hair is on fire." They still can help, but the clock is ticking.

EVEN BEFORE JOE BIDEN took office, the American auto industry had begun to adopt the President-elect's ambition of a rapid transition to electric vehicles. Within weeks of the election, GM dropped a lawsuit that sought to block more stringent fuel-economy standards. Two months later, it said it would go all electric by 2035. Meanwhile, Biden

JEFF J MITCHELL—GETTY IMAGES

committed to a federal-government purchase of hundreds of thousands of electric vehicles. Since then, the U.S. auto industry has become an electric-vehicle arms race, with companies left and right announcing new capital expenditures to advance the national electric-vehicle fleet. GM says it will spend $35 billion in the effort over the next few years. Ford says it's spending $50 billion.

Last year, I traveled to Ohio and Tennessee to see firsthand how the pressing questions about this transformation were playing out on the ground in the cities and towns that have relied on the auto industry for decades. In conversations with workers and local officials, I could sense excitement, but also consternation. Building an electric vehicle requires less labor than does its old-fashioned counterpart, and there's no guarantee that new jobs created will be covered by a union. "There's just going to be a lot less people building cars," Dave Green, a GM assembly worker who previously led a local UAW branch in Ohio, told me at the time.

The green transition will also displace oil, gas, and coal workers. Entire cities in flood and fire zones will be dislocated. Diseases will spread more quickly. How will society manage such problems, accounting for a diverse array of interests, without a comprehensive, government-led approach to the transition? Not well, if past transitions are any indicator. Inequality soared during the Industrial Revolution, and the U.S. is still dealing with the economic fallout of globalization in the 2000s, when many blue collar jobs were outsourced.

To make up for the slow pace of government policy to guarantee an equitable transition, many activists have set their sights on influencing corporations directly, using their leverage as employees and consumers. "It's not perfect," says Michael Vandenbergh, a professor at Vanderbilt University Law School who served as chief of staff at the U.S. Environmental Protection Agency under Clinton. But "it will buy us time until the public demands that government actually overcome some of the democracy deficits that we face."

As challenging as it may be in these polarizing times, overcoming that democracy deficit is necessary, not just to accelerate the transition away from fossil fuels but also to protect those most vulnerable to the effects of climate change and to the necessary changes ahead. It's for that reason that the upswing in climate-activist movements—from youths marching for a Green New Deal to union members joining with climate activists to push for a just transition—matter beyond any policy platform. Climate change will reshape the lives of people everywhere. A truly just transition will require people to engage in the fight to fix it. —*With reporting by* NIK POPLI *and* JULIA ZORTHIAN ◻

A closer look at carbon offsets

COMPANIES' NET-ZERO GOALS SOUND GOOD, BUT THEY RELY ON A CONTROVERSIAL APPROACH BY KYLA MANDEL

Only a relative few companies around the world have set net-zero targets, and even fewer expect to fully stop emitting greenhouse gases. For the majority, the plan is to eliminate much of their carbon footprint by 2050 with offsets—paying to reduce or remove emissions somewhere else. But offsets are controversial, in part because they're difficult to get right. Tech options, like carbon capture, are nowhere near the scale needed, leaving nature-based solutions, like growing new forests, as the current best choice. But nature is able to absorb only so much carbon from the atmosphere each year, and as more companies set climate goals, the more likely it is that there won't be enough land to meet corporate demand. **Here's a look at the math behind the pledges.**

1. Only **6.5% of companies** currently have plans to **reach net-zero emissions,** most by 2050

2. Together, they emit **4 gigatons (gt) of carbon dioxide equivalent (CO_2e) per year, two-thirds of which can be avoided** by clean energy and other efforts

3. That **leaves up to 1.3 gt of CO_2e per year** that companies plan to balance out using **offsets**

4. Currently the most feasible offsets are **nature-based** (such as reforestation), which at most **can trap about 2.5 gt of CO_2 annually**

5. These companies' plans **require nearly 1.4 million sq. mi.** (shown above as an equivalent area in the U.S.)—which is over half of all land available in the world for offsets

6. As more companies set net-zero targets, **by 2050 demand for offsets will grow to require 3.8 million sq. mi.** globally

NOTE: FIGURES FOR CO_2E INCLUDE CARBON DIOXIDE AND OTHER EMISSIONS. SOURCES: CARBON CREDIT REPORT, TROVE RESEARCH, UCL, AND LIEBREICH ASSOCIATES, JUNE 2021; "MAPPING CARBON ACCUMULATION POTENTIAL FROM GLOBAL NATURAL FOREST REGROWTH" BY COOK-PATTON S.C. ET AL., NATURE 2020; LAND AREA FIGURES BASED ON TIME'S CALCULATIONS USING THE REPORTS' DATA. CREDIT: KYLA MANDEL AND LON TWEETEN

INNOVATION

Make Mining Green

AN EXECUTIVE TRIES TO REGULATE HER OWN INDUSTRY—FOR THE EARTH'S SAKE BY ARYN BAKER

IN HER 16-YEAR CAREER IN THE MINING INDUSTRY, Renee Grogan has battled hostile environments, arduous work conditions, and the perception that women don't belong at a mine site—let alone in a mining-company boardroom. But her biggest battle has only just begun: getting climate-conscious car buyers to care as much about how the metals going into their new electric-vehicle (EV) batteries are mined as they do about their carbon emissions. "Consumers don't generally know what their metal footprint looks like," says Grogan, the co-founder and chief sustainability officer of California-based Impossible Mining, a battery-metal mining startup. "But if you are driving an electric car because you think you are doing good for the world, wouldn't you want to make sure your car battery isn't actually making things worse?"

As demand for EVs rises, so too does the need for the metals that go into their batteries—nickel, cobalt, copper, and lithium, among others. With land-based mines already at peak production and dogged by allegations of environmental and human-rights abuses, mining companies are looking to the Pacific Ocean, where trillions of potato-like nuggets made up of nickel, cobalt, and manganese are strewn across the floor of the Clarion-Clipperton Zone. Mining in the region could start as early as next year, once the International Seabed Authority (ISA) starts granting licenses. According to mining companies investing in seabed metals, the polymetallic nodules could be vacuumed up with minimal environmental impact. Marine biologists disagree, arguing that there hasn't been enough research on the complex undersea environment to understand the potential impact. More than 600 marine scientists and policy experts have signed a statement calling for a moratorium on undersea mining until more research is done. BMW, Google, Samsung, and Volkswagen, among others, have supported similar moratoriums.

Grogan starts from a different place. A ban on seabed mining, she says, will only shift the environmental burden to land-based metal mining, which destroys ecosystems while leaving a toxic legacy of tailings ponds—the water facilities engineered to store leftover materials from mining processes—and pollution runoff from refineries. A better alternative, Grogan argues, would be to set a new standard for responsible battery-mineral mining wherever it takes place. To power that cleaner future, Grogan has launched an initiative to push for an independent standards body that would require mining companies to avoid habitat destruction at sea and on land, eliminate toxic waste, preserve biodiversity, protect communities, maintain freshwater sources, and stay carbon neutral. Her

From left: Impossible Mining's deep-sea mining robot; the Impossible research team working in the lab

BetterEV label, she says, could eventually become as recognizable as "organic" and "fair trade" are for food and consumer goods. It is, she admits, a mammoth undertaking. But given enough consumer pressure, mining companies might be encouraged to try. "There are thousands of innovations waiting in the wings. We just need a push," says Grogan.

GROGAN'S OWN STARTUP is developing marine robots that would hover above the ocean floor to pluck individual metal nodules from the seabed, rather than vacuuming them up along with biodiversity-rich sediment as other mining companies do. The AI-equipped robots can be programmed to recognize sea life, like sponges or worms living on individual nodules, and leave them in place. Impossible Mining is also scaling up new technologies in metal refining that use specially engineered bacteria to break down nodules into their component elements without using energy-intensive heat or harmful acids that leave toxic waste. Prototypes for both technologies are being deployed on a trial basis, and Grogan expects both to be in full operation by next year. "If we are the first company that shows those standards can be met, then the others have no choice but to follow. They will compete, they will innovate, and then the industry as a whole is doing better for the planet."

A consumer-facing standards label would add welcome pressure on mining companies to do better, says Andrew Friedman, the project lead on seabed mining at the Pew Charitable Trust's campaign for ocean conservation. But voluntary label accreditation is not a substitute for strong regulation. "Even if a segment of the consumer base is engaged with thinking about their supply chain, it's ultimately the regulatory standards which will have the most influence on industry behavior," he says.

The Metals Company, a Canada-based startup, argues that a public-facing label is unnecessary because the ISA is already in the process of establishing an undersea mining code that includes robust environmental, reporting, and oversight requirements. But Grogan says it was in fact a subpar application to the ISA from the Metals Company and its partner country Nauru, for a permit to test its polymetallic-nodule collector system, that triggered her idea. The environmental impact statement, she says, was disingenuous and incomplete, a sentiment shared widely among scientists, conservationists, and other national governments. Friedman says Nauru's initial assessment "included virtually no biological baseline data. An environmental impact statement that doesn't describe the marine life in the environment is not an environmental impact statement." After several ISA parties raised concerns, Nauru submitted a revised statement with some biological data, but did not allow for further comments from stakeholders. "I was so angry that a mining company could be so disrespectful of the approach to assessing environmental impact," says Grogan. "That's when I realized that market forces—consumer sentiment—might actually be the stronger voice, if we could get the message out."

RENEE GROGAN
Co-founder and chief sustainability officer, Impossible Mining

In a male-dominated industry, Grogan is used to being the only woman in the boardroom and not having her voice heard. She can't count the number of times she's been asked to go fetch tea or coffee, or been directed to the back of the room, even though she is co-founder of a mining company. "I literally have to fight for a seat at the table," she says. But she relishes the battle. "When the dinosaurs say it can't be done, I can't help but smile. In three years' time, I will remind them that they didn't want to be part of this change. It's exhausting and it's excruciating, but … this is my chance to change the industry that I grew up in." ◻

COURTESY IMPOSSIBLE MINING (2); GROGAN: TORI PACKER

FINANCE

Cracking the Corporate Code

A *TIME* ANALYSIS OF PUBLIC FILINGS REVEALS WHAT BUSINESS LEADERS REALLY THINK ABOUT CLIMATE

BY EMILY BARONE AND CHRIS WILSON

OVER THE PAST DECADE, THE WAY THAT BUSINESSES have spoken publicly about climate change has unmistakably changed. It's become standard for companies to, at the very least, pay lip service to the problem—though of course what a business says in press releases and what executives say behind closed doors, let alone what a company actually does, can differ dramatically. One way to get insight into the hearts and minds of business leaders is to look at large firms' 10-K filings—financial documents that public companies are required to submit annually to the Securities and Exchange Commission (SEC). While a 10-K can't put you inside the boardroom, it amounts to the best public record of the obstacles a company foresees to future profitability.

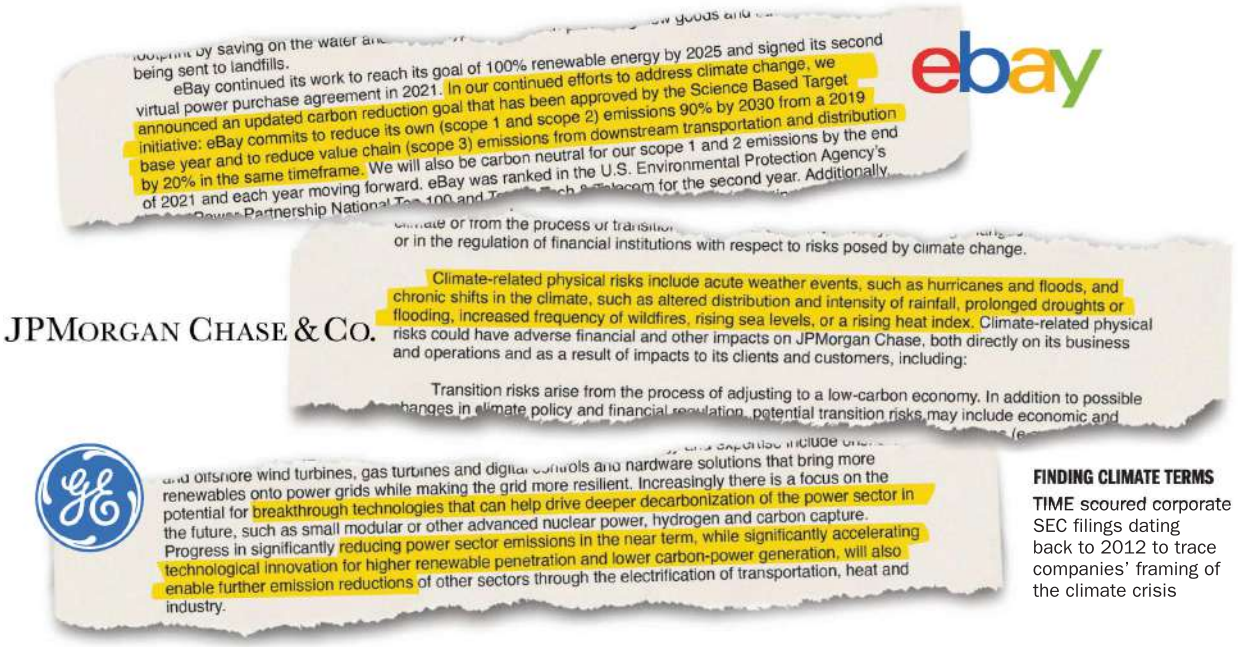
Companies previously acknowledging only the reality of climate change now admit they played a role in causing it

TIME analyzed thousands of these documents from the past 10 years and found that general terms relating to climate change had already crept in by 2012, suggesting that companies have long perceived climate change to be a threat to their operations. However, it is only recently that specific terms relating to corporate climate goals and initiatives have become part of companies' thinking about the crisis.

Experts say that this shift—from speaking theoretically about climate to talking more practically—tracks with what they've noticed in boardrooms and company operations, and indicates that companies are rushing to at least make investors feel they are working to mitigate climate-related risks. Patrick Callery, a professor at the University of Vermont who studies corporate climate disclosures, notes that this progression is a bit like processing an emotional shock. "First we deny it, then we accept it, and then at some point, we actually do something about it," he says. "I think at this point we're kind of at the acceptance stage and companies are talking about doing things, but I don't think to a large extent companies are actually really doing things quite yet."

Indeed, TIME's analysis found that 48% of companies mentioned ***climate change*** or similar phrases in their 2012 10-Ks. In 2021, that figure was 91%. ***Sustainability*** soared from 27% to nearly 80%. However, words relating to climate measurement and offsets, which include terms documenting companies' specific plans for achieving their climate goals, are still fairly uncommon, despite a recent uptick. ***Renewable energy*** more than doubled, from 15% to 37%, while ***environmental impact*** went from 14% to 26%. ***Deforestation*** went from being mentioned in a single 10-K to 15, or 5% of filings.

To come up with these numbers, TIME curated a list of about 200 climate words, phrases, and acronyms with input from experts at the University of Vermont. We took the 300 companies that have been consistently part of the S&P index since 2012 and extracted from the SEC's database all the 10-Ks covering the corporations' past 10 fiscal years—a total of 3,000 documents—and



FINDING CLIMATE TERMS

TIME scoured corporate SEC filings dating back to 2012 to trace companies' framing of the climate crisis

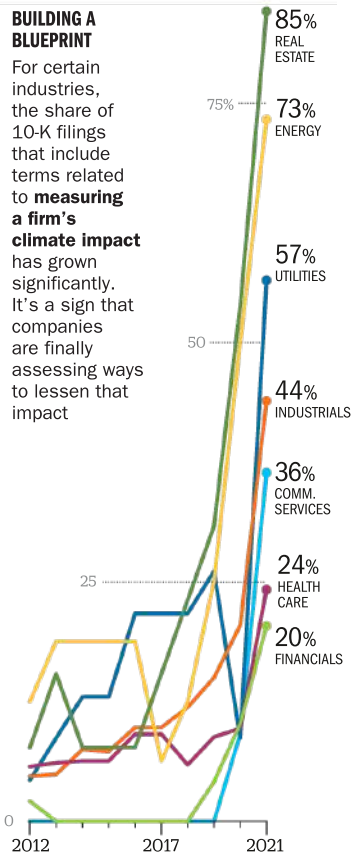
measured the changing frequency of those terms in 10-Ks over time.

By grouping the terms into categories, it became evident that words describing the causes and effects of climate change were regularly used a decade ago (and have since become ubiquitous), while those pertaining to actually addressing the crisis became the norm only in the past two or three years. This trend suggests that corporations previously only acknowledging climate change are now admitting that they've played a role in causing it.

Take, for instance, what we are calling the "climate effects" group—including terms like ***sea levels*** and ***drought***—which were already showing up in 66% of filings a decade ago. Citing these disasters as a business risk, as they would similarly label the impacts on their bottom line of, say, a poor economy or a pandemic, positioned corporations as victims of—not contributors to—climate change.

Meanwhile, terms that fit into the "climate goals" group (like ***decarbonize***, ***net zero,*** and ***carbon-neutral***) doubled from 27% to 58% of filings, and the "social responsibility" group (like ***fair trade*** and ***closed loop***) rose from 17% of filings back then, to 38% in 2021.

A number of "watershed moments"



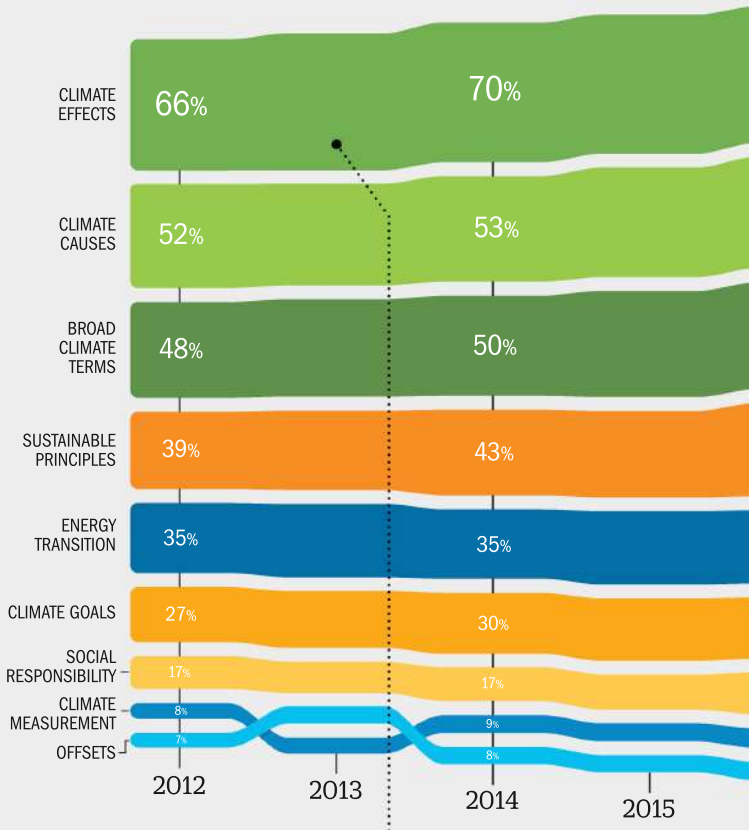
spurred this shift, says Paul Washington of the ESG Center at the Conference Board, a nonpartisan research group in New York City. In 2017, an international climate task force released guidance to standardize climate-risk disclosures across industries and countries. Public U.S. companies started anticipating that the SEC would issue its own proposal to require formalized climate-risk assessments—which indeed it did release in March 2022 for public comment. Additionally, climate analysis rapidly improved, thanks to a growing trove of climate data and a rising workforce of corporate climate advisers. Then came COVID-19, which forced companies to think about vulnerabilities to Mother Nature. In light of this confluence of events, Washington notes, companies felt increasing heat from their boards, shareholders, and investors to deal with what has become a mainstream financial concern.

TIME's analysis hints at where companies' climate efforts could shift next. The "climate measurement" word group lags behind the others, but it's been gaining steam, jumping from 10% of filings in 2018 to 39% of filings in 2021. These words include terms like ***life-cycle assessment*** and ***Scope 3***, which refers to emissions generated upstream or downstream from a company's direct business.

Callery observes that many companies have been "dragging their heels" on investing in these assessments and other initiatives that will be necessary for companies to actually reach their emissions-reduction targets. "I don't put a lot of stock in [net-zero goals] as any kind of commitment, because the time frame for these targets is so far in the future that companies don't actually have to do anything about it right now," he says. But Mindy Lubber, CEO of the sustainability nonprofit organization Ceres, is more optimistic. She says that companies are attempting to meet that challenge in reaction to investor demands and the Biden Administration's push for climate-conscious policies. "Over the last three years there's been mini revolutions," she says, "going from companies that planted a tree or something insignificant to really fundamentally getting it." ◻

Changing the conversation

The share of 10-K SEC filings that contain climate terminology has ballooned over the past decade. Climate change references (green) are now nearly ubiquitous, while corporate ideals (orange) and actions (blue) have jumped in the past three years.

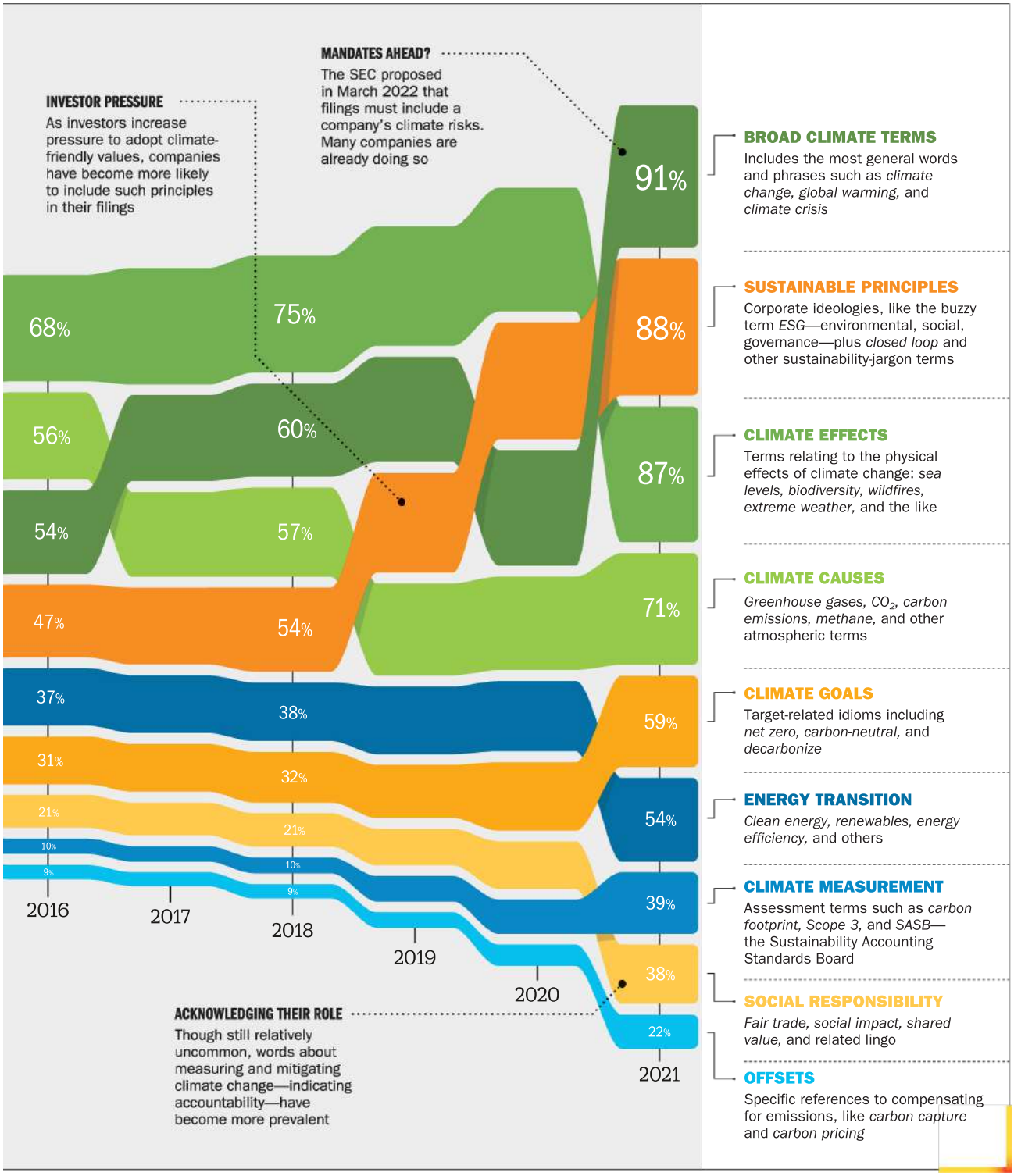


BEFORE *TIME*'S ANALYSIS ...

In 2010, the SEC suggested that firms consider how climate could impact them. But there was (and still is) no mandate forcing companies to do so

ALL TALK, NO ACTION

Ten years ago, companies spoke about how climate-change effects and regulation might hurt business, but few were talking about combating it


INVESTOR PRESSURE
As investors increase pressure to adopt climate-friendly values, companies have become more likely to include such principles in their filings
MANDATES AHEAD?
The SEC proposed in March 2022 that filings must include a company's climate risks. Many companies are already doing so
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2021
ACKNOWLEDGING THEIR ROLE
Though still relatively uncommon, words about measuring and mitigating climate change—indicating accountability—have become more prevalent
BROAD CLIMATE TERMS
Includes the most general words and phrases such as climate change, global warming, and climate crisis
SUSTAINABLE PRINCIPLES
Corporate ideologies, like the buzzy term ESG—environmental, social, governance—plus closed loop and other sustainability-jargon terms
CLIMATE EFFECTS
Terms relating to the physical effects of climate change: sea levels, biodiversity, wildfires, extreme weather, and the like
CLIMATE CAUSES
Greenhouse gases, CO_2, carbon emissions, methane, and other atmospheric terms
CLIMATE GOALS
Target-related idioms including net zero, carbon-neutral, and decarbonize
ENERGY TRANSITION
Clean energy, renewables, energy efficiency, and others
CLIMATE MEASUREMENT
Assessment terms such as carbon footprint, Scope 3, and SASB—the Sustainability Accounting Standards Board
SOCIAL RESPONSIBILITY
Fair trade, social impact, shared value, and related lingo
OFFSETS
Specific references to compensating for emissions, like carbon capture and carbon pricing

ENERGY

Tribes Get Serious About Solar

TO ENTER THE CLEAN-ENERGY MARKET, GOVERNMENT GRANTS ARE NOT ENOUGH BY KALEN GOODLUCK

THE VERY FIRST UTILITY-SCALE SOLAR PLANT ON tribal land in the continental U.S. began operating five years ago. Built on some 2,000 acres on the Moapa River Indian Reservation in Clark County, Nevada, the 250-megawatt project provides enough electricity for over 100,000 homes each year; all power generated is sold some 300 miles away to the Los Angeles Department of Water and Power. In the next two years, two more Moapa-led utility-scale projects will come online—together, the additions will be among the biggest yet on tribal lands.

While the first project benefited from a $2.38 million grant from the Department of Agriculture, these solar farms likely would not have been possible without a slew of partnerships with energy companies. The outcome is millions of dollars in tribal revenue and steady clean-energy jobs. Increasingly, tribes across the country have started to think big about solar. In a rush to accelerate clean energy, private companies and entrepreneurs are finally investing in Indigenous-led solar projects. While such projects are and will remain under Indigenous community control, private capital is essential to allowing tribes to tap into their renewable resources in a serious way.

Tribal lands comprise approximately 2% of the U.S., but hold 5% of all the nation's renewable-energy resources, according to a 2013 study commissioned by the Office of Indian Energy at the Department of Energy (DOE). This includes an estimated 14 billion megawatts of potential electricity generation from utility-scale rural solar resources—5.1% of the total U.S. potential.

Today, while dozens of tribal communities across the U.S. are equipped with rooftop or community-scale solar (with over a dozen more projects on the way), tribes increasingly want to enter the clean-energy market. But while government grants can help kick-start tribal renewable projects, it isn't enough to keep them growing.

The difference in funding for utility-scale solar projects compared with small local projects is profound. Rooftop and community solar is expensive enough, costing a few million dollars. Utility-scale behemoths can run into the hundreds of millions. To get there on government funding alone would require a seismic shift of congressional appropriation to cover the cost of everything from transmission-line access to workforce training. "I think Congress needs to appropriate a threefold

BUSINESS WIRE/AP

A GRID Alternatives tribal job trainee installs solar for the Picuris Pueblo tribe of New Mexico

amount of investment in Indian Country just to meet those goals and to get to where we need to be for climate change," says Tim Willink, director of the tribal solar program at GRID Alternatives, a nonprofit that offers solar-energy-systems training and installation to underserved communities. Instead, many tribes are turning to philanthropy and corporate investors.

RENEWABLE ENERGY IS APPEALING to tribal communities: it offers self-sufficiency, lower energy costs, economic development, and the chance to adapt to climate change. Since 2010, the DOE has doled out 214 grants for tribal green-energy projects, totaling over $85 million. No matter the size of the project, though, competing for and securing funding has long been a challenge.

GRID Alternatives has worked with around 50 tribal nations to provide technical support, and the organization knows all too well the strain of searching for outside funding, according to Willink. "It is time-consuming, but it is doable," he says. This is where private funding can help. A major boost came in 2018, when GRID Alternatives' tribal solar program got $5 million from Wells Fargo to launch a new Tribal Solar Accelerator Fund to support technical assistance and job training. Then, at the end of last year, an additional $12 million was donated by the Bezos Earth Fund. On average, just one of these corporate donations is roughly equal to all of the grants allocated by the DOE's Office of Indian Energy this year—$9 million worth—most of which went to solar projects.

"As we've been able to carry out a number of projects, we've seen an increase in tribes' approaching us, to enlist us as partners," says Willink, who is indifferent to where the money comes from for projects; he's for "diversified funding," as he puts it.

Once the groundwork is laid with local level installations and trained workers, communities are able to start thinking about scaling up further where the payoff could be even greater. "In the context of solar, the main difference is that the large utility-scale projects are selling power," says Jake Glavin, founder of Woven Energy and executive director of Midwest Tribal Energy Resources Association, "whereas with these community-scale and smaller-scale projects, they're actually offsetting [electricity] purchases."

So far the Southwest is leading the way. But even there, where, according to a 2019 report by the Institute for Energy Economics and Financial Analysis, a "paradigm shift is at work … development of these resources has moved at an almost glacial pace." Last year, potentially signaling an uptick of interest, the DOE hosted a webinar on developing utility-scale solar on tribal land.

One tribe looking to enter this space is the Ute Mountain Ute Tribe, which has land in southeastern Colorado, northern New Mexico, and southeastern Utah. After years of falling oil and gas revenue, the tribe a decade ago started looking to boost their economy—and turned toward solar energy. Bernadette Cuthair, tribal citizen and director of planning and development for the Ute Mountain Ute Tribe, has been leading the charge. Thanks in part to her work, the tribe received a series of DOE grants for two small solar projects. "We're done considering how to adapt," says Scott Clow, environmental director for the tribe. "We're all about action." The tribe now wants to scale up. They are searching for investors to break ground on a utility-scale solar project. It's a massive jump, but the ambition is there. The goal is to develop a 200- to 300-megawatt solar project, says Cuthair. "That is our appetite." ◻

2030

Ideas for a Sustainable Future

FOUR NEW MEMBERS OF *TIME*'S 2030 COMMITTEE—PART OF A PROJECT MARKING THIS DECADE'S PROGRESS TOWARD A BETTER WORLD—OFFER SOLUTIONS FOR CHANGE

HIRO MIZUNO
U.N. Special Envoy on Innovative Finance and Sustainable Investments

FINANCIAL INSTITUTIONS MUST DO THE WORK

Finance is indispensable to the achievement of the U.N.'s Sustainable Development Goals (SDG), which address issues from climate change to inequality. Without capital, no business or government can hope to achieve these goals.

At COP26, 450 major financial institutions committed to making their portfolios net zero by 2050, meaning they will require any company they invest in to eliminate or offset their carbon footprint. The $130 trillion they collectively manage may sound like more than enough capital to solve sustainability issues. However, a fraction of that is being put to this use. The OECD estimates $2.5 trillion is needed annually to achieve the SDGs, two-thirds of which must be invested in developing countries. Just 10% is currently being invested.

The financial ecosystem is sophisticated, comprising many different, interdependent players who cannot change the system alone. No asset manager can build a carbon-neutral portfolio unless their customers demand net-zero indexes. Similarly, banks can't finance projects in developing countries without rating agencies offering fair credit ratings and regulators taking a progressive approach. At COP26, we heard an unprecedented appeal from financial institutions for regulatory intervention. Governments should seize this opportunity to accelerate change. To achieve their commitments and subsequently the SDGs, all players must have open dialogue and hold one another accountable to produce and adhere to concrete action plans.

Investors are urging CEOs to do more than maximize shareholders' value. Investors must also fulfill a greater responsibility than simply optimizing financial returns, by acting as stewards of the entire financial ecosystem. For their portfolios to become sustainable, the financial system—and wider economic system—must be sustainable. That extends to the societies and environments we live in.

We are all part of the financial ecosystem and can contribute to its systematic change. Why not start by asking your bank to offer sustainability-focused financial products? Our combined contributions will mobilize the financial system to achieve the U.N.'s SDGs. There's no time to waste. We must work together to achieve a sustainable and inclusive future.

ILLUSTRATIONS BY ALEKSANDRA STANGLEWICZ FOR TIME

SALLY UREN
CEO,
Forum for
the Future

EMBRACE REGENERATIVE AGRICULTURE TO ADDRESS SUSTAINABILITY

Current approaches to producing food and other agricultural commodities are contributing to ecosystem degradation, growing income inequality, a climate crisis, vulnerable farm communities, and unequal access to healthy food.

Regenerative agriculture practices, which focus on revitalizing natural systems and ensure that equity and social justice are prioritized, have the potential to simultaneously solve many global challenges. Adopting them will require existing efforts to become more joined up. We must take a holistic approach to the food system that prioritizes equitable economic prosperity, allowing both people and the planet to flourish in the long term, rather than short-term profit and productivity growth. Through the Growing Our Future initiative, we are opening the conversation to historically underserved farm communities, building new connections. We are also centering our work on the principles of racial justice and social equity, alongside environmental incentives and outcomes.

Creating the conditions for systemic change is essential. Beyond supporting regenerative farming practices, we are fostering alignment and greater collaboration on policy and finance.

Regenerative agriculture should be embraced as an essential tool to address climate change and inequality around the world.

HOLD COMPANIES ACCOUNTABLE

RYAN GELLERT
CEO, Patagonia

Many companies have made promises to mitigate the climate crisis, but few are doing anything meaningful enough to meet the severity of the threat. We must hold companies and elected leaders accountable—and we need to work together.

Systemic change is needed to protect our planet and support thriving communities. Business leaders must address the root causes of the climate crisis to achieve that change, and we have committed to doing so in a number of ways. One is by committing to eliminating virgin petroleum sources by 2030 and investing in substantive removal and reduction in supply-chain emissions, in alignment with science-based targets. It's also important for companies to evaluate their financial partners and commit to those who are contributing most to the global energy transition.

Not all solutions will come from the corporate world. Companies should work with grassroots groups to support the communities most affected by the climate crisis. We can help to protect nature by supporting Indigenous and community-led efforts to restore land and water to sequester carbon and provide resiliency for people and biodiversity.

Lastly, we must end corporate doublespeak: your company's political contributions and business affiliations should not sabotage the legislative work being done to tackle the climate crisis.

CLIMATE LABELS AS COMMON AS FOOD LABELS

IRENE HEEMSKERK
Head of the Climate Change Centre, European Central Bank

Our existence relies on the food we eat and clean water to drink. We often take these things for granted. Yet climate change poses a threat to these most precious assets, an impact frequently neglected in our daily decisions and often undervalued or absent from economic assessments. To protect these natural resources, we must adapt our behavior and start valuing them.

One solution to empower us to contribute to a sustainable future is to help one another understand the impact of our behavior on climate change and the environment. For example, mandatory food labeling shows the ingredients and level of nutrition, which enables us to assess how healthy the food is and make choices on that basis. Climate labeling allows us to assess how healthy a given product is for the environment and make informed choices. In the same vein, when banks make decisions about granting loans, they need to know about the environmental impact of their investments. So introducing reliable, comprehensible, and globally comparable disclosure requirements is important, for both the economy and the financial sector. As a central bank and supervisor, the ECB pushes banks to manage and disclose their climate-related and environmental risks. This motivates them to ask businesses to do likewise.

Increasing transparency is key so that we can value our natural resources in our daily economic, and personal, decisions. I believe this will help better allocate our money to reducing CO_2 emissions and generating a positive impact on the environment. Let's get this done before 2030.

2030

Flipping the Farm

AN INVESTMENT FUND FINDS PROFIT IN HELPING AMERICAN FARMERS PLANT A GREENER CROP

BY MARIA GALLUCCI

THE DWELLEY FAMILY HAS FARMED THE FIELDS of Brentwood, Calif., for a century, growing organic sweet corn, cherry trees, and low, leafy green beans some 50 miles east of San Francisco.

During every harvest, the Dwelleys deliver their bounty to grocery stores and wholesale markets throughout the western U.S. With rich soils fed by the Sacramento and San Joaquin rivers, and hot days capped by cool, breezy nights, the region is ideal for growing produce. In recent decades, though, much of the neighboring farmland has disappeared. Strip malls and suburban tract housing have sprouted up as the Bay Area's population explodes and more farmers leave the business behind. For the Dwelleys, who lease most of their acreage from other families, the pool of available farms in Brentwood is drying up. So, since 2017, they've started leasing land slightly farther afield, from a different type of farm owner: a private investment fund known as Farmland LP.

The fund's managers acquire conventional farmland and convert it to organic operations; they then lease land to farmers growing specialty crops such as berries, vegetables, and wine grapes. Since launching in 2009, Farmland LP has snapped up 5,800 acres across Northern California, including

Blueberry plants grow at a Stockton, Calif., farm owned by Farmland LP

PHOTOGRAPHS BY CAYCE CLIFFORD FOR TIME

the fertile fields just east of Brentwood, near the city of Stockton. The fund is among a handful of U.S.-based firms, including Iroquois Valley, Dirt Capital Partners, and Grasslands LLC, that are using their financial and farming expertise to remake the American agricultural landscape. All told, Farmland LP owns and manages 15,000 acres in Northern California, Washington State, and Oregon, with total assets valued at nearly $200 million.

JOHN DWELLEY, a fourth-generation farmer, grew up selling sweet corn and stone fruit from his family's tin-roof produce stand on the side of a dusty two-lane highway. Expanding to Farmland LP's nearby terrain is part of a larger plan to keep the family legacy going, he says, even as Brentwood transforms from an agricultural hub to a suburban boomtown.

"For my sake, I hope to be farming until I'm a ripe old age," says the 36-year-old, "so I want to make sure that we're setting ourselves up for long-term success." Today the family leases hundreds of acres from Farmland LP on top of the other acreage it owns or leases. Farmland LP, based near San Francisco, says it is working to make more organic acreage available at a time when land for farming and ranching is vanishing nationwide and rising temperatures threaten to disrupt the world's food supply.

'I want to make sure that we're setting ourselves up for long-term success.'

—JOHN DWELLEY, FOURTH-GENERATION FARMER AND FARMLAND LP CLIENT

Tens of millions of acres of farmland have given way to warehouses, big-box stores, and sprawling subdivisions in the past three decades. Small farmers and ranchers—facing mounting debt, rising property taxes, and unstable commodity prices—are losing or leaving their property. With fewer young people following in their parents' footsteps, older generations are retiring and selling family fields. The nation lost nearly 120,000 farms between 2011 and 2021, according to data from the U.S. Department of Agriculture (USDA).

At the same time, many remaining farms are consolidating into large industrial operations growing a single commodity crop like soy or corn, often using chemical-heavy and water-intensive methods. In some states, excessive fertilizer use is polluting drinking water and contributing to toxic algal blooms, while the large-scale spraying of pesticides has stripped away habitats for bees and butterflies. Overworked soil and thirsty crops are especially vulnerable to drought, heavy rainfall, and other events made worse by climate change.

Farmland LP aims to both preserve existing farms and spare them from industrial monocropping, says Craig Wichner, the firm's founder and managing partner. Instead, the fund promotes "regenerative agriculture," an umbrella term for practices that help build healthy soils, improve water quality, and restore local biodiversity. The idea is that healthier plants will produce greater yields of higher-quality crops, so more money flows to farmers—who pay significantly higher rent on organic farmland—and to investors backing Farmland LP's fund. "Our mission is to demonstrate that regeneratively managed farmland is more profitable than commodity farmland," Wichner tells TIME.

Federal agencies and universities are similarly investing in the shift. In February, the USDA launched a $1 billion "climate-smart commodities" initiative to help food producers and forest owners adopt new practices and track carbon emissions.

Farmland LP is far from the only private firm betting on America's fields and pastures. Despite the financial precariousness farmers face, land itself is an increasingly attractive asset. Prominent billionaires like Bill Gates and Ted Turner are among the largest owners of U.S. farmland. Institutional investors, wealth advisory firms, and individuals are claiming shares of arable land. Unlike the U.S. stock market and housing sector, agricultural land has consistently delivered positive annual returns over the past few decades through rent from farmers, rising land values, and federal subsidies.

Even so, the growing number of investor-farmers is raising concerns about who gets to participate in the agricultural sector, and how. Wealthier enterprises can stomach rising land values, higher rents, and market forces that favor large-scale production. But other would-be farmers are struggling to gain a foothold. That includes young farmers—many of whom are people of color—eager to produce food sustainably to serve their communities, says Holly Rippon-Butler, land campaign director for the National Young Farmers Coalition.

Such barriers are perpetuating long-standing disparities in U.S. farming, she says. More than 95% of the nation's 3.4 million agricultural producers identify as white, according to 2017 USDA Census data. Explicit federal policies and practices over centuries barred anyone but white men from owning land, the consequences of which are clear in the current demographics. Black farmers in particular still face discrimination when applying for loans and accessing land, though social impact startups like the Black Farmer Fund are working to remove those barriers.

"We need to start addressing that inequity if we're going to have a viable future for agriculture in this country," Rippon-Butler says.

The investment boom is also accelerating the cultural shift in farming communities away from hands-on, small-scale producers toward digitally managed farm systems with faraway landlords,

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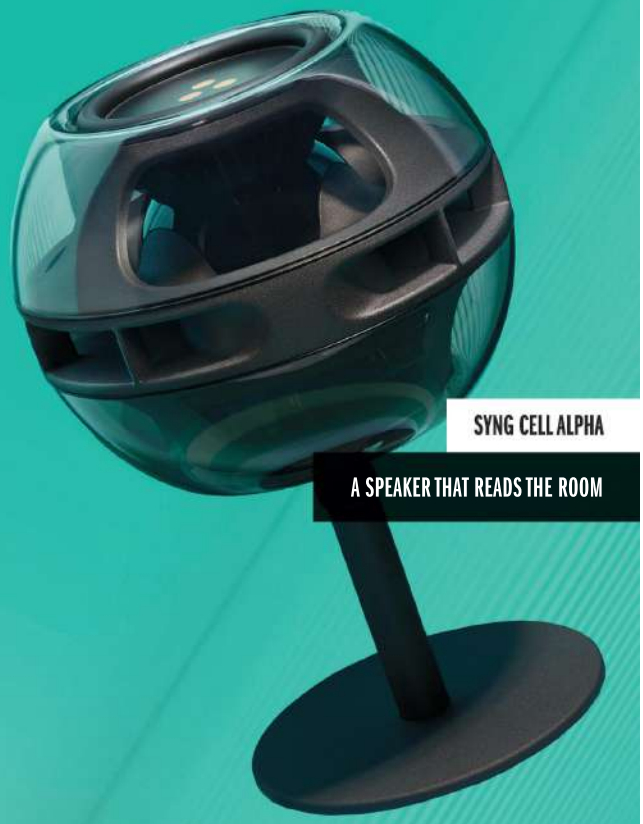


SYNG CELL ALPHA

A SPEAKER THAT READS THE ROOM

John Dwelley, a fourth-generation farmer, leases hundreds of acres from Farmland LP

whose priority is generating returns quickly, says Anuradha Mittal, founder and executive director of the Oakland Institute, a think tank in California. Along with environmental impacts, she says, the push for profits can create a "race to the bottom" in wages and working conditions for farm laborers.

Last summer, after a farmworker from Guatemala died in Oregon's heat wave, state officials adopted emergency protections for laborers. As temperatures topped 100°F—an extreme event exacerbated by climate change—farmworkers in the Pacific Northwest were still picking cherries, berries, and grapes without access to shade or cool drinking water, according to farmworker unions.

For its part, Farmland LP is a certified B Corporation, meaning its social and environmental performance is measured and verified by the nonprofit B Lab to meet higher industry standards. Its lengthy road to organic farming begins by restoring nutrients and healthy bacteria to the soil. To become certified organic by the USDA, conventional fields must undergo a transition period of three years, starting from the last application of synthetic fertilizer or pesticides.

Frank Savage, who manages Farmland LP's 5,800 acres in California, says the company usually starts by carpeting fields with a mix of deep-rooted grasses and broadleaf plants whose roots reach down 6 ft. to pull up minerals. It then leases the land to cattle ranchers and sheep farmers, whose livestock come to munch grasses and drop their nutrient-rich manure.

After the three-year transition, Farmland LP's managers will devise a 10-year plan for rotating crops on a property. That might mean growing vegetables for a few years, then grains, and finally returning the land to pasture for a three- to five-year stretch. The goal is to rotate crops in ways that benefit both soil health and the farm's economics.

Since organic farmers can't deter insects or rodents with chemical pesticides, they have to find more natural solutions. "It isn't as simple as just calling your pest manager out to shoot some chemicals," Savage says. To curb infestations of moles, which dig deep underground tunnels, his team built raptor perches and owl boxes to attract predators. The farmers also grow long hedges of shrubs, flowers, and other plants to attract pollinators and beneficial insects like ladybugs that devour tiny sap-sucking aphids. Wichner likens their approach to farming as a "mosaic," rather than the uniform, single-plant fields of conventional farms.

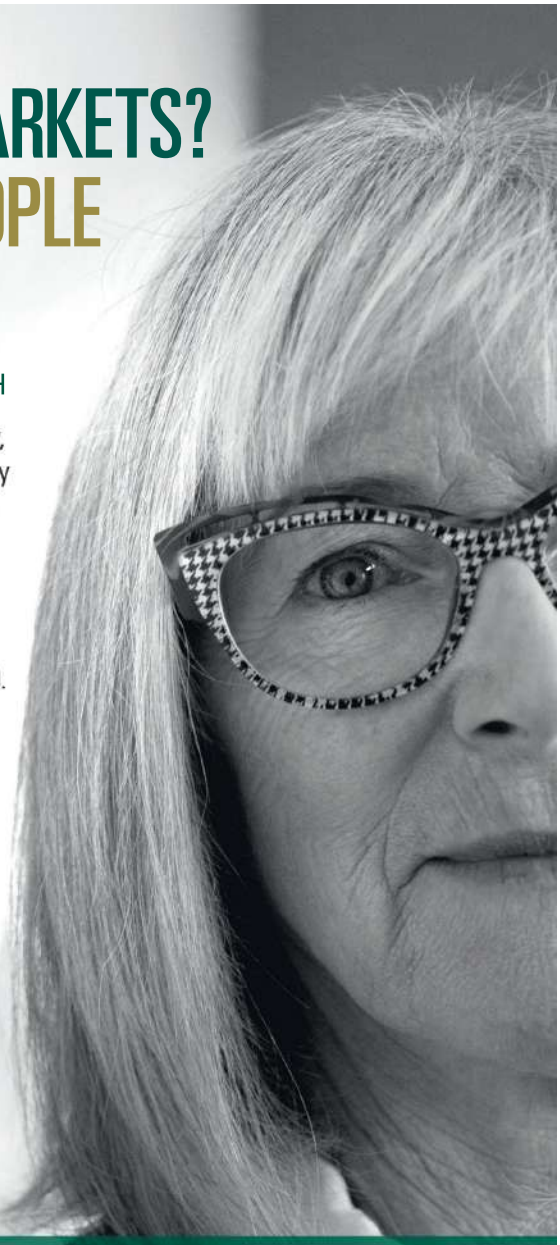
Farmland LP's fields also can't use chemical herbicides. So farmworkers use hands and hoes to manually remove weeds that threaten to choke seeds as they sprout from the ground. The practice is labor-intensive and time-consuming, and it's partly why organic produce is more expensive to grow and buy in stores, says Dwelley.

YET FOR ALL the careful planning, many factors remain outside farmers' control. The past few summers, Dwelley and a crew of 60 workers had to wear masks while harvesting beans, at first because of wildfire smoke, later because of COVID-19, and then because of both at once. In October, Northern California experienced bursts of drenching rain, followed by months with hardly any measurable rainfall at all. For the Dwelleys, the swings in precipitation mean they likely won't be able to grow as much sweet corn as expected this year.

Still, though every year is different on the farm, demand for food is moving steadily in one direction: up. So is the need to conserve water and maintain soil health as the planet warms and weather patterns shift. To that end, in 2022 Farmland LP is preparing to launch its third and largest investment fund to date, with plans to expand in the Pacific Northwest and other U.S. geographies.

Wichner says the families who sell their acreage to Farmland LP "know that it's going to be farmed organically and regeneratively for the ongoing future," and not irrevocably become a parking lot or subdivision. "The sale of that farmland is a really big fork in the road that sets up what happens over the next 50 to 100 years." ◻

"INVESTING IN TODAY'S MARKETS? I'LL NEED SOME GOOD PEOPLE WORKING ON THAT!"



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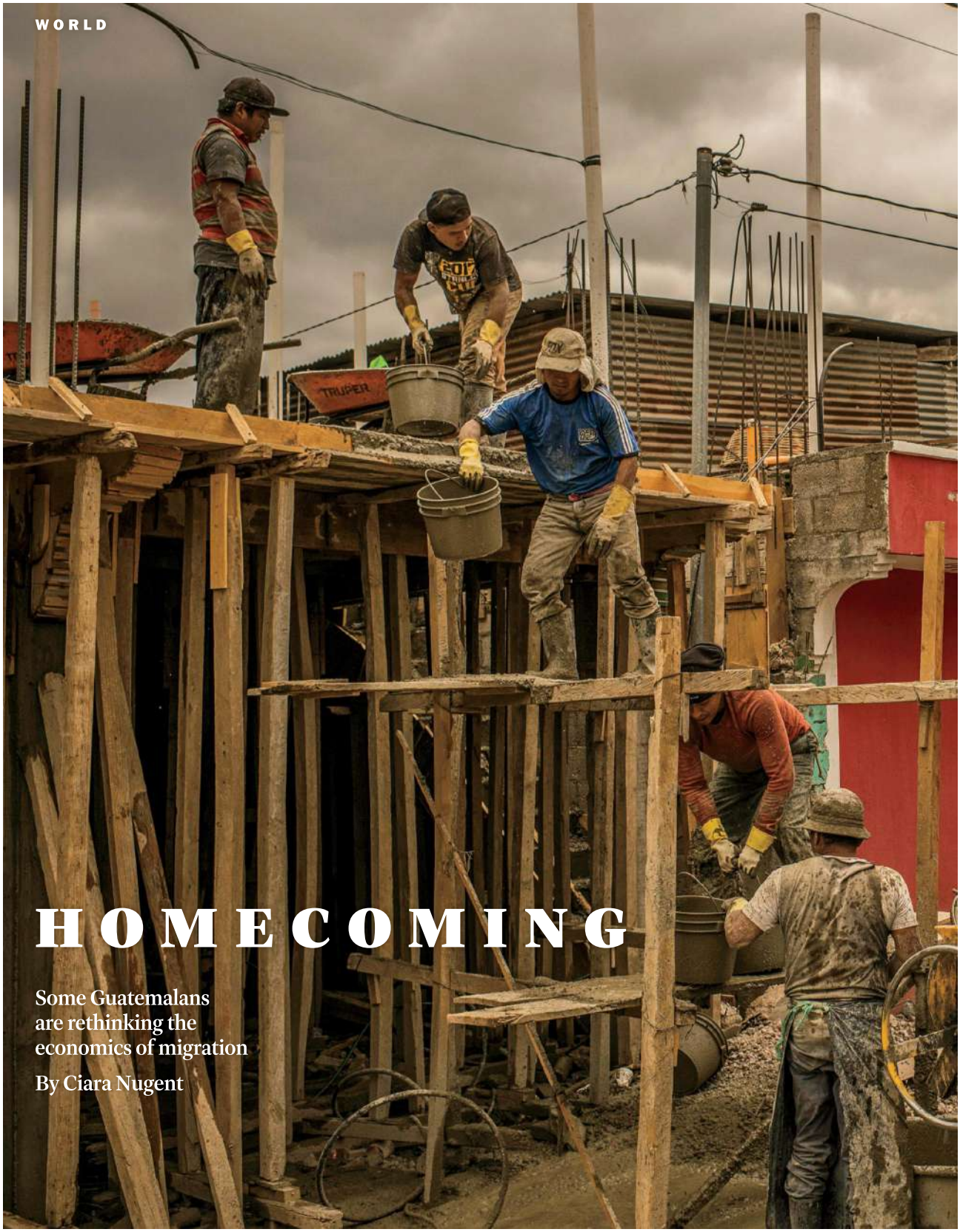


HOMECOMING

Some Guatemalans are rethinking the economics of migration

By Ciara Nugent

PHOTOGRAPHS BY DANIELE VOLPE FOR TIME

Workers build a house in Cajolá, Quetzaltenango, Guatemala, paid for by remittances

Letty Barán has an uneasy feeling when she gazes at the hills of Quetzaltenango.

All around this southwestern highland region of Guatemala, which is the starting point for many of the more than 1,000 Guatemalans who leave the country every day for the U.S., elaborate houses are popping up. Three-story homes with neoclassical facades and French windows tower over their cinder-block neighbors. Dubbed "remittance architecture," the structures are built with money sent home by migrants. And to Barán, who left the town of El Palmar in Quetzaltenango for the U.S. in 1990 and regularly returns to visit, the houses are a symbol of the trap in which Guatemala is caught.

"When I look at them, I think, first, how great that someone has been able to build their dream house. But then, how sad," says Barán, 50.

The houses that look so much like investments actually eat cash. Built by remittances, many sit on uneven ground in areas at risk of landslides, or in places disconnected from sewers and roads. Often, the grand homes remain empty, as migrants opt to stay in the U.S. and their families prefer the comfort of their neighborhoods.

In a country that is losing tens of thousands of its citizens to migration every year, 9 in 10 residents leave because of a lack of economic opportunity. Every year, the estimated 3 million Guatemalans in the U.S. send vast amounts of money home to try to improve life for their families. In 2021, buoyed by the Biden Administration's stimulus package, remittances to Guatemala reached a record $15.3 billion—making up 17.8% of the nation's entire economy (compared with 9.2% in 2011). But every year, the remittances, along with tens of millions of dollars in U.S. aid, fail to improve the situation at home. And the flow of people northward gets stronger.

The swell of migrants has stirred endless noisy debate in the U.S. But their money moves silently, largely ignored in policy and rhetoric alike.

The residents of El Palmar say changing that is key to breaking the cycle of migration. In late 2018, Barán and her son Danny, who stayed in Guatemala, joined around 30 others in setting up the country's first migrant co-op: organizing via WhatsApp and Zoom, the members, split between people in El Palmar and their relatives in the U.S., pool a portion of their remittances together. They offer loans to members who have less cash, and share knowledge about starting businesses and building homes, enabling all of the members to launch projects that grow both members' wealth and the local economy. "The co-ops are building a culture of savings and credit between migrants and their families, and creating a new source of leadership on development," says Rodulfo Santizo, founder of Primaveral Inc., a U.S.-based nonprofit helping migrants to set up remittance co-ops.

The idea borrows from collective remittance programs by Mexican migrants in the late 20th century. If it succeeds, the project could not only change the lives of every person in El Palmar, but also start to transform Guatemala's economy—and its relationship with the U.S.

The co-op holds around 500,000 quetzales—around $65,000—and has so far invested in 10 of its members' new businesses, including carpentry shops, bakeries, and bookstores. The aim is to eventually enlist all 29,000 of El Palmar's residents and their relatives, to funnel as much of the money earned in the U.S. as possible into making the town a better place to live.

El Palmar's co-op is part of a growing movement to turn Guatemala's unprecedented flow of remittances into lasting change for the country. Two other southern towns have set up co-ops, and 13 more are in the process of doing so, according to Primaveral Inc. MayaPlus, a Guatemalan

Barán's stepsister Amelia Ixcoy (not pictured) runs a bakery supported by the cooperative

mobile-banking app launched in 2021, is reducing the fees migrants pay to send remittances to banks and giving them greater control over their funds. Such efforts are building on financial-education programs that foreign aid groups began running in Guatemala in 2016, aimed at helping remittance recipients formalize and invest their money.

The goal of these efforts is simple, says Danny, who used money sent back by his mother to start a successful grocery store in Quetzaltenango: "We want to improve things, to create work for everyone, so people don't have to leave."

WILLY BARRENO KNOWS the forces that drive Guatemalans north, and he also knows how hard it is to return. Barreno returned to Guatemala from the U.S. in 2010, with 14 years of experience cooking in successful restaurants from New Mexico to Chicago. Back in Quetzaltenango, he opened his own restaurant, La Red, serving Mexican dishes infused with Guatemalan flavors and ingredients. He dreamed of using produce from local farmers and employing many other returned migrants. But today La Red is hanging by a thread. Barreno says he relies on donations from friends and family to keep it open week to week. "This is the worst failure of my life," he tells TIME over a Zoom call, shaking his head.

Barreno says businesses like his have struggled to compete with the major U.S. chains, like Taco Bell, McDonald's, and Domino's, that have proliferated in his city since he left in 1996. And he says the government has failed to support the growth of Guatemalan businesses, focusing instead on attracting foreign companies, like Walmart. Most things in Quetzaltenango come

from the U.S.: the clothes in its many thrift stores, the electronics in its markets, the old cars on its streets, the money in people's pockets.

"Remittances are like rain," Barreno says. "Right now it's raining a lot, but the rain comes from the sea—the U.S.—and the money all goes back there eventually. None of it stays here to develop the local economy. So none of the people want to stay either."

The economics are stark. The average monthly minimum wage in Guatemala is around $420, compared with almost $2,600 before tax in California. Pandemic-related business closures have made even those who were relatively well-off consider migrating, says Rosario Martinez, a researcher at the Guatemala City chapter of the Latin American Social Sciences Institute. "For a long time it was mostly poorer women from rural areas with little education who would go to work in cleaning," she says. "Now we're seeing professionals, people with midlevel studies or even university degrees, that because of the pandemic lost their jobs. We're losing our youth."

But only one-fifth of Guatemalan migrants to the U.S. intend to move there permanently, according to a 2018 survey by the Inter-American Development Bank (IDB); that's compared with half of Salvadorans and one third of Hondurans. Most Guatemalans, migration experts say, plan to spend only a few years earning money to pay for their children's education or help their parents build a house, and then return to a new and better life. Barán, who worked as a hotel maid in Washington, D.C., during her early years in the U.S., sent her mother money for a "small, humble" house and to invest in local businesses, which Danny now runs. Barán now lives with her other three children in Arlington, Va., and works mostly as a notary. She's not sure if she'll return, but if she did, she could have a comfortable life.

It doesn't always work out that way. "I've heard so many painful stories from friends who return home after years and get the shock of their lives when they find their family has spent everything," Barán says.

A 2020 study by the U.N. Economic Commission for Latin America and the Caribbean, based on surveys in a southern Guatemalan region, found that 57.1% of remittances go toward daily consumption, with 8.2% spent on building or renting homes, and only 5.4% invested or saved. The money spent on consumption is hardly wasted: remittances make up almost half of household income for those who receive them, according to the IDB, crucial for covering the cost of food, clothes, and other necessities.

But a lack of financial education can reduce the returns that migrants and their families make on their remittances, says Rut Urizar, financial-education coordinator at the Inter-American Dialogue, a think tank. Ill-fated remittance architecture is a key example, Urizar says, because saving money to build a home is often the first goal for migrants arriving in the U.S. But some recipients lack experience handling large sums. One young mother whom the Dialogue consulted with in Huehuetenango cried after burning through around $13,000 sent by her husband in a year. "She was looking after her 3-year-old daughter, and the daughter had an iPhone. And she said it's the second phone, because the girl broke the first one," Urizar says.

Since 2016, the Dialogue, working with partners including Cities Alliance, a U.N.-funded coalition on urban poverty; the Swiss Agency for Development and Cooperation; and the U.S. Agency for International Development, has established financial-education programs in more than 30 Guatemalan towns where migration to the U.S. is common. Locals are trained as financial educators, and set up stalls inside bank branches where people go to deposit their remittances or collect wages. In 2020, the programs were responsible for formalizing $2.4 million worth of savings, and opening 3,000 financial products. They also help participants

Cajolá residents must collect remittances in person from their relatives who live in the U.S.

reach mortgage advisers—who will assess the value of their land—and access small-business coaches.

This kind of financial education works because it speaks to people in their language, says Jorge Mario de León, who has been consulting since 2016 out of a branch of Micoope, a savings and credit union, in Salcajá, Quetzaltenango. Sometimes that's literal: the multilingual team offers sessions in Spanish and in local Indigenous languages like Mam and K'iche'. But educators also use their cultural knowledge of their communities to connect and drive their message home.

De León has helped people set up businesses and build homes. He also says he has persuaded some not to migrate, drawing on his own experiences with a people trafficker 22 years ago. "When I went to the U.S., it cost 35,000 quetzales [roughly $4,500]. Now it costs three times that," he says. "So I say to people, is it worth investing that much in the journey? Why don't you invest it in a business here? I was lost in the mountains for a month. I had to drink water from a puddle to survive. Don't do it."

DISCUSSING THE IMPORTANCE of migration and remittances to the Guatemalan economy puts the national government in an awkward position. President Alejandro Giammattei has vowed to crack down on people smugglers and reduce the exodus, in line with U.S. goals. But at the same time, as the Guatemalan daily *Prensa Libre* has noted, remittances are a crucial "escape valve" for millions in a country where more than half of families live in poverty. Much of Guatemala's rapid economic growth over the past decade is due to more citizens going to the U.S. and sending money home.

"We're talking about billions of dollars coming into the economy that the government is just kind of gifted every year," Kathryn Klaas, then an associate at the Dialogue's Migration, Remittances, and Development Program, told TIME in 2021. "That means that the urgency of creating sources of income that are enough for people to live on in Guatemala—which means formalizing the economy, creating a living wage for people, having regulations—that's one agenda point that the government doesn't have to deal with."

The government has so far been slow to establish formal programs designed to capitalize on remittances. Its current $200 million plan to reduce undocumented migration, though heavily focused on helping to generate new businesses and jobs for people in high-migration regions, doesn't mention the money flowing into those areas from abroad and the role it could play. Local development experts are doubtful that the plan will be more successful than previous efforts.

'We're losing our youth.'

—ROSARIO MARTINEZ, GUATEMALA CITY CHAPTER, LATIN AMERICAN SOCIAL SCIENCES INSTITUTE

But officials may be waking up to remittances' potential. Guatemala is undergoing a rapid period of urbanization, projected to take the proportion of people living in cities from 54% now—among the lowest in Latin America—to around 65% in 2030, according to U.N. estimates.

At an event organized by the Dialogue in July, Guatemala's vice minister for housing said helping citizens manage the money from remittances to build good, well-ordered neighborhoods would be key to the nation's development. The ministry plans to work with Guatemalan consulates to make sure migrants are using their money on "supervised projects, with some support [from the state] so they don't end up being structurally unsound," he said.

Many want more from the government, though, says Quique Godoy, a radio host and economist who discusses remittances once a week on his show on Guatemala's Radio Infinita. He argues that officials should follow the example of Mexico's government, which in the 1990s established so-called three-for-one programs: organized groups of migrants in the U.S. would fund projects in their neighborhoods back home, and for every dollar they spent, national, regional, and municipal governments would each put in $1, turbocharging the local development the migrants were leading. "We have to give incentives for migrants, so that instead of giving their money to people for consumption, they decide that they give part of it to a community investment project," Godoy says.

Ideally, Guatemala would start a four-for-one program, supported by local businesses and banks, Godoy says. "Because that will create more consumption in the long run, which benefits business."

But for now the migrants themselves are leading the way, says Primaveral's Santizo. He wants to see all 340 of Guatemala's municipalities set up credit co-ops. "We have [aid agencies] expressing interest in working with us," he says, "but if they don't, then we the migrants will do it ourselves. We'll do our own development." —*With reporting by* ELOISE BARRY/LONDON

OHTANI, PHOTOGRAPHED ON JAN. 23, WAS THE UNANIMOUS 2021 AL MVP

MR. EVERYTHI

Shohei Ohtani is reviving the national pastime

By Sean Gregory and Karl Vick/Tempe, Ariz.

WHEN SHOHEI OHTANI TAKES A SEAT ON A SHADED BENCH TO await his turn in the batting cage at Los Angeles Angels spring training, the feeling is like a restaurant when a movie star is escorted to a table. Everyone pretends not to notice, but the mood in the room is suddenly giddy.

An All-Star pitcher who hits 46 home runs will do that.

Ohtani is a baseball savant doing what has never been seen in Major League Baseball history. The last player to both pitch and hit at an elite level was Babe Ruth, a century ago. But the Bambino stopped pitching relatively early in his career to concentrate on hitting. And no one ever called Ruth fast. Ohtani, the unanimous American League MVP, stole 26 bases last year.

And look at the guy. Baseball's savior has the body of a Marvel superhero and plays with the joy of a child. In practice, when Ohtani laughs muffing a grounder, what carries across the infield could be the giggle of a cartoon mouse.

The start of any new baseball season brings hope, and baseball has never needed it more. Opening Day this year, April 7, came as the former national pastime struggles with its declining cachet in America. The game has grown too slow—the average affair runs as long as *Gandhi,* more than three hours—and a bit stale, with a preponderance of home runs and strikeouts robbing its incremental drama. This offseason was dominated by a frustrating 99-day lockout that threatened to deprive fans of two great attractions: Major League ballparks freed from pandemic capacity restrictions at the start of the season, and a Japanese-born phenom building off a 2021 season that galvanized everyone but him.

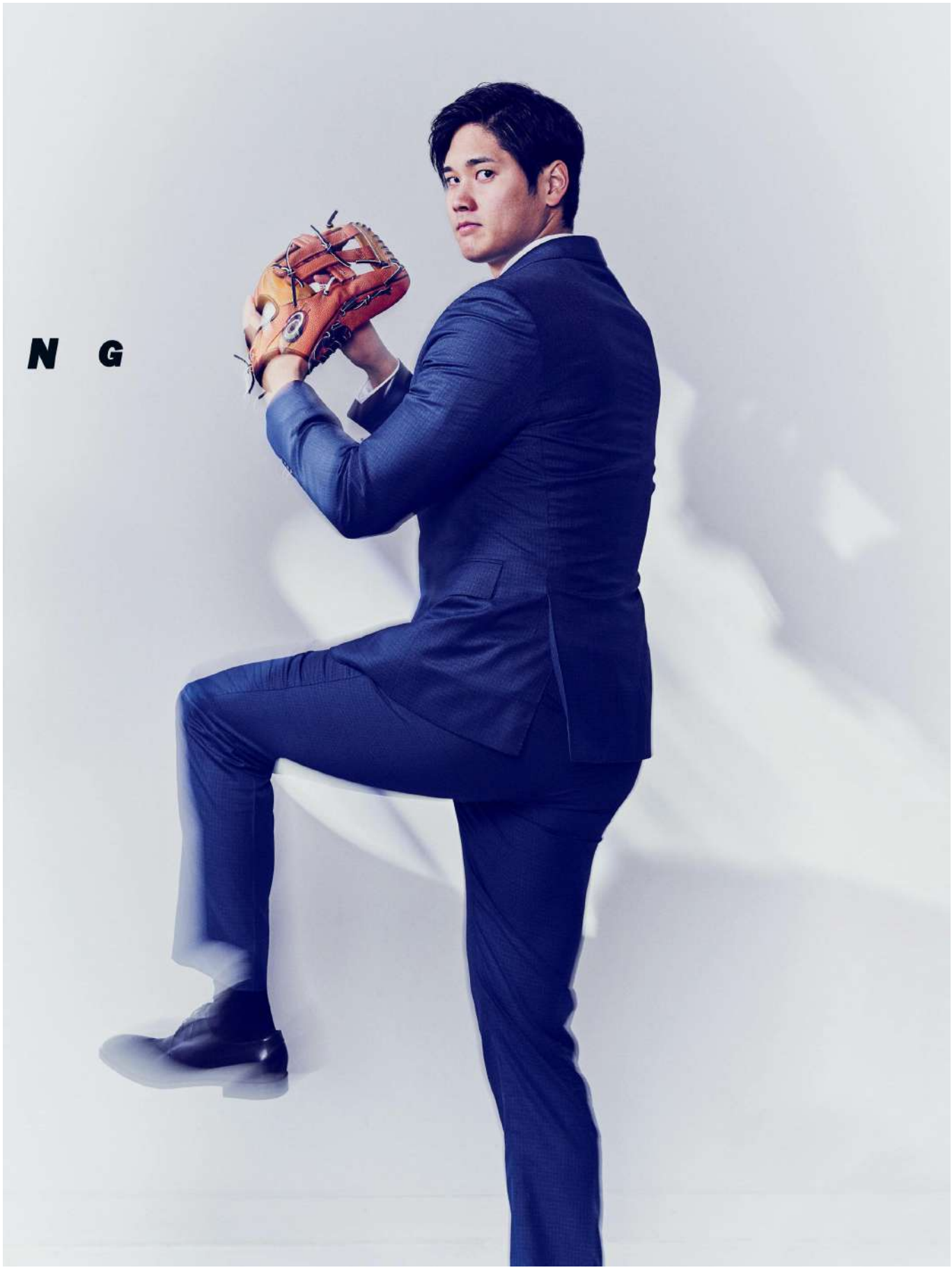
"To be honest, I'm not impressed with what I did personally," Ohtani, 27, tells TIME. His earnest eyes betray no false humility. "I think it was nice to have a good season, but what's more important is continuity," he says. "In that sense, this year is very important."

Ohtani's extraordinary talent may contain the power to redeem not just baseball but also other data-driven sports that have superseded it in the American imagination. He single-handedly upended the received wisdom that excellence can flow only through slavish devotion to a single discipline: pick a sport, then a position, ideally before turning 8, and stick with it. A player who can throw a 100-m.p.h. pitch in one inning, and in the next hit a homer that leaves his bat at 110 m.p.h. challenges the tyranny of "analytics"—shorthand for the increasingly obscure metrics (DRS, WAR, FIP, etc.) that drive trades, salaries, attention, negotiations, wagering, and, some would aver, a lot of the joy from sports.

"With numbers," says Angels manager Joe Maddon, "it's almost becoming a socialistic version of sports, baseball especially. We all want the same thing, with the same player to be built the same way, doing the same things. We keep subtracting the human element. The whole world's into specialization, and that's why it's becoming a little bit more boring. Our cars are all the same color!"

Maddon, who hails from "the liberal arts school of baseball—I want it all," presided over the 2016 championship run of the long-benighted Chicago Cubs, who drew attention "like the Beatles." Yet more people in the U.S. seem to obsess over football and basketball. "The thing that bothers me as

PHOTOGRAPHS BY IAN ALLEN FOR TIME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much as anything: we're not talked about as a national pastime anymore," Maddon says. "Players can change that. But you have to permit them to be charismatic. You have to permit them to be great."

That's what the Angels did with Ohtani last year. He responded by recording 156 strikeouts on the mound and driving in 100 runs (the 100th was that 46th homer). He hit eight triples, tied for best in baseball, and swiped those 26 bases.

No one had ever done all these things in one season. And Ohtani did them with a quality—a lightness—that belies his size (6 ft. 4 in., 210 lb.) while reminding one and all that what's being played here is, after all, a game.

"I don't feel pressure that much," Ohtani says of the season ahead. "I feel more excited."

OHTANI PITCHES ON SEPT. 19, 2021, FOR THE ANGELS IN ANAHEIM, CALIF.

OHTANI WAS BORN and raised in Oshu, a small city in northern Japan where both his parents played on sports teams—dad, baseball; mom, badminton—sponsored by the local Mitsubishi plant, where his father worked. His father also coached baseball. "I only played on weekends, and I really looked forward to weekends," Ohtani says, recalling his dismay when teammates took a loss hard. "I didn't understand why they were crying, because I was just having fun. I remember that clearly … I was not practicing hard enough nor serious enough to feel upset about losing."

That would change. By age 18, Ohtani's fastball had been clocked at 99 m.p.h. and he was growing into the body of a power hitter like Hideki Matsui, the star New York Yankees outfielder whom he grew up watching. Japan's top prospect in 2012, Ohtani was intent on accepting an offer from a U.S. team when the Hokkaido Nippon-Ham Fighters persuaded him to remain in Japan for the years he'd have to spend in the minors. Among the enticements: the Fighters would let him both pitch and hit.

"I feel like it brings out my unique rhythm," Ohtani says. Had he opted to head to the U.S. from high school, "I would have probably been a pitcher, because most of the teams valued me as a pitcher." Instead he spent five years as Japan's marquee player, then signed with the Angels. The trajectory appeared set. Ohtani singled in his first at bat, won his first start on the mound, and was voted 2018 Rookie of the Year. But then he had elbow surgery; he was off the mound in 2019, and he felt "pathetic" at the plate. The next season was shortened by the pandemic. All the while, "the Ohtani rules"—restrictions imposed by the Angels' then management, which barred him from the lineup on days before or after he pitched, to rest his body—limited his production.

Those rules were discarded for 2021. It was a bold move in an era when "load management" is all the rage: managers yanking pitchers early in games for fear of taxing their arms; basketball teams sitting stars for entire games to preserve them for the playoffs. But Maddon and Perry Minasian, the new general manager at the time, say no one knows better than Ohtani what he's capable of.

"There's some guys that have a natural-born instinct for what they do," says Maddon. "You get to pitch as many innings as you want to, throw as many pitches as you need to. And when you need a day off, tell me. I'm not going to tell you."

"I tease him about how programmed he is: 'I eat at this time. I stretch at this time,'" says Minasian. "That's not just during the season. I think he understands his work ethic. He's really, really intelligent, picks things up quick, can make changes. His awareness is a different level."

Ohtani was not only gratified to be able to resume the cadence that had become natural to him. Hitting even on days he pitches "helps mentally too," he notes. "Sometimes I cannot hit or pitch well, but the next day I have an opportunity to make it up as a hitter, which is a good thing." Baseball even instituted a new rule this season, effectively designed to keep Ohtani on the field as long as possible. When starting pitchers who bat for themselves—with the institution of the universal designated hitter this year, that's basically Ohtani—are taken out of a game, they can stay in the lineup as the DH.

Ohtani owns a five-pitch arsenal—four-seam fastball, curve, cutter, slider, and a split-fingered fastball. Batters hit a minuscule .087 against the splitter. At the plate, Ohtani's blasts are preposterous: 24 of his home runs left his bat at speeds of at least 110 m.p.h., tops in the big leagues. His feats are so impressive that at a game, almost everyone wants to see him play—even supporters of the opposing team. When he came up to pinch-hit in San Francisco last May, Giants fans booed when he was walked. "I had never seen anything like that," says his friend and interpreter Ippei Mizuhara. At the All-Star Game in Denver, Peyton Manning, Ken Griffey Jr., and David Ortiz wanted their pictures taken with him. "In sports, we've seen a lot of things," Arizona Cardinals star defensive lineman J.J. Watt, who in March watched Ohtani at spring training, tells TIME. "One of the things that me, personally, and I think this generation, hasn't seen is

PITCHING: JAYNE KAMIN-ONCEA—GETTY IMAGES

a guy able to do something that nobody's seen."

Off the field, there's money to be made. Ohtani now earns north of $20 million a year from endorsements. He's on the cover of the latest version of the popular *MLB The Show* video game; signed as a global ambassador for FTX, the cryptocurrency exchange; and has deals with brands like Hugo Boss, ASICS, Kowa, and Japan Airlines. But he's shown little interest in becoming a ubiquitous commercial presence like Michael Jordan or Manning. He has no Twitter account. In the past two years, he's posted just 20 times to Instagram (but has 1.3 million followers).

Ohtani wants his play to do the talking, a refreshing stance, but one that may not help baseball generate more buzz in America. Another challenge: English as a second language. After four years in the U.S., his English is improving—"It's pretty damn good," says Mizuhara—but Ohtani is still much more comfortable speaking Japanese in settings like interviews. Last summer, ESPN commentator Stephen A. Smith sparked a controversy when he said on live TV: "I don't think it helps that the No. 1 face is a dude that needs an interpreter so you can understand what the hell he's saying." Smith apologized for his comments, and Ohtani tells TIME, "I don't feel pressured [to learn English]. I would prefer that I could speak English. My job is to play baseball, and that's the reason why I came from Japan. It is important to spend time on communicating or expressing myself, and I recognize that communication ability could make a difference in my performance, and it is important. But I definitely prioritize baseball."

THE GAME COULD USE a superstar. On a list of athletes whose name is recognized by Americans over the age of 5, you have to run past 53 others before you reach an active Major Leaguer: 30% of Americans know Giants third baseman Evan Longoria, a former All-Star years past his prime. "He may be getting a halo effect from the actress Eva Longoria," says Henry Schafer, executive vice president of the Q Scores Company, the firm that conducts this market research. He's not totally joking.

What's the problem? Some of it's built into the game. In basketball, LeBron James can be involved in every play he's on the court for. But even a multipurpose outlier like Ohtani comes to the plate just once every nine batters, and starts on the mound once a week or so. The length of an average nine-inning game is up 31% since 1975, largely because managers change pitchers nearly twice as often.

Analytics have also encouraged a style of play that has made baseball less interesting for many: armed with more data, managers go to the bullpen in search of advantage, just as fielders now shift out of their typical positions to areas a specific batter is known to hit. This incentivizes batters to swing for the fences, rocketing the ball over these defensive "shifts." And as players launch their bats at higher angles to loft homers, they strike out more often: 8.68 times per team per game in 2021, a 34.6% rise since 2000. Homers and strikeouts are dramatic, but their pursuit renders an already slow game more predictable. One of the most exciting plays in baseball, the triple, is near extinction: MLB saw just .14 per team per game in 2021, the second lowest total of all time. Stolen-base rates last season were the lowest in 50 years. The game is losing all manner of speed, a troubling development in a society with shortening attention spans. "There's no question that analytics, while making teams more shrewd in terms of selecting talent, has definitely negatively impacted the attractiveness of the game to fans," says Patrick Rishe, a sports business professor at Washington University in St. Louis.

It's a paradox. Baseball is awash in money. MLB's new media-rights deals are worth some $2 billion per year, a 26% increase from previous agreements. Ohtani's teammate Mike Trout, who statistically ranks among the all-time greats, has a $426.5 million contract but lacks the sort of mass following that's more common in other sports. And no one even pretends the game remains at the center of American life. "I have a class of 50 college-age students, and when we were talking about the Major League lockout a few weeks ago, it was hardly on anyone's radar," says Rishe. "Whereas if we were talking in the '70s and '80s to the same group of kids, they probably would say, 'Oh my gosh, we've got to solve this. Where's my baseball?'"

BEST IN SHO

Ohtani's 2021 campaign, by the numbers

451 FT.

On April 4, 2021, Ohtani became the first starting pitcher since 1903 to bat second. During a 7-4 Angels win over the Chicago White Sox, he hit a 451-ft. home run and threw nine pitches that topped 100 m.p.h.

46 HOMERS

Ohtani was the first player to ever have 46 homers, 8 triples, and 25 stolen bases in a season

100.4 M.P.H.

Line drive and fly balls left Ohtani's bat at 100.4 m.p.h., on average, the fastest in the majors

156 STRIKEOUTS

Ohtani is the first player in MLB history to record over 10 home runs and 100 strikeouts in the same season

JOHN CORDES—ICON SPORTSWIRE/GETTY IMAGES

OHTANI TALKS TO THE MEDIA ON DEC. 9, 2017, AT ANGELS STADIUM IN ANAHEIM, CALIF.

"You know what," says Billy Grisham, of San Pedro, Calif. "At our local Little League, the numbers have been down. Kind of a bummer, because when we were kids everyone was on a Little League team." He was at the Angels' Cactus League park with his wife and their 7-year-old son, who wore No. 17. Ohtani jerseys account for half of sales at the team store, including the model that has his name in kanji, the script of his native Japan—where baseball is still wildly popular, as it is in other East Asian nations. Ohtani is a big reason why: in Taiwan, ratings for Angels games were 84% higher than those for non-Angels games. In South Korea, MLB's Ohtani-related social media posts drew 179% greater engagement than other posts.

'TO BE HONEST, I'M NOT IMPRESSED WITH WHAT I DID.'
—SHOHEI OHTANI

If there appears to be no limit to the NBA's global appeal, and the NFL dominates the American sports world, baseball is betwixt and between: extraordinarily popular in a handful of nations in the Caribbean and East Asia—in particular Japan—but no longer dominant in the country that in the '70s and '80s pumped out movies about a sport *(Bull Durham, The Natural, Field of Dreams)* thought to be quintessentially American.

And now Ohtani has arrived as if from central casting, his every move in some games tracked by a dedicated camera from the Japanese television channel NHK. A typical day found four U.S. and 25 Japanese sports journalists at Angels spring training, not counting the camera crews perched on a hill overlooking the camp. The man can't walk on the street in Tokyo. "If he has to go to dinner, I make reservations and find the back ways," says Mizuhara.

But in the country where he recorded the most phenomenal season in big league history? "We can go to Whole Foods and stuff," Mizuhara reports. Ohtani's certainly admired. Q Scores says 33% of Americans who know of him have a "very favorable" impression, No. 1 among all athletes measured by the firm; Michael Jordan's score is 32%, Simone Biles' 30%. But just 13% of Americans polled even know who he is.

NO ONE WATCHES OHTANI more closely than Ohtani. At spring training, Mizuhara stood by with a camera phone, recording every swing for review. "If you notice today, he took, I think, three rounds of batting practice," says Angels catcher Max Stassi. "I don't know exactly what he was working on, but he was working on something. And then he got what he wanted and he gets out."

"He has that lightness to him because he puts the work in," Stassi says. "That really frees him up on the field, because he knows that his preparation is second to none. Nobody's ever done both at such an elite level, so there's not, like, a template going into it."

Ohtani calls himself a "pioneer" for future pitcher-sluggers, as if there really will be more like him. When he says, "I don't have anybody to compare myself to," it's not vanity speaking but a request for more data: "I can have a better understanding on how good my numbers are if there are more people and a bigger sample size."

At another point he says: "If it was a choice between strikeout or home run, I would choose home run, because the probability of a home run is lower." In a game reduced by data science to a binary—so many at bats are a strikeout or a homer—it's possible to see Ohtani as analytics personified. But he knows analytics aren't everything. Like his manager, Ohtani is a graduate of the liberal arts school of baseball, a slugger who savors not just attention-getting home runs and strikeouts but the joys of "small ball" (he stole second and third in one game). The slowness of the game is a quality "that we should cherish," Ohtani says. "I feel like one of the strongest points about baseball is its long history. It has classical aspects that no other modern sports have."

And now it has him.

He means it about continuity. Ohtani says he wants to reach the playoffs this year, and win a World Series. "I need to evolve," he says. "While others are getting better every year, I cannot stay the same." Baseball really needs Ohtani showcased in October, during the postseason, when more eyes are attuned to the sport. Los Angeles finished under .500 again last season; the franchise hasn't made the playoffs since 2014. Ohtani winning multiple games on the mound—and at the plate—in a World Series would go down as among the greatest baseball stories ever written.

Don't discount it from happening. Baseball may indeed get its swagger back. Because Ohtani is making a promise.

His best?

"It's yet to come." —*With reporting by* SHIHO FUKADA/TOKYO *and* NIK POPLI/WASHINGTON

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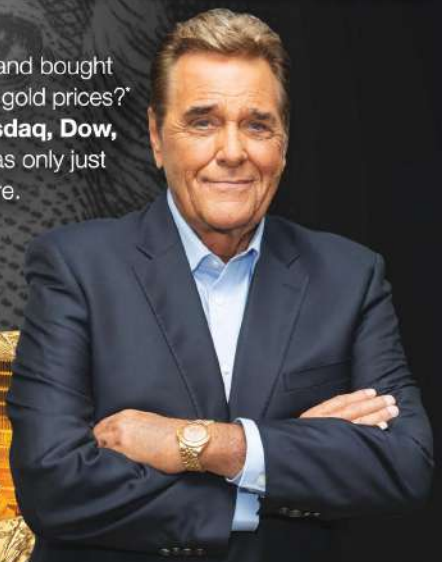

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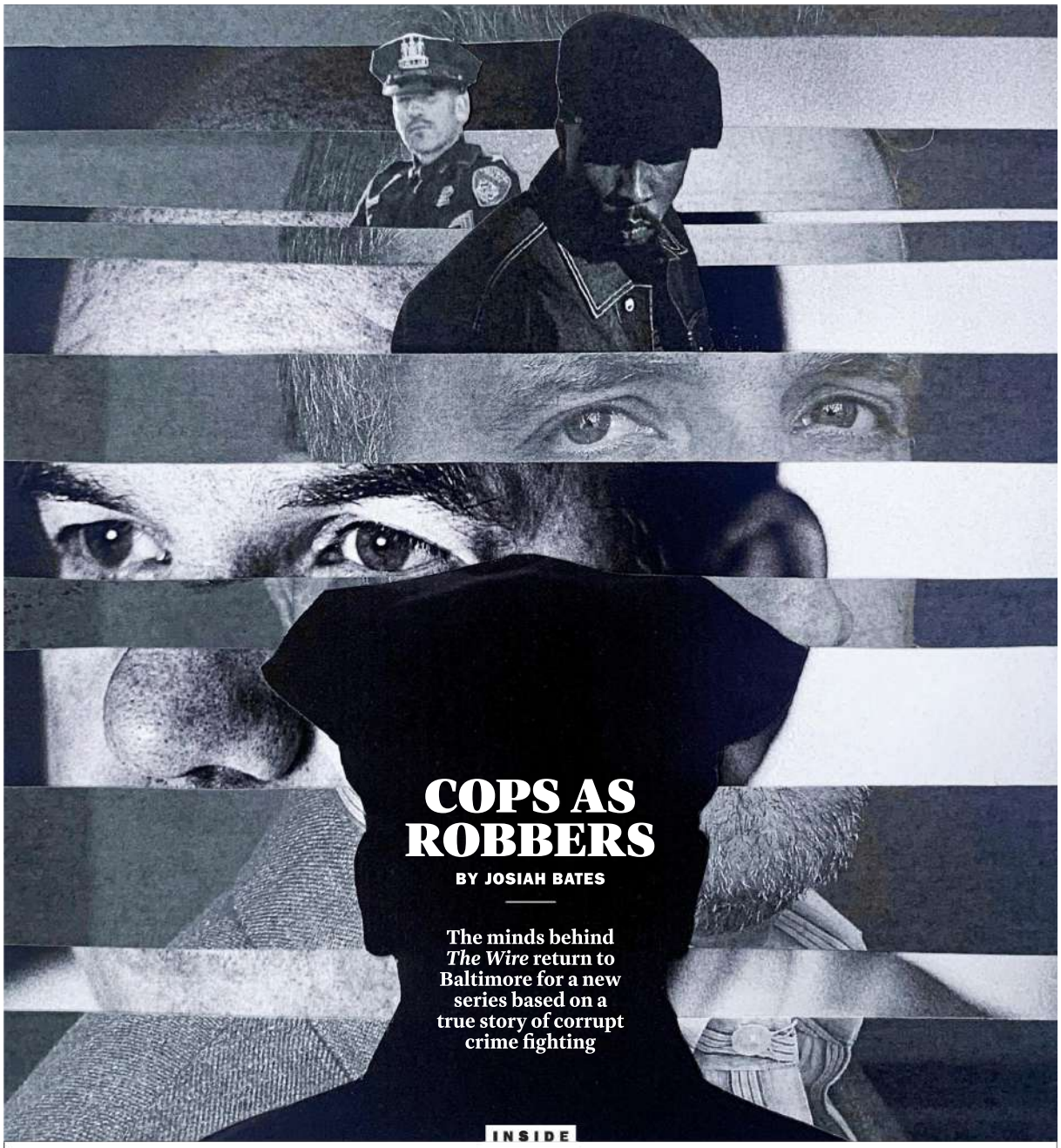


COPS AS ROBBERS

BY JOSIAH BATES

The minds behind *The Wire* return to Baltimore for a new series based on a true story of corrupt crime fighting

INSIDE

PHOTO-ILLUSTRATION BY YANNICK LOWERY FOR TIME

TWO OF THE MOST FAMOUS NAMES BEHIND *The Wire* are back with another story examining the underbelly of law enforcement in Baltimore. David Simon and George Pelecanos, who worked together on the acclaimed 2002–2008 HBO drama, have teamed up for the new HBO Max miniseries *We Own This City,* about a real-life rogue gun-tracing unit in the Baltimore Police Department.

Adapted from former Baltimore *Sun* reporter Justin Fenton's 2021 book by the same title, the show, arriving April 25, chronicles one of the most shocking instances of police corruption in the city's history. In 2017, eight members of the Gun Trace Task Force (GTTF), assembled to remove guns from the streets in an effort to stamp out violent crime, were charged with robbery, extortion, racketeering, and overtime fraud. Six of the officers pleaded guilty, while another two were convicted in 2018. Sentencing for those involved ranged from seven to 25 years.

Simon himself is a former *Sun* reporter who covered the police for more than 10 years before transitioning into television work. He and Pelecanos, who also writes crime novels set around Washington, D.C., worked to keep the story of *We Own This City* as authentic as possible, using the names of the real officers involved and filming where actual events took place. The producers spoke to TIME about creating the new series, working together, and how the TV landscape is affected by real-world issues.

TIME: Do you remember when you first heard about the Gun Trace Task Force investigation? What was your reaction?

SIMON: I was reading it in real time in Justin's coverage. I actually called Justin and told him this should be a book. My initial engagement with it was that this deserves more [attention] than it's getting. It was just this localized series of articles in the newspaper. I wasn't thinking about a miniseries or television; I was just thinking about what the story was journalistically.

PELECANOS: As David and I always do when we decide if we're going to do something or not, we asked each other: What's this about? It had to be about more than about corrupt cops—that television show has been done before. We saw it as an opportunity to talk about the current state of policing in America, and how it gets to a point where this kind of corruption can occur under the watchful eye of the department.

The end result feels almost like a documentary, rather than a TV drama. Is that sensibility intentional?

SIMON: You have to deny yourself the perfect drama sometimes. Sometimes you have to say, Yes, this would be the grander arc if we could portray it this way, if the guy had a more poetic line. And sometimes you have to kill those, because they deny the reality that you are responsible if you're dealing with nonfiction material. Sometimes you've got to give in to the writer, and sometimes you dare not—that's always an argument that we have in the [writers'] rooms. It's what makes it interesting.

We Own This City *filmed where actual events occurred*

PELECANOS: The level of detail is intentional. If we have any fears about doing these shows, it's that a person in Baltimore will look at our Baltimore show and say, That was bullsh-t. Same thing when we did *The Deuce* in New York. If one person knows we didn't get it right, it bothers me.

Did the actors bring anything to the script that you didn't anticipate?

PELECANOS: Josh Charles is from Baltimore so he was a perfect choice to play Daniel Hersl, who I would say is the most brutal of the GTTF officers. Josh would ad-lib the Orioles lineup of 2011—that wasn't scripted. He just knew. Jon Bernthal would come to the set with his own information [about the case]. Everyone was really committed to this. All the actors asked a lot of questions. They were serious about it.

As longtime collaborators, how would you describe your working dynamic?

PELECANOS: David and I don't really

PREVIOUS SPREAD: SOURCE PHOTOS: HBO (2); SIMON: AJ BARREYRE—HANS LUCAS/REDUX; PELECANOS: ALBERTO CRISTOFARI—CONTRASTO/REDUX; THIS SPREAD: HBO

see each other a lot when we're in production. We don't even call each other that much. We know each other well enough to know what the other guy wants.

SIMON: George and I can convey a lot of concern about an upcoming scene in a sentence and a half of a text. Not everything requires a meeting—and less requires angst-ridden arguments. It's getting easier at this point, which is good because we're getting older.

Some might say this is a peak moment for based-on-truth TV dramas. What it is about this format that you think appeals to viewers?

PELECANOS: People like to see rich and successful people get taken down. That's why a show like *Law & Order* is so popular. It's always the person who lives on Central Park West that did a murder. It's a false narrative; it makes people feel like yeah, there is justice. The truth is those people don't go to jail. I think shows that highlight the realities stand out more.

With all the debate around criminal-justice issues and policing today, how do you expect this show to resonate with its audience?

PELECANOS: It's a divided country right now, so I don't have the delusion that we're going to convert a lot of people who are steadfast in their "thin blue line" views. We actually gave a character a line about it. He's reading a report the DOJ did and he says, "Half the country's going to look at this and say, Well, [someone stopped by cops] might not have been guilty of something that day they were stopped, but they were guilty of *something*."

SIMON: We don't believe "back the blue" or the "thin blue line" is the motif that you need to take into a serious discussion about law enforcement. But we also don't believe that "defund the police" works as a simple mantra that solves anything. We live in the middle. There's a role and a mission for good police work that's not happening in Baltimore, which is the most dangerous it's been in modern history. If you live for a slogan and that's where you reside in your assessments of what's going on in America, you will be at points disappointed in the arguments that we're trying to present.

How has the way these topics—police misconduct, systemic racism, and so on—are discussed in American culture changed since 20 years ago when you premiered *The Wire*?

PELECANOS: One thing that happened since *The Wire* is smartphones. The technology really made a difference. Everybody can record what's going on in the streets, and people can't lie as easily because it's on record. [The officer who killed George Floyd] never would have been convicted without the footage from the iPhone.

'Policing has to get back to what it is, which is protecting cities and the people in them.'

—DAVID SIMON, CO-CREATOR, *WE OWN THIS CITY*

SIMON: When I was a police reporter, if a guy came out of the back of a wagon beat up, you basically were dependent upon how well the arresting officer wrote that report, because there was no smartphone in that alley. It was the police officer's word against the suspect, and the police officer would prevail.

Beyond that, it wasn't just the cops who came up with the idea of overpolicing poor people. This country embraced the mission of drug prohibition being a means of making neighborhoods safer. We have to end the drug war. Policing has to get back to what it is, which is protecting cities and the people in them.

And are viewers more conscious of those issues than they were when you two first started working in TV?

SIMON: There's been a sufficient amount of tragedy and scandal, but also the incongruities of what we're doing with policy. That's become a theme in American life. A lot more people are more aware of that than they were 20 years ago.

PELECANOS: People are definitely more aware, but they might see it through [their own] prisms. When we were doing *The Wire*, there weren't these cable news networks where you went to get the news that you agreed with. Which is a dangerous thing. It's not healthy for the country.

When telling stories about problems within disenfranchised communities, there's always a risk of being exploitative. How do you avoid that?

SIMON: When I was made a police reporter for a newspaper in Baltimore, in a city that was 60% Black, and told, "You're covering crime," I simply got very interested in doing it as well as I can. To do that you had to attend to the reality. We've thought about that throughout our careers. I know I have. In the end, the work stands for itself and for its own purposes, and it's delivered in such a way that everyone is carefully humanized.

PELECANOS: The aim is to show people respect. ◻

CHINA WATCH
PRESENTED BY CHINA DAILY 中国日报

CAPITAL'S CENTRAL AXIS

Historic geographical feature brings together tradition and fashion, ancient and modern

BY DU JUAN

When deciding on popular spots to visit in Beijing for a taste of the city's history and culture, the Temple of Heaven, the Forbidden City, the Imperial Ancestral Temple and the Qianmen area are among those that often spring to mind.

All these venues are located along the Chinese capital's central axis, for which the municipal government is now seeking UNESCO World Heritage status.

Wang Yuanlong, 31, a market manager who has lived in Beijing for eight years, said: "I don't often go to those places along the central axis because they are a bit too far from my workplace and home. But every time my family and friends from outside Beijing come to the city I take them to Tian'anmen Square, the Temple of Heaven and the Forbidden City.

"It feels as if all the significant architecture in Beijing is situated along or near the central axis. No matter how big the city grows, the axis is an invisible root linking tradition and fashion, ancient and modern."

Beijing's central axis, with a history of more than 750 years, stretches 4.8 miles from the Bell Tower and Drum Tower in the north to Yongdingmen in the south. It includes buildings from the Yuan Dynasty (1271-1368), the Ming Dynasty (1368-1644) and the Qing Dynasty (1644-1911). Other significant structures are located along the axis and its extensions, including modern landmarks such as the National Stadium, also known as the Bird's Nest, in the north and Beijing Daxing International Airport in the south.

World Heritage status is being sought for the axis, as the draft application text was submitted to the UNESCO World Heritage Centre for review ahead of schedule, but few people know that the municipal government first proposed this idea in 2009.

Beijing's central axis starts at the Yongding Gate in the south and includes the Drum Tower and Bell Tower in the north. NIU YUNGANG / FOR CHINA DAILY

In 2011 local authorities started work on protecting key cultural relics along the axis. Seven years later overall planning guidance for Beijing was published, which included the application for World Heritage status for the axis as a strategy for the capital. Overall city planning guidance for streets and blocks was issued in 2020, making clear that the axis represents national culture.

In tandem with the application, in recent years the city government has strengthened

Visitors to the Temple of Heaven in Beijing enjoy a clear sky in November. DU LIANYI / CHINA DAILY

EMBODIES SPIRIT OF CITY

Peach blossoms covered with snow in Beihai Park, in Beijing, on March 19.
LUO XIAOGUANG / XINHUA

protection of cultural relics, vacated historic buildings and improved the environment along the axis.

Qiao Ran, 36, a book editor who lives in a *hutong* near Beihai Park, said she has noticed a difference over the years as the alleyway has been significantly upgraded, with issues such as car parking addressed and greening projects launched.

Qiao said she likes walking the streets and alleys after work and learning more about the ancient buildings. "Sometimes, there are introductions to the buildings, sometimes not, but I just love the atmosphere," she added.

Lyu Zhou, director of the National Heritage Center at Tsinghua University, said the central axis changes as the city evolves. "By looking at the scale, shape and color of the buildings along the axis, as well as the city gates, streets and building complexes, a clear order can be seen. The idea of ritual in traditional Chinese culture is fully realized by the embellishment of buildings along the axis, as evidenced by the shape of nearby government offices, residences and temples.

"The axis best embodies the Chinese idea of respecting the center in urban construction. It represents Chinese civilization, reflecting the most important aspects of the country's culture, such as the relationship between humans and nature, and also humans following order."

The axis influences the entire city because it is the core of urban planning, he said.

"At the same time many historical events have occurred on the central axis, including the founding of modern China."

Shan Jixiang, president of the China Cultural Relics Academy, said the axis represents more than heritage because it is a continuation of traditional Chinese city planning concepts, which still influence urban construction.

"The axis has inherited Chinese urban order and city planning philosophy from thousands of years ago and has witnessed unique Chinese civilization and cultural traditions, as well as representing Beijing's long history and cultural confidence," Shan said.

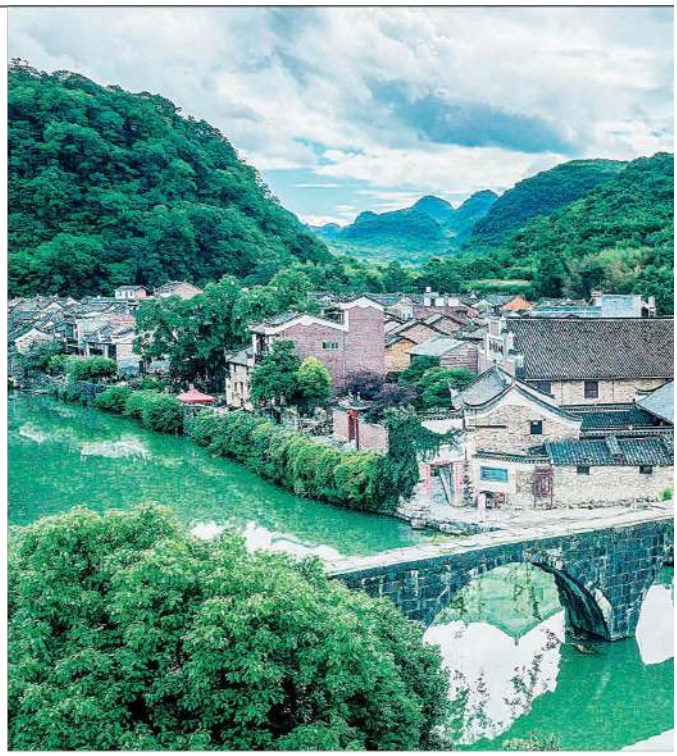
Many new buildings are situated on the extended line of the axis, including the National Stadium, where the opening and closing ceremonies for the 2008 Beijing Summer Olympics and the recent Winter Olympics were held. The nearby Olympic Forest Park stands as a legacy of the Games in 2008.

To some extent, the axis has witnessed the city's growth and become an important cultural symbol. Acquiring World Heritage status would not only make the axis better-known globally by spreading Chinese civilization and traditional culture to the world, but would also help promote protection of Beijing's old city and improve the environment for residents.

Yao Yuxin contributed to this story.

CHINA WATCH
PRESENTED BY CHINA DAILY 中国日報

A rope slide allows tourists to enjoy a spectacular view of a tea plantation in Gulou village in Shaoyang, Hunan province. TENG ZHIZHONG / FOR CHINA DAILY



HEALTHY CHANGES

Tourism continues to fuel rural revitalization

BY YANG FEIYUE

Culture and tourism have given rural development a shot in the arm and brought significant changes to local life.

More than 100,000 travelers annually flock to Bama Yao autonomous county in the Guangxi Zhuang autonomous region to enjoy the therapeutic air and natural environment, which has brought an improvement in the lives of villagers who once struggled with poverty.

Deng Yongkang has been doing good business at his Renshou retreat, which has integrated healthy food, ethnic Yao acrobatic performances, a bamboo forest and rice paddies.

"People have been visiting in huge numbers as the county is widely considered to be an ideal location for health and wellness," Deng said.

Renshou retreat takes in 400,000 traveler visits every year, and has helped more than 50 rural households develop homestay businesses.

Average rural household income has increased by 30,000 yuan ($4,700) a year, the local authority said.

Tourism has become a pillar industry for the county, which shook off poverty in 2019.

The county received more than 4.2 million tourist visits during the first six months of last year, and more than 36,000 villagers have managed to make a living out of health and wellness tourism.

Since China's top legislature passed a law that promotes the national rural revitalization strategy, which came into force on June 1 last year, tourism operators have also made inroads into rural development and play an increasingly important role in improving villagers' lives.

The law features provisions ranging from attracting talent and boosting rural industries to preserving ecology.

Liang Jianzhang, co-founder of the online travel agency Trip.com Group, said opportunities for homestay development abound in rural areas.

Since March last year the agency has developed eight rural retreats in Anhui, Henan, Jiangxi and Hunan provinces.

The first, at Dawan village, Anhui province, opened on July 3 and the rural resorts proved popular among travelers during the National Day holiday in October.

Some reported occupancy rates of more than 90% up to 15 days before the holiday, the agency said.

The rural retreats are part of Trip.com Group's plan to set up a 1 billion yuan fund to build model destinations in the country's rural areas. Ten high-end resorts are at the heart of the strategy. One hundred tourism villages

Latest methods help in struggle of late planting

BY ZHAO RUIXUE, TAN YINGZI and DENG RUI

It was cloudy on March 24 in Mazhuang town, Tai'an city, a major wheat production area in Shandong province. Rain was forecast for the next day.

Xue Lina, who runs an agricultural cooperative in the town, walked among a large expanse of land used to grow wheat, viewing green seedlings swaying in the breeze.

This year has proved tougher for Xue, 39, than previous ones, as she noticed more vulnerable wheat seedlings when the crop started to turn green in February.

"This vulnerability is probably due to late planting as a result of flooding in the autumn," she said, adding the winter planting in the town was delayed for 20 days.

By taking technical assistance, Xue and her colleagues have been quick to offset the impact arising from late planting.

To improve crop nutrition, organic fertilizer must be spread on dozens of acres of wheat on days when rainfall is likely.

Mechanization is on hand to help, with two of the cooperative's workers using agricultural drones to spread fertilizer over the wheat on March 24.

"A single drone can spread fertilizer over about 25 acres of farmland in a day," Xue said, adding that drones spread more evenly than agricultural workers.

Since February, experts have been sent to key wheat production areas by agricultural authorities to help farmers improve the quality of vulnerable seedlings.

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Above: A field of rapeseed flowers is cultivated in the pattern of a gourd in Nankeng village, Huangshan, Anhui province. SHI YALEI / FOR CHINA DAILY
Left: Shanggantang village in Yongzhou, Hunan province, draws visitors with its ancient buildings nestled in the hills. JIANG KEQING / FOR CHINA DAILY

and 10,000 rural tourism staff will be developed over the next five years, the company said.

The June legislation has also made the Chinese Farmers' Harvest Festival a statutory holiday on the day of the autumn equinox, which usually falls in September, in an attempt to vitalize rural culture.

Modern agricultural exhibitions and rural food appreciation events are expected to draw many visitors, experts say.

The lively and popular activities will stimulate the passion of the farmers and residents, says Ma Youxiang, vice-minister of the agriculture and rural affairs.

Last year's celebrations covered major events along the Yangtze River Economic Belt on Sept. 23, and integrated farming culture, as well as displaying cultural resources with local and ethnic characteristics.

Cultural activities such as farmers' concerts, rural photography, calligraphy and painting were in place.

In 2019, the rural tourism sector saw 3.3 billion traveler visits, with operating revenue exceeding 850 billion yuan, according to the Ministry of Agriculture and Rural Affairs.

In the first six months of last year, the number of tourists to Beijing's rural areas recovered to 66.1% of that of the same period in 2019, and business revenue has recovered to some 90%, according to the local authority.

At a national promotion meeting for high-quality rural industry development by the ministry in March last year, it was announced that the country will strive to achieve more than 4 billion travel visits to rural villages by 2025, with operating revenue breaking 1.2 trillion yuan. It is expected to benefit more than 15 million people.

Such promises have seen other tour players make inroads in rural tourism development.

The culture and tourism conglomerate Overseas Chinese Town Group has deepened strategic cooperation with rural areas in Guizhou, Sichuan and Gansu provinces to improve local folk customs and the local environment, as well as tap into local culture and tourism resources.

The OCT Group has developed about 30 distinctive rural projects across the country.

Those scenic spots have been receiving 40 million tourist visits annually on average, lifting 160,000 people out of poverty, the OCT Group said.

Since 2016, at Zhongliao village in Hainan, local ethnic Li elements have been retained as part of the construction of a pastoral getaway and art performance venue by the group.

"Our living environment has improved, and tourism has been all the rage in the village," said Su Yingnuan, who lives in Zhongliao. "We can enjoy employment at our doorsteps and an increase in income, so we're all happy."

In Xiaopuxi village, Xishuangbanna Dai autonomous prefecture in Yunnan, a health preservation facility featuring tea tours has drawn travelers from far and wide. The village is home to the Jino ethnic group.

The development by OCT Group has given the previously poor village a facelift, said Bai Chunguo, a village official.

"The tea trees on the mountain and Jino culture have brought us development opportunities. Villagers can receive friends from all over the world without leaving the village."

A drone is used to spread pesticide on fields in Hushan town, Rongcheng of Shandong province. LI XINJUN / FOR CHINA DAILY

Over the past two months, Wang Fahong, a member of the team of wheat experts at the Ministry of Agriculture and Rural Affairs, who works at the Shandong Academy of Agricultural Sciences, has visited most wheat production areas in the province to examine seedlings and soil conditions.

Agricultural cooperatives and owners of large farms are using machines and smart equipment throughout the entire wheat production process, which has made farm work more efficient, Wang said.

The cooperative run by Xue in Mazhuang has 18 workers, who operate on 215 acres of arable land used to grow wheat and corn.

"About 98% of the work related to wheat production, from plowing to harvesting, is done by machines," said Xue, adding that such automation has increased yield substantially.

Nicolas Cage, not to be confused with Nick Cage

REVIEW

An enormous waste of someone's talent

BY STEPHANIE ZACHAREK

TO LOVE NICOLAS CAGE DOESN'T MAKE YOU AN UNDER-represented minority. For decades, his face on a movie poster was the key to worldwide ticket sales, though he's more than just a global star. He has been called the finest actor of his generation, which is probably true. In his off years, he's been jeered at as a guy who'd take any role to finance the purchase of a castle, or perhaps a choice dinosaur skull. Does he contradict himself? Very well then, he contradicts himself. He is large. He contains multitudes.

Unfortunately, *The Unbearable Weight of Massive Talent,* a meta-comedy of ostensibly epic proportions, is not nearly grand enough to embrace those multitudes. Cage stars as Nick Cage, a fictional version of himself who spouts lofty ideas about acting but who's finding it harder and harder to land gigs. He's also having family troubles: his teenage daughter (Lily Sheen) resents him, and his impending divorce from his smart and justifiably annoyed makeup-artist wife Olivia (Sharon Horgan) has left him broke.

Fortunately, his agent (Neil Patrick Harris) has a job for him: Spanish billionaire and superfan Javi (Pedro Pascal) will pay Nick to attend the birthday party Javi's throwing in Mallorca. Incidentally, Javi has also written a screenplay—because someone has *always* written a screenplay.

Nick shows up on the island, hoping to do his bit and be gone in 60 seconds. But he and Javi end up forging a warm, manly bond, over LSD and a shared love for, well, Nick Cage. Their bro time is foiled by a duo of CIA agents (Tiffany Haddish and Ike Barinholtz) who believe Javi is behind a high-profile kidnapping. Meanwhile, another version of Nick Cage—a much younger, *Wild at Heart*–era gonzo id with unpleasantly pearlescent CGI-de-aged skin—pops up repeatedly to remind the older Nick that he's not a serious actor but a superstar, and he needs to start behaving like one.

This is less a movie for actual watching than one for making noise

The Unbearable Weight of Massive Talent, directed by Tom Gormican, who also co-wrote the script with Kevin Etten, name-checks one Nicolas Cage film after another, weaving in memorable quotes along the way. Is *Face/Off* your personal favorite? Represented! Are you one of those Cage completists with a fondness for *Guarding Tess*? Gormican's got you! Clearly, the audience is supposed to hoot and holler every time they recognize a Cage reference, which will be often. This is less a movie for actual watching than one for making noise.

But poke beneath the aggressive fun of *The Unbearable Weight of Massive Talent,* and you'll find a depressing act of redemption that doesn't really need to happen. The media has recently made much of how Nicolas Cage is back, after a too-long period of making not-so-hot movies for a paycheck. (Last year he gave a terrific fine-grained, hard-nosed performance in Michael Sarnoski's small-budget *Pig.*) We already know that Cage—with those soulful-rabbit eyes, that voice like olivine velvet—can do just about anything. And so his willingness to join in this not particularly daring act of self-mockery should surprise no one. This is absolutely a movie For the Fans, maybe because nobody knows *who* to make movies for anymore. But instead of leading us to a place beyond ourselves, it only confirms our ability to identify things that gave us pleasure in the past. It's the dinosaur skull we want, and buy, leaving greater needs unmet. ◻

LIONSGATE

Seeing double: Joséphine and Gabrielle Sanz

REVIEW

A TENDER FAIRY TALE FROM FRANCE

Adults spend so much energy trying to understand children that we rarely think about how hard they have to work to understand us. *Petite Maman,* from French filmmaker Céline Sciamma, delves into that particular childhood quest with charm and grace. This isn't a sentimental plea to see life through the eyes of a child. Instead, it's an ode to the intelligence and perceptiveness of children, to their ability to understand complexities that we sometimes assume are beyond them.

Eight-year-old Nelly (Joséphine Sanz) has just lost her grandmother, whom she loved dearly. Her parents (Nina Meurisse and Stéphane Varupenne), who appear to be having marital problems, have brought Nelly to her grandmother's now unoccupied house in the country; they must clear it out, the unhappy housekeeping of mourning. While playing outside, Nelly meets a girl her age who happens to look just like her. Marion (Gabrielle Sanz, Joséphine's twin) is building a secret hut in the forest. Would Nelly like to help? The two become fast if cautious friends, because what Nelly understands before Marion does is that these two girls come from different planes of time and experience. Shot by Claire Mathon in sylvan greens and browns, *Petite Maman* is a gorgeously matter-of-fact fairy tale that respects the inner lives of children. They are, after all, the selves we used to be. —S.Z.

PETITE MAMAN: NEON; THE NORTHMAN: FOCUS FEATURES

REVIEW

A Viking saga for the ages, or just a Saturday afternoon

DADS! PLANNING A MOTORCYCLE trip anytime soon with your sons? Mom staying behind because she has "stuff to do"? Vroom—don't walk—to the nearest cinema showing Robert Eggers' *The Northman,* a visually resplendent Viking saga enfolding revenge, ideals of familial duty, and awesome silver jewelry. Eggers co-wrote the film with the Icelandic poet and novelist Sjón, with an eye toward capturing old Norse culture as a rich repository of art, poetry, and spiritual beliefs. Other contributions to history include tests of manhood involving farting and belching. The Vikings were complicated people.

The story opens in the early 10th century in the British Isles, where fresh-faced 10-year-old Prince Amleth (Oscar Novak) is destined to succeed his father King Aurvandil (Ethan Hawke). But Aurvandil's trouble-making brother Fjolnir (Claes Bang) wreaks murderous havoc on that plan, carrying Amleth's mother Gudrun off like a prize. (She's played by Nicole Kidman, in a marvelous crimped mane à la Studio 54.) Young Amleth escapes the violence, vowing revenge, and after growing into the beefy form of Alexander Skarsgard, sets out to get it.

He also makes sweet love to saucy enslaved girl Olga of the Birch Forest (Anya Taylor-Joy), and has a hallucinatory meeting with a blind seer (Björk) who urges him not to stray from his mission. Eggers, too, takes his mission seriously, at times fulfilling it with unintentionally comical solemnity. "Your sword is long!" exclaims one of the Viking womenfolk as she gazes upon Amleth's ancestral iron weapon. Still, there's always something to look at in this cracked magisterial landscape of moss and mud and angry volcanoes. *The Northman,* whether you approach it as legitimate folklore or as a testosterone-fueled Saturday-afternoon lark, speaks to the 10-year-old boy in all of us, with a loud and mighty Viking burp. —S.Z.

Skarsgard: Go Vikings!

PROFILE

Jennifer Egan's world without privacy

BY ANDREW R. CHOW

IN 2015, JENNIFER EGAN WAS DEEP INTO revisions of her novel *Manhattan Beach* when the memory of a friend from her San Francisco childhood flitted across her mind. She conjured images of tetherball games and bloody noses, but there were cloudy gaps, so she searched the woman's name on Facebook, only to find her profile flooded with condolences. She had died two days earlier in a car accident.

"That had a huge impact on me," Egan says, gazing at the East River from Brooklyn Bridge Park. "I found myself remembering her childhood as I experienced it, and wanting to see it more clearly. I know it's all there in my mind—so why can I see some memories and not others?"

Egan wished for a machine that would allow her to revisit both her life and those of friends and family members she had lost too soon. So, in her next work of fiction, she invented one. That machine, called Own Your Unconscious, is the connective tissue of the stories in *The Candy House,* her new novel, which arrived April 5.

The Candy House is one of the most anticipated books of the year, and not just because Egan has, for two decades, consistently sold out book-tour dates across the country and drawn rave reviews. This new work is a quasi sequel to her most celebrated book: 2010's *A Visit From the Goon Squad,* which won the Pulitzer Prize for fiction and appeared on several best-of-the-decade lists. *Goon Squad* was hailed for its kaleidoscopic structure, which leaped across eras and literary styles as it unraveled a web of stories following loosely connected characters. One chapter was told in PowerPoint; another took the form of a scathing celebrity profile.

The Candy House similarly tells 14 stories that zigzag between the 1960s and the 2030s, incorporating emails, teenage diaries, and spy-mission logs. Many familiar characters are revisited, including Sasha, a kleptomaniac turned landscape artist, and Bennie, a washed-up rocker.

But there's one significant change: where *Goon Squad* was organized primarily around the music industry, *The Candy House* shifts its focus to tech, and the world surrounding the social media magnate Bix Bouton, who appeared briefly in the first book as an internet obsessive in the early '90s. In *The Candy House,* Bix invents Own Your Unconscious, which allows people to see into their pasts—but also forces them to upload their memories to a public cloud, effectively erasing privacy forever.

EGAN: PIETER M. VAN HATTEM

Egan's memory machine serves two key purposes. It allows her to plumb more deeply into the pasts and futures of characters that readers fell in love with more than a decade ago. It also allows her to confront a central development of our time—the escalating integration of technology into our lives—and to explore what happens when social media and immersive tech are taken to their logical, invasive end. "It's so incredible to think of how wrong George Orwell got it: It's not that anyone forces screens into every home," Egan says. "It's that we invite them."

EGAN'S WORK IS FUELED by a deep curiosity about other people—and that impulse is immediately evident. On the sunny March afternoon we meet, she peppers me with questions about my Manhattan upbringing and forays into the

Egan began drafting the follow-up to her Pulitzer Prize–winning novel more than a decade ago

music industry. A former journalist, she prefers when the subject is anything but herself. She used the word *curious* seven times in our hour-long walk, stopping often to marvel at each tableau as we pass by: a ballerina posing for a portrait atop the dancing waterfront, a tiny woman patiently walking a dozen large dogs.

Egan often walks and bikes around the city, including this stretch of esplanade, for inspiration. A key character in *Goon Squad* drowns in the East River, and much of *Manhattan Beach* takes place around the corner at the Brooklyn Navy Yard. "New York has been so generative and enriching to my writing process," she says. "I love the anonymity and that I end up in close proximity to people from every walk of life."

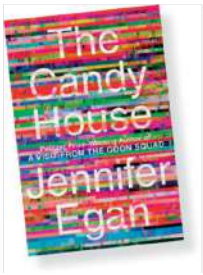
Goon Squad was born out of Egan's belief that "everything is interesting"—that bit players in your life are the protagonists of their own equally compelling narratives. Because of the novel's unspooling nature, she found herself wondering about those left lurking in the margins after it was finished. "It felt like it was never really over for me," she says. She began writing more while on tour for *Goon Squad,* creating anecdotes that only begat more questions.

Lest she be accused of recycling *Goon Squad,* she had to come up with new storytelling mechanisms, new protagonists, and a completely different thematic conceit. After toying with many different ways in, she landed on the idea of centering Bix and his rapidly changing technological innovations as a way to tackle all three requirements. "The evolution of telecommunications technology is the story I have witnessed in my lifetime, without question," Egan says. "There's this state of constant evolution, and the change is so enormous."

There are traces of a real-life tech god in Bix: Egan briefly dated Steve Jobs when she was an undergraduate at the University of Pennsylvania. He was seven years into running Apple. "Seeing how much people who invent things are really true believers—I think that some of that really comes from him, and maybe the awe with which a tech icon is treated," she says.

But more so, *The Candy House* is driven by her interest in the intersections between old modes of storytelling, like novels, and new digital ones, like social media and video-game streaming. Egan's children, who are 19 and 21, spend some of their free time watching gamers navigate first-person video games via Twitch, a phenomenon that both fascinates and rankles her. "Watching a gamer narrate their experience is so much like being inside another consciousness that it gets the closest, in a way, to what fiction does," she says. "But it's also totally performative—there's a slight disingenuousness at the core of it, as we're only hearing the thoughts they want us to know."

The Candy House *revisits* Goon Squad *characters*



WHILE THE CHARACTERS in *The Candy House* get genuine glimpses into one another's psyches thanks to Own Your Unconscious, they also lose their autonomy: Bix's company, Mandala, now tracks their every move and can even accurately predict their future behavior. At the same time, the government places monitoring devices under its own employees' skin. In the novel's hyperconnected world, a group of resisters known as Eluders emerges, scrubbing their digital imprints to live off the grid. Egan says she'd probably be an Eluder herself; a baby boomer, she still writes her first drafts by hand.

But she doesn't view the Own Your Unconscious technology as dystopian, because we've lived through similarly seismic technological changes before. "I read a lot of 19th century fiction, and hear the same echoes of sadness and nostalgia when people are looking back at the time before the railroads, because everything was suddenly so connected," she says. She was initially planning to call the book *The Thing That Changes Everything,* a tongue-in-cheek statement about how while big inventions provoke strong immediate reactions, "it's so hard to really know what all of the changes will be."

More recently, plenty of other writers have dreamed up mechanisms similar to Own Your Unconscious: in *Black Mirror*'s "The Entire History of You," for example, and the new series *The Last Days of Ptolemy Grey,* which Walter Mosley adapted from his 2010 novel. It's unclear whether something like Own Your Unconscious will ever exist; Egan says she did no research into the techno-futurist aspects of the book, preferring to let her imagination run wild.

But the focus of the novel isn't on the tech itself, anyway; it's on how these characters—some of whom have been living in Egan's mind for decades—would respond to such changes, providing evidence of our perseverance and shortsightedness alike in the face of change. And until her magic machine is invented, Egan and other lo-fi storytellers are doing just fine fulfilling many of its positive powers: in placing our long, entangled histories into context, spurring empathy, and satisfying our endless curiosity about others. "I'm the person who walks down the street, peeking into lighted windows," Egan confesses, "thinking, What kind of life goes on in there?" □

ESSAY

Good TV comes to those who wait

BY JUDY BERMAN

IN THE SEASON 5 FINALE OF *BETTER CALL SAUL,* antihero lawyer Saul Goodman (Bob Odenkirk) and his colleague turned wife Kim Wexler (Rhea Seehorn) stress-ate room-service sundaes in an Albuquerque hotel as a conflict with profound implications for their future raged in Mexico. Season 6, back April 18 on AMC after a two-year hiatus, picks up just hours later, as the remnants of their dessert congeal on a rolling cart in the hallway. Maybe it sounds frustrating, having to wait so long for ice cream to melt that you forget about the anxiety it symbolizes. Yet refreshing your memory of a favorite series can also be a pleasure, like catching up with an old friend. It's customary to gripe about long hiatuses between seasons, but the truth is: I like when a show gives me time to miss it.

Largely because of pandemic-related production shutdowns, the effects of which are still rippling through release schedules, this spring will see the return of many beloved shows that haven't aired in years. Along with *Saul,* April will bring the first new episodes since 2019 of Netflix's *Russian Doll,* a trippy love letter to New York City starring Natasha Lyonne, and HBO's Emmy-winning *Barry,* which casts Bill Hader as a lonely hit man who catches the acting bug. Family sci-fi juggernaut *Stranger Things* will also have been absent for three years when the first half of its two-part fourth season drops over Memorial Day weekend. And Donald Glover's *Atlanta* had been off the air for almost four years by the time its third season debuted in March.

But hiatus creep didn't originate with COVID. Ever since premium cable and streaming decoupled American TV schedules from advertising calendars, those platforms have had the freedom to function more like publicly funded overseas networks such as the BBC—where cult-classic sitcom *Absolutely Fabulous* could run for three seasons in the early '90s, take five years off, return for two more seasons, and then resurface again in 2011 for a trilogy of 20th-anniversary specials. Increasingly ambitious TV productions, shot in multiple countries and with elaborate special effects (like Apple's *Foundation),* can also increase the time required to create a season.

SUCH ELASTICITY IN SCHEDULING can be great for creators, the most distinguished of whom might now make a new season of their show whenever—and no sooner than—inspiration strikes. Larry David let six years pass between Seasons 8 and 9 of *Curb Your Enthusiasm.* This kind of leeway is essential for high-concept series like *Atlanta* and *Russian Doll,* which swerve between reality and surrealism, propelled by heady ideas about identity, history, and time, and would be doomed by an imperative to churn.

I like when a show gives me time to miss it

The first instinct of many fans in this age of constant content might be to demand more of the shows they love, soon enough to keep them immersed in their televisual universe of choice. But it's not like we're in danger of running out of things to watch, now that TV produces some 500 scripted series annually. If our favorite shows never took a year off, we'd have that much less time to explore the dozens of new ones that pop up each week. Awards might become as predictable as they were when broadcast networks dominated the nominees; *Modern Family* took top comedy honors at the Emmys five years in a row.

What's good for creators is also good for viewers, at least when it comes to auteurist shows like the ones returning this spring. Instead of racing from one plot point to the next, we get to savor season-long arcs. What's more satisfying than an endless stream of mediocre entertainment is a story that holds our attention even when it's off the air. Ice cream expires. Our investment in Saul and Kim? Not so much. ◻

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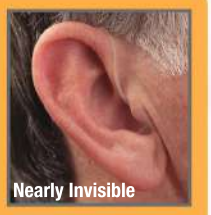

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Kerstin Forsberg The Peruvian marine biologist on our ocean planet, working with fishermen, and the miracle of manta rays

What is the focus of your group Planeta Océano? We work in marine conservation, engaging and empowering local communities, from kids to teachers to fishermen to government officials to companies. And we're bringing them together to protect the oceans through research, education, and sustainable development.

You mention fishermen, but they would seem to be a natural enemy of a group like yours. How do you work together? Our flagship manta ray protection project is a good example. Fishermen were reporting giant mantas getting entangled in fishing nets, and when that happens, it's not just the manta that gets harmed, it's the fishing livelihoods. So we work with them and talk to them about how to avoid that. Some of the fishermen collect data for us. When sea turtles are accidentally caught, the fishermen would just consume the meat, but one of them took to measuring the turtles and releasing them, and his colleagues would approach him and say, "That looks cool. Can I help?"

There seems to be a particular place in your heart for manta rays. How come? They're these magical, majestic creatures. Your first encounter with a manta, you'll remember forever. They're also super intelligent. They have a very large brain size, and they'll come and look at you with their huge eyes.

You frequently use the term *blue economy*. What does that mean? It's a fairly recent trend in which we're talking about the ocean as a space where a lot of sectors are operating: fishing, tourism, coastal development, ports, shipping—up to 80% of what we ship internationally goes through the ocean. So there's all these different activities that can generate income for our nations and communities, but they have to work hand in hand. At the end, it's not a Planet Earth; it's a Planet Ocean.

Who are the bad guys in your work? Is there any group that you think of as a particular foe or challenge?

There's a lot to do to improve industrial fishing. There's a huge impact in terms of all of the pollution and the sectors contributing to that. We want to bring everybody together because ultimately that's the way we're going to advance.

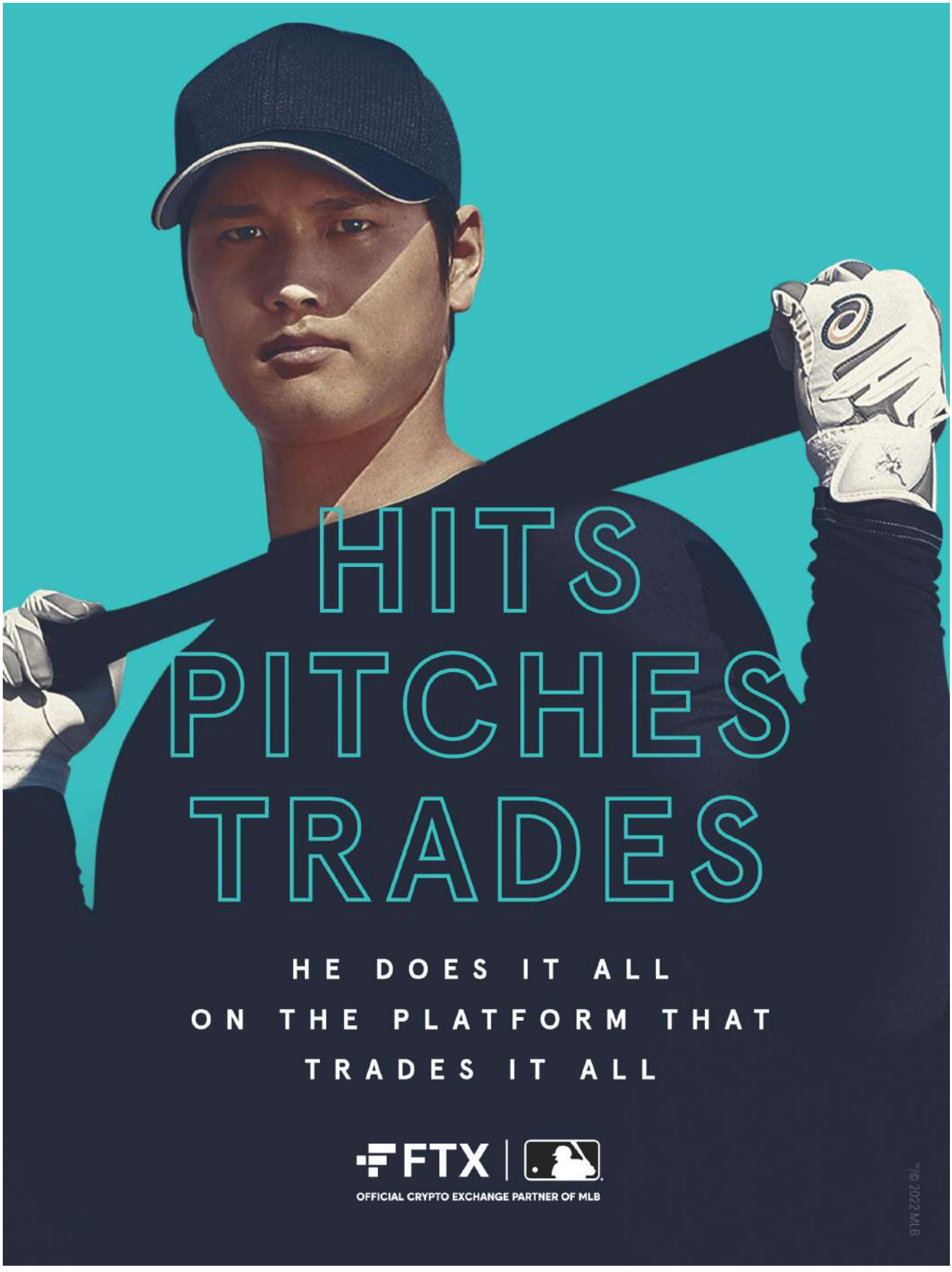
Can't some of this go too far, though? Take ecotourism: Do you worry about too much of a good thing, as with the Galápagos? You need to figure out your carrying capacity, like how many tourists can you have before it goes overboard and it's not good for anybody. On the other hand, some of the tour groups that swim with mantas go out with field sheets and collect data on where they are seeing the mantas and what time they encountered them and what they were doing.

The oceans are an afterthought to many people. You either don't live near one, or if you do, you may think of it as so huge that we couldn't possibly hurt it. How do you wake people up to the damage we can do? The challenge is, as terrestrial creatures, we just see the ocean as this blue mat. But you have to understand everything that's taking place under the mat, this huge diversity of life. Every drop of water has life in it. And we also have to understand that we depend on the ocean, that it affects climate, that it makes our planet habitable.

Is there a recent moment in your work that was especially memorable or moving to you—that made you grateful to have the job you do? Recently we had an art webinar with kids and we had a local fisherman join. And the faces of the kids talking to the fisherman for the first time were like they were talking to an astronaut. They were asking, "What are you cooking? What are you doing?" It's those tiny things that transform me.

—JEFFREY KLUGER

FRANÇOIS SCHAER—ROLEX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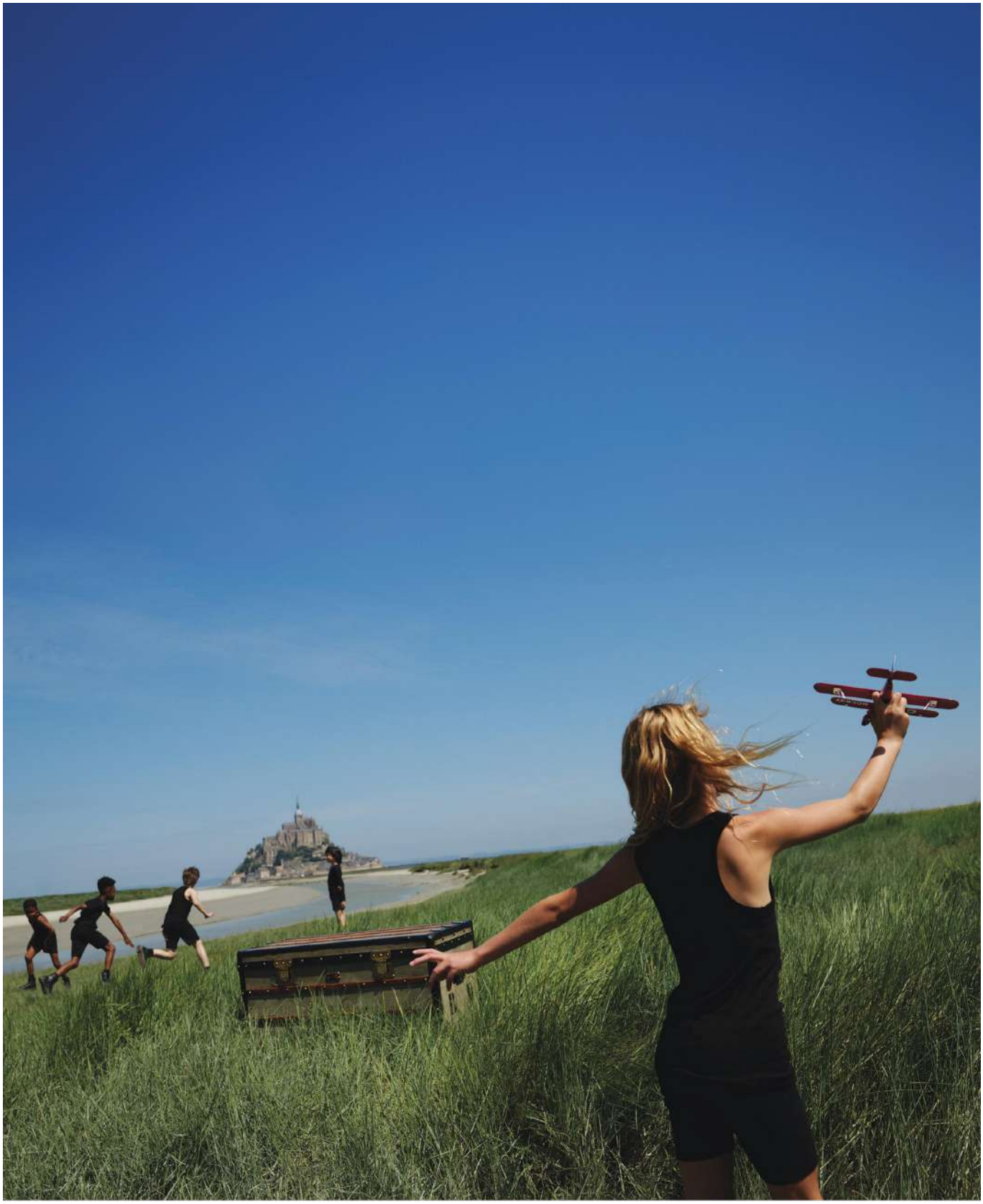

TOWARDS A DREAM

LOUIS VUITTON