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TIME

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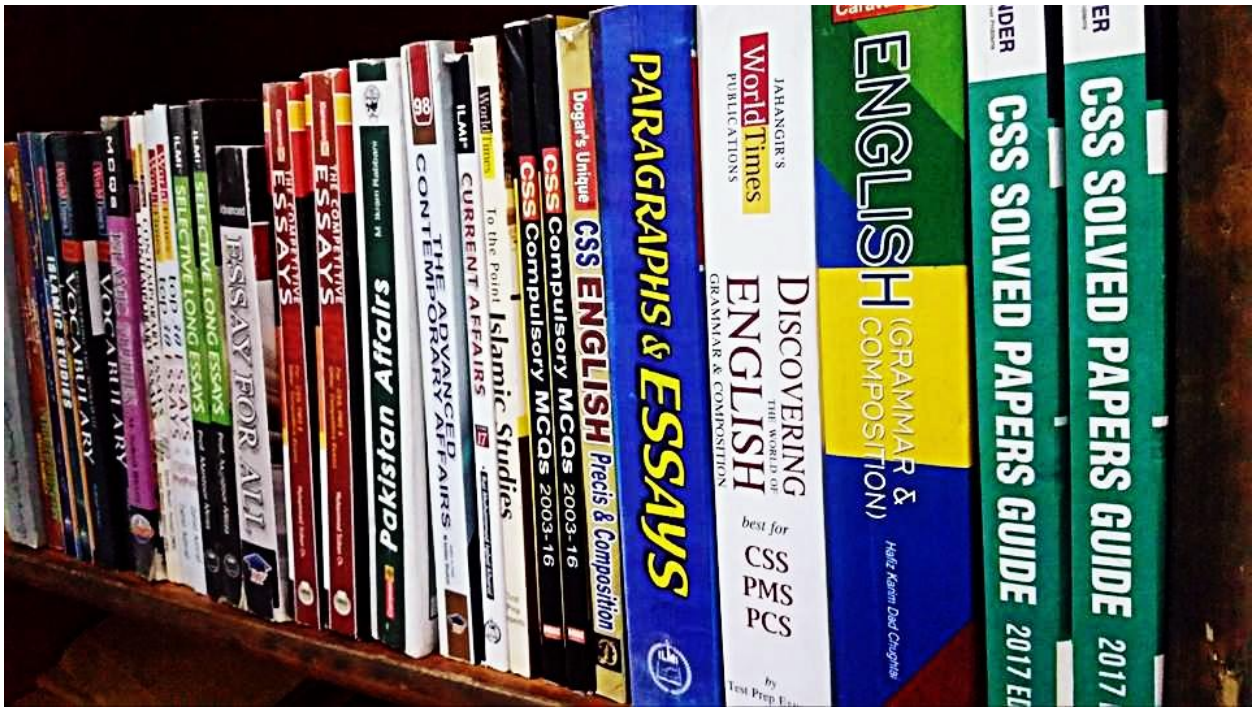

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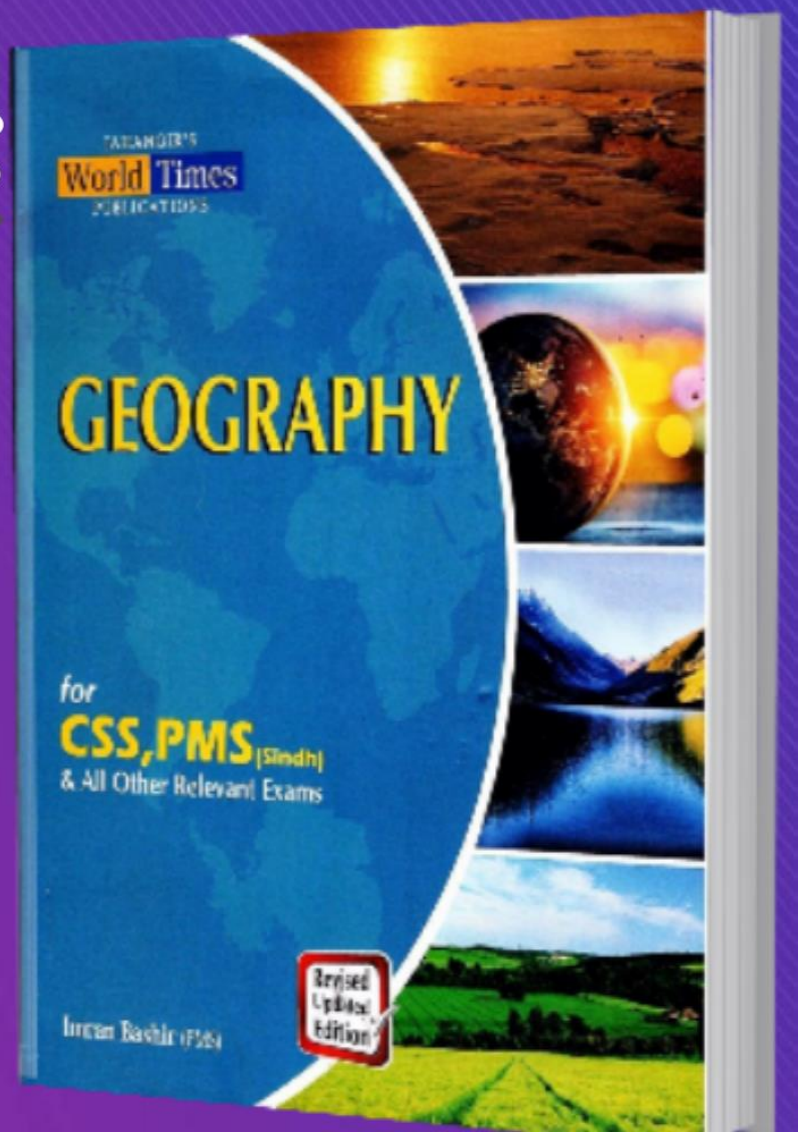

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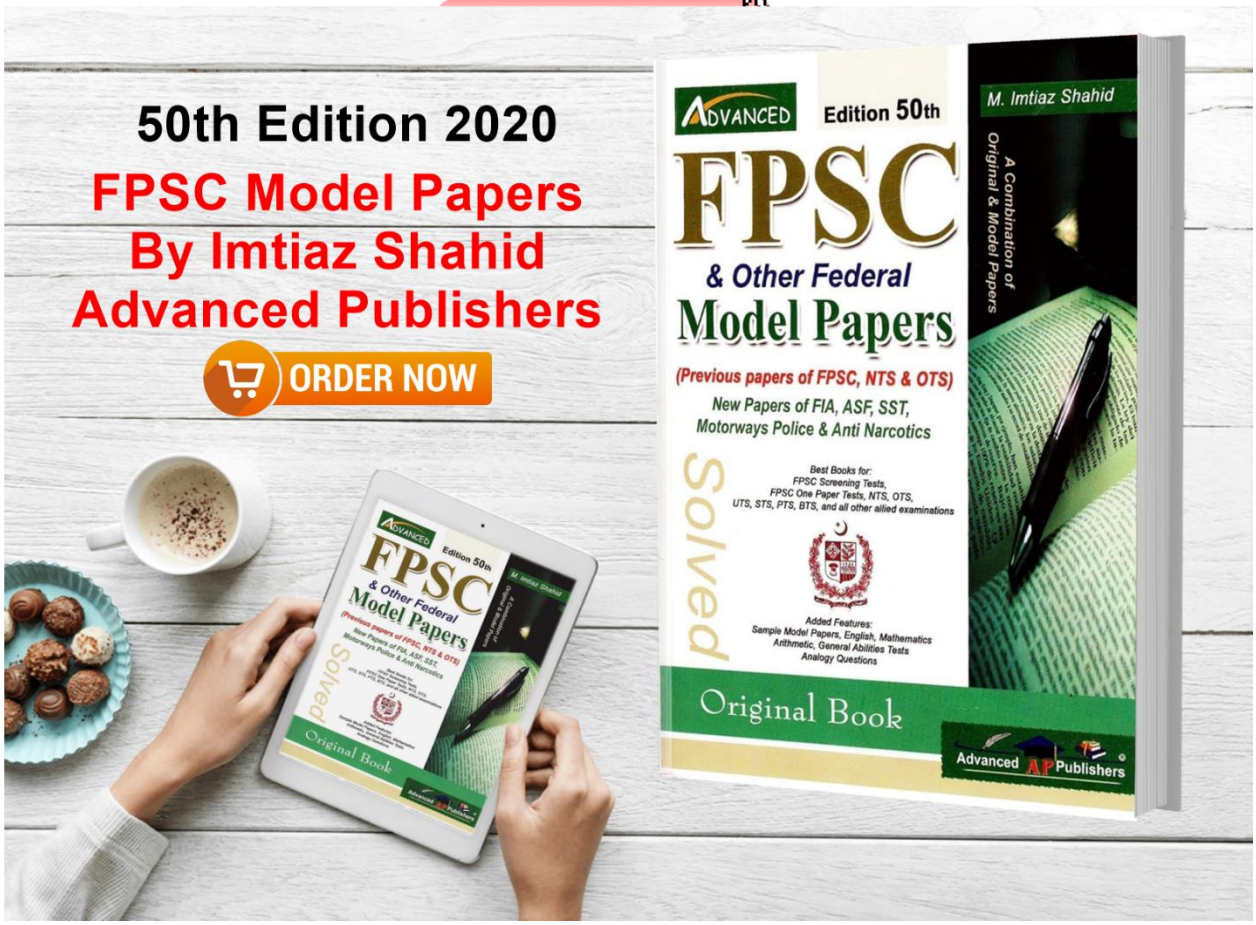

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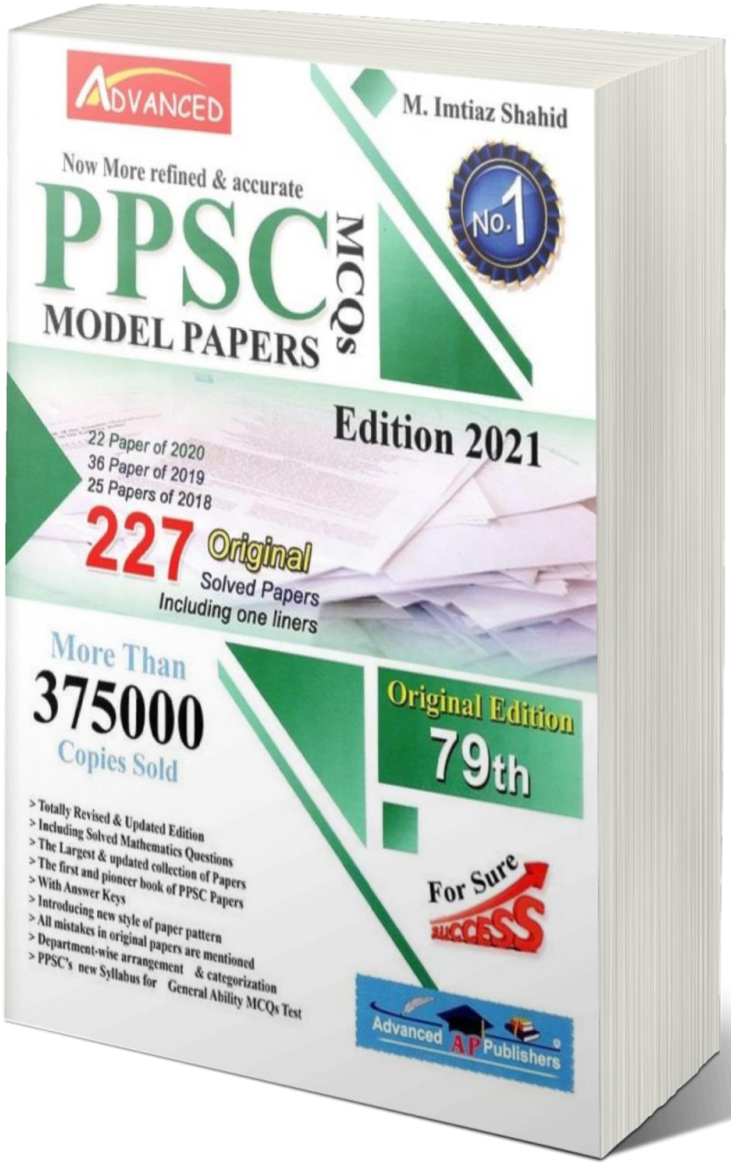

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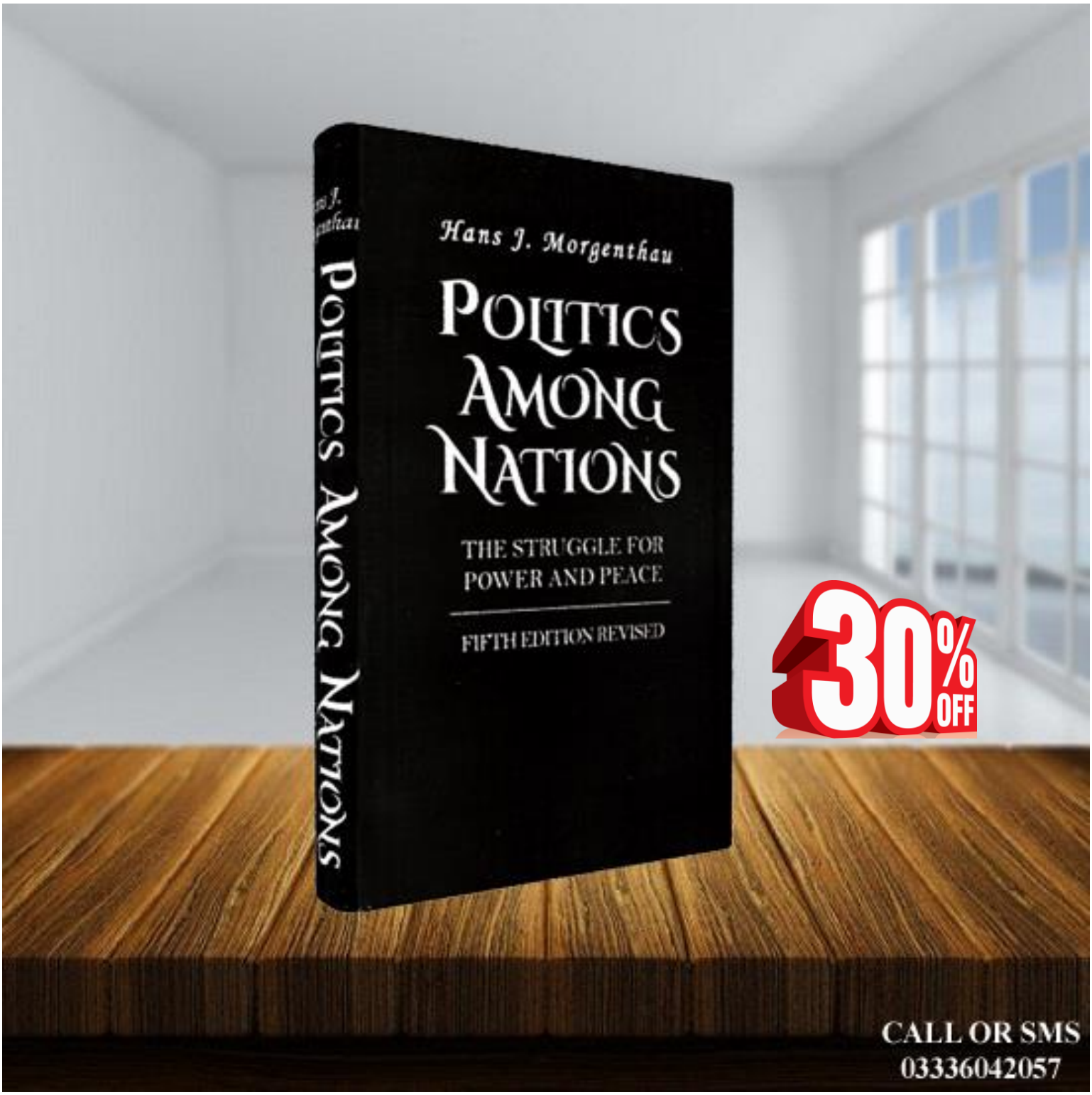

For certain adults with **newly diagnosed metastatic non-small cell lung cancer (NSCLC)** that **tests positive for PD-L1**

OPDIVO® (nivolumab) + YERVOY® (ipilimumab) = **A CHANCE FOR MORE SNUGGLY SUNDAYS**

A Chance to Live Longer™

THE 1ST AND ONLY FDA-APPROVED **CHEMO-FREE COMBINATION** OF 2 IMMUNOTHERAPIES THAT WORKS DIFFERENTLY

In a study of newly diagnosed advanced NSCLC patients, half of those on OPDIVO + YERVOY were alive at 17.1 months versus 14.9 months on platinum-based chemotherapy.

Results may vary. OPDIVO® + YERVOY® is not approved for patients younger than 18 years of age.

Indication & Important Safety Information for OPDIVO (nivolumab) + YERVOY (ipilimumab)

Only your healthcare professional knows the specifics of your condition and how OPDIVO in combination with YERVOY may fit into your overall therapy. The information below does not take the place of talking with your healthcare professional, so talk to them if you have any questions.

What are OPDIVO and YERVOY?

OPDIVO and YERVOY are prescription medicines used to treat people with a type of advanced stage lung cancer called non-small cell lung cancer (NSCLC). OPDIVO may be used in combination with YERVOY as your first treatment for NSCLC when your lung cancer has spread to other parts of your body (metastatic) **and** your tumors are positive for PD-L1, but do not have an abnormal EGFR or ALK gene.

It is not known if OPDIVO and YERVOY are safe and effective when used in children younger than 18 years of age.

What is the most important information I should know about OPDIVO and YERVOY?

OPDIVO and YERVOY are medicines that may treat certain cancers by working with your immune system. OPDIVO and YERVOY can cause your immune system to attack normal organs and tissues in any area of your body and can affect the way they work. These problems can sometimes become serious or life-threatening and can lead to death and may happen anytime during treatment or even after your treatment has ended. You may have more than one of these problems at the same time. Some of these problems may happen more often when OPDIVO is used in combination with YERVOY.

Call or see your healthcare provider right away if you develop any new or worse signs or symptoms, including

- **Lung problems:** new or worsening cough; shortness of breath; chest pain
- **Intestinal problems:** diarrhea (loose stools) or more frequent bowel movements than usual; stools that are black, tarry, sticky, or have blood or mucus; severe stomach-area (abdominal) pain or tenderness
- **Liver problems:** yellowing of your skin or the whites of your eyes; severe nausea or vomiting; pain on the right side of your stomach area (abdomen); dark urine (tea colored); bleeding or bruising more easily than normal
- **Hormone gland problems:** headaches that will not go away or unusual headaches; eye sensitivity to light; eye problems; rapid heartbeat; increased sweating; extreme tiredness; weight gain or weight loss; feeling more hungry or thirsty than usual; urinating more often than usual; hair loss; feeling cold; constipation; your voice gets deeper; dizziness or fainting; changes in mood or behavior, such as decreased sex drive, irritability, or forgetfulness
- **Kidney problems:** decrease in the amount of urine; blood in your urine; swelling in your ankles; loss of appetite
- **Skin problems:** rash; itching; skin blistering or peeling; painful sores or ulcers in mouth or nose, throat, or genital area
- **Eye problems:** blurry vision, double vision, or other vision problems; eye pain or redness

Problems can also happen in other organs and tissues. These are not all of the signs and symptoms of immune system problems that can happen with OPDIVO and YERVOY. Call or see your healthcare provider right away for any new or worsening signs or symptoms, which may include:

- Chest pain; irregular heartbeat; shortness of breath; swelling of ankles
- Confusion; sleepiness; memory problems; changes in mood or behavior; stiff neck; balance problems; tingling or numbness of the arms or legs
- Double vision; blurry vision; sensitivity to light; eye pain; changes in eye sight
- Persistent or severe muscle pain or weakness; muscle cramps
- Low red blood cells; bruising

Getting medical help right away may help keep these problems from becoming more serious. Your healthcare team will check you for these problems during treatment and may treat you with corticosteroid or hormone replacement medicines. Your healthcare team may also need to delay or completely stop your treatment if you have severe side effects.

What should I tell my healthcare provider before receiving OPDIVO and YERVOY? Before you receive OPDIVO and YERVOY, tell your healthcare provider about all of your medical conditions, including if you:

- have immune system problems such as Crohn's disease, ulcerative colitis, or lupus
- have received an organ transplant

Talk to your doctor about OPDIVO + YERVOY

www.OPDIVOYERVOY.com 1-855-OPDIVOYERVOY

- have received or plan to receive a stem cell transplant that uses donor stem cells (allogeneic)
- have received radiation treatment to your chest area in the past and have received other medicines that are like OPDIVO
- have a condition that affects your nervous system, such as myasthenia gravis or Guillain-Barré syndrome
- are pregnant or plan to become pregnant. OPDIVO and YERVOY can harm your unborn baby
- are breastfeeding or plan to breastfeed. It is not known if OPDIVO or YERVOY passes into your breast milk. Do not breastfeed during treatment with OPDIVO or YERVOY and for 5 months after the last dose of OPDIVO or YERVOY

Females who are able to become pregnant: Your healthcare provider should do a pregnancy test before you start receiving OPDIVO or YERVOY.

- You should use an effective method of birth control during your treatment and for at least 5 months after your last dose of OPDIVO or YERVOY. Talk to your healthcare provider about birth control methods that you can use during this time.
- Tell your healthcare provider right away if you become pregnant or think you are pregnant during treatment with OPDIVO or YERVOY. You or your healthcare provider should contact Bristol Myers Squibb at 1-844-593-7869 as soon as you become aware of the pregnancy.

Tell your healthcare provider about all the medicines you take, including prescription and over-the-counter medicines, vitamins, and herbal supplements.

Know the medicines you take. Keep a list of them to show your healthcare providers and pharmacist when you get a new medicine.

What are the possible side effects of OPDIVO and YERVOY?

OPDIVO and YERVOY can cause serious side effects, including:

- **See "What is the most important information I should know about OPDIVO + YERVOY?"**
- **Severe infusion reactions.** Tell your healthcare team or nurse right away if you get these symptoms during an infusion of OPDIVO or YERVOY: chills or shaking; itching or rash; flushing; shortness of breath or wheezing; dizziness; feel like passing out; fever; back or neck pain
- **Complications, including graft-versus-host disease (GVHD), of bone marrow (stem cell) transplant that uses donor stem cells (allogeneic).** These complications can be severe and can lead to death. These complications may happen if you underwent transplantation either before or after being treated with OPDIVO or YERVOY. Your healthcare provider will monitor you for these complications.

The most common side effects of OPDIVO when used in combination with YERVOY include: feeling tired; diarrhea; rash; itching; nausea; pain in muscles, bones, and joints; fever; cough; decreased appetite; vomiting; stomach-area (abdominal) pain; shortness of breath; upper respiratory tract infection; headache; low thyroid hormone levels (hypothyroidism); decreased weight; and dizziness.

These are not all the possible side effects of OPDIVO and YERVOY. Call your doctor for medical advice about side effects.

You are encouraged to report side effects of prescription drugs to the FDA. Call 1-800-FDA-1088.

OPDIVO (10 mg/mL) and YERVOY (5 mg/mL) are injections for intravenous (IV) use.

This is a brief summary of the most important information about OPDIVO and YERVOY. For more information, talk with your healthcare providers, call 1-855-673-4861, or go to www.OPDIVO.com.

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The Olympic logo at Tokyo's National Stadium on Dec. 16
Photograph by Kenji Chiga for TIME

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Photograph by Dina Litovsky for TIME

Capitol Police guard the House Chamber

Photograph by Drew Angerer—Getty Images

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Introducing ATEM Mini

The compact television studio that lets you create presentation videos and live streams!

Blackmagic Design is a leader in video for the television industry, and now you can create your own streaming videos with ATEM Mini. Simply connect HDMI cameras, computers or even microphones. Then push the buttons on the panel to switch video sources just like a professional broadcaster! You can even add titles, picture in picture overlays and mix audio! Then live stream to Zoom, Skype or YouTube!

Create Training and Educational Videos

ATEM Mini's includes everything you need. All the buttons are positioned on the front panel so it's very easy to learn. There are 4 HDMI video inputs for connecting cameras and computers, plus a USB output that looks like a webcam so you can connect to Zoom or Skype. ATEM Software Control for Mac and PC is also included, which allows access to more advanced "broadcast" features!

Use Professional Video Effects

ATEM Mini is really a professional broadcast switcher used by television stations. This means it has professional effects such as a DVE for picture in picture effects commonly used for commentating over a computer slide show. There are titles for presenter names, wipe effects for transitioning between sources and a green screen keyer for replacing backgrounds with graphics.

Live Stream Training and Conferences

The ATEM Mini Pro model has a built in hardware streaming engine for live streaming via its ethernet connection. This means you can live stream to YouTube, Facebook and Teams in much better quality and with perfectly smooth motion. You can even connect a hard disk or flash storage to the USB connection and record your stream for upload later!

Monitor all Video Inputs!

With so many cameras, computers and effects, things can get busy fast! The ATEM Mini Pro model features a "multiview" that lets you see all cameras, titles and program, plus streaming and recording status all on a single TV or monitor. There are even tally indicators to show when a camera is on air! Only ATEM Mini is a true professional television studio in a small compact design!

ATEM Mini.....**US$295**
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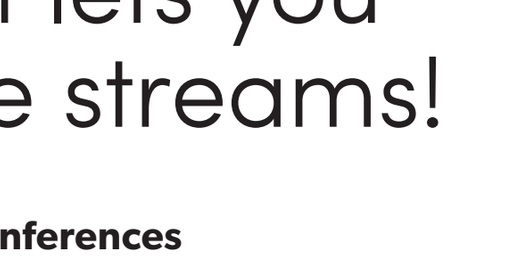

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Conversation

WHAT YOU SAID ABOUT ...

TIME'S PERSON OF THE YEAR IS always the source of impassioned debate, and the 2020 selection of U.S. President-elect Joe Biden and Vice President–elect Kamala Harris was no exception. Tim Ackert of Orlando applauded the "thought-provoking issue" that "covered the highs and lows of a very rough year," and Paul Bacon of Hallandale Beach, Fla., called Biden and Harris a "great choice."

Many readers argued, however, that frontline health workers—who, along with Dr. Anthony Fauci and racial-justice organizers, were recognized as TIME's Guardians of the Year—should have been Person of the Year. "We're in the middle of a pandemic and you pick politicians?" wrote Michael Dendis, of Memphis, N.Y. Doctors, nurses and first responders, argued Jerry Lynn Tuders of South Pittsburg, Tenn., are "the true persons of the year, the decade and century."

TIME also named Zoom CEO Eric Yuan Businessperson of the Year, global pop stars BTS Entertainer of the Year and LeBron James Athlete of the Year. The cover portrait of James was painted by 14-year-old Tyler Gordon, a 2020 TIME Kid of the Year finalist, who wrote on Twitter, "I still can't believe my work made it to the cover of TIME!! I'm so grateful! I love @KingJames and am honored!" "You can do anything you put your mind 2!" James tweeted in response. "Love you too kid!"

'Thank you TIME for offering all of us loyal readers a glimmer of hope with your latest Person of the Year issue.'

PATRICIA MCFEATERS,
Oceanside, Calif.

'I FEEL LIKE BIDEN AND HARRIS HAVE A MANDATE TO SAVE THE WORLD. TO ME, THEY ARE AVENGERS.'

@LEAH_BETH

'Honored to be named @TIME's Person of the Year with President-elect @JoeBiden ... We have a lot we need to handle in the days ahead but I know together we can get it done.'

@KAMALAHARRIS

'Thinking about all that these two share ... for both of them, their closest political advisors have always been their sisters. I think that's pretty amazing.'

@SERENAPIPIAT

'I am saddened you chose to honor politicians rather than [the] many Americans who have suffered long, arduous working hours to keep our society running.'

ELKA G. DEEDE,
Holland, Mich.

SETTING THE RECORD STRAIGHT ▸ In the Dec. 21/Dec. 28 issue, the 2020 Guardians of the Year feature on frontline health workers misstated where Dr. Rebecca Martin is from. She is from Mountain Home, Ark. It also misstated Tanya Lynne Robinson's title. She is a state-tested nursing assistant.

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DAILY HARVEST

WHEN THERE'S NOTHING FAKE ABOUT IT.

Celebrate The Small Wins

For the Record

‘Today he broke my life again.’

MOHAMMED KINANI,
on Dec. 23, after President Trump pardoned four men convicted of killing his 9-year-old in Baghdad in 2007 as Blackwater security guards

‘Because this is America, the 82-year-old hands that used to pick someone else’s cotton went to the polls and picked her youngest son to be a United States Senator.’

THE REV. RAPHAEL WARNOCK,
during his Jan. 5 victory speech after defeating incumbent GOP Senator Kelly Loeffler in a special election in Georgia

‘I’LL BE FIERCE FOR ALL OF US, FOR OUR PLANET AND ALL OF OUR PROTECTED LAND.’

DEB HAALAND,
U.S. Representative (D., N.M.), in a Dec. 19 speech after her nomination as Biden’s Interior Secretary; if confirmed, she would be the first Native American Cabinet member

‘Who is to say what you’re allowed to absorb and not absorb growing up?’

HILARIA BALDWIN,
responding to criticism that she had appropriated a Spanish identity and heritage despite having been born in Boston, in a Dec. 30 interview with the New York *Times*

144

Number of women serving in the 117th Congress when it began on Jan. 3, the most in U.S. history

‘The overall impression is of a depressed and sometimes despairing man, who is genuinely fearful about his future.’

VANESSA BARAITSER,
British district judge, in a Jan. 4 ruling rejecting a U.S. extradition request for WikiLeaks founder Julian Assange

57

Number of vials, containing over 500 doses of Moderna’s COVID-19 vaccine, allegedly left out of cold storage deliberately by a Wisconsin pharmacist who, prosecutors said Jan. 4, believes the vaccine is “not safe for people”

GOOD NEWS
of the week

South Dakota paramedic Robbie Vargas-Cortes revealed an engagement ring taped to his arm as his now fiancé, nurse Eric Vanderlee, prepared to administer a COVID-19 vaccine to him

ILLUSTRATIONS BY BROWN BIRD DESIGN FOR TIME

SOURCES: THE CENTER FOR AMERICAN WOMEN AND POLITICS; REUTERS; THE WASHINGTON POST; ASSOCIATED PRESS; BBC; CNN

The Brief

INSURRECTION
A mob of pro-Trump extremists breach the Capitol on Jan. 6

NATION

What Trump wrought

By Molly Ball

PHOTOGRAPH BY VICTOR J. BLUE

The Brief is reported by Madeleine Carlisle, Suyin Haynes, Ciara Nugent, Billy Perrigo, Madeline Roache and Olivia B. Waxman

"WE WILL NEVER GIVE UP, WE WILL NEVER CONcede!" President Donald Trump told the crowd of supporters he had summoned to Washington on Jan. 6. They heard him and obeyed. Within hours, a mob of self-styled revolutionaries waving Trump flags had stormed the Capitol. Scaling scaffolding and breaking windows, they filled the marble halls. Shots were fired inside the building as lawmakers and their staffs scrambled for cover and tear gas filled the Rotunda. For the first time since the Civil War, America would not have a peaceful transfer of power.

Before the riot interrupted it, Trump's last-ditch attempt to steal the presidential election that he unambiguously lost was not going well. Vice President Mike Pence announced he would fulfill his ceremonial role of counting the states' electoral votes, rejecting Trump's demand to throw them out. The Republican Senate leader, Mitch McConnell, gave an impassioned speech rebuking colleagues who sought to disrupt the process on Trump's behalf.

For four years, Trump's party had submitted to a Faustian bargain. Recognizing the loyalty he commanded from voters, officials fell in line—some gleefully, some grudgingly—behind a President who pushed America nearly to its breaking point. Republicans decided that winning elections and wielding power justified ignoring Trump's authoritarian tendencies, his assaults on the political system, his attacks on the GOP's members and ideals. But two weeks before the end of his presidency, the price of enabling Trump—for the GOP and the country alike—became clear.

'Donald Trump is leaving the Republican Party as fractured as it has ever been.'

AMANDA CARPENTER, Trump critic and former GOP Senate aide

In his final bid to overturn the election, Trump browbeat dozens of Republican lawmakers into objecting to the certification of Joe Biden's victory on Jan. 6, forcing partisans to take sides on his final challenge to democracy and the Constitution. In the process, Trump helped ensure that the GOP candidates in two Georgia runoff elections would lose by slim margins, giving Democrats control of the Senate. A party that abandoned its principles to gain power has lost both.

In the final weeks of his term, Trump ran amok. He vowed to ruin the careers of GOP officials who would not go along with his baseless election claims. He vetoed the annual military budget. He sided with Democrats by demanding $2,000 stimulus checks the GOP would not support. He painted the Georgia Senate races as rigged, prompting supporters to urge a ballot boycott. He urged "patriots" to descend on D.C. for a final showdown at the Capitol. As the chaos unfolded, Trump tweeted a limp request for nonviolence and hours later released a video telling his supporters to "go home" while praising them and continuing to insist the election was stolen.

It was fitting that Trump's term would end with a presidential mob attacking the seat of democracy while his party's representatives went to war with one another. His political career began as an attack on the GOP establishment, and succeeded because many in the party agreed with his revulsion for its leaders. At an election eve rally for Georgia's Republican candidates, David Perdue and Kelly Loeffler, Trump got his biggest cheers when he went after other Republicans, from the state's governor, Brian Kemp, to Pence. To Republicans who had rejected Trump, the party reaped what it had sown. "This is what the President has caused today, this insurrection," said Mitt Romney, the only Senate Republican to vote for Trump's impeachment in February, as he evacuated the Capitol. After indulging so much anti-establishment rhetoric, paranoid conspiracy theories and revolutionary cosplay, could they really be surprised that some of their supporters finally took matters into their own hands?

The consequences will continue. An entire side of the political spectrum is gripped by delusion, feuding over the irrational demands of a solipsistic demagogue, as their voters call on them to abandon democracy itself. When Congressmen respond to a lost election by insisting the system is illegitimate, "it begins to erode the basis of how a democratic republic is supposed to work," says Meredith McGehee, executive director of the good-government group Issue One. "This is the lit match that we're playing with at this point. Whether Trump is

Before the riot, Trump egged on the crowd gathered near the White House

PREVIOUS PAGE: BLOOMBERG/GETTY IMAGES; THESE PAGES: BRENDAN SMIALOWSKI—AFP/GETTY IMAGES

your pick or not, it's dangerous."

AFTER TRUMP LOST the election, Republicans comforted themselves that they still held 50 seats in the Senate. But with the victories in Georgia, Democrats now have 50 as well, making them the majority once Vice President Kamala Harris is in place to break ties. Controlling the chamber means Biden will be better able to seat his preferred Cabinet, appoint judges, tackle the pandemic and revive the economy. But he may struggle to work with an opposing party that can't even agree on whether his election was legitimate. "Everyone understands that Republicans can't win without some of these kooks, but they can definitely lose with them," says Amanda Carpenter, a former aide to Senator Ted Cruz turned anti-Trump commentator. "Donald Trump is leaving the Republican Party as fractured as it has ever been."

Some Republicans refused to support Trump from the outset, forming a "Never Trump" movement of dissident conservatives. Others tried to emphasize points of agreement until Trump made that impossible. Some were driven out of office for opposing him, but many just left: more than 50 congressional Republicans have retired since Trump took office. Most were replaced by younger, Trumpier members—the party's future.

For those who stayed, responding to the President's outrages became a familiar routine: either pretend it didn't happen, or find some tortured rationale to go along. So when Trump became determined to overturn the election, he wasn't crazy to think they'd eventually be beaten into submission, and they weren't crazy to think this would eventually blow over like past controversies. But Trump's obsession with the defeat only grew. When previously loyal figures like Attorney General Bill Barr refused to support him, he cast about for nuttier alternatives who told him what he wanted to hear, tweeted far-fetched conspiracy theories and lashed out at those who expressed skepticism.

It all culminated with the extraordinary congressional objection to Biden's victory. Under law, Congress's role is merely to affirm the Electoral College vote count certified by the states. But Trump's demand that the GOP object quickly won the support of many House Republicans, and Senator Josh Hawley announced he would join them, forcing a debate on the floor. A dozen other Senators soon rallied to the cause. The attack on the Capitol came after an objection to Arizona's votes lodged by Cruz, who toadied his way back into Trump's good graces after decrying him as a "pathological liar" in 2016.

Trump's final test caused fresh rifts in the party. Arrayed against loyalists like Hawley and Cruz in the Senate were not only relative moderates like Romney and Pat Toomey but also hard-core Trumpists like Tom Cotton and Jim Inhofe. The GOP House leader, Kevin McCarthy, lent his support to the challenge, but a surprising collection of conservative members, such as Cruz's former chief of staff Chip Roy and the No. 3 House Republican Liz Cheney, opposed it, warning the effort could discredit the Electoral College as well as themselves.

THE DOUBLE-BARRELED GEORGIA runoffs were a case study in the agonies of the Trump-era GOP. Biden narrowly won the state in November, the first Democratic presidential candidate to do so in nearly three decades, powered by the forces Trump supercharged: surging turnout among Black voters and a mass migration of suburban voters to the Democrats. Neither GOP senator mustered 50% of the vote, forcing both to compete in the Jan. 5 runoffs. As Democrats Raphael Warnock and Jon Ossoff campaigned, Perdue and Loeffler watched in horror as Trump torched Georgia's GOP establishment. Kemp and secretary of state Brad Raffensperger earned death threats for insisting that Biden had won the state. In a Jan. 2 phone call that later became public, Raffensperger endured Trump's threats and cajoling for nearly an hour, but did not waver.

Few conservatives had illusions about who they were dealing with. "The Republican Party was a means to an end, the easiest patsy lying around," says Michael Steele, former chairman of the Republican National Committee. "I tried to warn people: You've invited someone in the house who doesn't give a damn about anyone else, much less than the house itself."

AS TRUMP LEAVES OFFICE, his party is more split and defeated than it was before he arrived. But it would be folly to predict that the embarrassment Trump has brought spells doom for Republicans. Despite his loss, Trump notched millions more votes in 2020 than in 2016 and spurred unprecedented GOP turnout. The party gained seats in the House and improved its performance with Latinos. The real threat to America may be not that this GOP can't win elections but that it can.

The question now is how to sift through the ashes from Trump's final conflagration. Former GOP Representative Zach Wamp, who leads a bipartisan election-protection coalition, says an America where lies can overpower truth is one where authoritarianism can take root. "I'm not a Never Trumper—I'm from Tennessee, I saw the good things the President did for four years, I'm grateful," Wamp says. "But this is no way to go out. His legacy is going to be this brainwashing of millions of people. The Republican Party has the potential to come back strong, but we can't have a foundation built on a lie." —*With reporting by* MARIAH ESPADA *and* SIMMONE SHAH

PHOTOGRAPH BY ANDREW HARNIK

Lawmakers and staff shelter as protesters besiege the House Chamber in the U.S. Capitol on Jan. 6

Trump supporters besiege the Capitol

A MOB WHIPPED UP BY THE PRESIdent stormed police lines, smashed windows and broke into the U.S. Capitol on Jan. 6 in an attempt to block lawmakers from certifying President-elect Joe Biden's electoral victory. The violent scene, which called to mind images of coups in foreign lands, was a culmination of two months of "Stop the Steal" rallies, fueled by Donald Trump's baseless allegations that widespread voter fraud had cost him the election. The President has repeatedly incited his supporters to challenge the peaceful transfer of power, the essential marker of democracy.

Two hours before the assault on the Capitol, Trump had vowed that he would "never concede," and urged them to pressure Republican lawmakers "to take back our country." When he finished, a crowd chanting, "Storm the Capitol!" proceeded to the iconic building, overwhelmed police and flooded inside. Inside the House Chamber, police officers shoved furniture to barricade the doors as Vice President Mike Pence and lawmakers scrambled to evacuate. In the Senate, intruders dressed in everything from full body armor to a horned Viking cap posed for photos at the rostrum, fists raised. A red MAGA hat was planted on the head of a bronze statue of former President Gerald Ford in the Rotunda and a Trump flag placed in his hand. Shots were heard and a woman reported killed. As it all unfolded, control of the upper chamber moved from the Republican Party to the Democratic Party as, 600 miles to the south, civil servants and citizen volunteers continued to faithfully tally ballots.

—VERA BERGENGRUEN, *with reporting by* LESLIE DICKSTEIN *and* JULIA ZORTHIAN

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Capitol Police detain people outside of the House Chamber after pro-Trump protesters clashed with security

Trump supporters wielded flags and riot gear of their own in clashes with security outside the U.S. Capitol

Rioters climb the walls of the U.S. Capitol after President Trump encouraged a rally audience to pressure Republican lawmakers

A police officer confronts a Trump supporter scrambling into the Capitol through a smashed window

OPENING PAGE: AP; THESE PAGES, CLOCKWISE FROM TOP LEFT: DREW ANGERER/GETTY IMAGES; STEPHANIE KEITH—REUTERS; KEVIN DIETSCH—REUTERS; JOSEPH PREZIOSO—AFP/GETTY IMAGES

NEWS TICKER

Argentina legalizes abortion

Argentina's Senate in Buenos Aires on Dec. 30 **approved elective abortions** up to the 14th week of pregnancy—a landmark move for a continent home to some of the world's most restrictive abortion laws. The vote came after years of grassroots organizing by abortion-rights and feminist activists and was decried by anti-abortion groups.

Vietnamese journalists jailed over 'propaganda'

A court in Vietnam on Jan. 5 found three journalists guilty of **spreading "anti-state propaganda,"** charges Human Rights Watch describes as "bogus." Pham Chi Dung, Nguyen Tuong Thuy and Le Huu Minh Tuan, known for work critical of the government, face jail sentences of 11 to 15 years.

Russian hack in U.S. much broader than once thought

Now believed to be the work of the Russian intelligence service, the SolarWinds hacking incidents may have impacted as many as **250 government agencies and companies,** the New York *Times* reported Jan. 2—far more than originally thought.

THE BULLETIN

Jack Ma disappears after speaking out in Xi Jinping's China

WHETHER PERFORMING IN ROCK CONcerts or starring in a kung fu movie, Jack Ma has always relished the limelight. But as of Jan. 6, the founder of China's e-commerce behemoth Alibaba—and, until recently, the country's richest man—has not been seen in public for over two months. An Alibaba spokeswoman declined to comment on his whereabouts after it was revealed that Ma, 56, had been replaced by another Alibaba executive for the finale of a TV talent contest he'd helmed, with his picture scrubbed from the gallery of judges.

RAGS TO RICHES Ma is beloved by millions as a self-made tech mogul who never learned how to code and suffered repeated rejection on his way to a personal fortune worth $50 billion. As a party member who rubbed shoulders with China's top leaders, Ma even assumed an unofficial ambassadorial role. Still, his ostentation and defense of China's strict "996" work culture—9 a.m. to 9 p.m., six days a week—also led some to decry him as a "capitalist bloodsucker."

SWIFT RETRIBUTION On Oct. 24, Ma gave a speech in Shanghai that chided Chinese regulators for stifling innovation, compared local banks to "pawnshops" and infuriated listening cadres. Just over a week later, China's securities watchdog nixed the much touted, record-breaking $37 billion IPO of Alibaba's fintech arm, Ant Financial, two days before its debut and despite having earlier received a green light. And in late December, Ma's Ant Group was told to restructure to adhere to new antimonopoly rules, shaving billions off its valuation.

GLOBAL FALLOUT All this comes as China is attempting to write the rules of next-generation trade and technology—ambitions that hinge on visionaries like Ma, whose Alipay mobile-payment service claims to have over 1.3 billion users. Yet given a slowing economy, rising debt and mounting geopolitical headwinds, it's clear that President Xi Jinping will not countenance any challenge to his authority. —CHARLIE CAMPBELL

CALLS FOR JUSTICE Bayle Gelle is consoled after speaking about his 23-year-old son Dolal Idd during a Jan. 3 rally at the gas station in Minneapolis where Idd was shot and killed by police during a Dec. 30 traffic stop. While the Minneapolis police department has released body-camera footage it says shows Idd shooting at officers first, hundreds have continued to protest, demanding answers as to what transpired during the city's first police killing since George Floyd's death last May.

STEPHEN MATUREN—GETTY IMAGES

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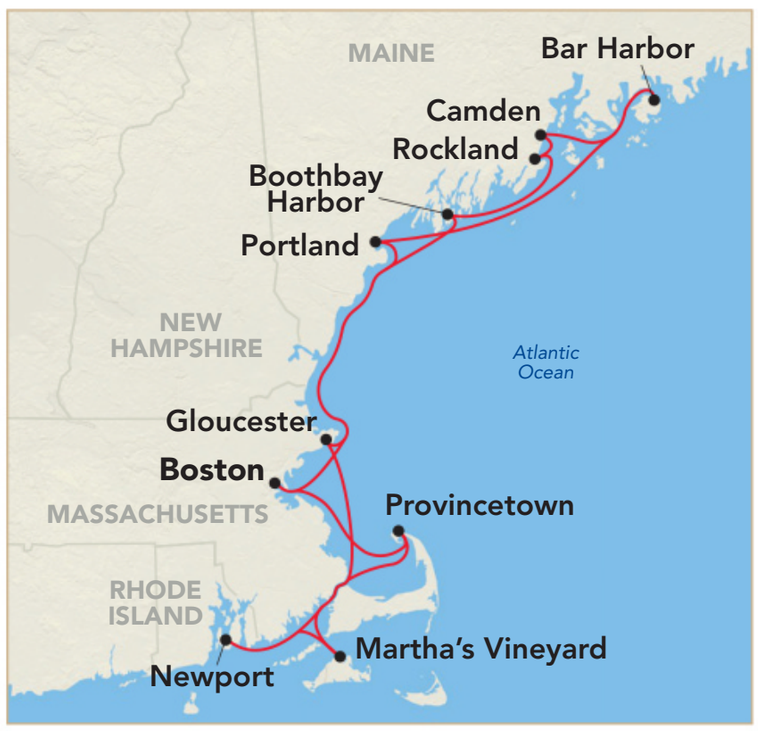

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NEWS TICKER

Hong Kong activists arrested

Veteran opposition figures and young pro-democracy campaigners were among more than **50 activists arrested under Hong Kong's new national security law** in morning raids on Jan. 6. Marking a further erosion of freedoms in the city, the arrests drew international condemnation.

No charges filed in Jacob Blake shooting

Kenosha, Wis., District Attorney Michael Gravely said Jan. 5 that he would **not bring criminal charges** against the police officer who shot and paralyzed 29-year-old Jacob Blake after an altercation between Blake and the police in Kenosha on Aug. 23. Blake's uncle called the decision a "grave injustice."

Timely thaw in Saudi-Qatari relations

Ahead of a landmark summit, Saudi Arabia agreed on Jan. 4 to **reopen its borders to its Gulf neighbor Qatar,** easing a three-year dispute that pitted the U.S. allies against each other. The kingdom, joined by Egypt, Bahrain and the UAE, cut ties with the country in 2017, accusing its rulers of supporting terrorism.

Anthems anew

Prime Minister Scott Morrison announced a tweak to Australia's national anthem, "Advance Australia Fair," on Dec. 31, changing a line in the first verse from "for we are young and free" to "for we are one and free" to better honor the country's Indigenous history. Here, other anthems that have been altered to acknowledge progress and representation. *—Madeline Roache*

AUSTRIA
In 2012, Austria's national anthem, "Land der Berge, Land am Strome," was made more gender-inclusive, with lyrical changes including "great sons" to "great daughters and sons," and "brotherly choirs" to "jolly choirs."

SOUTH AFRICA
Postapartheid South Africa in 1997 blended a previous national anthem and a popular hymn into a single song, which features verses in the country's five most spoken languages: Xhosa, Zulu, Sesotho, Afrikaans and English.

CANADA
After 18 months of debate, Canada made its English-language national anthem, "O Canada," gender-neutral in 2018, changing the words after "true patriot love" from "in all thy sons command" to "in all of us command."

GOOD QUESTION

What could climate change mean for the world's weather in 2021?

2020 WAS A YEAR OF EXTREME WEATHER. Hot and dry conditions drove wildfires across vast areas of Australia, California, Brazil and Siberia. A record-breaking Atlantic hurricane season landed a double blow of hugely damaging storms on Central America. Droughts pushed millions of people into hunger in Zimbabwe and Madagascar. A supercyclone unleashed grave floods on India.

And 2020 may end being up the hottest year on record—despite the impact of La Niña, an ocean-atmospheric phenomenon that tends to have a cooling effect on global temperatures.

While in the past it's been difficult to say if single weather events were directly caused by climate change, scientists have proved that much of 2020's weather would have been far less likely, or even impossible, without the warming of the earth. As we have released heat-absorbing greenhouse gases, global average temperatures have risen, destabilizing the climate we are used to and making once rare extremes more likely.

As our earth continues to warm, scientists say, periods of extreme heat will be more frequent and last longer. Wildfires, driven by heat and dry conditions, will become more likely. Hurricanes will be more destructive, carrying stronger winds and heavier rains.

It's still impossible to know if 2021 will be as record-breaking as last year, says Daniel Swain, a climate scientist at UCLA."From one year to the next, there's still a lot of random variation superimposed on top of the long-term trends." But it's highly likely more extremes are on the way, he adds. "While 2020 may have been a particularly extreme year in contrast to individual years in the past, looking forward, what's more meaningful is that 2020 was not really an aberration."

And there are some ominous early predictions to consider. In its outlook for this winter, the National Oceanic and Atmospheric Administration anticipates below-average precipitation and worsening drought conditions across many southern U.S. states. Meteorologists at Colorado State University say there is a 6-in-10 chance that the next Atlantic hurricane season will be very strong or above average.

When it comes to the emissions that are driving the changes in our climate, 2020 was an anomaly. Global emissions of carbon dioxide hit a record high in 2019 but fell 7% in 2020 as a result of drops in activity during COVID-19 lockdowns starting in March. But more recent data shows the figures have already rebounded, says Glen Peters of the Center for International Climate Research. Peters expects that emissions in 2021 will likely be near 2019 levels.

What's uncertain is where emissions go from there. "If governments' pandemic-recovery packages are green and include lots of stimulus for renewable energies, you would reap the benefits later," Peters notes. "It's a question of whether [they] set future reductions in motion." —CIARA NUGENT

ANTHEMS: ILLUSTRATION BY BROWN BIRD DESIGN FOR TIME; CARDIN: KEYSTONE/GETTY IMAGES; URQUHART: EVAN SCHNEIDER—UN PHOTO

DIED
Gilligan's Island star **Dawn Wells,** on Dec. 30, at 82, from complications related to COVID-19.
> Former TIME correspondent **Jim Willwerth,** who wrote for the magazine for more than 30 years, on Dec. 23, at 77.

(BR)EXITED
The United Kingdom, from the **European Union's single market and customs union,** on Dec. 31, after years of exhaustive negotiations.

CLOSED
The DOJ's investigation into the 2014 **police shooting of 12-year-old Tamir Rice** in Cleveland, on Dec. 29, with no charges.

AWARDED
The **Presidential Medal of Freedom** to GOP Representative Devin Nunes, a staunch Trump ally, on Jan. 4.

ADMINISTERED
The first **Oxford-AstraZeneca vaccine,** outside of trials, to 82-year-old Brian Pinker in the U.K., on Jan 4.

SEIZED
A South Korean oil tanker **by Iran's Revolutionary Guard** in the Strait of Hormuz, on Jan. 4. The armed troops forced the ship to change course and sail to Iran.

SHUT DOWN
Adobe's Flash software platform, on Dec. 31, along with the much-beloved monetized Facebook game and mobile app ***FarmVille,*** which required Flash Player.

Cardin, pictured with fashion models wearing his designs, in July 1979

DIED

Pierre Cardin

Avant-garde trendsetter

FOR PIERRE CARDIN, WHO DIED IN FRANCE ON DEC. 29 AT 98, FASHion was a medium for envisioning the future. Perhaps best known for the sculptural mod clothing that helped define 1960s and '70s style, the designer leaves a rich legacy of innovative, daring work.

Cardin founded his own fashion house in Paris in 1950 after working under Christian Dior and Elsa Schiaparelli. In the decades that followed, he established himself as a fearless trailblazer. His designs—including futuristic space-age bubble dresses, the wildly popular Nehru suit jacket and even a NASA space suit—embodied the cultural zeitgeist, and often preempted it. Even more revolutionary was his vision for a diversified namesake brand; Cardin licensed his name on everything from fragrances and furniture to pickle jars and car interiors.

This drive helped Cardin build a vast empire characterized by seemingly limitless creativity and little regard for convention. Cardin embraced designing for the masses, flouting couture traditions and championing ready-to-wear (or mass-market) clothes far ahead of many contemporaries. He was one of the first French designers to tap then unexplored markets in Asia and Russia, where he found immense popularity. "I design for tomorrow," he once remarked. "I never go backward." —CADY LANG

DIED

Brian Urquhart

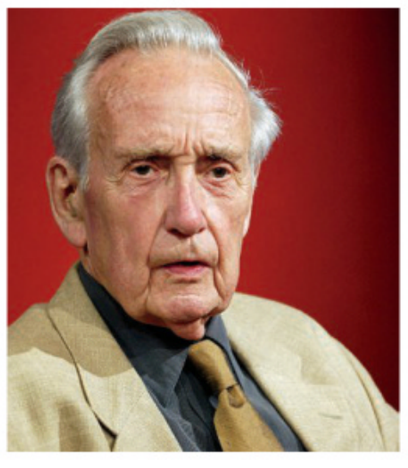
Keeper of peace

By David Bosco

A BRITISH AIRBORNE OFFIcer during WW II, Sir Brian Urquhart knew exactly why the United Nations was needed. Urquhart, who died on Jan. 2 at 101, had seen the horrors of war and was convinced global organization was the only way to avoid global conflict. As an influential adviser to early U.N. leaders, Urquhart married this conviction with a pragmatic approach to political power. He helped fashion an invaluable tool for grappling with conflict and violence: U.N. peacekeepers. In years since, peacekeeping has evolved and, on occasion, stumbled, but never disappeared from the diplomatic toolbox.

Urquhart chronicled the U.N.'s early decades through biographies of key diplomatic figures, an autobiography and myriad other writings. (His wife Sidney Urquhart, a longtime reporter and researcher at TIME, died on Jan. 3 at 87.) Along the way, Urquhart shared wisdom and wit with generations of diplomats and scholars; in countless small acts of generosity, he forged human links between the organization's past and future.

Bosco is the author of Five to Rule Them All: The UN Security Council and the Making of the Modern World



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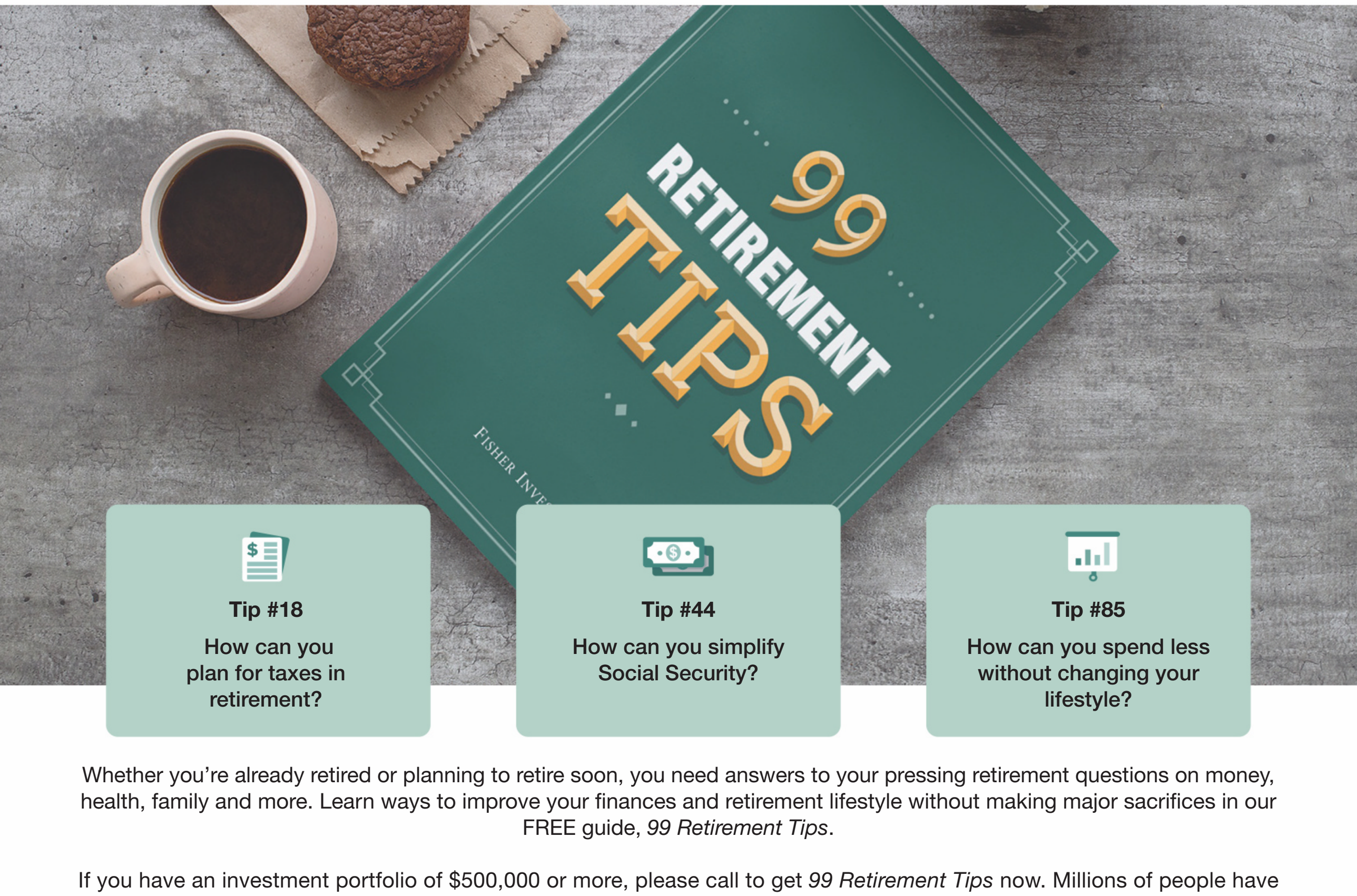

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The View

WORLD

THE RISKS OF 2021

By Ian Bremmer

The health care response to the pandemic defined 2020; the economic response to its lasting damage will define 2021. A world in crisis will miss the leadership and cooperation of a well-functioning superpower. With the most powerful country as divided as the U.S. is now, the geopolitical recession is sure to deepen.

The View is reported by Alejandro de la Garza, Madeline Roache and Simmone Shah

America's growing divisions are why we must start with the problem of political legitimacy there. Here are the top risks of the year ahead:

46*

Joe Biden's term opens the era of the asterisk presidency in the U.S., a time when the Oval Office occupant is seen as illegitimate by roughly one-third of the country—and by the lawmakers that election skeptics sent to Congress. Most of the risk here is domestic, with President-elect Biden the weakest executive to take office since Jimmy Carter in 1976. But the consequences of extreme polarization for democratic legitimacy extend well beyond U.S. borders. Beyond a shared desire to contain China, Republicans and Democrats will disagree sharply—with one other and among themselves—over the objectives of U.S. foreign policy.

German Chancellor Angela Merkel, center, who has been in power since 2005, will step down this year

LONG COVID-19

In 2021, the lingering symptoms of COVID-19 will threaten not just lives but also political stability and the global economy. Countries around the world will struggle to meet ambitious vaccination timelines, and the pandemic will leave a legacy of high debt, displaced workers, growing inequality and lost trust. The bumpy vaccine rollout and economic scar tissue of the pandemic will stoke anti-incumbent anger and public unrest in many countries.

THE RACE TO NET-ZERO

Climate policy is becoming a higher national priority and an arena of global competition. Across a range of clean technologies, China's long-standing industrial policy approach will face an aggressive counteroffensive from D.C. Some parts of the clean energy supply chain will experience bifurcation pressures like those seen in 5G. The push for net-zero emissions targets will create enormous opportunities for private capital.

U.S.-CHINA COMPETITION BROADENS

A shared desire in Washington and Beijing for stability in U.S.-China relations will ease headline tensions, but U.S. coordination of China competition together with allies, along with vaccine nationalism and dueling climate-tech strategies, will combine with long-standing frictions in other areas to further complicate their rivalry.

GLOBAL DATA RECKONING

A slowdown to the free flow of sensitive data across borders will raise costs for companies and disrupt popular apps and Internet business models. Even as the data-driven 5G and AI revolutions gain steam, governments concerned about who is accessing their citizens' data—and how—will erode the foundation of the open global Internet.

The bumpy vaccine rollout and economic scar tissue of the pandemic will stoke anti-incumbent anger and public unrest in many countries

CYBER TIPPING POINT

There's no single factor that raises the risk of a major disaster in cyberspace in 2021. The digital realm—where any computer or smartphone can become an entry point for hackers, and nation-states and criminals act with relative impunity—is too unpredictable. Instead, a combination of low-probability but high-impact risks and increased threats will make this the year that cyberconflict creates unprecedented risk.

(OUT IN THE) COLD TURKEY

Economic setbacks in 2021 and Turkey's poor COVID-19 response will leave President Recep Tayyip Erdogan struggling to win back voters disillusioned with his two-decade rule. These dynamics will stoke social tensions, prompt a crackdown against the opposition and encourage Erdogan to launch more foreign policy adventures to fuel nationalism and distract his supporters.

LOW OIL TAKES A TOLL

The Middle East is the biggest regional loser from coronavirus. Its energy-producing countries faced a collapse in global oil demand in 2020 that left governments in nations from Algeria to Iran with less cash flowing into their coffers. Things will get worse in 2021, with many of these governments cutting spending, damaging vulnerable private sectors and fueling unemployment.

EUROPE AFTER MERKEL

Angela Merkel's departure later this year after 15 years as Germany's Chancellor will drive the Continent's top risk. Europe faces an economic hangover from intensified lockdown restrictions in several countries, and Merkel won't be there to encourage flexibility in the multilateral response. Any economic setback could thus threaten Europe's fragile recovery. ◻

MERKEL: ACTION PRESS/SHUTTERSTOCK; JOURNALS: COURTESY NAYOMI MUNAWEERA

ESSAY

Reconnecting in a time of isolation

By Nayomi Munaweera

LAST YEAR, AS THE TEMPERATURE IN OAKLAND, Calif., soared and the outside air appeared gray, I decided upon the revolutionary act of cracking open a window overnight. At midnight I woke to smoke inside my apartment, a snowstorm of ash swirling into my room and coating every surface in delicate lacy patterns, a potent reminder that very close by, homes, animals, forests were burning.

The evacuation advisory came early the next morning. Residents of the Bay Area, or at least those privileged enough to have cars, put essentials in their vehicles and got ready to seek shelter elsewhere. I gathered up my passport, a change of clothes and, to my husband's chagrin, enough journals to fill the trunk.

I've been an obsessive journal keeper since 1986, when I was 13 years old. At the time, newly immigrated to America, confused by the culture, I found some stability in documenting the details of my life. More than 30 years later, I have several heavy boxes of journals that I lug with me every time I move.

Ultimately, we were lucky. We had a sleepless night while others we knew lost everything. After that, I began doing what I always knew I would have to do: digitizing my journals.

All of the author's journals from 1986 to 2020

IN HER ESSAY "On Keeping a Notebook," Joan Didion writes, "I imagine … that the notebook is about other people. But of course it is not … *Remember what it was to be me:* that is always the point." Yet in the process of rereading my journals in the midst of a global pandemic, when I am as isolated from other people as I have ever been, I realize that these pages are actually also about others. Reading, I am reacquainted with the many people who have made my life. I am also confronted by the ghosts, the ones who had been central on the stage and then for one reason or another moved into the wings and then out of sight.

At this moment of upheaval, the grievances, annoyances, wounds of my past feel less important than the halcyon days of love and friendship. I miss the folks I shared those days with. So I made a list of people I had lost contact with. A few were too radioactive to confront. But to some who felt safe, seven in particular, I wrote short emails thanking them for their role in my life.

NOT EVERYONE REPLIED. I didn't expect them to. But the majority did.

A friend I hadn't talked to in six years called as soon as she got my email. We had lost contact when my best friend at the time broke up with her. Now we talked about what it had been like when we lived together in a Victorian house in San Francisco. We remembered dancing in the streets at Obama's election, the overwhelming joy of that moment, the deep conviction that history had taken a turn toward justice. She told me about her life now, her work in child protective services, how hard it is to come from rough days into the embrace of her own sweet children. I'm so glad she has found good work and deep love.

An ex-boyfriend I had messily broken up with also responded. In my journals I had found a photo of us from November 2001. The world had blown up, but in the picture we are in the park, basking in sunshine. He is lying stomach down, and I have my head on his back. I am making a daisy chain. A passing reporter took a picture, and it ended up in the local paper.

We laughed remembering that moment, and he said, "You opened the world for me." He had been young when we got together, six years younger than me, and until he said that, I hadn't realized how much this relationship had formed him. He shared pictures of himself with his beautiful wife, his two rosy-cheeked kids. He too had made his way into a life he loves.

I'm not sure if I'll keep reaching out, or how consistently I'll keep in contact with the ones I've heard back from, but as we go through these uncertain times, I'm grateful for a sense of mutual forgiveness. This pandemic and quarantine have been a great reckoning, a time to consider our impact on the world, as a species and as individuals. This unexpected life review has shown me that what truly matters is only how well we treat one another, how much connection we can foster despite the ash awaiting us all.

Munaweera is the author of Island of a Thousand Mirrors *and* What Lies Between Us

THE YEAR AHEAD

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By Alice Park

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By Jamie Ducharme

| WILL THE OLYMPICS CROSS THE FINISH LINE?
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By Matt Goulding

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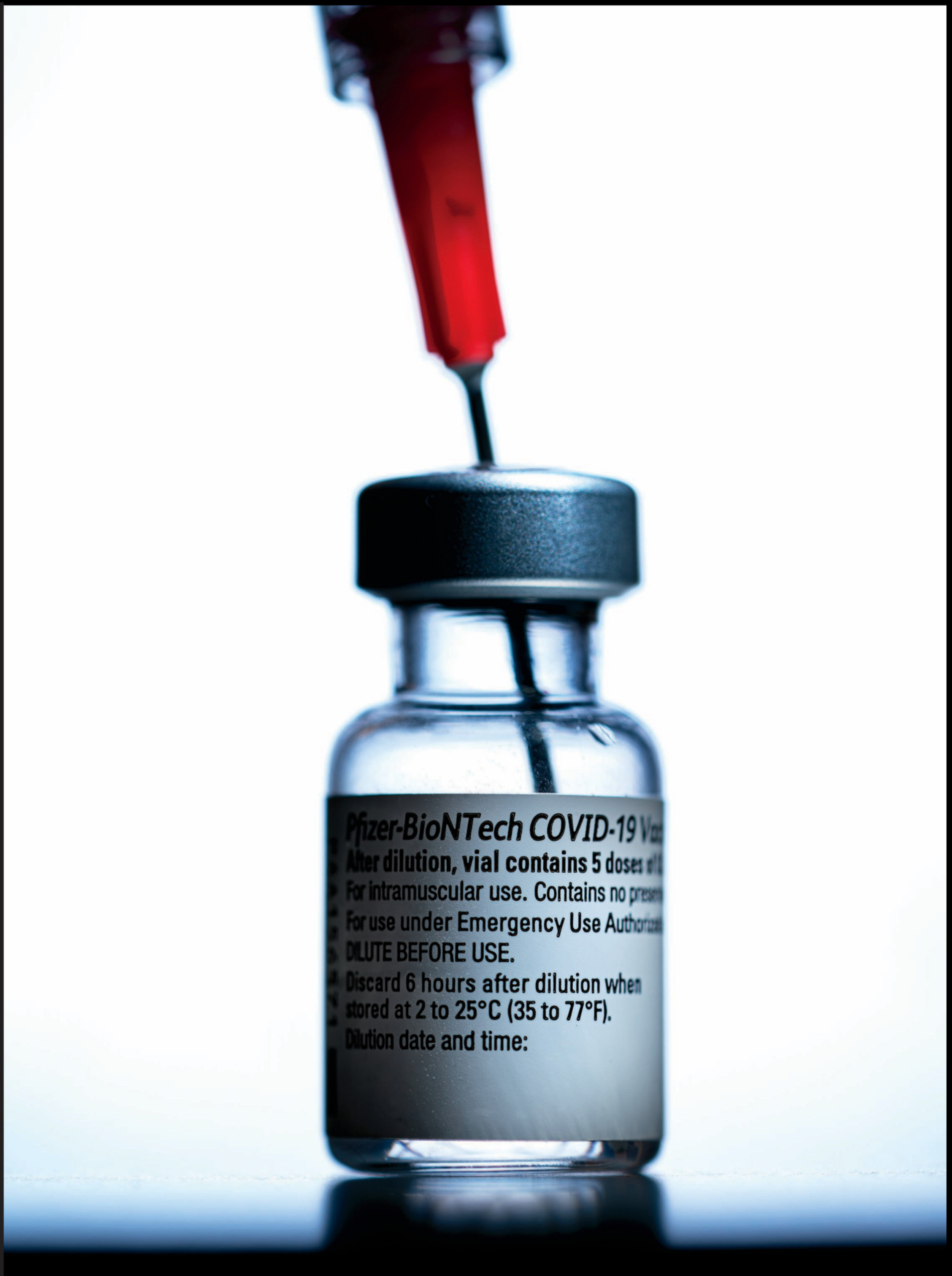
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THE RACE TO SAVE THE WORLD

THE REMARKABLE SCIENTIFIC DISCOVERIES BEHIND THE NEW COVID-19 VACCINES

By Walter Isaacson

UGUR SAHIN AND OZLEM TURECI

Co-founders, BioNTech

"NO!" THE DOCTOR SNAPPED. "LOOK AT ME!"

I had been staring her in the eyes, as she had ordered, but when a doctor on my other side began jabbing me with a needle, I started to turn my head. "Don't look at it," the first doctor said. I obeyed.

This was in early August in New Orleans, where I had signed up to be a participant in the clinical trial for the Pfizer-BioNTech COVID-19 vaccine. It was a blind study, which meant I was not supposed to know whether I had gotten the placebo or the real vaccine. I asked the doctor if I would really been able to tell by looking at the syringe. "Probably not," she answered, "but we want to be careful. This is very important to get right."

I became a vaccine guinea pig because, in addition to wanting to be useful, I had a deep interest in the wondrous new roles now being played by RNA, the genetic material that is at the heart of new types of vaccines, cancer treatments and gene-editing tools. I was writing a book on the Berkeley biochemist Jennifer Doudna. She was a pioneer in determining the

PHOTOGRAPHS BY DINA LITOVSKY FOR TIME

In January 2020, before many in the Western world were paying attention to a new virus spreading in China, Dr. Ugur Sahin was convinced it would spur a pandemic. Sahin, who in 2008 co-founded the German biotech company BioNTech with his wife Dr. Ozlem Tureci, went to work on a vaccine and by March

called his contact at Pfizer, a much larger pharmaceutical company with which BioNTech had previously worked on an influenza vaccine using mRNA.

Less than a year later, the Pfizer-BioNTech COVID-19 vaccine became the first ever mRNA vaccine available for widespread use.

Even so, Sahin, BioNTech's CEO, and Tureci, its chief medical officer, maintain that BioNTech is not an mRNA company but rather an immunotherapy company. Much of the couple's work—both at BioNTech and at their previous venture, Ganymed—has focused on treating cancer. But it is mRNA, and the COVID-19 vaccine made possible by the technology, that has pushed the famously hardworking couple into the limelight—and helped them become one of the richest pairs in Germany, though they reportedly still bicycle to work and live in a modest apartment near their office.

BioNTech co-founders Drs. Ugur Sahin and Ozlem Tureci in a BioNTech lab in Mainz, Germany, on Jan. 3

structure of RNA, which helped her and her doctoral adviser figure out how it could be the origin of all life on this planet. Then she and a colleague invented an RNA-guided gene-editing tool, which won them the 2020 Nobel Prize in chemistry.

The tool is based on a system that bacteria use to fight viruses. Bacteria develop clustered repeated sequences in their DNA, known as CRISPRs, that can remember dangerous viruses and then deploy RNA-guided scissors to destroy them. In other words, it's an immune system that can adapt itself to fight each new wave of viruses—just what we humans need. Now, with the recently approved Pfizer-BioNTech vaccine and a similar one from Moderna being slowly rolled out across the U.S. and Europe, RNA has been deployed to make a whole new type of vaccine that will, when it reaches enough people, change the course of the pandemic.

> RNA DESERVES THE TITLE OF MOLECULE OF THE YEAR. ITS SIBLING DNA IS MORE FAMOUS. BUT LIKE MANY FAMOUS SIBLINGS, IT DOESN'T DO MUCH WORK

Up until last year, vaccines had not changed very much, at least in concept, for more than two centuries. Most have been modeled on the discovery made in 1796 by the English doctor Edward Jenner, who noticed that many milkmaids were immune to smallpox. They had all been infected by a form of pox that afflicts cows but is relatively harmless to humans, and Jenner surmised that the cowpox had given them immunity to smallpox. So he took some pus from a cowpox blister, rubbed it into scratches he made in the arm of his gardener's 8-year-old son and then (this was in the days before bioethics panels) exposed the kid to smallpox. He didn't become ill.

Before then, inoculations were done by giving patients a small dose of the actual smallpox virus, hoping that they would get a mild case and then be immune. Jenner's great advance was to use a related but relatively harmless virus. Ever since, vaccinations have been based on the idea of exposing a patient to a safe facsimile of a dangerous virus or other germ. This is intended to kick the person's adaptive immune system into gear. When it works, the body produces antibodies that will, sometimes for many years, fend off any infection if the real germ attacks.

One approach is to inject a safely weakened version of the virus. These can be good teachers, because they look very much like the real thing. The body responds by making antibodies for fighting them, and the immunity can last a lifetime. Albert Sabin used this approach for the oral polio vaccine in the 1950s, and that's the way we now fend off measles, mumps, rubella and chicken pox.

At the same time Sabin was trying to develop a vaccine based on a weakened polio virus, Jonas Salk succeeded with a safer approach: using a killed or inactivated virus. This type of vaccine can still teach a person's immune system how to fight off the live virus but is less likely to cause serious side effects. Two Chinese companies, Sinopharm and Sinovac, have used this approach to develop vaccines for COVID-19 that are now in limited use in China, the UAE and Indonesia.

Another traditional approach is to inject a subunit of the virus, such as one of the proteins that are on the virus's coat. The immune system will then remember these, allowing the body to mount a quick and robust response when it encounters the actual virus. The vaccine against the hepatitis B virus, for example, works this way. Using only a fragment of the virus means that they are safer to inject into a patient and easier to produce, but they are often not as good at producing long-term immunity. The Maryland-based biotech Novavax is in late-stage clinical trials for a COVID-19 vaccine using this approach, and it is the basis for one of the two vaccines already being rolled out in Russia.

THE PLAGUE YEAR of 2020 will be remembered as the time when these traditional vaccines were supplanted by something fundamentally new: genetic vaccines, which deliver a gene or piece of genetic code into human cells. The genetic instructions then cause the cells to produce, on their own, safe components of the target virus in order to stimulate the patient's immune system.

For SARS-CoV-2—the virus that causes COVID-19—the target component is its spike protein, which studs the outer envelope of the virus and enables it to infiltrate human cells. One method for doing this is by inserting the desired gene, using a technique known as recombinant DNA, into a harmless virus that can deliver the gene into human cells. To make a COVID vaccine, a gene that contains instructions for building part of a coronavirus spike protein is edited into the DNA of a weakened virus like an adenovirus, which can cause the common cold. The idea is that the re-engineered adenovirus will worm its way into human cells, where the new gene will cause the cells to make lots of these spike proteins. As a result, the person's immune system will be primed to respond rapidly if the real coronavirus strikes.

This approach led to one of the earliest COVID vaccine candidates, developed at the aptly named Jenner Institute of the University of Oxford. Scientists there engineered the spike-protein gene into an adenovirus that causes the common cold in chimpanzees, but is relatively harmless in humans.

The lead researcher at Oxford is Sarah Gilbert. She worked on developing a vaccine for Middle East respiratory syndrome (MERS) using the same chimp adenovirus. That epidemic waned before her vaccine

STÉPHANE BANCEL

CEO, Moderna Therapeutics

Moderna's COVID-19 vaccine was first tested in humans less than three months after news of the novel virus broke. But that lightning-fast development process belies the years of work that got Moderna to where it is today.

The startup was founded in 2010 with the belief that mRNA technology, then still fairly new, could help treat any number of ailments. CEO Stéphane Bancel, pictured above, joined a year later. Moderna wasn't originally focused on vaccines, but over time, its scientists began working toward vaccines against several infectious diseases as well as some forms of cancer.

That experience came in handy when the COVID-19 pandemic arrived, leaving the world clamoring for a vaccine that could fight the deadly virus—and fast. Bancel's company took the challenge in stride, using its mRNA platform to develop a vaccine around 95% effective at protecting against COVID-19 disease in less than a year.

CODY O'LOUGHLIN—THE NEW YORK TIMES/REDUX

could be deployed, but it gave her a head start when COVID-19 struck. She already knew that the chimp adenovirus had successfully delivered into humans the gene for the spike protein of MERS. As soon as the Chinese published the genetic sequence of the new coronavirus in January 2020, she began engineering its spike-protein gene into the chimp virus, waking each day at 4 a.m.

Her 21-year-old triplets, all of whom were studying biochemistry, volunteered to be early testers, getting the vaccine and seeing if they developed the desired antibodies. (They did.) Trials in monkeys conducted at a Montana primate center in March also produced promising results.

Bill Gates, whose foundation provided much of the funding, pushed Oxford to team up with a major company that could test, manufacture and distribute the vaccine. So Oxford forged a partnership with AstraZeneca, the British-Swedish pharmaceutical company. Unfortunately, the clinical trials turned out to be sloppy, with the wrong doses given to some participants, which led to delays. Britain authorized it for emergency use at the end of December, and the U.S. is likely to do so in the next two months.

Johnson & Johnson is testing a similar vaccine that uses a human adenovirus, rather than a chimpanzee one, as the delivery mechanism to carry a gene that codes for making part of the spike protein. It's a method that has shown promise in the past, but it could have the disadvantage that humans who have already been exposed to that adenovirus may have some immunity to it. Results from its clinical trial are expected later this month.

In addition, two other vaccines based on genetically engineered adenoviruses are now in limited distribution: one made by CanSino Biologics and being used on the military in China and another named Sputnik V from the Russian ministry of health.

THERE IS ANOTHER WAY to get genetic material into a human cell and cause it to produce the components of a dangerous virus, such as the spike proteins, that can stimulate the immune system. Instead of engineering the gene for the component into an adenovirus, you can simply inject the genetic code for the component into humans as DNA or RNA.

Let's start with DNA vaccines. Researchers at Inovio Pharmaceuticals and a handful of other companies in 2020 created a little circle of DNA that coded for parts of the coronavirus spike protein. The idea was that if it could get inside the nucleus of a cell, the DNA could very efficiently churn out instructions for the production of the spike-protein parts, which serve to train the immune system to react to the real thing.

The big challenge facing a DNA vaccine is delivery. How can you get the little ring of DNA not only into a human cell but into the nucleus of the cell? Injecting a lot of the DNA vaccine into a patient's arm will cause some of the DNA to get into cells, but it's not very efficient.

Some of the developers of DNA vaccines, including Inovio, tried to facilitate the delivery into human cells through a method called electroporation, which delivers electrical shock pulses to the patient at the site of the injection. That opens pores in the cell membranes and allows the DNA to get in. The electric pulse guns have lots of tiny needles and are unnerving to behold. It's not hard to see why this technique is unpopular, especially with those on the receiving end. So far, no easy and reliable delivery mechanism has been developed for getting DNA vaccines into the nucleus of human cells.

THAT LEADS US to the molecule that has proven victorious in the COVID vaccine race and deserves the title of TIME magazine's Molecule of the Year: RNA. Its sibling DNA is more famous. But like many famous siblings, DNA doesn't do much work. It mainly stays bunkered down in the nucleus of our cells, protecting the information it encodes. RNA, on the other hand, actually goes out and gets things done. The genes encoded by our DNA are transcribed into snippets of RNA that venture out from the nucleus of our cells into the protein-manufacturing region. There, this messenger RNA (mRNA) oversees the assembly of the specified protein. In other words, instead of just sitting at home curating information, it makes real products.

> THE ABILITY TO CODE MESSENGER RNA TO DO OUR BIDDING WILL TRANSFORM MEDICINE

Scientists including Sydney Brenner at Cambridge and James Watson at Harvard first identified and isolated mRNA molecules in 1961. But it was hard to harness them to do our bidding, because the body's immune system often destroyed the mRNA that researchers engineered and attempted to introduce into the body. Then in 2005, a pair of researchers at the University of Pennsylvania, Katalin Kariko and Drew Weissman, showed how to tweak a synthetic mRNA molecule so it could get into human cells without being attacked by the body's immune system.

When the COVID-19 pandemic hit a year ago, two innovative young pharmaceutical companies decided to try to harness this role played by messenger RNA: the German company BioNTech, which formed a partnership with the U.S. company Pfizer; and Moderna, based in Cambridge, Mass. Their mission was to engineer messenger RNA carrying the code letters to make part of the coronavirus spike protein—a string that begins CCUCGGCGGGGCA … —and to deploy it in human cells.

BioNTech was founded in 2008 by the husband-and-wife team of Ugur Sahin and Ozlem Tureci, who met when they were training to be doctors in Germany in the early 1990s. Both were from Turkish immigrant families, and they shared a passion for medical research, so much so that they spent part of their wedding day working in the lab. They founded BioNTech with the goal of creating therapies that stimulate the immune system to fight cancerous cells. It also soon became a leader in devising medicines that use mRNA in vaccines against viruses.

In January 2020, Sahin read an article in the medical journal *Lancet* about a new coronavirus in China. After discussing it with his wife over breakfast, he sent an email to the other members of the BioNTech board saying that it was wrong to believe that this virus would come and go as easily as MERS and SARS. "This time it is different," he told them.

BioNTech launched a crash project to devise a vaccine based on RNA sequences, which Sahin was able to write within days, that would cause human cells to make versions of the coronavirus's spike protein. Once it looked promising, Sahin called Kathrin Jansen, the head of vaccine research and development at Pfizer. The two companies had been working together since 2018 to develop flu vaccines using mRNA technology, and he asked her whether Pfizer would want to enter a similar partnership for a COVID vaccine. "I was just about to call you and propose the same thing," Jansen replied. The deal was signed in March.

By then, a similar mRNA vaccine was being developed by Moderna, a much smaller company with only 800 employees. Its chair and co-founder, Noubar Afeyan, a Beirut-born Armenian who immigrated to the U.S., had become fascinated by mRNA in 2010, when he heard a pitch from a group of Harvard and MIT researchers. Together they formed Moderna, which initially focused on using mRNA to try to develop personalized cancer treatments, but soon began experimenting with using the technique to make vaccines against viruses.

In January 2020, Afeyan took one of his daughters to a restaurant near his office in Cambridge to celebrate her birthday. In the middle of the meal, he got an urgent text message from the CEO of his company, Stéphane Bancel, in Switzerland. So he rushed outside in the freezing temperature, forgetting to grab his coat, to call him back.

Bancel said that he wanted to launch a project to use mRNA to attempt a vaccine against the new coronavirus. At that point, Moderna had more than 20 drugs in development but none had even reached the final stage of clinical trials. Nevertheless, Afeyan instantly authorized him

to start work. “Don’t worry about the board,” he said. “Just get moving.” Lacking Pfizer’s resources, Moderna had to depend on funding from the U.S. government. Anthony Fauci, head of the National Institute of Allergy and Infectious Diseases, was supportive. “Go for it,” he declared. “Whatever it costs, don’t worry about it.”

It took Bancel and his Moderna team only two days to create the RNA sequences that would produce the spike protein, and 41 days later, it shipped the first box of vials to the National Institutes of Health to begin early trials. Afeyan keeps a picture of that box on his cell phone.

An mRNA vaccine has certain advantages over a DNA vaccine, which has to use a re-engineered virus or other delivery mechanism to make it through the membrane that protects the nucleus of a cell. The RNA does not need to get into the nucleus. It simply needs to be delivered into the more-accessible outer region of cells, the cytoplasm, which is where proteins are constructed.

The Pfizer-BioNTech and Moderna vaccines do so by encapsulating the mRNA in tiny oily capsules, known as lipid nanoparticles. Moderna had been working for 10 years to improve its nanoparticles. This gave it one advantage over Pfizer-BioNTech: its particles were more stable and did not have to be stored at extremely low temperatures.

By November, the results of the Pfizer-BioNTech and Moderna late-stage trials came back with resounding findings: both vaccines were more than 90% effective. A few weeks later, with COVID-19 once again surging throughout much of the world, they received emergency authorization from the U.S. Food and Drug Administration and became the vanguard of the biotech effort to beat back the pandemic.

THE ABILITY TO CODE messenger RNA to do our bidding will transform medicine. As with the COVID vaccines, we can instruct mRNA to cause our cells to make antigens—molecules that stimulate our immune system—that could protect us against many viruses, bacteria, or other pathogens that cause infectious disease. In addition, mRNA could in the future be used, as BioNTech and Moderna are pioneering, to fight cancer. Harnessing a process called immunotherapy, the mRNA can be coded to produce molecules that will cause the body’s immune system to identify and kill cancer cells.

RNA can also be engineered, as Jennifer Doudna and others discovered, to target genes for editing. Using the CRISPR system adapted from bacteria, RNA can guide scissors-like enzymes to specific sequences of DNA in order to eliminate or edit a gene. This technique has already been used in trials to cure sickle cell anemia. Now it is also being used in the war against COVID. Doudna and others have

VIEWPOINT

Getting real about the vaccine

By Heidi J. Larson

The Pfizer-BioNTech and Moderna mRNA vaccines have now been approved for emergency use, and more are coming down the pipeline. With all the good news have come a tsunami of questions on top of the already circulating mis- and disinformation about the vaccines, and anxieties about their speed of development. It is difficult to build confidence in a vaccine when there is so much confusion and misinformation. What follows are direct answers to commonly heard concerns.

‘IT’S BEEN ALL TOO FAST, IT CAN’T BE SAFE’

It’s true that to have vaccines that work in such a short time is close to a scientific miracle. But all the headlines on “warp speed” haven’t told the story of why scientists have been able to develop vaccines so quickly. For one thing, the science behind some of these COVID-19 vaccines has been going on for more than a decade. So, it’s not as brand-new as it might seem.

The remarkable speed has also been about more than just the science. Funding was mobilized by multiple governments to quickly finance vaccine trials as soon as it was clear that we were on the cusp of a pandemic that could evolve—and has—into a multilevel global crisis. Overall, the scale of the pandemic prompted unprecedented early investment in manufacturing large amounts of the vaccines going into the last stage of trials so they would be ready to deploy as soon as any of the vaccines were proved safe and effective.

‘I’M GOING TO WAIT AND SEE WHAT OTHERS DO’ / ‘I DON’T WANT TO BE THE FIRST IN LINE’

The reality is that hundreds of thousands of people have already been vaccinated in the various COVID-19 vaccine trials being conducted around the world. COVID-19 vaccines have managed to get this far this quickly because of all these people who willingly went first to prove their safety and effectiveness. In the U.S., more than 4 million people have already received their first vaccination under emergency authorization.

‘IT WON’T HAPPEN TO ME, OR AT LEAST WON’T BE THAT SERIOUS’

Are you sure? While the highest rates of serious illness and fatalities have been in older people, COVID-19 can have serious health implications for people of all ages, especially those with underlying conditions or those who work in situations that make them more vulnerable to contracting COVID, such as health care professionals.

‘WILL LIFE RETURN TO NORMAL?’

Eventually, but not immediately. We’ll need to keep wearing masks and being careful with distancing, while more and more people get vaccinated until enough are vaccinated to protect the wider population. The biggest risk right now is being overconfident in vaccines as the holy grail.

Larson is the director of the Vaccine Confidence Project and author of Stuck: How Vaccine Rumors Start—and Why They Don’t Go Away *(Oxford University Press, 2020)*

KATALIN KARIKO

Senior vice president, BioNTech

In 1995, after years of struggle, Hungarian-born Katalin Kariko was pushed off the path to full professorship at the University of Pennsylvania. Her work on mRNA, molecules she believed could fundamentally change the way humans treat disease, had stalled.

Then, in 1997, she met and began working with immunologist Drew Weissman. In 2005, they published a study describing a modified form of artificial mRNA—a discovery, they argued, that opened the door to mRNA's use in vaccines and other therapies. Eventually, Kariko and Weissman licensed their technology to the German company BioNTech, where Kariko, shown here in a portrait shot by a photographer working remotely, is now a senior vice president.

Her patience paid off this year. The mRNA-based Pfizer-BioNTech coronavirus vaccine, which Kariko helped develop, has been shown to be 95% effective at preventing COVID-19.

created RNA-guided enzymes that can directly detect SARS-CoV-2 and eventually could be used to destroy it.

More controversially, CRISPR could be used to create "designer babies" with inheritable genetic changes. In 2018, a young Chinese doctor used CRISPR to engineer twin girls so they did not have the receptor for the virus that causes AIDS. There was an immediate outburst of awe and then shock. The doctor was denounced, and there were calls for an international moratorium on inheritable gene edits. But in the wake of the pandemic, RNA-guided genetic editing to make our species less receptive to viruses may someday begin to seem more acceptable.

Throughout human history, we have been subjected to wave after wave of viral and bacterial plagues. One of the earliest known was the Babylon flu epidemic around 1200 B.C. The plague of Athens in 429 B.C. killed close to 100,000 people, the Antonine plague in the 2nd century killed 5 million, the plague of Justinian in the 6th century killed 50 million, and the Black Death of the 14th century took almost 200 million lives, close to half of Europe's population.

The COVID-19 pandemic that killed more than 1.8 million people in 2020 will not be the final plague. However, thanks to the new RNA technology, our defenses against most future plagues are likely to be immensely faster and more effective. As new viruses come along, or as the current coronavirus mutates, researchers can quickly recode a vaccine's mRNA to target the new threats. "It was a bad day for viruses," Moderna's chair Afeyan says about the Sunday when he got the first word of his company's clinical trial results. "There was a sudden shift in the evolutionary balance between what human technology can do and what viruses can do. We may never have a pandemic again."

The invention of easily reprogrammable RNA vaccines was a lightning-fast triumph of human ingenuity, but it was based on decades of curiosity-driven research into one of the most fundamental aspects of life on planet earth: how genes are transcribed into RNA that tell cells what proteins to assemble. Likewise, CRISPR gene-editing technology came from understanding the way that bacteria use snippets of RNA to guide enzymes to destroy viruses. Great inventions come from understanding basic science. Nature is beautiful that way.

Isaacson, a former editor of TIME, is the author of The Code Breaker: Jennifer Doudna, Gene Editing, and the Future of the Human Race, *to be published in March. After the Pfizer vaccine was approved, he opted to remain in the clinical trial and has not yet been "unblinded."*

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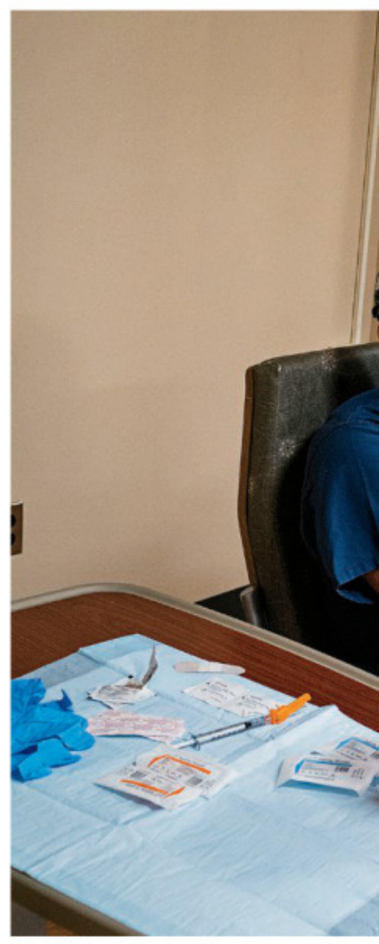
FIRST SHOTS

PHOTOGRAPHS BY DANNY KIM FOR TIME

Holy Name Medical Center in Teaneck, N.J., received its first 975 doses of the Pfizer-BioNTech COVID-19 vaccine on Dec. 17. Hospital staff immediately set to work unpacking, storing, preparing and, finally, administering the shots to staff from departments across the hospital. In the bottom right photo, chief anesthesiologist Melinda Ball tears up after getting vaccinated.



With reporting by Leslie Dickstein, Jamie Ducharme, Simmone Shah and Julia Zorthian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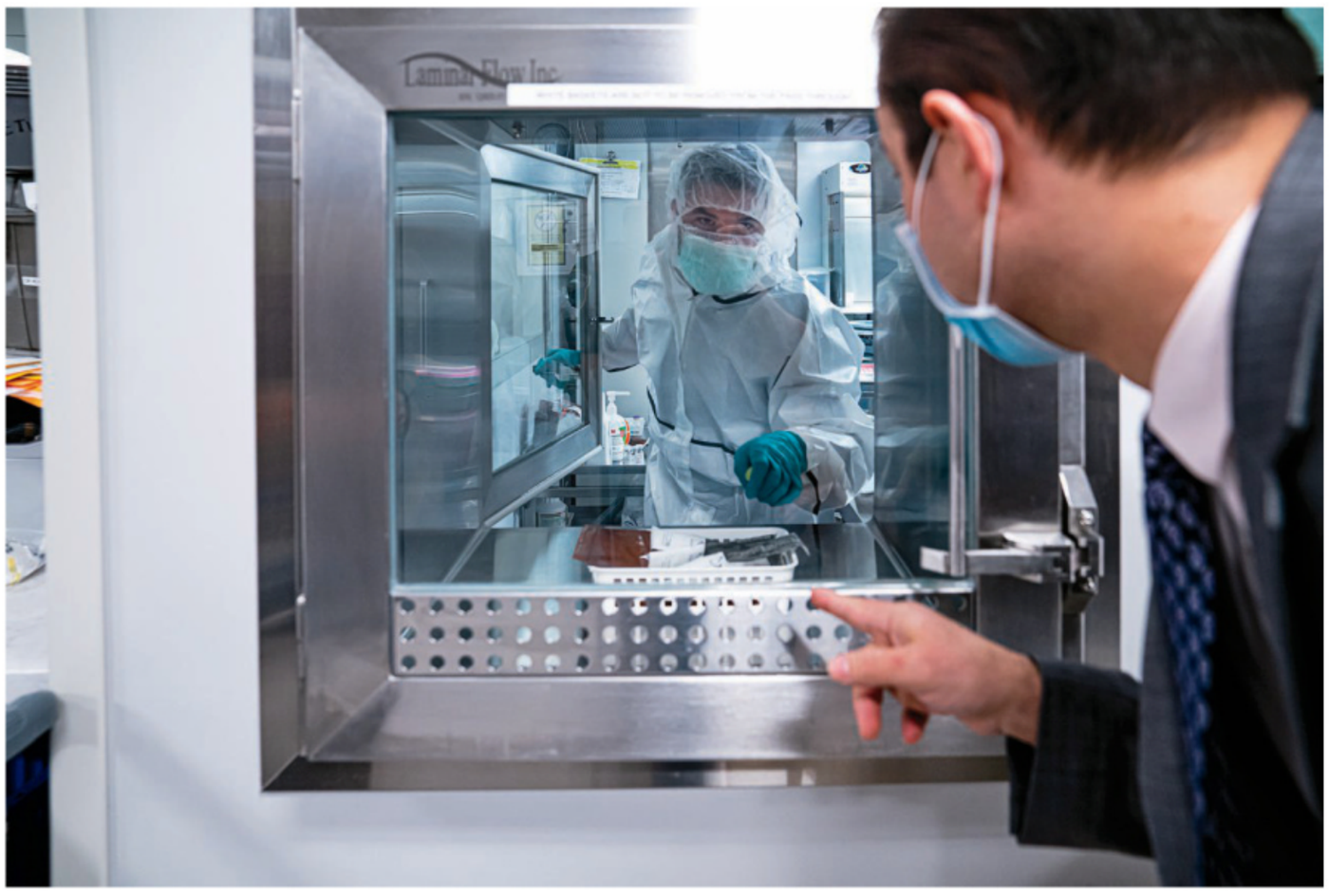
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NO TIME TO LOSE

IS THE U.S. BLOWING ITS BEST CHANCE AT MASS VACCINATION BEFORE THE VIRUS ASSERTS ITS DOMINANCE?

By Alice Park

TWENTY MILLION. THAT WAS THE NUMBER OF Americans who were supposed to be vaccinated against COVID-19 by now. Instead, just under 5 million people have received a shot, and 17 million doses have been shipped to the states and other jurisdictions that are distributing them to hospitals, doctors and pharmacies. "There is a complete lack of federal leadership, and it's just horrifying," says Dr. Tom Frieden, a former director of the CDC. "We heard, 'It's our job as Operation Warp Speed to deliver vaccines to states. Then it's their job from there.' But that's not how public health works in the U.S."

As it is, state and local health departments are struggling to implement an unprecedented mass-vaccination program while also managing a surge in new COVID-19 cases—some 200,000 daily for many days in December and January—and record-breaking numbers of hospitalizations. Shrinking budgets have left some states scrambling to find the staff and expertise needed to stand up a complex system of receiving, storing, distributing, tracking and administering vaccine doses, not to mention educating the public about the shots and monitoring for side effects. "Early on, there was talk at the federal level that states don't need money, they are like pass-throughs for this stuff; it's going to be the health care systems that are going to do the vaccinating," says Kris Ehresmann, director of infectious diseases at Minnesota's department of health. "States and localities have a really, really big lift."

Some of the shortfall may be a reporting lag as states learn new tracking systems, but there clearly are real problems. In Texas, data-entry issues led officials to overestimate the number of available doses, leaving unvaccinated many health care workers in the first group of eligible people who wanted the shot. Health officials in Lee County, Florida, decided to do without an online appointment system and offer limited vaccines on a first-come, first-served basis, which prompted elderly people to wait overnight, some up to seven hours, to get their shots.

THE RISK POSED by the slow pace of the vaccination campaign is now amplified by new variants of SARS-CoV-2 that appear to spread more easily among people, which means a COVID-19 vaccine has never been more critical. First reported in the U.K. in December, the mutation in SARS-CoV-2 has since appeared in the U.S., while yet another, more worrisome variant of the virus—which may be better able to evade the immune defenses the body generates—has emerged in South Africa. With these new mutated versions of the virus, the pace and completeness of vaccinating the public becomes more crucial. The point of mass vaccination is to achieve herd immunity, in which the majority of the population is protected against COVID-19. For the virus, such a scenario is similar to a thief encountering a neighborhood of secured and alarmed homes: it's harder to break in. The more quickly a fortress of immunity is built, the easier it is to thwart the virus as it hits blockade after blockade. If the vaccination effort is more piecemeal—as it is in the U.S. now with the plodding rollout—there may be more opportunities for SARS-CoV-2 to develop mutations that make it resistant to the vaccines. If that happens, those mutant variants can outcompete their cousins and dominate.

Some experts argue that even partial vaccine protection among a larger number of people is better than complete protection in a smaller group. They advocate for people getting their second shot about three months after the first (instead of the 21 or 28 days currently recommended). That way, more people could get vaccinated at least once and enjoy partial protection of slightly over 50% on average against COVID-19, according to some estimates, compared with the 95% provided by the current plan—and the virus's spread would be slowed as well. It's not perfect, but it could do more good for more people.

The U.K. adopted this strategy on Dec. 30—a controversial and, some health experts say, premature decision. There is no strong evidence for deferring the second dose, which the U.S. Food and Drug Administration (FDA) reiterated in a Jan. 4 statement supporting the existing dosing regimen. It's also unclear whether the new SARS-CoV-2 variants cause worse disease and warrant such a change. So far, the antibodies and immune response generated by the vaccines can still neutralize the mutant viruses. Given how far the U.S. vaccination program has fallen short already, delaying the second dose, says Dr. Leana Wen, former health commissioner for Baltimore City, is "solving for the wrong problem. If we are unable to

Paramedics give oxygen to a potential COVID-19 patient in Los Angeles County on Dec. 29

APU GOMES—AFP/GETTY IMAGES

even administer the supplies of vaccine we have at the moment, what is the purpose of trying to increase the supply when we should be focused on increasing the rate of administration of the vaccine?" Frieden agrees: "We should be focusing on getting the vaccine out as rapidly, as widely and as equitably as possible."

Dr. Anthony Fauci, head of the National Institute of Allergy and Infectious Diseases, says that may happen soon. "I think it's premature to make a definitive statement about the rollout," he says, noting that the holidays and the inevitable growing pains of launching a new, large-scale vaccination campaign have contributed to the low number of vaccinations to date. "I would give it another week or two to see if we catch up and gain momentum. If we do, I think we're going to be O.K. If not, then I'll say there is a problem here." Fauci says U.S. researchers are studying the new variants to confirm how infectious they are, and whether current vaccines will continue to protect against them. But even if the new variants do end up escaping vaccine protection, he's hopeful scientists will have a quick solution. The mRNA tech behind Pfizer-BioNTech's and Moderna's vaccines is designed to be flexible; it relies on inserting the right genetic sequences from the viral genome, so it should be relatively easy to swap out the existing sequence for one that addresses a new mutation. In the U.S., the modified shot would not have to go through the same months-long testing involving tens of thousands of participants and regulatory review that the original shot did. It would require only tests involving a few dozen people.

But even the most effective vaccine won't save any lives if it doesn't make it into people's arms, and on that, the U.S. has a long way to go. As states move from high-priority groups like health care and frontline workers to the general public, they will face even bigger challenges in reaching people and addressing their questions and concerns about the vaccine. "If we want to make sure we are really reaching everyone who needs to be vaccinated, and not just people with good access to health care, that requires a lot of outreach and crafted, targeted opportunities for vaccinating people where they are comfortable," says Ehresmann. "All of that targeted work requires effort and energy and, hence, more resources." ◻

CLASS OF COVID-19

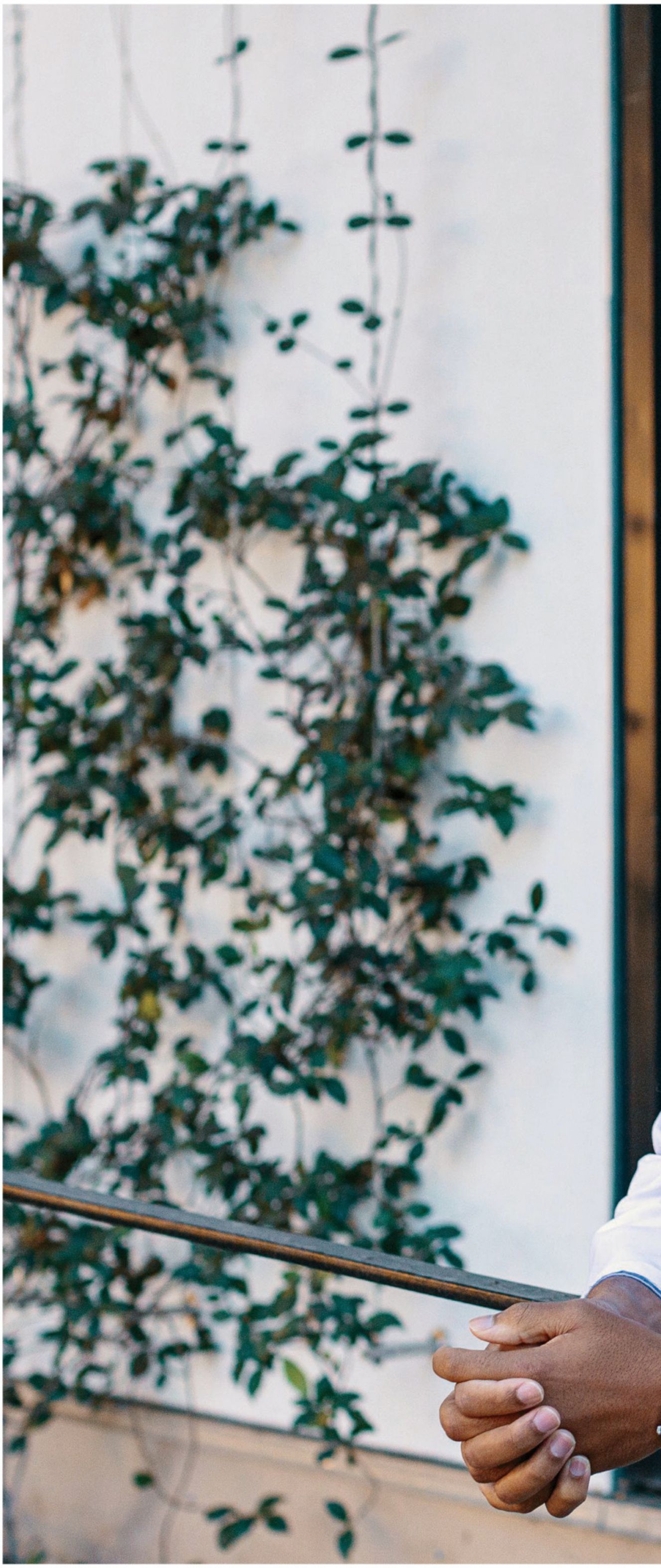
THE VIRUS IS RESHAPING HOW MEDICAL SCHOOLS TRAIN FUTURE DOCTORS

By Jamie Ducharme

IN FEBRUARY 2019, THE KAISER PERMANENTE health system announced a new kind of medical school. The school would be built "from the ground up" to prepare students for the complexities of the U.S. medical system. The curriculum would emphasize cultural competency, patient and provider well-being, mental health and the elimination of socioeconomic disparities in the medical system. Students would see patients right away, and hands-on learning would replace many lectures. What's more, the first five graduating classes would pay nothing to attend; Kaiser hoped this would attract a student body more diverse than the typical U.S. medical school's.

"The school will help shape the future of medical education," said Kaiser CEO Bernard J. Tyson, who died unexpectedly, reportedly of a heart attack, about nine months after the announcement.

That future felt a good deal more urgent by the time the Kaiser Permanente Bernard J. Tyson School of Medicine opened its doors in Pasadena, Calif., in July 2020. The COVID-19 pandemic had put almost every facet of normal life on hold, and the medical system was scrambling to treat millions of patients with a new and terrifying disease, a disproportionate number of them Black and brown. The streets were filled with people protesting police brutality and racism, as a nation that had long overslept awoke to the disparities woven into almost every



Cruz Riley, a first-year student at Kaiser Permanente's new medical school, on campus in Pasadena, Calif., in November

PHOTOGRAPH BY BETHANY MOLLENKOF FOR TIME

American institution. "Our country doesn't just have a pandemic. It also has a renewed recognition of centuries of racism," says Kaiser's founding dean, Dr. Mark Schuster. "We need to make sure that our students understand our history."

Kaiser isn't alone there, of course. Medical schools all over the world have had to adjust on the fly, in ways both practical and ideological. First, schools had to figure out how to remotely train students in skills taught hands-on before lockdowns. Then, in the U.S., schools were also forced to grapple with their roles in a health care system that often fails to keep Black and brown patients well. That meant learning how to produce doctors who could help chip away at those disparities moving forward. With no warning and no instruction manual, medical schools are figuring out how to train a generation of postpandemic doctors for a world still taking shape.

THE FOUNDATIONS of the American medical-education system haven't changed much for decades. The first two years are a mad rush to attend lectures and memorize as much information as humanly possible, as students usually take the first part of their medical licensing exam after their second year of school. Students start clinical rotations in hospitals in their third year, then spend most of their fourth trying to find a match for their next phase of training: medical residency.

The pandemic upended all that last spring. Classes could no longer happen in person, let alone in large lecture halls. Students couldn't go to hospitals for training because facilities needed to conserve resources, including personal protective equipment. And travel restrictions made it difficult for fourth-year students to do "audition rotations" at hospitals where they hoped to complete residency. Fiona Chen, who was in her third year at Brown University's Warren Alpert Medical School this past spring, went from spending around 40 hours a week in the clinic to watching a weekly Zoom lecture and volunteering for a coronavirus information hotline. "We basically put a pause on our entire lives," she says.

They couldn't stay paused forever. Schools had no choice but to adapt, which for many opened the door to overdue changes—changes that are coming in handy with COVID-19 again surging and new lockdowns being enacted.

"A lot of the inertia and conventions of medicine are being broken down," says William Jeffries, vice dean for medical education at the Geisinger Commonwealth School of Medicine in Pennsylvania. "Advances in medical education are now happening at light speed."

Although some students returned to the classroom later in the year, Step 1 last spring was bringing traditional classes online—a fairly easy task for most schools in the developed world, albeit less so for schools in places like Southeast Asia and Africa, where Internet access is spottier. In developed nations, at least, the shift enabled schools to look critically at the way they were teaching before the pandemic. Kaiser's pre-existing plan to teach anatomy using virtual reality simulators, rather than cadavers, proved fortuitous. Imperial College London gave students access to a video library of old patient interviews and exams. At New York University's Grossman School of Medicine, professors began recording their lectures so students could watch in advance and use class time for livelier discussion. "Lectures have been fading as a useful didactic model for 10 years,

but we continue to use them," says Dr. Steven Abramson, NYU's vice dean for education, faculty and academic affairs. The pandemic may finally catalyze lasting change.

When third- and fourth-year students were yanked from hospitals last spring, many schools pivoted to telemedicine appointments. (This wasn't unique to medical schools; remote visits surged across the health care system.) After the new academic year started last summer, third-year students at Geisinger spent the first 10 weeks learning how to take patient assessments and develop treatment plans over Zoom. "When clinical care changes, medical-student education follows," says Dr. Alison Whelan, chief medical education officer at the Association of American Medical Colleges (AAMC).

Geisinger student Kaiya Flemons and Dr. Anthony Wylie, bottom of the screen, pay a virtual house call to a Pennsylvania patient

That required teaching students "webside" (as opposed to bedside) manner, to prepare them for a clinical practice likely to be far more virtual than that of their predecessors. "If you're not shaking hands, how do you make that initial connection [with a patient]?" Whelan asks. Students have also been honing the skills needed to perform the behind-the-scenes work that goes into a telemedicine appointment—like how to handle patient privacy when a spouse wanders into the room,

PHOTO-ILLUSTRATION BY EVA O'LEARY FOR TIME

> ‘INERTIA AND CONVENTIONS OF MEDICINE ARE BEING BROKEN DOWN.’
>
> ***William Jeffries,***
> Geisinger Commonwealth School of Medicine

or what to do when a patient can’t work the web platform, Whelan says.

Still, you can’t take an EKG or draw blood virtually. To continue teaching skills like these when students were sent home, Geisinger built an “e-ICU” that allows students to see what’s going on in hospital rooms and remotely do the sort of trainee-doctor work they’d have done in person before the pandemic. Through a webcam, they can ask resident doctors on duty to perform certain exams or tests, as if they were actually at the patient’s bedside, and then get immediate feedback from the resident.

The model worked so well that Geisinger plans to continue the e-ICU and the school’s broader telemedicine training even as students return to regular clinical work, Jeffries says. Doctors who are digitally literate and comfortable using telemedicine could help expand access to care in the future, he says. Programs like the e-ICU could also help connect doctors in small community clinics with specialists who may not be available locally. “I come from a small town in the middle of nowhere. We don’t even have a post office,” says Dr. Cass Lippold, a critical-care fellow at Geisinger who oversaw the e-ICU program. “This will be great to help those people who don’t have access to a hospital.” It could also make it easier for prospective doctors with physical or learning disabilities to participate, as they could tailor their environment to fit their needs.

The shift to online learning was a logistical undertaking, but the harder work may be producing doctors who are better equipped to take on the systemic issues exposed by the pandemic, like race-based health disparities, uneven access to care and ballooning treatment costs.

At Kaiser Permanente, that preparation began before students even started classes last summer. The entire class was invited to a virtual check-in to discuss the racial-justice movement, and the conversation hasn’t stopped since, says 26-year-old first-year student Cruz Riley, who has a special interest in Black maternal health. “You would think we would be talking about what we watched on Netflix,” he says. “But we are always talking about systematic inequality, and we are always bouncing ideas off each other.”

Even at a school that proudly states its dedication to diversity and has woven race and racism into its curriculum, the conversations haven’t been seamless. In December, Kaiser physician and medical-school instructor Dr. Aysha Khoury, who is Black, went viral on Twitter when she posted that the school had suspended her from teaching in August after she led a frank, emotional discussion about racial disparities and bias in health care. Even after outcry from students and fellow physicians, Khoury says she has not been reinstated to her faculty position or told which policy the school thinks she violated. “I wish [administrators] understood that it is O.K. for Black people, people from marginalized groups, to share their stories,” Khoury says. “If we’re truly going to change health care … they have to create a way and space to move forward together.”

Representatives from Kaiser did not comment on details of the investigation but said the school values diversity and Khoury was not penalized for talking about her personal experiences or for discussing antiracism in medicine.

COURSES ON HEALTH DISPARITIES and racism in medicine aren’t new in the U.S., but they also haven’t been terribly effective. Racism is still a problem in medical schools as well as the wider medical system. A 2020 study found that about 25% of students who identify as Black, Hispanic/Latino or American Indian/Alaska Native experienced race-based discrimination during medical education. That often doesn’t stop after graduation.

“There were so many comments that I had to endure in my undergraduate years, in my medical school years,” Dr. Tsion Firew, an emergency-medicine physician at New York City’s Columbia University, who is Black, told TIME last summer. “When I walk into my hospital, it’s not [diverse] like New York City. The second you walk into the hospital, you are reminded that you’re not part of the majority.”

Medicine and medical education remain very white fields in America. In 2019, out of nearly 38,500 medical-school professors in the U.S., 755 (2%) identified as Black, around 1,000 (2.6%) identified as Hispanic or Latino, and just 37 (0.01%) identified as American Indian or Alaska Native, according to AAMC data. More than 29,000, or 75%, identified as white. For context, about 60% of the total U.S. population identifies as white, while about 12% identifies as Black, 18% as Hispanic, 5.6% as Asian and less than 1% as American Indian/Alaska Native, according to data from the U.S. Census Bureau’s American Community Survey.

Given that dynamic, it’s not hard to understand why many schools haven’t historically done a good job teaching concepts like cultural competency (the ability to connect with and treat patients from all backgrounds) and social determinants of health (the myriad ways socioeconomic factors affect a person’s well-being). Many also fail to correct (and in some cases even perpetuate) racist and incorrect stereotypes about biological differences between Black and white patients. One 2016 study found that of about 400 medical students and residents surveyed in the U.S., half held false beliefs, like that Black people have higher pain tolerance or physically thicker skin than white people. If students are steeped in these incorrect stereotypes rather than

very real social determinants of health, they may contribute to a system of racially insensitive, and potentially harmful, medical care.

Many schools were already working to fix that before the pandemic, but mainstream conversations about inequality and racism have hastened the process. Chen, currently a fourth-year student at Brown, says she's noticed that race and social factors now come up in discussions of every patient case, whereas before they were often relegated to stand-alone lectures or lessons. Tian Mauer, a third-year student at Geisinger, has noticed the same thing. And for schools across the U.S., the AAMC has guidelines for teaching equity, diversity and inclusion in medicine. "COVID has really highlighted for some for whom it had not yet clicked that the social determinants of health are really critical," Whelan says.

OF COURSE, IT WILL TAKE more than a few lectures to address centuries-old disparities in medical care, particularly because systemic racism has so many tendrils. It's not enough to train physicians on implicit bias and cultural sensitivity when Black and Hispanic Americans' health suffers because of effects of poverty and segregation built up over centuries—or when many people from these communities can't afford to become doctors themselves, perpetuating cycles of mistrust in a heavily white medical system.

At most medical schools, the student body looks a lot like the faculty. Together, Black and Hispanic students made up less than 15% of the national medical-student population during the 2019–2020 school year, AAMC data show. People who identified as American Indian/Alaska Native made up just 0.2%. Wealth disparities go a long way toward explaining why: medical-school tuition and fees can easily top $60,000 per year, and the average new doctor graduates with about $200,000 in debt, according to AAMC data.

Before the pandemic, a small but growing group of schools were trying out a way to fix that: offering free or heavily discounted tuition. NYU permanently waived its $55,000 annual tuition in 2018. Geisinger now offers free tuition for students who agree to practice within its health system. Kaiser's free tuition offer will go to its first five graduating classes.

The pandemic may accelerate conversations about affordability, especially as financial stress stretches on. Dr. Steven Scheinman, the dean at Geisinger, says a stronger reliance on remote learning could push the school's tuition down over time. NYU and about a dozen other U.S. medical schools are also part of a consortium studying how an accelerated medical-school schedule—three years instead of four—affects learning, student finances, and licensing and placement for new doctors. Cutting a year of school would get doctors out into the field faster, saving them a year of expenses. More than a dozen U.S. medical schools, including NYU and each of the four medical schools in Massachusetts, along with many in the U.K., like the University of Cambridge and Oxford University, allowed their students to graduate early last spring to help with the pandemic response. In a worst-case scenario, the current, ongoing spike could necessitate something similar.

The U.S. medical-school system also missed opportunities presented by COVID-19. For example, relatively few schools changed their admission requirements to make life easier for applicants. To apply for most U.S. medical schools, students still had to take a $320 hours-long standardized exam called the Medical College Admission Test (MCAT). A grassroots group called Students for Ethical Admissions called on schools to waive that requirement, citing the risks of disease spread that come with sitting for hours in an exam room with strangers, but only a handful of schools, including Stanford and the University of Minnesota, did so. The AAMC, which administers the test, maintains that all students should still take the MCAT.

And not all schools have used the moment to update their curriculums or done a seamless job of bringing learning online. The majority of U.K. medical students experienced some disruption to their normal training, one study found. "This is a detriment to my education, sitting in my bedroom trying to focus when my parents are home working," agrees 23-year-old Elli Warsh, a nursing student at New Jersey's Rutgers University. Warsh and her classmates were pulled out of the hospital from March to July 2020. They had to practice skills like full-body assessments on family members or roommates; some students who lived alone used teddy bears. Now, Warsh says, she has no idea if her skills will be on a par with those of previous new nurses when she graduates in May.

Those are real fears, particularly for students who aren't attending big-name, richly endowed medical schools that were able to adjust on the fly and for those shouldering burdens like financial distress and childcare during the pandemic. Time will tell how they fare when their residency placements come around. In the meantime, students like Emilia Zevallos-Roberts, a 25-year-old student from Kaiser's school of medicine, find optimism in the disruption. "Although the pandemic is obviously devastating," Zevallos-Roberts says, "I'm hoping that the energy and momentum for change that we're seeing now, that we're able to bring that forward when we're graduating three years from now." ◻

> 'WE ARE ALWAYS TALKING ABOUT SYSTEMATIC INEQUALITY.'
>
> ***Cruz Riley,***
> Bernard J. Tyson School of Medicine

TOKYO'S OLYMPICS TRIAL

CAN JAPAN SAFELY MOUNT THE GAMES THIS SUMMER?

By Charlie Campbell

The Olympic logo floats in Tokyo Bay in December 2019, before the pandemic struck

PHOTOGRAPH BY KENJI CHIGA FOR TIME

EVEN THE BEST-LAID PLANS WERE NO MATCH FOR 2020.

When TIME sat down with Yuriko Koike in late 2019, Tokyo's governor was exuberant in anticipation of the approaching Olympic and Paralympic Games. She capped our interview in the city's hulking Metropolitan Government Building with an impromptu tour of the rooftop viewing gallery, where tourists browsed caps and tees emblazoned with the Tokyo 2020 emblem. In a flash, Koike hopped a security barrier and sat at a yellow-and-black polka-dot piano to play a few bars of "Bohemian Rhapsody." "Did you know this is Godzilla's favorite building?" she teased.

The monster could hardly have done more damage to Tokyo than the pandemic. The Games have been postponed, tourists have been largely banished from the Japanese capital, and TIME's conversation with Koike on Oct. 14 takes place at a socially distant 1,000 miles via Zoom. Yet her ardor remained undimmed as Koike discussed plans for the rescheduled Games set to run from July 23 to Aug. 8. "You can feel the power of sport is even stronger because of the current situation," she said. "Tokyo 2020 will be symbolic to prove that people, all together from across the world, have defeated the virus."

But at this point, that defeat is far from guaranteed. As of mid-December, the pandemic has claimed more than 1.6 million lives worldwide. The U.S. and Europe are witnessing grave winter surges. And though Japan has suffered only 2,700 deaths, owing to strict border controls and ubiquitous masks, in December Tokyo raised its health care alert to the highest level for the first time. Japan isn't expecting to roll out vaccines until March. COVID-19 will still be a reality in July.

Little wonder some believe the risk of staging the Games might outweigh the reward. "The decision to press ahead with the Tokyo Olympics in 2021 is truly a matter of life and death," says Jules Boykoff, a professor at Pacific University in Oregon, who studies the Olympics and represented the U.S. at soccer. "We're talking about an optional sporting spectacle, not some essential service to humanity, and when you throw public health into the mix, the calculus can become uncouth pretty quick."

Yet, for Japan's leaders, cancellation is not an option. Rival Beijing has the 2022 Winter Olympics, which will almost certainly go ahead as scheduled, and the symbolism would be too much to bear were Tokyo's games abandoned. "That just cannot happen," says Jeff Kingston, a professor at Temple University in Tokyo. "It would be a huge loss of face."

Postponement to 2022 is also off the table, says Thomas Bach, the president of the International Olympic Committee (IOC). "No, the preparation of the athletes has started already, and for some of them, it would be too long to be prepared," he says. "You also cannot maintain the infrastructure of the Games for such a long period of time. All this

BEHROUZ MEHRI—GETTY IMAGES

IOC president Thomas Bach visits Tokyo's National Stadium in November 2020

infrastructure has a legacy. The Olympic Village will be turned into apartments for the population of Tokyo, for instance."

But even if the Olympic flame is lit as planned, who will come? Airline travel has cratered, meaning simply getting the 15,490 Olympic and Paralympic athletes from 206 nations and territories to Tokyo is a significant hurdle—let alone the 500,000 spectators originally forecast to cheer on the 339 different events.

Then there's the question of how to keep thousands of officials, judges, dignitaries, journalists and sponsors safe in one of the world's most crowded cities—let alone placate 38 million embattled citizens faced with a potential catastrophic superspreader event. Olympic chiefs have not yet provided answers. For sure, testing, masks and social distancing will be the bedrock. But organizers will not yet explain entry requirements for Japan, whether vaccinations will be mandatory, how many spectators allowed into stadia, if the Olympic Village will be sequestered into bubbles, live press conferences held and so on. "This is work in progress," says Bach.

It is Tokyo's fate to stage the world's largest sporting event a year later than planned, at a time of global economic uncertainty and amid a pandemic that will be far from over on July 23. Is it really ready? Bach, for one, has few doubts. "Tokyo is the best ever prepared Olympic city. We are very, very confident, and at this moment, we have no reason to believe that the Games could not take place."

JAPAN'S OLYMPIC MINISTER Seiko Hashimoto recently said the Tokyo Games would be held in the summer "at any cost." She wasn't kidding. An Oxford University study published in September showed these were the most expensive Summer Olympics on record. Although Japan officially earmarked $12.6 billion for the Games, a government audit last year put the true figure at twice as much. All but $5.6 billion is public money.

The rest comes from sponsors, who are reportedly seeking an additional $200 million to defray the estimated $2.8 billion costs of postponing the event. But many of these blue-chip backers are themselves suffering dire slumps: Japan's ANA airline and JTB travel agency posted losses of $1.8 billion and $750 million, respectively, in the first half of this financial year. It's also unclear whether sponsorship has retained its value, given Beijing 2022 is fast approaching, or its perks, such as guaranteed admission to headline events. Refunds have already been sought on 18% of the 4.45 million tickets sold, according to organizers.

The people whose taxes are helping pay for the Games are increasingly turning against them. An October survey by Kyodo News revealed only 38% of Japanese support hosting the Games next summer, while 31% favored another postponement and nearly a quarter want them canceled altogether. Support is also fading for the Prime Minister who inherited office—and the Games—in September. Yoshihide Suga's sagging approval rating stems from his "Go to Travel" initiative to boost domestic tourism, which is being blamed for Japan's latest spike in COVID-19 cases. But he's also trying to emerge from the shadow of his predecessor Shinzo Abe, who was Japan's longest-serving Prime Minister until he stepped down on Sept. 16 because of ill health. With Japan heading to the ballot box in October, Suga's fate may be closely tied to that of the Games. "This is a high-stakes game for Prime Minister Suga," says Mieko Nakabayashi, a former lawmaker and current professor at Waseda

University's School of Social Sciences in Tokyo. If costs spiral upwards and the Games aren't seen as a success, she says, his "bid to prolong and maintain his power may be in danger."

Even before the pandemic struck, Tokyo 2020 was becoming known as "the most jinxed Olympics," says Kingston. The original logo had to be scrapped following accusations it was plagiarized from a theater in Belgium. The $2.3 billion Zaha Hadid renovation of the Olympic Stadium—the most expensive ever commissioned—was also jettisoned amid a backlash over costs and a design, according to one critic, "like a turtle waiting for Japan to sink so that it can swim away." It was replaced by a less flashy $1.4 billion steel and wood structure by Japanese architect Kengo Kuma.

Negative headlines have ranged from the potential for human sewage to contaminate water sports in Tokyo Bay to how prone artificial islands—which house half the Games venues—are to "liquefaction" in the earthquakes that regularly blight the region. Last year, Japanese Olympic Committee president Tsunekazu Takeda, while denying wrongdoing, resigned after he admitted to greenlighting a $2 million payment to a Singapore-based consulting company that French investigators allege was charged with buying IOC votes. And now, of course, there's a plague.

IT WASN'T MEANT to be like this. Japan has experience in using the Olympics as a catalyst for change. The Tokyo Games of 1964 served to salve wounds following World War II, rebranding this American foe turned ally as a high-tech playground. The Shinkansen "bullet train"—the world's first high-speed railway—was unveiled a week before the opening ceremony. Rivers were enclosed and overpasses thrown up to connect previously sequestered neighborhoods. The Games were a coming out moment that helped define the city we know as Tokyo today.

Japan hoped to repeat the trick this time around. Millions of tons of poured concrete and smelted steel encouraged banks to lend and helped jumpstart a moribund economy. "The Olympics has been an excuse to open the coffers and kick-start all this construction and gentrify areas of the city that really needed a face-lift," says Adam German, a Canadian real estate agent who's lived in Japan for 16 years. Alterations to hotels, public buildings and transport hubs prepared Tokyo not only for physically impaired Paralympic athletes and fans, but also for the creaking limbs of its own population, the world's oldest. Politicians hoped an influx of foreign spectators would help prepare this homogeneous society for the relaxed immigration laws necessary to address a severe low-skilled labor shortage. "We want to make the best

KENJI CHIGA FOR TIME

The athletes' Olympic Village taking shape, in September 2019

out of this opportunity to introduce as many people and places to Tokyo as possible," says Koike.

Tokyo 2020 was also supposed to showcase Japanese recycling, technology and sustainability. The 5,000 gold, silver and bronze medals are cast from metal components harvested from defunct gadgets, including 6.21 million cell phones. Even the artificial islands are constructed from the by-product of Japan's high-tech trash-burning plants. If the Games had gone to plan, driverless cars would have ferried athletes between the sites; multilingual robots would have guided foreign visitors; man-made shooting stars would have dazzled spectators at the opening ceremony. Athletes would have slept on beds made from recycled, though thankfully reinforced, cardboard.

Many of these innovations will now have to be shelved. Koike insists that the green legacy can be strengthened by leveraging the pandemic to imprint a more sustainable format on the Games going forward. "Our goal is not just to reduce costs but show the new model of the Olympic and Paralympic Games," says Koike. "This will then be passed on to future host cities, such as Beijing, Paris and L.A."

Yuriko Koike, Tokyo's governor, looks forward to the Games, in December 2019

BUT IN OTHER WAYS, the Olympics are struggling for relevance. Beyond the pandemic, 2020 was defined by campaigns for racial and social justice, especially Black Lives Matter. Sports franchises from the NBA to Premier League soccer embraced the movement, while everyone from World Athletics president Sebastian Coe to the U.S. Olympic Committee have backed athletes' right to peaceful protest.

Not the IOC, though, which has so far refused to revise Rule 50 of the Olympic Charter that bans political demonstrations during the Games. Bach says they are currently consulting on amendments but cites pushback from some nations' athletes. Those who take a knee in Tokyo may face the same sanctions as U.S. sprinters Tommie Smith and John Carlos, who were expelled from the 1968 Mexico Olympics for raising a fist on the podium to protest racism. "We think that the field of play and the ceremonies are not the place for this," Bach says. "Athletes can express themselves in press conferences, in social media, in team meetings, in all the different events in the mixed zones."

That may not be enough for many athletes who point out that the Olympics have long wielded politics when it wanted. Apartheid-era South Africa was banned—a sanction first implemented at Tokyo '64—while North Korea and South Korea were permitted to march and compete under a united flag at the 2018 Winter Olympics in PyeongChang. The IOC just took the controversial step of including break dancing at the Paris 2024 Games, but continues to dither when it comes to peaceful protest despite overwhelming popular support. "The IOC should be showing leadership," says Rob Koehler, director-general of Global Athlete, which campaigns for athlete rights.

Tokyo's supporters will point out that the buildup to every Games is dogged by problems. Rio 2016 was beset by allegations of substandard construction, endemic pollution and kickbacks; London 2012 by unfulfilled promises to revive deprived areas of the city and McDonald's monopoly on french fries impinging purveyors of traditional British fish-and-chips. But once the opening ceremony's fireworks explode across the night's sky, sporting prowess takes over and all people can recall are grinning medalists and cheering crowds.

In what was touted as a major test, Tokyo hosted its first international sporting event since the pandemic began on Nov. 8, and Yokohama baseball stadium has held games with a near-capacity 30,000 spectators. When 30 gymnasts from Japan, China, Russia and the U.S. competed in the Friendship and Solidarity Competition in front of 2,000 fans, foreign participants endured a 14-day quarantine at home and were kept in strict isolation in their hotel between events with daily testing. Fans had temperatures taken, and their hands were kept as sanitized as the atmosphere: Seating was spread out, everyone wore masks, and cheering was banned. Speaking after the event, defending Olympic all-around athletics champion Kohei Uchimura hailed it as "a good model case for other sports and other athletes."

Still, this will be a Games like no other. Lockdown measures will play havoc with training schedules, while some athletes will be forced to withdraw after testing positive—maybe boosting the medal hopes of nations that have conquered the virus, or can purchase vaccines, over the poorly controlled and simply poor.

Sacrifice in the pursuit of excellence defined the Olympics long before politicians and sponsors nuzzled in. That is, after all, what inspires hundreds of millions of sports fans. This year the stakes are higher than ever before—and the real challenge may not be vaccines, border controls and empty stadia, but fulfilling a lofty mandate to "further strengthen humankind's bonds," as Koike puts it. A new beginning forged in bronze, silver and gold. —*With reporting by* MAYAKO SHIBATA/TOKYO *and* MADELINE ROACHE/LONDON

KENJI CHIGA FOR TIME

Before the pandemic, Tokyo was expecting droves of tourists during the Games

Faster, stronger, wherever

OLYMPIANS MAKE THEIR OWN PANDEMIC PIVOTS

By Sean Gregory

WEDDING CUPCAKES MAY PROPEL A JAVELIN thrower to gold at the 2021 Olympics in Tokyo. In typical times, such a statement would seem ridiculous. But these days, it sounds plausible.

When the COVID-19 pandemic struck last year, Kara Winger, a three-time Olympian and the U.S. national record holder in the javelin, needed to adjust. Since she could no longer access indoor facilities for her typical strength and technique drills, she and her husband, former U.S. discus and shot-put thrower Russ Winger, connected a 30-ft. cable from their back fence to a hook at the rear of their house, running it through a metal tube that's about a foot and a half long. On this neatly angled wire, which allows Winger to replicate proper javelin-throwing motion, she tosses the tube, once a portion of the cupcake stand Russ built for their 2014 wedding. "Both were made," says Winger, "with love."

All over the world, the pandemic has forced athletes like Winger, with their Olympic hopes on hold after the postponement of the Games for a year, to find innovative ways to stay sharp during extended lockdown periods. Bottles of laundry detergent—and beer—have subbed in as weights. Norwegian wrestler Stig-Andre Berge did push-ups with his baby on his back; Oktawia Nowacka, a modern pentathlete from Poland, did squats while holding her dog. Brooke Raboutou, a U.S. climber, crawled along her kitchen counter, scaled the back of her stairs and maneuvered across her fireplace chimney, like Spider-Woman.

With much of the world now facing a COVID winter—and the potential for further surges in cases and shutdowns—Olympic athletes may again need to rely on Spidey sense and pets and backyard contraptions as the postponed Games approach. With such creativity, however, comes the potential for crippling uncertainty. Olympic sports often offer a single shot at glory. Careers hinge on an event that occurs every four years, so any tweak to carefully crafted training routines can send the minds of elite athletes spiraling. And even with vaccine rollouts promising a safer 2021, and Olympic officials insisting the Games will go on this July, athletes are keenly aware that givens don't exist. This year could somehow prove more disheartening than the last one. "We're now going back to a space where you don't know if the gym is going to be open tomorrow," says U.S. fencer Daryl Homer, who trains in New York City. "It's like Olympic dreams on hold, 2.0."

NO ATHLETE IS IMMUNE from disruption. Noah Lyles, the reigning 200-m world champion who in Tokyo will seek to replace Usain Bolt as the face of track and field, lifted weights in a park near his Central Florida home. British gymnast Max Whitlock, who won two golds at the Rio Games, used his sofa as a pommel horse. Rio double gold-medalist swimmer Lilly King joined a few teammates for laps in a Bloomington, Ind., pond. "Once I saw a snapping turtle," King says, "I hightailed it out of there."

When the pandemic struck, the makeup of Samantha Schultz's sport, modern pentathlon, only

compounded her stress; she couldn't conduct her usual training for five different events: fencing, shooting, equestrian, swimming and running. Schultz improvised—she shot a laser pistol at a target in her Colorado Springs neighborhood. "People would drive by and see me with an oversize handgun," she says. "They were like, 'She's so weird.'" Despite her adjustments, the toll of the delays finally hit her on July 27, when she realized she would have been in Tokyo, the Games under way. "I felt like I was carrying a bag of bricks on my back," Schultz says. That day, she broke down and cried. In her journal, she recorded her motivation level: low.

In a May 2020 International Olympic Committee survey of more than 3,000 athletes worldwide, 50% of respondents labeled "keeping myself motivated" as a major challenge; nearly a third said "managing my mental health" was difficult too. U.S. judo hopeful Angelica Delgado was in the best shape of her life when the lockdown hit, leaving her depressed in the aftermath. Social distancing is not an option in combat sports, so she fretted about falling behind. "I'm not going to slam my fiancé onto our concrete floors, you know?" she says. In late July, she returned to the gym to work with her coach and training partner: they all got COVID-19 and had to cease training for a few weeks, but have since resumed Olympic prep. For now.

Nearly all Olympic athletes mentioned blocking out what's beyond their control—the state of the world, canceled competitions, and health and safety regulations—as a key coping mechanism during this unprecedented run-up to the Games. "It's tough, but if I worried about every possible thing that could go wrong, I would never compete again," says Delgado.

Perspective also helps. "This is much bigger than us, much bigger than sport," says Matthew Centrowitz, who won 1,500-m gold for the U.S. in Rio. "This is a pandemic that's affecting everyone in the world, all ages, all ethnicities. People are losing jobs. People are dying. So if we have to push back the Olympics, or have them be completely canceled, there are far worse things out there that can happen."

THESE NEXT FEW MONTHS will be busy for Sean McCann, senior sport psychologist for the U.S. Olympic & Paralympic Committee. He's worried about athlete burnout caused by chronic stress: the daily hassles like finding a place to train during lockdowns, or uncertain schedules during a confusing Olympic prep period that's already stretched another full year. "It's been a long haul," says McCann. "We've got to still keep doing the basics and taking care of ourselves physically, socially, emotionally."

McCann and other experts offer some encouraging signs. In a November article published in the *International Journal of Environmental Research and Public Health,* the basic advice from the sports-scientist authors is that athletes should keep doing what they're doing. Habits like meditation, visualizing competitions and sharing home workout routines on social media—which helps builds human connectivity—can pay off once the Games begin.

Some competitions have already restarted. The International Swimming League, a five-week event, took place in a Budapest bubble in October and November. None of the more than 300 swimmers tested positive for COVID-19. One athlete told McCann that when she dived into the pool and her hands hit the water for her first race, her whole body smiled.

Any sort of successful Olympic bubble involving more than 11,000 athletes will be harder to pull off. But no matter what happens in July, athletes will take their victories along the way. "I'm doing everything I can with the stuff that I have, and I feel really good doing it," says Winger, who plans to keep using her backyard cable system while also rehabbing from an ACL injury she suffered in August. "It's just cool to still be viable without leaving my house." Come this summer, Winger hopes to be leaving her cupcake stand in its proper place. ◻

Athletes have trained via backyard pool, javelin cable, cement bench press and a living room sofa

CLOCKWISE FROM TOP LEFT: SEAN M. HAFFEY—GETTY IMAGES; DAVID ZALUBOWSKI—AP; MARCOS BRINDICCI—AP; MUHAMMAD HAMED—REUTERS

HEIRS OF THE ARAB SPRING

Ten years later, the struggle continues. Five cases in point

By Joseph Hincks

PHOTOGRAPHS BY MOISES SAMAN FOR TIME

Lara Sabra
Sabra is the president of the Secular Club at the American University of Beirut, which in November became the first nonsectarian party to win student elections there since 1990


AUB
الثورة
تعاديك

THE ARAB SPRING BEGAN IN TUNISIA, where 28 days of protests ended 24 years of a dictator's rule. The next day, Jan. 15, 2011, students in Yemen called for demonstrations against the strongman there. A dictator fell in Egypt, then in Libya. A change of season appeared to be bringing democracy to an arid stretch of the planet where it had never quite blossomed.

It proved a false spring. Today Egypt has a different dictator, and Yemen, Libya and Syria have wars. But read on. The passion for change—for dignity—lives on in the generation that led the way into the streets a decade ago.

LARA SABRA, 22, LEBANON

Even before the votes had been counted, the makeshift campaign headquarters of the Secular Club near the American University of Beirut (AUB) rang with chants of "Revolution!" For the first time since Lebanon's civil war ended in 1990, a party not affiliated with the country's sectarian rulers was about to win student elections.

"I never imagined we would win the number of seats we did," says Lara Sabra, the club's president. "Even though the political ideology of the club has become more popular now, it was still surprising." It was also a trend. Independents won 4 of 9 seats at Rafik Hariri University, 14 of 30 at the Lebanese American University and 85 of 101 at St. Joseph University.

Student elections in Lebanon—where there is no reliable polling—are often seen as a bellwether of national sentiment. They can also be volatile affairs: they did not take place at AUB through Lebanon's 15-year civil war, during which its campus was shelled. As recently as 2007, four students were killed in armed clashes after an on-campus political dispute at the Beirut Arab University.

The 2020 elections came amid widespread disillusionment with Lebanon's sectarian politics. More than half the nation's population is now in poverty, and in December its currency was worth 20% of its value a year before. Even before government neglect of stored explosives resulted in a massive blast in August that killed more than 200 people, young demonstrators who'd first assembled nearly a year earlier, in October 2019, were demanding the resignation of all political representatives. Sabra says the patronage-based system that characterizes Lebanon's national politics had also bled into student politics. Campus politics have in the past been "transactional," with the established parties "trading previous exams or test banks, which are not widely available, for a vote," she says.

What might these changes in campus politics portend for Lebanon's parliamentary elections, scheduled for 2022? Only one independent candidate won in 2018 elections, as voters remained true to the sectarian system they also blame for the country's descent. The voting age, at 21, and lack of a unified opposition pose a challenge, says Sabra.

Her own engagement in politics began in high school, when she set up a feminist club that successfully petitioned the school's dean to revise a sexist uniform policy and led a campaign raising awareness about rape culture. At AUB, she found the Secular Club brought feminism together with causes like environmentalism and democratic rights.

But Sabra says what galvanized her was seeing Martyrs' Square in Beirut on Oct. 17, 2019, packed with protesters who returned week after week. "I'd imagined it, but I didn't think it could happen," she says. "That moment made me think about politics in a different way; it showed me that it's possible for political change to happen."

ALI MNIF, 34, TUNISIA

As his older siblings had already done, Ali Mnif was preparing to leave Tunisia in late 2010, when a vendor named Mohamed Bouazizi set himself on fire after being humiliated by city officials. Tunisians responded by marching so insistently against the indignities of corruption, joblessness and lack of political freedom that President Zine el-Abidine Ben Ali up and fled. "I stayed because of that moment. Because, for the first time, we were empowered," Mnif recalls. "We never expected [Ben Ali] to leave. Never."

With free and fair elections, Tunisia is the one "success story" of the Arab Spring. But Tunisians constituted the single largest group of fighters that joined ISIS's self-declared caliphate. In 2019, 85% of the unemployed were under 35. Since 2011, some 100,000 people have moved abroad.

"We kept asking ourselves: Is the only way for us to express ourselves again to leave the country?" says Mnif, who stayed and, with several of his contemporaries, set about analyzing the bottlenecks holding back entrepreneurial Tunisians. Two years of painstaking research later, Tunisia's Startup Act was born: a package of 20 guidelines aimed at making the business environment more transparent and meritocratic. Passed nearly unanimously in April 2018, the law is "one of the most progressive of its kind in the world," says Mohamed El Dahshan, a development economist affiliated with London's Chatham House.

Passage came with a favorable alignment of several factors, all of which flowed from the revolution. Tunisia's youngest-ever Prime Minister, Youssef Chahed, then 42, was in power; the Islamist Ennahda Party's Minister of Communication Technologies and Digital Transformation was on board early; and a month before municipal elections, nobody wanted to be seen blocking young people's prospects.

Mnif acknowledges that most of the Startup Act's benefits will accrue to university graduates rather than Tunisia's working class. Still, the reforms have already borne fruit. Tunisia has registered some 380 new startups under the act. Established startups have also benefited, like InstaDeep, founded by Tunisians and headquartered in London, which just signed a deal to build a joint lab with Germany's BioNTech, which developed a COVID-19 vaccine with Pfizer; and Franco-Tunisian nextProtein, which is pioneering insects as a food source.

In 2013, Mnif wrote an essay about what his generation would have to give up for Tunisia. "People understood that sacrifice in different ways: some sacrificed by going to Syria; some crossed the Mediterranean," he says now. "For me, trying to rebuild the institutions of your country: that's the biggest sacrifice you can make."

Ali Mnif
In 2011, he founded the MAZAM agency to encourage entrepreneurship and empower youth; in 2018, Tunisian lawmakers passed the Startup Act to do the same

MAGNUM PHOTOS

NADA MAJDALANI, 36, PALESTINIAN TERRITORIES

On a hot summer's day in 2017, the family of a 5-year-old boy named Mohamed al-Sayis took a trip to the beach to escape the harsh realities of life in Gaza. His parents did not realize that a nearby stream flowing into the sea was full of raw sewage. That evening, the whole family fell ill—and within 10 days, Mohamed was dead.

So began the speech that Nada Majdalani, the Palestinian director of EcoPeace Middle East, gave in May 2019 at the U.N. Security Council. Seated between the organization's Israel director and its Jordanian director, she explained how the sewage that poisoned Mohamed forced Israel's Ashkelon desalination plant offline—choking 15% of Israel's water supply. It was a stark illustration of what connects three jurisdictions so often at odds.

"I see our region like the *Titanic*," Majdalani says. "There are people sitting in first class with the champagne and the ballrooms, and people who are at the bottom of the ship. But once the iceberg hits: everybody sinks."

EcoPeace is a joint Israeli-Jordanian-Palestinian initiative formed in 1994, a year after the signing of the Oslo Accords, which left water as a final status issue to be resolved. EcoPeace began addressing it immediately. The group's landmark achievement is persuading all three governments to begin removing pollutants from the Jordan River, and Israel to release more water into the depleted river from the Sea of Galilee. Across the Mideast and North Africa, inadequate supply of water and sanitation costs around $21 billion per year in economic losses, according to a 2017 World Bank report. Analysts increasingly view environmental stress as a factor in social unrest and war.

Wim Zwijnenburg, a project leader for the Dutch peace organization PAX, says that although the relationship between climate change and conflict is complex, there's a "mutually enforcing dynamic" between the two. "Wars and armed conflicts result in the large-scale destruction of natural resources such as forests and water sources while also eroding state infrastructure that upholds environmental protection."

Disputes over control of the Jordan River's water contributed to the outbreak of the Six-Day War in 1967, the year Israel began occupying the Palestinian territories. In 2020, President Trump's so-called Middle East peace plan, which tilts heavily toward Israel, threatened a planned memorandum of understanding by alienating both Palestinians and Jordanians. "Just when we were reaching the point where we could actually put the three governments together to sign, the geopolitical realities prevented that from happening," says Majdalani.

The political logjam led Majdalani's team to redouble approaches to the private sector. So far, feasibility studies for two Palestinian projects, two Jordanian projects and two cross-border projects have been completed.

And in December, EcoPeace launched its most ambitious initiative yet: a regional master plan called a Green Blue Deal for the Middle East. Inspired by the Green New Deal proposed by progressive U.S. lawmakers and the European Union's landmark $572 billion green spending plan, it is "a repackaging of what EcoPeace is already doing on the water-energy nexus," Majdalani says.

At the Security Council, both the Israeli and Palestinian ambassadors commended EcoPeace. "I walked out that day very proud of what we do," she says. "It made me feel that everything might be possible."

Nada Majdalani
In a place where the major conflict is over land, Majdalani, far left, nudges governments to cooperate on the water that must be shared

Mohamad Najem
His team polices the troubling ties between social media companies and autocratic governments

MOHAMAD NAJEM, 39, LEBANON

When Jordanian police forcibly dispersed protests over teachers' pay in July, arresting all 13 board members of Jordan's Teachers Syndicate on dubious grounds, they also beat journalists covering the demonstrations. Just as videos of those beatings began to circulate online, Facebook Live mysteriously stopped functioning.

It was not the kind of thing Mohamad Najem saw himself probing in 2008 when he co-founded Beirut-based SMEX, a nonprofit aimed at coaching bloggers to capitalize on emergent social media platforms. But as the region's governments reached deeper into the cyberspace that had once provided sanctuary for dissidents, Najem's work expanded to meet them on the new battleground.

In the case of the Jordanian protest, it turned out to be the government, not Facebook itself, that had blocked access to Facebook Live. But in June, SMEX got to the bottom of Facebook's removal of footage of another protest: a rare antigovernment demonstration in southwest Syria. A U.K.-based company with links to Syria's Assad regime had "mass reported" videos of the protests, claiming they infringed on a copyright it held. SMEX's investigation found that company had purchased the license to that footage from an undisclosed third party in the region. After a call with SMEX, Facebook removed the company's copyright privileges and took steps to make it more difficult for others to purchase such licenses. "Facebook responded, and we fixed that problem," says Najem. "But … the companies should have already been on top of it."

During the uprisings of a decade ago, social media platforms were crucial for protesters, who used Facebook and Twitter to publicize outrages and call people to the streets. Today, authoritarian governments use their power to inhibit dissent and track down critics on the same platforms. Social media firms that basked in the image of freedom are, in fact, businesses obliged to operate under the laws of any country

where they operate. "We are in a situation where the companies who boosted free expression in our region are the same companies who are now throttling and censoring a lot of the content that is speaking truth to power," Najem says. He notes that it wasn't until 2014 that Facebook employed a head of policy for the region. And as with Google and Twitter, its regional headquarters is in the UAE, an absolute monarchy with an exhaustive record of suppressing dissent domestically and through the region. "It's no secret that a Saudi mole operated inside Twitter for several years," says Najem. "If the Saudis can do that at Twitter's office in Silicon Valley, imagine how much easier it is for Saudi Arabia or the UAE to do it in Dubai."

In early 2020, Syrian activists launched a campaign to denounce Facebook's decision to disable thousands of anti-Assad accounts and pages that had documented war crimes since 2011, under the pretext of removing terrorist content. In June, Facebook took down more than 60 accounts of Tunisian activists, journalists and musicians on scant evidence, according to an open letter signed by SMEX and scores of other civil-society groups in the region; and last October, Twitter suspended en masse the accounts of Egyptian dissidents living in Egypt and across the diaspora, immediately following the eruption of anti-Sisi protests in Egypt.

Meanwhile, governments in the Middle East broaden cybercrime and terrorism laws to shrink the space available for dissent. In 2020 alone, Turkey arrested hundreds for "provocative" Facebook posts about COVID-19. Voicing support online for Qatar can warrant a jail term of up to 15 years in its rival, the UAE. Saudi Arabia has become notorious for deploying state-backed "troll armies" to overwhelm criticism and threaten dissidents. And since 2019, simply following a dissident on Twitter is punishable by up to five years in prison in Bahrain.

Bahrain's new law is just one of hundreds tracked by Najem's largest initiative to date. Launched in 2019, SMEX spin-off Cyrilla comprises a visual database of new laws either passed or under consideration around the world that curb free expression online. Compiling the English-Arabic language database is only the first phase, Najem says—the second is to build legal cases to challenge the application of censorious laws in court.

Najem laughs about the archaic sound of SMEX, an acronym for the Social Media Exchange. More apt is Bread&Net, the one he gave its annual digital "unconference," which since 2018 has brought together hundreds of the region's journalists, hackers, human-rights experts and policymakers to discuss privacy, digital security and surveillance in the region. Bread&Net expresses how fundamental the Internet is to everyday life. Despite the increasing constrictions, Najem says he's optimistic because there's greater awareness of the urgency to push back.

"In countries where there's no democracy, there's no concept of civic space," he says. "The online space is really the only one people can use to express themselves—to do anything."

SHAIMAA, 23, IRAQ

"Everyone was telling me that I should respect him and always say yes to him," Shaimaa says of the abusive husband she married in 2015, at 17. "I felt like I was in a prison."

It was supposed to be a sanctuary. Her family had arrived at Iraqi Kurdistan's Baharka camp for internally displaced people the year before, after ISIS attacked their hometown in Iraq's mountainous Sinjar region. As the oldest daughter, Shaimaa thought getting married at the camp would offer her relatives a semblance of stability. But when she began organizing games and activities for children, the spectacle of a woman playing such a prominent role in public life was too much for many of the camp's 4,700 residents—not least her husband. Shaimaa had begun the work to ensure her brother, who had Down syndrome and was a paraplegic, would not become socially isolated. When he died at 11 in 2016, she was emotionally exhausted and asked for a divorce, against the wishes of her relatives. The censure only increased. Her family ostracized her and her uncle beat her, she says, "They said that as a divorced woman, I should be ashamed, I should stay indoors."

Shaimaa refused. She wrote a story about her experiences fleeing ISIS and the violence she had been subject to in her own community, which won a prize after it was published in a Spanish-language magazine. That inspired her to interview other women and girls at the camp, serving as a bridge between them and international organizations like UNICEF. Impressed by the rapport she had built with Baharka's children, and after Shaimaa initiated a system for women to report instances of harassment, the international nonprofit Save the Children enlisted her on local projects.

When Free to Run—a nonprofit that trains female survivors of conflict to run marathons—came to Baharka in 2018, Shaimaa was one of the first Iraqis to sign up to run. She helped recruit other women and girls, using the trust she'd built in the camp to assuage parents' concerns over their daughters' taking part in sports. Today, Shaimaa is a Free to Run coach, responsible for a group of 20 women and girl runners—mostly refugees from Syria's Daraa region. One 16-year-old girl, whose father was killed by ISIS, had been considering marrying her cousin before joining Free to Run, Shaimaa says. After participating in the program, she decided to postpone marriage and instead return to school.

"The girls really look up to Shaimaa and what she has achieved. They can see her really living what she's sharing," says Christina Longman, Free to Run's country director for Iraq. A few months ago, Shaimaa moved her parents and siblings out of the camp to an apartment in nearby Baharka City. The wall behind where she takes our Zoom call is covered with certificates and medals from races she's run—mostly 5K and 10Ks, but she hopes to complete the Erbil marathon in the future.

"I feel free when I run, far from prisons and war," she says. "I feel like there are no limits and nothing to stop me." —*With reporting by* SUYIN HAYNES, BILLY PERRIGO *and* RAJA ALTHAIBANI □

Shaimaa
From a displaced-persons camp in northern Iraq, she became an empowering role model against the patriarchal traditions that yoke girls and women

SEEDING A REVOLUTION

A SPANISH CHEF'S QUEST TO HARVEST RICE FROM THE OCEAN

By Matt Goulding

PHOTOGRAPHS BY PAOLO VERZONE FOR TIME

Chef Ángel León holding seagrass at his Michelin three-star seafood restaurant, Aponiente, in El Puerto de Santa María, Spain

THERE ARE VERY FEW THINGS ÁNGEL LEÓN HASN'T DONE WITH THE FRUITS OF THE SEA.

Juan Martín, center, of Aponiente works on the seagrass fields planted around León's restaurant

In 2008, as a young, unknown chef, he took a loin from one fish and attached it to the loin of another, using collagen to bind the two proteins together. He called them hybrids and served them to unsuspecting diners at Aponiente, his restaurant in the southern Spanish port town of El Puerto de Santa María, just across the bay from Cádiz. He discovered that fish eyes, cooked at 55°C in a thermal circulator until the gelatin collapsed, made excellent thickening agents for umami-rich sauces. Next he found that microalgae could sequester the impurities of cloudy kitchen stocks the same way an egg white does in classical French cooking. In the years since, León has used sea bass to make mortadella; mussels to make blood sausage; moray eel skin to mimic crispy pigskins; boiled hake to fashion fettuccine noodles; and various parts of a tuna's head to create a towering, gelatinous, fall-apart osso buco.

It is these creations, and the relentless curiosity behind them, that have helped turn León into one of most influential chefs in the world. The Spaniards call him the Chef del Mar, a man singularly dedicated to the sea and its bounty. But Aponiente isn't anything like other gilded seafood temples around the world. You won't find Norwegian lobster there. Or Scottish langoustines. Or Hokkaido *uni*. In fact, unless you're an Andalusian fisherman it's unlikely you'll know most of the species León serves to his guests.

That's because León isn't interested in plucking from the sea its most celebrated creatures. He wants to go deeper to find something you didn't know existed: "What's more hedonistic, eating something no one on the face of the earth has ever tried, or eating another f-cking spoon of caviar?" Jellyfish, sea worms, a bounty of sea "vegetables" foraged from the ocean floor: all have found their way onto his menu.

But for León, hedonism is beside the point. Everything that he does communicates an unshakable commitment to honoring the ocean. He thinks about the sea the way a physicist or an astronomer thinks about the sky: as an infinitely discoverable space, where the right mix of curiosity and discipline can yield solutions to some of the most pressing problems of the 21st century. In his wide-eyed enthusiasm and boyish curiosity and fierce marine mania, he comes across as a mixture of Captain Nemo and Willy Wonka.

Follow León long enough, and you'll learn that his venture ever deeper into the abyss isn't a gastro free-for-all but part of a very specific dream that's been taking shape in his head for years. A dream that extends well beyond the walls of his restaurant and into the coastal plains of Cádiz. In this dream, he sees men with long wooden brooms scraping the surface of the marshes, piling up coarse salt crystals in little white hills that shimmer in the Andalusian sun. He sees the region's vast network of estuaries overflowing with flora and fauna—tiny, candy-sweet white shrimp, edible seaweeds like marine mesclun mix, sea bream and mackerel in dense silver schools. He sees a series of mills, stone-built and sea-powered, grinding through grains for the region's daily bread. A wind-swept, sun-kissed saltwater economy, like

the one that once made Cádiz a center of the world.

Founded by the Phoenicians in 1100 B.C., Cádiz is one of the oldest continuously inhabited cities in Europe. Over the course of three millennia, many of the world's greatest empires have settled here, attracted by the strategic location: a narrow appendage of land at the edge of the Iberian Peninsula, just beyond the mouth of the Mediterranean. The Romans, Visigoths and Muslims all had their Cádiz years, fueling their empires with the wealth of this teeming water world. But it wasn't until the Age of Exploration, when the city served as the launchpad for Spain's greatest ambitions, including the second and fourth voyages of Columbus to the Americas, that Cádiz became one of Spain's wealthiest cities.

Those days have long passed. After Spain lost its American colonies in the 19th century, Cádiz never recovered. Today, it has the highest rate of unemployment of any region in Western Europe. León wants to fix that, to help rebuild the robust sea economy that defined Cádiz's most storied years. His career has been a slow, steady fight to do just that.

But now, he believes he's discovered the centerpiece of his ambitious dream: fields of rice stretched out for miles of paddies, the feathery stalks protruding from the sea itself. Scientists have long identified seagrasses as one of the most vital ecosystems in the fight against climate change, but what few knew is that those blades of grass also contain clusters of small, edible grains with massive potential. Of all the dreams León has chased in this quiet corner of southern Spain, this is the one he plans to build his future around. This, more than the Frankenfish or mussel sausage, is the one that could help rebuild his beloved region and, with any luck, even change the way we feed the world.

"THE SEA SAVED ME," León told me one morning in 2019 aboard his 26-ft. fishing boat, *Yodo*. The sun had just peeked above the horizon as we made our way past the tip of Cádiz, its church spires and mosque domes casting a silhouette of the city's multilayered history.

"I was a terrible student. Couldn't sit still, always in trouble," he said. "But when my dad took me out here on his boat, everything changed."

León was born and raised in Cádiz, along with two older sisters and his younger brother Carlos, who helps manage Aponiente. Their dad kept a small fishing boat, and after school and on weekends, he would take his two sons out fishing in the Bay of Cádiz. Ángel León Lara, a hematologist, had high expectations, and often clashed with his son over his terrestrial troubles. "But once we were out on the water, we weren't father and son," says León. "We were friends."

His brother Carlos saw a different sibling out on the water: "The boat is where the barrier between father and son broke down. We'd smoke a joint, tell stories, things that friends did." Ángel couldn't sit still long enough to be in a classroom, Carlos told me, but he was captive to the sea. "Most kids are scared to touch creatures from the sea. But Ángel would smell them, touch them, rub their scales, poke their eyes."

León's success at sea only served to underscore his struggles on land. His hyperactivity made him a menace in the classroom; he went to five high schools and barely graduated. He enrolled in a hotel school in Seville, where he studied cooking for three years and began to find his footing on terra firma. In 1996, he moved to France to cook at Le Chapon Fin, a Bordeaux institution that opened in 1825.

> 'I WAS A TERRIBLE STUDENT. COULDN'T SIT STILL, ALWAYS IN TROUBLE. BUT WHEN MY DAD TOOK ME OUT HERE ON HIS BOAT, EVERYTHING CHANGED.'

León remained quiet as we passed fishing boats and jetties on the outskirts of Cádiz, an espresso pinched between his fingertips. Since those early days with his dad, he's rarely missed a sunrise on the water. His first goal when he fires up *Yodo* is to get out—out of

cell-phone range, out of reach of his restaurant team and his family. "The truth is," he said, staring at my notebook, "I like to come out here alone."

When we hit the open seas, the spell of silence was broken. "Turn left and you hit the Mediterranean, turn right and you're in the Atlantic," said León. "Two totally different worlds." This nexus of two great bodies of water, where two vastly different ecosystems mix into a special cocktail of ocean life, continues to be a chief source of inspiration for León.

León turned on the fish tracker and showed me the schools of fish swimming some 20 m below us. He opened up the bait storage in the rear of the boat, grabbed a squid the size of his hand and worked it onto a giant hook. He rolled another cigarette, put it to his lips and sank into his chair.

"Some days I don't even fish. I come out here to clear my head. I used to be a psychopath—I'd go way out into the ocean on my own. But now I have a family to think about." León and his wife Marta, who runs the more casual Taberna del Chef del Mar down the road from Aponiente, have a 5-year-old boy, Ángel. "Easily the best dish I've ever helped create."

France taught León discipline—how to clarify a stock, how to debone a quail, how to cook 14 hours a day without complaining. Afterward, he bounced around, cooking in Seville, Toledo, Buenos Aires, preparing to start his own venture.

> "THE DAY THAT I HAVE NOTHING MORE TO OFFER BEYOND BEING A GOOD COOK, APONIENTE WILL NO LONGER MAKE SENSE."

Back then, El Bulli, on the coast of Catalonia, was known as the best restaurant in the world, and its virtuoso leader, Ferran Adrià, was busy rewriting the rules for fine dining. By the time El Bulli closed in 2011, a generation of disciples had dispersed across the country, spreading the gospel of technical, modernist cuisine that shaped Spain into the gastronomic center of the world for the first decade of the 21st century.

While León is one of the few prominent chefs in the country who did not emerge from the El Bulli system, he carries within him the restaurant's most enduring legacy: the need to question all conventions. When he opened Aponiente in 2007, León set out to change the way people thought about the ocean. Not just through a radical reimagining of what to do with familiar fish, but by looking for ingredients nobody had ever tasted. He built his menu around *pesca de descarte,* trash fish: pandora, krill, sea bream, mackerel, moray eel. But in León's mind, these are some of the most noble and delicious creatures in the sea. He did this as much for the culinary challenge as for a growing streak of environmentalism.

For the first three years, people stopped by,

read the menus and turned around. They didn't understand what this strange restaurant was trying to do. León found himself teetering on the edge of ruin.

He remembers a talk with Adrià in those early years that helped him trudge on. "Nobody understands me," he said to the famous chef. "Perfect," said Adrià. "That's because you're pushing the vanguard."

Nothing was biting aboard *Yodo*. We were waiting for the tidal bulge, that moment before the tide turns when gravity and inertia cancel each other out—eight minutes of equilibrium that, according to León, is when fish are most active: "If we're going to catch anything today, it will be then."

When it hit, León cast his rod off the back edge of the boat and set the line, then ran inside and used

León in the marine plankton lab with its director Carlos Unamunzaga, left

the radar to try to position the boat directly in the middle of what looked like a smudge on the screen. "This is where the action is."

We sat in silence, waiting for the action, but the action never came and slowly the boat began to be sucked back toward the coastline. The tide had turned.

IN 2010, AFTER YEARS of serving just a handful of guests a day, Aponiente won its first Michelin star, a recognition that León says "helped change everything." In 2014, it won a second star, and suddenly people began to travel to Cádiz specifically to eat at the restaurant. By the time it received its third Michelin star in 2017, Aponiente had gained a strong international presence. León used the growing platform to sharpen his message, working with universities on sustainability projects, organizing events with chefs and academics to discuss the fragility of our ocean ecosystems, developing commercial products like sea bacon, made from the discarded bellies of sea bream and smoked over pineapple.

For all his success, León is not your typical celebrity chef. He rarely leaves his hometown, eschewing the international circuit in favor of long mornings on the water and long evenings in the lab. His clipped-consonant Spanish and small-town humility are more befitting of a fisherman.

"He's carving out his own path in the food world," said Cristina Jolonch, one of Spain's most respected food critics, but "it's his defense of the sea that

matters most." León is aware of that. "The day that I have nothing more to offer beyond being a good cook, Aponiente will no longer make sense."

EVERY YEAR IN JANUARY, León and his R&D team travel by train to Madrid Fusion, the food world's preeminent culinary conference, to dazzle auditoriums of journalists and chefs with their latest discoveries. In 2009, he unveiled an edible form of phytoplankton, now used in kitchens across the world. In 2011, León announced the first line of seafood-based charcuterie, using discarded fish parts to make mortadella and blood sausage and chorizo, all dead ringers for the real thing. In 2016, the auditorium went dark as León emerged on the stage with a special cocktail filled with *luz de mar,* bioluminescent bits found in the bellies of tiny crabs that glowed like a galaxy of stars as he swirled his gin and tonic.

> 'WE TURNED THE SEA UPSIDE DOWN. WE WANTED TO REALLY LOOK AT THE OCEAN FLOOR TO SEE WHAT SECRETS IT HELD.'

In 2018, León and his team decided to take a different approach. He explained: "We turned the sea upside down. We wanted to really look at the ocean floor to see what secrets it held." What they found in the murky depths was a vast and varied garden of ocean flora: roots, fruits, leaves. León has a tendency to liken everything he finds underwater to a terrestrial analog, and soon his menus were brimming with sea pears, sea tomatoes, sea artichokes. The so-called vegetables didn't have the same impact as sparkling crab guts or fishbelly bacon, but León knew he needed to keep his focus on the ocean floor.

That's how he found something he had been staring at all along. León remembered as a kid in Cádiz seeing vast fields of rice along the fringes of the bay. As he talked to his team, he realized that what he recalled as rice was actually *Zostera marina,* eelgrass that grows in coastline meadows around the world.

Juan Martín, Aponiente's resident biologist who has worked with León for years, knew the plant well. "I had been studying seagrasses for 15 years—but always from the standpoint of the ecosystem. It never occurred to me or anyone else studying it that it was edible." That is, until León showed up one day at Aponiente with a printout of a 1973 article in *Science* documenting the diet of the Seri, hunters and gatherers of Sonora, Mexico, who have eaten eelgrass for generations. Like many grains, it required an elaborate process of threshing, winnowing, toasting and pulverizing before being cooked into a slurry with water. The Seri ate the bland paste with condiments to punch up the flavor: honey or, preferably, sea-turtle oil.

León's R&D team set out to study the plant in detail, signing an agreement with the University of Cádiz to partner on the research. "*Zostera* had been gathered and consumed before, but it had never been cultivated," said Martín. "That's a whole different proposition." They worked with the university to define the ideal growing conditions: water current, temperature, salinity, depth, sunlight.

In the summer of 2019, León and a small crew of cooks and scientists waded out into an estuary a few miles east of the restaurant and pulled bushels of eelgrass from the ocean bed. In total, they collected 50 kg of grains, more than enough to run nutritional analysis and experiments in the kitchen.

"When we first started this process, so many things could have gone wrong," said David Chamorro, the head of R&D at Aponiente. But one by one, the variables fell in their favor: a perennial plant with exponential growth and a stout nutritional profile, including a payload of fiber and omega-3 fats—and gluten-free.

As for the taste? "For a year, we were working on this grain and we had no clue how it tasted," said León. "I was nervous. What if it tastes like sh-t? The day I ate it, I was relieved."

From left: the seagrass plant; a dish with plankton rice at Aponiente; and the grains of the sea rice

I first tasted eelgrass on a rainy afternoon in late 2019 in the upstairs research laboratory of Aponiente. Downstairs, the staff cooked and served what would turn out to be the final meal before the COVID-19 pandemic kept the restaurant closed throughout the spring of 2020 until it reopened in July. *Zostera* grains look more like amaranth or a chia seed than rice—a short, pellet-like grain with a dark complexion. León boiled it like pasta, passed me a spoonful, then watched me closely as I processed. The first thing you notice is the texture: taut-skinned and compact, each grain pops on your tongue like an orb of caviar. It tasted like the love child of rice and quinoa with a gentle saline undertow.

I asked León about the ideas the grain inspired in the kitchen, but he didn't seem ready to talk. Chamorro, for his part, was positively giddy about the possibilities: pressing the grain to make oil, fermenting it into sake, grinding it into flour. "Imagine if we gave 10 kilos of flour to the 10 best bakers in Spain. The types of breads we'd see—and all of them gluten-free."

But before the world sees eelgrass baguettes and eelgrass wine, it will first need to see more eelgrass. Having partnered with Esteros Lubimar, a fisheries company based out of Cádiz, León and his team have drawn up an ambitious plan for domesticating eelgrass. Rather than starting from seed, a process that requires patience that León doesn't have, they are harvesting eelgrass from different coastal areas around Spain and transplanting it to the Bay of Cádiz.

If all goes according to plan, they will harvest 12 acres of eelgrass in the summer of 2021. León and team will use most of those seeds (about 22,000 kg) to expand the eelgrass significantly in 2022–2023, and he will keep about 3,000 kg to cook with at the restaurant and experiment with in the lab.

With more than 5,000 hectares of estuaries and abandoned salt beds strewn across the region, if León and team have their way, Cádiz could soon be home to one of the largest eelgrass meadows on the planet.

THE ONLY THING less sexy than grass is grass that grows in water. When Robert Orth, professor of biological sciences at the Virginia Institute of Marine Science, started researching seagrass in 1969, he found it a very lonely field: "You could literally count the number of papers published by scientists on one hand." According to Orth, people either think seagrass is gross, a nuisance—or that it doesn't exist at all. "Seagrasses are the ugly duckling of the environmental movement," he says. "They're not colorful like coral or beautiful like mangroves."

But there is something extraordinary about seagrasses: they are the only plants that flower fully submerged in salt water. They have all the equipment of a terrestrial plant—roots, stems, rhizomes, leaves, flowers, seeds—but they thrive in underwater environments. Seagrasses like *Zostera marina* are ecosystem engineers: the meadows they form along coastlines represent some of the most biodiverse areas in the ocean, playing host to fauna (like seahorses, bay scallops and sea turtles) that would struggle to survive without seagrass.

But anthropogenic forces—climate change, pollution, coastal development—have threatened eelgrass meadows across the world. As León and team refine the conditions for large-scale cultivation, they hope to facilitate its growth along coastlines around the world—Asia, North America and, above all, across the Straits of Gibraltar in Africa—turning millions of hectares into a source of food, protection against erosion and a weapon against climate change.

"In terms of the ecological importance of seagrasses, it's impossible to say too much about them," said Jeanine Olsen, professor emeritus at the University of Groningen in the Netherlands. "They don't have the poster-child appeal of coral reefs, but

they are just as important in terms of productivity, biodiversity, carbon sequestration and habitat."

For all the talk about the Amazon being Mother Nature's lungs, rain forests are only the fifth most efficient carbon sink on the planet. Seagrass meadows are second only to tundra in their ability to sequester carbon, absorbing carbon up 35 times faster than the same area of tropical rain forest.

But, like many of our best tools for combatting rising temperatures, seagrass meadows have been dying off at an alarming rate over the past several decades, thanks to a combination of rising water temperatures and increased human activity along coastlines. The lack of awareness has only accelerated the decline.

In 2006, Orth and more than a dozen scientists published a paper in *BioScience* on the alarming decline in seagrasses around the world: "Salt marshes, mangroves and coral reefs receive threefold to 100-fold more media attention than seagrass ecosystems, although the services provided by seagrasses, together with algal beds, deliver a value at least twice as high as the next most valuable habitat."

It appears Orth and his colleagues' message got out. In the years since, the field has grown precipitously, with more money and more research. Restoration projects are under way all over the world, including one in the coastal lagoons along Virginia's eastern shore, overseen by Orth, that has regenerated more than 3,500 hectares of seagrass meadows.

Up until this article, León's project has been a closely guarded secret. Not even the local Spanish marine biologists know what's happening. I spoke and exchanged emails with half a dozen of the top seagrass experts around the world, and each responded with their own version of surprise. None more than Carlos Duarte, whose broad base of marine expertise has brought him from the tropics to the North Pole, from dense coastal ecosystems to the unknown depths of the "dark ocean."

What León is doing is unprecedented, Duarte told me on the phone from Mallorca. I had just shared the news with him. "This will be the first eelgrass that will be domesticated," he finally said, more to himself than to me. "They will be pioneers." Then, after another pause. "It's a big achievement."

Duarte knows the area and the conditions well, and though he stressed that the yield for eelgrass tends to be low, he said it—along with other factors like taste and nutrition—can be improved through genetic selection. "The things that have gone wrong with traditional agriculture won't be affected in the sea. No fertilizers, no pesticides, no insects," he says. "It will be by default a green sustainable crop. You're not taking an exotic species and bringing it here. You're taking one of the jewels of the Bay of Cádiz and just making more of it."

But there's another side to the equation that wasn't part of any seagrass scientist's environmental

calculations: the water itself. Nearly 97% of all water on earth is salt water. For all our brains and ambition, humans have never figured out much to do with salt water. We use it to cool thermoelectric power plants. We use it in some forms of mining. Most of our efforts and resources have been focused on turning salt water into fresh water, but desalinization remains expensive.

Just 1% of all water on earth is readily available fresh water, and the planet is growing thirstier by the day. According to the U.N.'s Food and Agriculture Organization, humans will need to increase agricultural output by 60% to feed the nearly 10 billion people

León's Aponiente restaurant, in a centuries-old mill, surrounded by the estuary where he will cultivate his underwater garden

expected to live on earth by 2050. But just as our demand for fresh water has never been greater, our supplies have never been in more doubt. Climate models predict that rest of the 21st century will be a roller coaster of historic droughts and historic floods, jeopardizing the world's food supplies. Finding a way to use salt water in agriculture would dramatically alter the calculus for feeding the planet.

The Dutch have taken the lead in saltwater agriculture. Government-funded efforts to introduce salt-water-receptive genes to traditional vegetables like potatoes, tomatoes and carrots show promise. For the Chinese, the world's largest consumers and growers of rice, saltwater rice has been the holy grail for nearly four decades. Yuan Longping, the agronomist who first developed high-yield hybrid rice back in the 1970s, has been trying to crack the code since the early 1980s. In 2018, Yuan and his team successfully grew saltwater rice in the desert flats outside of Dubai, achieving more than double the average global rice yield.

But they did this through decades of crossbreeding, and by diluting salt water with fresh water. What León is after is something different altogether: a native

plant, capable of delivering immense nutritional and ecological benefits, grown directly in ocean beds.

Rice may be the world's top source of calories, but it also requires two increasingly scarce resources: land and fresh water. And the cocktail of gases—carbon dioxide, methane, nitrous oxide—created during rice cultivation has been found to contribute to climate change. León's sea rice, by contrast, has a similar yield as terrestrial rice but can grow in any temperate coastal area in the world, all the while sequestering excess carbon.

A few of the experts I spoke with expressed concerns about the logistical challenges of cultivating *Zostera marina*. "Eelgrass is a complex problem," Orth told me. "You have to have all the right conditions: light, temperature, current."

The challenges aren't lost on Juan Martín, but Martín points out that the estuaries where they'll be planting the eelgrass give the team full control of the elements. León and team have also been working with geneticists in the hopes of improving some of the core characteristics of *Zostera*.

"Rice has the advantage of 7,000 years of genetic modifications," said Martín. "In very little time, we could make huge improvements."

León is thinking ahead. Not just to a supercharged version of his saltwater rice, but he and his team have discussed the possibility of isolating the saline genes in *Zostera marina* to crossbreed with other staples: corn, lentils, lettuce.

"It's not just the rice," said León. "It's the dream of having an underwater garden for human beings."

> "IT'S THE DREAM OF HAVING AN UNDERWATER GARDEN FOR HUMAN BEINGS."

"THIS IS WHERE we'll plant the rice, out there in the distance," said León, pointing from the second-floor terrace of the old mill that houses Aponiente to the sunbaked estuaries below. "The waters will be packed with life: shrimp, oysters, sea bream. Next year, the guests won't start their meals in the restaurant, but right on the water, catching the first bites of their meal."

He gave me this tour over FaceTime in the early summer. It was supposed to be in person, the two of us taking in the young eelgrass meadows he hoped to plant in the late spring, but then COVID-19 crushed Spain and the country shut down until late June. León had his shirt off, a cigarette pinched by the boyish smile that had all but disappeared. The restaurant was slated to open the following day, and he had just done a final tasting for a menu nine months in the making. The unifying concept would be an edible interpretation of the tidal marshes. There would be emerald puddles of plankton butter and marine bone marrow and *burrata* forged from sea snails. For León, the star of the season was the *gusana del mar,* a species of sea worm.

Despite concerns from his staff and partners, León has insisted the worm be a central part of the menu. After a dozen different experiments, he settled on a grilled sea-bream cheek with a rich herby fish broth and a crunchy sea-worm garnish.

But even as he talked me through the details of the final menu, I could tell his mind was elsewhere. He sounded relieved when I asked about the plants. "It's finally happening," he says. "On July 17, we have our crews going out to collect *Zostera* from Galicia and Cantabria. We should have it all planted by the early fall."

With the meadow finally taking shape in his mind, he had a new problem to worry about: "What am I going to cook with 22,000 kg of sea rice?" he asked, his wide-eyed grin swaddled by a cloud of smoke. "This whole process has been like giving birth, and the cook in me died somewhere along the way. I had too much fear, too much respect for every f-cking grain."

He had come back inside now, taking a seat at a long table inside the office he had renovated during the lockdown. Behind him, on a long white wall, a local artist had mounted the heads of the major species of fish in the Bay of Cádiz, 35 in total. It had the effect of making León look like a cartoonish hero, with an army of sea creatures at his back.

"Imagine making a mochi made from ground *Zostera* flour and pulverized shrimp … Or playing with textures of al dente *Zostera* pasta … Serve it in two rounds: first the husk, then the grain itself … We can harvest it early, when the seeds are like baby favas, and use it like spring peas but with the flavor of the sea …" León kept going, ticking through half a dozen other ideas before taking a breath.

León likes to say that he's just a simple cook. It doesn't read as false modesty as much as an expression of his abiding disbelief that a pirate-mouthed kid from one of Spain's poorest regions who barely graduated high school could find himself in a position to do things no one else ever has. But there he was, on the brink of another breakthrough.

He explained: "How much do we miss from scientists who have spent their entire lives studying one thing? Sometimes you spend all day staring through a microscope and you don't look up long enough to remember that you're hungry."

As he was talking, he began to run his hand over the heads of the sea creatures hanging from his wall: mackerel, squid, dogfish. He settled on the spotted snout of the mounted moray eel—the same species fishermen since the dawn of time have given back to the sea but with which León had built a career fashioning crispy chicharróns and soufflé "potatoes" and suckling pig of the sea.

"You need the science, but you also need the hunger."

Goulding is a New York Times *best-selling author of over 20 books on food, including* Grape, Olive, Pig

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LIKE, SHARE, RECRUÍT

A well-armed white-supremacist militia goes global with Facebook

BY SIMON SHUSTER/KYIV, UKRAINE AND BILLY PERRIGO/LONDON

PHOTOGRAPHS BY MAXIM DONDYUK FOR TIME

Recruits training in August 2019 with the military wing of Ukraine's far-right Azov movement, which has inspired white supremacists from around the world

The snow had just melted on the streets of Kyiv when Shawn Fuller, a U.S. Navy veteran, arrived in the early spring of 2018, his roller suitcase clattering over the pavestones of the

Ukrainian capital. On the western edge of town, he found the address that his recruiter had sent him via Facebook, a flophouse with about two dozen beds, each reserved for a foreign fighter.

The men Fuller met inside were mostly from Europe, as was his recruiter, a chain-smoking Norwegian named Joachim Furholm, who had been convicted of bank robbery in Norway in 2010. The two of them had met over Facebook and gotten to know each other well, gaming out their plans to get military training and combat experience from one of Ukraine's militia groups.

When they finally rendezvoused, Fuller noticed the swastika tattoo on the middle finger of Furholm's left hand. It didn't surprise him; the recruiter had made no secret of his neo-Nazi politics. Within the global network of far-right extremists, he served as a point of contact to the Azov movement, the Ukrainian militant group that has trained and inspired white supremacists from around the world, and which Fuller had come to join.

Its fighters resemble the other paramilitary units—and there are dozens of them—that have helped defend Ukraine against the Russian military over the past six years. But Azov is much more than a militia. It has its own political party; two publishing houses; summer camps for children; and a vigilante force known as the National Militia, which patrols the streets of Ukrainian cities alongside the police. Unlike its ideological peers in the U.S. and Europe, it also has a military wing with at least two training bases and a vast arsenal of weapons, from drones and armored vehicles to artillery pieces.

Outside Ukraine, Azov occupies a central role in a network of extremist groups stretching from California across Europe to New Zealand, according to law enforcement officials on three continents. And it acts as a magnet for young men eager for combat experience. Ali Soufan, a security consultant and former FBI agent who has studied Azov, estimates that more than 17,000 foreign fighters have come to Ukraine over the past six years from 50 countries.

The vast majority have no apparent links to far-right ideology. But as Soufan looked into the recruitment methods of Ukraine's more radical militias, he found an alarming pattern. It reminded him of Afghanistan in the 1990s, after Soviet forces withdrew and the U.S. failed to fill the security vacuum. "Pretty soon the extremists took over. The Taliban was in charge. And we did not wake up until 9/11," Soufan tells TIME. "This is the parallel now with Ukraine."

At a hearing of the House Committee on Homeland Security in September 2019, Soufan urged lawmakers to take the threat more seriously. The following month, 40 members of Congress signed a letter calling—unsuccessfully—for the U.S. State Department to designate Azov a foreign terrorist organization. "Azov has been recruiting, radicalizing, and training American citizens for years," the letter said. Christopher Wray, the director of the FBI, later confirmed in testimony to the U.S. Senate that American white supremacists are "actually traveling overseas to train."

The hearings on Capitol Hill glossed over a crucial question: How did Azov, an obscure militia started in 2014 with only a few dozen members, become so influential in the global web of far-right extremism? TIME, in more than a dozen interviews with Azov's leaders and recruits, found that the key to its international growth has been its pervasive use of social media, especially Facebook, which has struggled to keep the group off its platform. "Facebook is the main channel," says Furholm, the recruiter.

In a statement to TIME, Facebook defended its recent attempts to deal with the proliferation of right-wing extremists, saying it has banned more than 250 white-supremacist groups, including Azov. "As they evolve their efforts to return to the platform, we update our enforcement methods with technology and human expertise to keep them off," the statement said.

Yet its attempts to crack down have been far from fully effective. While Facebook first designated the Azov Battalion a "dangerous organization" in 2016, pages linked to the group continued to spread propaganda and advertise merchandise on the platform in 2020, according to research by the Center for Countering Digital Hate published in November. Even in December, the Azov movement's political wing, the National Corps, and its youth wing maintained at least a dozen pages on Facebook. Some began disappearing after TIME posed questions about Azov to Facebook.

That online game of catch and delete, which Facebook says is central to its counterextremism strategy, will hardly address the deeper problem posed by Azov and its allies. Apart from offering a place for foreign radicals to study the tricks and tools of war, the Azov movement, through its online propaganda, has fueled a global ideology of hate that now inspires more terrorist attacks in the U.S. than Islamic extremism does and is a growing threat throughout the Western world.

After the worst such attack in recent years—the massacre of 51 people in Christchurch, New Zealand, in 2019—an arm of the Azov movement helped distribute the terrorist's raving manifesto, in print and online, seeking to glorify his crimes and inspire others to follow. In the 16 years that followed the attacks of 9/11, far-right groups were responsible for nearly three-quarters of the 85 deadly extremist incidents that took place on American soil, according to a report published in 2017 by the U.S. Government Accountability Office.

In their letter to the State Department in 2019, U.S. lawmakers noted that "the link between Azov and acts of

Azov Regiment veterans, whose banners carry an emblem derived from a Nazi symbol, the Wolfsangel, *march in Kyiv in 2019*

terror in America is clear." The Ukrainian authorities have also taken notice. In October, they deported two members of the Atomwaffen Division, a U.S.-based neo-Nazi group, who were trying to work with Azov to gain "combat experience," according to a report in BuzzFeed News that cited two Ukrainian security officials.

Among Azov's closest American allies has been the Rise Above Movement, or RAM, a far-right gang, some of whose members have been charged by the FBI with a series of violent attacks in California. The group's leader, Robert Rundo, has said his idea for RAM came from Ukraine's far-right scene. "This is always my whole inspiration for everything," he told a right-wing podcast in September 2017, referring to Azov as "the future." "They really have the culture out there," he said. "They have their own clubs. They have their own bars. They have their own dress style."

THE MAIN RECRUITMENT CENTER for Azov, known as the Cossack House, stands in the center of Kyiv, a four-story brick building on loan from Ukraine's Defense Ministry. In the courtyard is a cinema and a boxing club. The top floor hosts a lecture hall and a library, full of books by authors who supported German fascism, like Ezra Pound and Martin Heidegger, or whose works were co-opted by Nazi propaganda, like Friedrich Nietzsche and Ernst Jünger. On the ground floor is a shop called Militant Zone, which sells clothes and key chains with stylized swastikas and other neo-Nazi merchandise.

"It could be described as a small state within a state," says Olena Semenyaka, the head of international outreach for the Azov movement. On a tour of the Cossack House in 2019, she told TIME that Azov's mission was to form a coalition of far-right groups across the Western world, with the ultimate aim of taking power throughout Europe.

It might seem ironic for this hub of white nationalists to be situated in Ukraine. At one point in 2019, it was the only nation in the world, apart from Israel, to have a Jewish President and a Jewish Prime Minister. Far-right politicians failed to win a single seat in parliament in the most recent elections. But in the context of the white-supremacist movement globally, Azov has no rivals on two important fronts: its access to weapons and its recruiting power.

The movement arose as a product of the revolution that swept Ukraine in 2014. In one of their first official acts, the revolution leaders granted amnesty to 23 prisoners, including several prominent far-right agitators. They included Andriy Biletsky, who had spent the previous two years in jail on charges of attempted murder. He maintained that the case against him was politically motivated, part of an unfair crackdown on local nationalists.

Ukrainian police had long treated his organization, Patriot of Ukraine, as a neo-Nazi terrorist group. Biletsky's nickname within the group was Bely Vozhd, or White Ruler, and his manifesto seemed to pluck its narrative straight from Nazi ideology. Ukrainian nationalists, it said, must "lead the white nations of the world in a final crusade for their survival, a crusade against the Semite-led *Untermenschen*," a German term for "subhumans" with roots in Nazi propaganda.

Within days of his release, Biletsky set out to assemble a far-right militia. "That was our rise to the surface after a long period underground," Biletsky told TIME in an interview that winter in Ukraine. The insignia he chose for the militia combined two symbols—the "black sun" and the "wolf's hook"—both of which were used by the German Nazis during World War II.

In response to Ukraine's pro-Europe revolution, which sought to bond the former Soviet republic more closely to the West, Russian forces seized control of two major cities and dozens of towns in eastern Ukraine. The new government in Kyiv, desperate in the face of this invasion, sought allies where it could find them, even among groups that embraced antidemocratic ideologies. Biletsky's group proved a particularly effective example, beginning its rapid rise as the Azov Battalion. The name was derived from the Sea of Azov coast, where it first saw major combat.

Among the militias that formed to resist the Russian forces, Biletsky's followers turned out to be among the most disciplined and battle-ready. "They held the line even after everybody left," says Serhiy Taruta, a metals magnate and former governor of the frontline region of Donetsk who helped finance and equip Azov in the early months of the war. For their bravery on the battlefield, Biletsky and other Azov commanders were lauded as national heroes. "These are our best warriors," then President Petro Poroshenko said at an award ceremony in 2014. "Our best volunteers."

From across Europe and the U.S., dozens of fighters came to join Azov that year, many of them bearing tattoos and rap sheets earned in the neo-Nazi underground back home. The Ukrainian authorities welcomed many of them, and in some cases granted them citizenship. Within the war's first year, Biletsky's militia was officially absorbed into the National Guard, becoming a regiment within Ukraine's armed forces.

That status came with an arsenal that no other far-right militia in the world could claim, including crates of explosives and battle gear for up to 1,000 troops. On prime-time talk shows in Ukraine, Biletsky and his lieutenants were treated as warrior-celebrities, and they used their fame as a springboard into politics. Biletsky won a seat in parliament in late 2014, during the first legislative elections that followed the revolution. His ambi-

NAVY VETERAN
Shawn Fuller aboard the U.S.S. Russell *in the Persian Gulf circa 2010*

NAVY: COURTESY SHAWN FULLER

tions soon grew beyond Ukraine. Through speeches and propaganda videos posted on YouTube and widely shared on Facebook, the Azov movement began to cultivate an online profile and a distinctive aesthetic. The clips often featured torchlit marches and scenes of war, showing off the movement's access to heavy artillery.

They were not the only extremists to embrace social media in 2014. When the Islamic State declared a caliphate in the Middle East that year, it began posting propaganda on social networks—mashing together memes, religious verses and scenes of gratuitous violence. The approach took the platforms by surprise, and for a time the caliphate was able to lure a class of disaffected young Muslims to fight. But by 2017, both Facebook and YouTube had developed algorithms to detect Islamic extremist material, after facing significant pressure from Western governments to act.

No government, least of all that of the U.S., put similar pressure on social media platforms to stamp out white supremacy. One legacy of the 9/11 attacks was that many counterterrorism agencies equated terrorism with Islamic extremism, allowing white supremacy to fly under the radar just as social media platforms like Facebook were giving the movement access to a bigger audience than ever before. "In a way, Facebook tracked the failed counterterrorism policies of the Western world," says Heidi Beirich, the director of an advocacy group called the Global Project Against Hate and Extremism.

In its statement to TIME, Facebook said it began using its algorithms to detect Azov content after designating it a dangerous organization in 2016. But well after that date, members of white-supremacist groups, including Azov, were still able to evangelize on the platform.

In some cases, Facebook's algorithms actually nudged users into joining these groups. In an internal presentation in 2016, its analysts looked at the German political groups on the platform where racist content was thriving. They found that within this segment of Facebook, 64% of the people joining extremist groups were finding them through the platform's own recommendation tools. "Our recommendation systems grow the problem," the analysis states, according to a report in the *Wall Street Journal* that cited the internal document. In its statement to TIME, Facebook said the report was limited in scope and suggested the findings were misleading. It said it had adjusted its algorithms to stop pushing people toward known extremist groups.

Facebook groups were a stalking ground for recruiters like Furholm, the Norwegian with the swastika tattoo. At the height of his efforts in 2018, he belonged to 34 groups devoted to neo-Nazi, anti-Semitic and other far-right subjects, according to the database compiled by Megan Squire, a professor of computer science at Elon University in North Carolina who studies online extremism. Among the names of the groups that Furholm frequented were "Understanding National Socialism," "Fascist New Man of Third Millennium" and "National Socialist News." Twenty-seven of them, including those three, have disappeared from Facebook, but seven remain. One describes itself as "pro–white identity" and displays as its main image a black sun with an eagle atop it—overtly Nazi imagery. Another, reviewed by TIME in December, contains reams of anti-Semitic and racist posts. TIME made Facebook aware of the groups still online, and the company said it was completing a review of the content.

AZOV RECRUIT
Shawn Fuller in 2019 at a Ukraine military hospital after a drunken fight

As Furholm scrolled through the posts and comments in these groups, he would look for young men who were, as he puts it, "the type"—mature enough to see the risks in joining a militant group like Azov but reckless enough to take them anyway.

Fuller seemed to fit that profile. He was living at the time through a period of depression, working a series of dead-end jobs. After he'd spent four years in the service, the Navy had given Fuller an other-than-honorable discharge, the result of an arrest, he says, for public drunkenness while he was on leave in Dubai. According to court records and police reports obtained by TIME, Fuller later slashed a man with a knife during a bar fight in Texas, which earned him six years of probation for aggravated assault with a deadly weapon.

Still, in spite of his criminal history, the Navy veteran hardly acted like an online radical back then. His name does not appear in Squire's database of far-right Facebook groups and their members as of March 2018, when Fuller arrived in Ukraine. Instead, the path that led to his recruitment may have started with something more mundane.

He says he was interested in Nordic paganism, the ancient religion still practiced in small communities today. As he read about its gods and rituals online, Facebook recommended a variety of relevant groups for him to join, he says. Furholm found him in one. "That's where we met," Fuller recalls. "And a lot of what he was saying made sense to me."

ON AUG. 11, 2017, Facebook's problem with the radical right became much harder to ignore. A procession of neo-Nazis and white supremacists marched that day through the city of Charlottesville, Va., carrying torches and Confederate flags in a rally called Unite the Right. The next day, one of them struck and killed a counterprotester with a car. The rally was organized, in part, on Facebook. (Among its more violent participants, according to the FBI, were three members of RAM, the gang whose leader would later describe Azov as an inspiration.)

For many, the violence in Charlottesville was a watershed moment, a brazen

display of how white supremacy had entered the political mainstream in the U.S. with implicit support from President Donald Trump. Activists say it shouldn't have come as a surprise, especially to the world's biggest social network. In 2012, Beirich, who was then the director of the intelligence project of the Southern Poverty Law Center (SPLC), began giving lists of white-supremacist hate groups to Facebook. Although its moderators would occasionally remove individual ones, "we couldn't get any traction about the need to systematically deplatform extremist ideas until Charlottesville," she says.

Soon after the Unite the Right rally, Facebook (along with YouTube and other platforms) banned several white-supremacist pages, individuals and groups that until then had avoided action. Facebook also pledged to move more quickly to take down threats of physical harm in the future. In 2018, the SPLC characterized the response of Facebook and other platforms as "finally acting on … policies they had previously rarely enforced."

The following year it became clear that those changes were not enough. The Christchurch mosque attacker, who livestreamed the atrocity on Facebook, had been radicalized by far-right material largely on YouTube and Facebook, according to a New Zealand government report released in December 2020. He had spent time in Ukraine in 2015 and mentioned plans to move to the country permanently. "We know that when he was in that part of the world, he was making contact with far-right groups," says Andrew Little, the Minister responsible for the New Zealand Security Intelligence Service. Little says he does not know if these groups included Azov. But during the attack, the shooter wore a flak jacket bearing a black sun, the symbol commonly used by the Azov Battalion.

So far, 48 countries and most major tech platforms have signed on to a New Zealand initiative calling on social media companies to do more to police extremist groups.

"Even those who were somewhat reluctant or grudging at the time—namely Facebook—have come on board, and I think are taking their responsibilities more seriously," says Little.

After Christchurch, Facebook banned "praise, support and representation of white nationalism and white separatism," and introduced measures aimed at deradicalizing users who search for white-supremacist terms. But activists say it was too late. By allowing groups like Azov to thrive on its platform for years, Facebook helped them build a global network that will not be easy to break apart. "Because this material was allowed to proliferate so long, in particular on Facebook, we now have thousands, millions of people who have been sucked into the world of white supremacy and other forms of extremism," says Beirich. "That problem now exists. That's the fallout from not having acted originally."

'We now have thousands, millions of people who have been sucked into the world of white supremacy.'

THE U.S. GOVERNMENT was also slow to acknowledge the danger of Ukraine's far-right militias. But by March 2018, the U.S. Congress publicly denounced the Azov Battalion, banning the U.S. government from providing any "arms, training or other assistance" to its fighters. Though largely symbolic, the move discouraged all Western military forces, and especially members of the NATO alliance, from training alongside Azov fighters—or indeed having anything to do with them.

It was a deep blow to morale, especially in Azov's military wing, says Svyatoslav Palamar, one of its top commanders. "Some people still see us as hooligans and outlaws," he told TIME during a visit to Azov's training base near Mariupol, where uniformed cadets had spent the day learning the proper way to hurl a grenade. "We've come a long way since the early days."

To prove it, Azov tightened its standards for foreign fighters, accepting only those with enough weapons training and expertise to serve as military instructors. But the shift did not obviate the need for Furholm's brand of online recruitment. On the contrary, in the summer of 2018, Azov's political wing allowed him to use one of its cottages outside Kyiv as a hostel for foreign fighters. Those who did not make the cut were channeled into one of Ukraine's other militia groups, or in some cases, the regular Ukrainian military.

Fuller fell into the latter group. After the Azov Regiment turned him down because of lack of experience, some of the friends he'd made in the movement

Azov members and supporters at the movement's Young Flame festival outside Kyiv in August 2019

helped the American sign a contract with Ukraine's marine corps, which sent him to the front. When TIME first interviewed him in 2019, he was in Mariupol, recovering from injuries sustained in a drunken street fight. But he seemed happy to have made it as a foreign fighter in Ukraine.

When Facebook deleted his profile in 2019 in a purge of far-right accounts, Fuller stayed in touch with friends in the far-right movement through other social networks. He doesn't like to think of himself as a recruiter but says he offers advice to Americans and Europeans who contact him online asking how they can follow in his footsteps.

Judging by some of his posts on VK, a social network that has grown in popularity among the far right as Facebook has cracked down on their accounts, Fuller's views have become a lot more radical since he left his Texas hometown. In one screed posted to VK in May, he blamed the British for starting World War II and cast Adolf Hitler as a veritable peacenik. One of the accounts Fuller follows on that social network belongs to Azov's military wing. Its VK page has more than 100,000 subscribers, hailing from around the world. —*With reporting by* AMY GUNIA/HONG KONG *and* MADELINE ROACHE/LONDON

Nation

DESPERATE MEASURES

SHATTERED BY LOSS AND BILLS, FAMILIES HAVE BEEN FORCED TO CROWDFUND FUNERALS

BY MELISSA CHAN

BEFORE THEY ENTERED THE EMERGENCY room in San Antonio in September, Randy Hinojosa turned to his wife of 26 years and assured her that they'd both get better and see each other again.

"I said, 'We came together. We leave together,'" he recalls.

Five weeks later, Hinojosa had recovered from his bout of COVID-19, but Elisa Hinojosa had not. On Oct. 25, she died of the disease.

Faced with a $15,000 bill for funeral expenses, Hinojosa, 52, paid it without hesitating, even though his own four-day hospital stay had set him back $5,000 and the pandemic had hurt his business as a self-employed contractor.

"I knew what I had to do as her husband and as her best friend," he says. "I said I don't care if I have a penny to my name. I'm going to make sure she has something nice that she deserves." When their three children grew concerned that he would deplete his savings, Hinojosa turned to GoFundMe, where a total of 114 people donated more than $9,000.

"I didn't even want to ask anybody for money," he says, breaking down in tears. "I had this pride that I could do this."

AS THE PANDEMIC worsens nationwide, add funeral costs to the problems facing low-income and working-class families, who have been disproportionately affected by both the economic and the health fallout of COVID-19. The needs are such that the new coronavirus relief package approved in December includes $2 billion for funeral expenses and even that may not be enough.

A search on GoFundMe for campaigns related to COVID-19 funerals turns up more than 19,000 results. Many were created by or for people of color, who—because of employment, housing and health care inequities—are more likely than white people to get sick and die from COVID-19, according to the U.S. Centers for Disease Control and Prevention and studies by other health authorities.

Crowdfunding is uneven too. Some

PHOTO-ILLUSTRATION BY NEIL JAMIESON FOR TIME

campaigns have raised nothing. Others have brought in far more than expected. In Los Angeles, Hannah Hae In Kim, 22, raised more than $650,000 on GoFundMe after losing both parents and her grandmother to COVID-19, leaving her to care for herself and her 17-year-old brother Joseph. "I didn't even expect it to hit $5,000," Kim says. "I didn't know so many people would be so willing to help out."

The windfall was fueled by attention in a major media market and by donations from members of the family's large church, many with the means to contribute $1,000 or more. "I'm trying to think of that money as the money our parents would have wanted to raise for us if they were alive," Kim says. "But I would pay any amount to have them back."

More typical is a Georgia man who created a campaign to take care of his longtime friend's family because he couldn't afford to help them. It drew more than $11,000. "This is the last thing that I can do for him," he wrote. A widow in Texas struggling to bury her husband raised less than $2,000. "I never thought I would be in this situation asking for help," she wrote.

Other families are turning elsewhere for help, including to billionaires on Twitter—or simply not claiming loved ones' bodies. In New York City, hundreds of COVID-19 victims who died in the spring remain in freezer storage trucks because their next of kin could not afford a proper burial, according to the city's chief medical examiner.

Hinojosa would rather go bankrupt than see that fate for his late wife. The couple were together nearly 30 years after meeting at a dance club, where he won her over with his dance moves and cowboy hat. "We danced for about 30 seconds without music, and I said, That's it. She's the one," Hinojosa recalls.

On his wife's final day, Hinojosa says, he begged doctors to take his own lungs and kidneys to save her, but they said it wouldn't help Elisa. Surrounded by their three children, Hinojosa held his wife's hands and asked her to open her eyes if she could hear him. She did and looked straight at him, and Hinojosa began his goodbyes.

"I said a whole lifetime in about two minutes," Hinojosa says through sobs. The last image he has of Elisa is his daughter wailing over her and fixing her mom's hair.

"I was with her for 26 years," Hinojosa says, "and COVID took her away from me in five weeks."

With money raised on GoFundMe, Hinojosa was able to cremate his wife and pay for a livestreamed funeral service, a plot, burial and labor costs, as well as a lifetime of cemetery lawn care. He reserved the plot directly next to hers for another $10,000, which he's paying in increments over the next five years.

"You can't die these days because it's too expensive," Hinojosa says.

That was true even before COVID-19 killed more than 356,000 people in the U.S. and left tens of millions without jobs. Over the past five years, median funeral costs have increased 6%, to $7,640, and the cost of a funeral with cremation grew 7%, to $5,150, according to a 2019 report by the National Funeral Directors Association (NFDA). The figures do not take into account cemetery expenses or other charges, including flowers or an obituary.

In New Mexico, Michael Kellogg, 60, had to scrape together money after losing his wife—his high school sweetheart since 1977—to the coronavirus on Nov. 8. Already reeling from pandemic-related unemployment and major car repairs, Kellogg and his three children created a GoFundMe page to help pay for her funeral. The Native American family raised more than $5,200, which was enough to cremate the 59-year-old matriarch without a service on Nov. 17. "We just needed help," Kellogg says. "On the financial side, it doesn't stop."

"I gotta make the mortgage. I gotta pay the utilities," he adds. "I don't want to say it's crippling, but it hampers you tremendously."

EVEN FUNERAL HOMES are feeling the pinch. More than 53% of funeral homes in the U.S. said the pandemic has decreased their profits, according to an NFDA survey of 646 funeral directors in August. Randy Anderson, the association's president, says that's because many cash-strapped families are opting for immediate burials and cremations over more expensive services.

"Because of COVID, people are choosing simpler funerals," says Henry Kwong, managing director of two Los Angeles funeral homes, who estimates his profits have dropped about 10% to 20% since 2019.

Funeral homes are also having to pay staff overtime and spending thousands of dollars on extra cleaning services and costly protective gear. Anderson, who owns and runs a funeral home in Alexander City, Ala., says his overtime expenses have increased 13% and his supply costs have climbed 17% since 2019. He also spends an extra $2,000 a month to have an outside company disinfect his funeral home, an expense he didn't used to have.

While operating costs have increased, prices have stayed the same—for now. Kwong doesn't know how much he'll have to raise rates in 2021 after this

1.

2.

PHOTOGRAPHS COURTESY OF THE FAMILIES

3.

deadly winter, but he worries the impact of the pandemic will be felt for years.

Nearly 90% of U.S. funeral homes are privately owned by families or individuals, according to the NFDA. Kwong fears the pandemic could topple some. "We have to tighten our belts," he says. "It's not a pretty picture."

LIKE MANY WHO'VE DIED of COVID-19 in the U.S., Hannah Hae In Kim's parents were on the low end of the economic ladder. Her father Chul Jik Kim moved to the U.S. from South Korea in the 1980s and eventually settled in California with his family. Kim remembers her mother waiting in line for hours to receive food stamps in Los Angeles, where her father juggled various jobs before becoming an acupuncturist.

They settled in Koreatown, a densely packed working-class neighborhood in central Los Angeles that today is mostly Latino, the population group that has been hit hardest by COVID-19 in the city. Kim's father treated one or two clients at the start of the pandemic, and Kim thinks that is how he got sick.

The disease spread quickly in the family's small apartment. Kim's 85-year-old grandmother fell ill and died on April 30. Her father, who was 68, died three weeks later. By then, Kim, her brother and their mother Eunju Kim were infected. The siblings had mild symptoms, but Eunju, 60, was sick enough to be hospitalized.

Kim realized the enormity of the situation—that she could be left alone to care for herself and her brother with no source of income—when her mother called from the ICU and, between gasps for air, told her to find and use the cash she hid in her wardrobe for emergencies. "I looked in there, and it was $300," Kim says. "I think it hit me then."

Kim had been optimistic that her mother would recover. And for a time, she did get better. But like many COVID-19 patients, she relapsed suddenly, and she died on July 14.

"I thought I'd have to give my parents' eulogies in my 40s or 50s," Kim says. "To give both of them at the same time, to think I have to live my whole life without my parents here with us, is crazy."

1.
THE HINOJOSAS
Randy Hinojosa, top, and his wife Elisa, bottom right, with their children; Elisa died of COVID-19 on Oct. 25

2.
THE KIMS
Hannah Hae In Kim in 2016 with her parents, who both died of COVID-19

3.
THE KELLOGGS
Michael Kellogg, top right, with his late wife Gloria, center front, and their children in a 2015 family portrait

A MEASURE OF RELIEF is contained in the $900 billion coronavirus relief package finally signed into law on Dec. 27. Unlike the first one, approved nine months earlier, this bill includes $2 billion for the Federal Emergency Management Agency (FEMA) to distribute for pandemic-related funeral expenses incurred through Dec. 31, but as the COVID-19 death toll continues its steady climb, it's unclear how far the money will stretch. At the median funeral price of $7,640, covering all 356,000 U.S. deaths would cost more than $2.54 billion. And then there are the logistics, both for people who must prove loved ones' deaths were directly related to COVID-19 and for FEMA, which must verify applications. After three major hurricanes ripped through the U.S. in 2019, FEMA was tasked with distributing funds for funeral expenses and doled out about $2.6 million, according to a 2019 report from the Government Accountability Office (GAO). Of 4,802 applications for money, the agency approved 976, the GAO says.

"FEMA has never provided funeral assistance on anything approaching this scale," an agency spokesperson said after the relief bill was signed. "As such, we are reviewing the legislation and evaluating potential options for implementation."

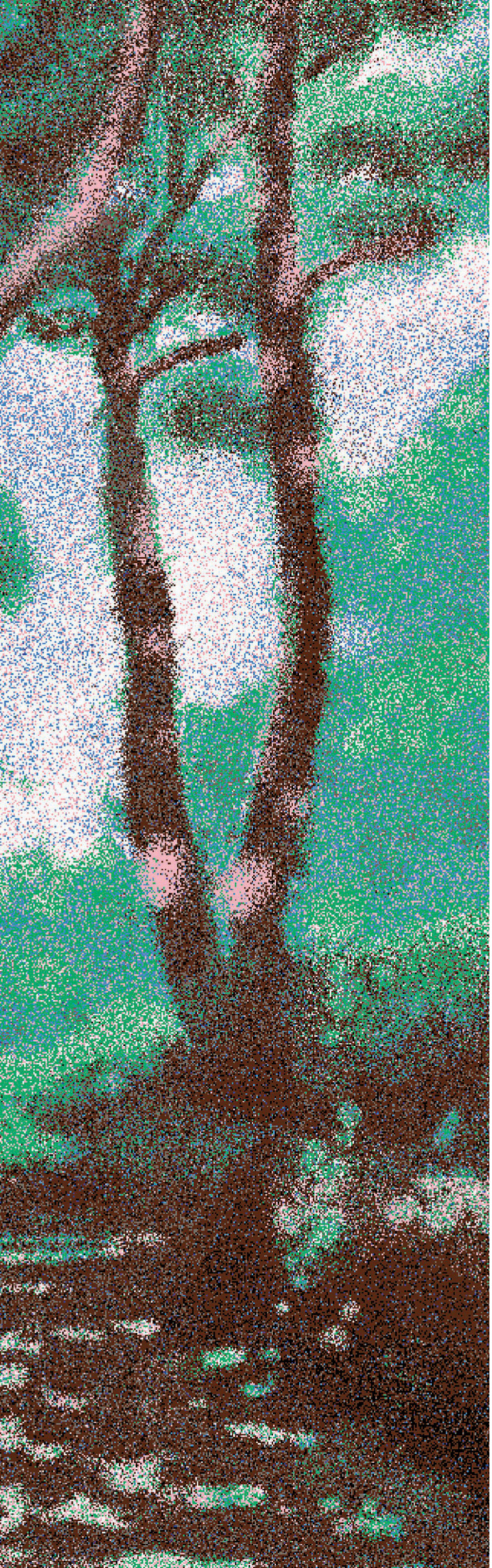
Some cities and counties have offered limited assistance, and several charities have stepped in to help, but none were prepared for the level of need they're now seeing.

"The phones start ringing around 7 a.m., and we average about 12 families a day," says Angel Gomez, who founded the nonprofit Operation H.O.P.E. in El Paso, Texas. It has helped cover more than $500,000 in funeral costs for more than 500 families since April. "As the money comes in, the money goes out," Gomez says. "People are hurting."

HINOJOSA AND HIS WIFE used to make big financial decisions together, but they hadn't made end-of-life plans because, he says in disbelief, "we weren't supposed to die."

That's changed. After his wife died, Hinojosa shared his wishes for his funeral with his adult children.

"Make mine as cheap as possible," he told them. "Have the preacher man go to the cemetery, and save that money." ☐



Essay

The Good With the Bad

Living in a tangle of joy and pain

By Rebekah Taussig

IT WAS A NIGHT IN MID-APRIL THAT I FELL ASLEEP TO THE phrase *this is too hard* pinging through my brain, and they were the first words to cross my mind when I opened my eyes the next morning. I texted my sisters: "Remember the easy days when it was JUST a baby and cancer???" I pulled myself out of bed, plopped heavily into my wheelchair and stared in the mirror with my fingers splayed across my growing belly. That day we had to decide if my partner Micah would start a second round of chemotherapy treatments that would weaken his ability to fight against this new virus if he caught it, or forgo the treatment and change his odds against cancer. Our baby would arrive in a few weeks.

That spring, as my feet and belly swelled, my classes of high school students pivoted to virtual learning. I scrapped the original plans and assigned personal essays. "Let's bear witness to the here and now," I said. "One day, we might even read these essays to our grandchildren." I wrote alongside them as we journaled every day, paying attention to the details—snippets of dialogue caught at the dinner tables we were now sitting around, the exact flavor of the cinnamon rolls we finally had time to bake, our bodies' reactions to sitting in front of screens for eight-plus hours a day. Tiny flashes of human experience in the midst of a global pandemic.

As soon as we started drafting our notes into essays, though, the plump, specific moments we'd documented flattened under the task of shaping them, and I noticed many of us pulling in one of two directions. There were the essays that skimmed the surface of loss—I'm bored; I miss soccer practice; when will this be over? And there were the essays of relentless positivity—I'm finally getting to spend more time with my family; I'm learning to be grateful for what I have; I've had time to make so many cool crafts. The angsty drafts didn't reach complete catharsis, the uplifting versions didn't quite offer hope, and all of us struggled to stay present with our words.

I was no exception. As soon as I tried to weave meaning from the

ILLUSTRATION BY MATIJA MEDVED FOR TIME

tidbits I'd been gathering, I watched my words splinter on the page. I gave up on the human race in one draft and extracted trite silver linings in the next. I had 10 tabs open on my computer. I obsessively checked for updates on new COVID-19 cases and scrolled through Instagram, eyeing a steady stream of "dumpster fire" memes and gorgeous photos of fresh-baked bread. I kept at least one hand on my belly at all times while the growing creature inside tapped Morse-code messages to the outside world. "We're still here," he seemed to say.

WHEN I WAS VERY LITTLE, I survived childhood cancer. I don't know how that compares to surviving a pandemic. By the time I reached 6 or 7 years old, I had a script at the ready to testify to that survival. An actual script. I gave inspirational talks with my mom to groups of kids in schools or congregations of church folks. I'd look into the audience from my hot pink wheelchair and profess that cancer and paralysis hadn't decimated my spirit. "I'm happy this way!" I'd say. "I can still play foursquare at recess!" I could almost feel the energy in the room lift at my apparent resilience. I learned early and with unwavering consistency that there were only a handful of stories written for disabled girls. I could be the brilliant, bright inspiration sitting in my wheelchair on top of a mountain, or the pitiable and sad face of a charity fundraiser. There wasn't room for anything in between.

It wasn't until almost 15 years later, in graduate school, when a guy in one of my classes called my bluff. He asked about my wheelchair, as so many people did, and without one thought, I started: "I'm happy this way. My wheelchair has made me who I am, and I wouldn't change that."

"You don't actually feel that way," he said, shaking his head. "There's no way." He was confident, and I wavered. His words came back to me long after the conversation ended. Was he right? Had I only been pretending to be happy? I rifled through long-discarded memories of loss, pain and shame. The time a boy I thought was my friend told the group he didn't want to invite me to go sledding, because he didn't want to carry "the cripple" up the hill. The swoony older women who'd applauded my high school boyfriend for dating me. The incapacitating insecurity that went into hiding my deformed feet, my catheters, my anger. The physical and emotional exhaustion from trying to fit in and keep up. These moments suddenly became huge. The pang of them felt like it might swallow me whole.

Of course, it's only in retrospect I can see that my classmate's narrative was as reductive as mine had been as a child. I'd skewed exclusively bright, he'd pulled entirely devastated, and both versions kept me separate from myself. Because, as I sat in front of audiences, giving the thumbs-up with one hand and anxiously pinching the folds on my denim jumper with the other, I wasn't lying. I was happy, and I did play at recess. But my life was as messy as any other. I just didn't know how to hold onto all the parts.

When I was finally able to sit in my loss, run my fingers over the precise ridges of pain, find language for the experience, that was also the moment I could take a deep breath, see myself and be seen, connect to the world of people who also exist in all the spaces between life and death. Instead of devouring any bit of light in me, my grief brought into focus my scrappiness and the sturdy beauty of my friendships; it helped me piece together a road map to understand my anxiety; it gave me a fuller picture of my own strength.

AS I'VE GOTTEN OLDER, my body has challenged my ability to hold onto the both/and of being disabled. A couple of years ago, my lower back became the host for new levels of pain. My legs started spasming and clenching regularly with an intensity I couldn't manage. After I bounced between doctors and underwent tedious tests, an orthopedic surgeon told me the pain was permanent. He could try to help me manage it, but there was no "fixing" the problem. "We're just kicking the can down the road," he said. My first feeling was claustrophobia—a frantic urgency to escape, get off this road, slip into another story line. I think most of us would gulp down any magic potion promising to remove that feeling. How do you sit with the prognosis of "pain for the rest of your life"?

Micah started waking up early to do stretches with me. The street still dark with nighttime, he'd guide my leg as I dragged my heel across the bed. He'd lift it until my foot rested on his shoulder and I felt my hamstring stretch. The last bit of the ritual included 30 seconds of standing together, my arms wrapped around his neck. Sometimes I couldn't even bear one second before the pain made me collapse, but we always tried.

One morning, as I gripped his shoulders, as my legs spasmed and he held tighter, I lost myself in the frustration of the moment, forgetting to breathe. My brain was a war zone of frustration and sadness—at the pain throbbing through my body, at watching my partner sacrifice sleep to hold me upright, at the realization that I couldn't escape this scene. And right in that moment—in that breathtaking darkness—Micah nuzzled my neck and said, "I like holding you." It was awful and wonderful, to need care and to be cared for. The two feelings couldn't be pulled apart: the fury and comfort, loss and closeness swished into one.

The polarization I bumped into when trying to write about the pandemic, I realized, was familiar—this instinct to cope with that which is beyond my control by rushing to write the last sentence and place it in its proper section on the bookshelf. Our baby, Otto, is almost 8 months old, and sometimes, in the middle of his screeching, Micah and I turn to each other and say, "Happy or sad?" trying to place his emotions into some kind of imagined box. It's a deep-seated impulse, this need to sort and evaluate our feelings. What is the word for a full and

The author doing her daily stretches with the help of her partner Micah, in February 2019

The author with her baby Otto in September

tattered spirit? Sitting in the ambiguity of reality is like balancing a spoon on your nose—it takes intention and endurance.

There's so little I have control of these days, and my ability to live in the contradictions has expanded well beyond my disabled body in the last year. The first time my sisters met my son, Otto was a week old. He is my parents' 26th grandbaby, but one of the first to be born without a waiting room full of aunts and cousins and grandparents ready to bust through the doors to smother him in kisses. I'd been the eager aunt waiting in the wings to meet our family's newest babies more than 20 times without ever knowing if my body could carry a baby of its own. As soon as I gasped at the double pink lines on the pregnancy test, I'd pictured our brand-new wonder baby being swept up in a parade of affection within the first moments his lungs met the air. Instead, after hearing about women early in the pandemic who'd had to deliver babies without a single support person, we were just grateful that Micah was allowed to be with me in the hospital.

I got a COVID-19 test two days before my scheduled delivery, and the day he was born we sent videos over group texts of Otto scowling at the camera and blinking in the evening sunlight. When my sisters came through our front door wearing their masks, we took them straight to the kitchen to wash their hands. I couldn't see their smiles when I placed my shoe-size son in their arms, but I saw the corners of their eyes crinkle. I saw tears leaking out. Otto didn't feel their kisses, but he heard their coos.

THE MORNING I TEXTED my sisters when everything felt "too hard," I got a message back: "This isn't forever. I can see your little family snuggled up—safe and cozy and healthy—on the other side of this." And in some ways, it's played out that way. We snuggle incessantly, and Micah is recovering with a good prognosis. We are unspeakably lucky.

But of course every note in this song harmonizes with another. The pandemic continues to rage as Otto bounces in his Jolly Jumper, round and bald and ecstatic with the most expressive set of eyebrows I've ever seen. I can hardly bear to exist from the moment Micah goes in for tests to the moment we get the results to see if his cancer has come back, even though, so far, it hasn't. More and more people we love are being diagnosed with COVID-19, and I'm struggling to let myself feel anything at all as I wait for news of their symptoms. Every weekday morning Otto and I watch our local doctors give COVID-19 updates on Facebook Live. "Do you see Dr. Stites and Dr. Hawkinson?" I ask him. They report on the beds filling up in our hospital and beg people to wear masks, their voices as familiar to Otto as Nana's and Papa's. The pain in my body continues to thrum as Otto is learning what I mean when I say, "Do you want a kiss?" Micah and I spend hours trying to get this wild baby to sleep, and when he's finally dozing, we huddle our heads together watching videos of him babbling, already missing him—the scariest, softest love I've ever known. We watch the restaurants in our neighborhood close or struggle to stay open, and we order more takeout, trying to figure out how to keep everyone safe and afloat at the same time. I watch with a tight chest as people demonstrate a staggering and casual disregard for the lives of the most vulnerable among us—or a vast ignorance about just how many of us are vulnerable to begin with—and my breath catches as I watch others make enormous sacrifices to protect us. All of this is happening at once.

I went back to my drafts and added questions in the margins, "Can we hold onto both?" I wrote. "Is there a way to feel loss and hope at the same time?" Rage and comfort, grief and levity, anxiety and openness, strain and resilience, devastation and creativity—all of it existing side by side, neither experience negating or diminishing the other. I don't know what I'll do if Micah's cancer comes back, if my baby gets sick, if we lose our income or health care. Maybe I'll reach for different tools. It's hard to know what we'll do if.

For now, I'm allowing myself to be in the middle of the story. To recognize that there isn't one story here, not even one story per person per day. I think it makes sense that we'd struggle to thread the words. This is too big, too fresh for the final line. But when we're ready to sit in the full stories we've been living—when we are safe and have the space—all the pieces are here. Waving to each other through screens and breaking down during Zoom meetings, dancing in our driveways and choking on the chasm between ourselves and the ones we love without us in the hospital, spending hours on the phone catching up with every old friend and even more hours on hold with unemployment, splitting in half when our nightmares come true and exhaling with relief when they don't, showing up to the same mess day after day after day. These are our stories. They're tangled and complicated, but they're ours. Let them be—messy, contradictory, true.

Taussig is the author of Sitting Pretty: The View From My Ordinary Resilient Disabled Body

COURTESY REBEKAH TAUSSIG (2)

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Time Off

ESSAY

The escape economy around the corner

By Janice Min

INSIDE

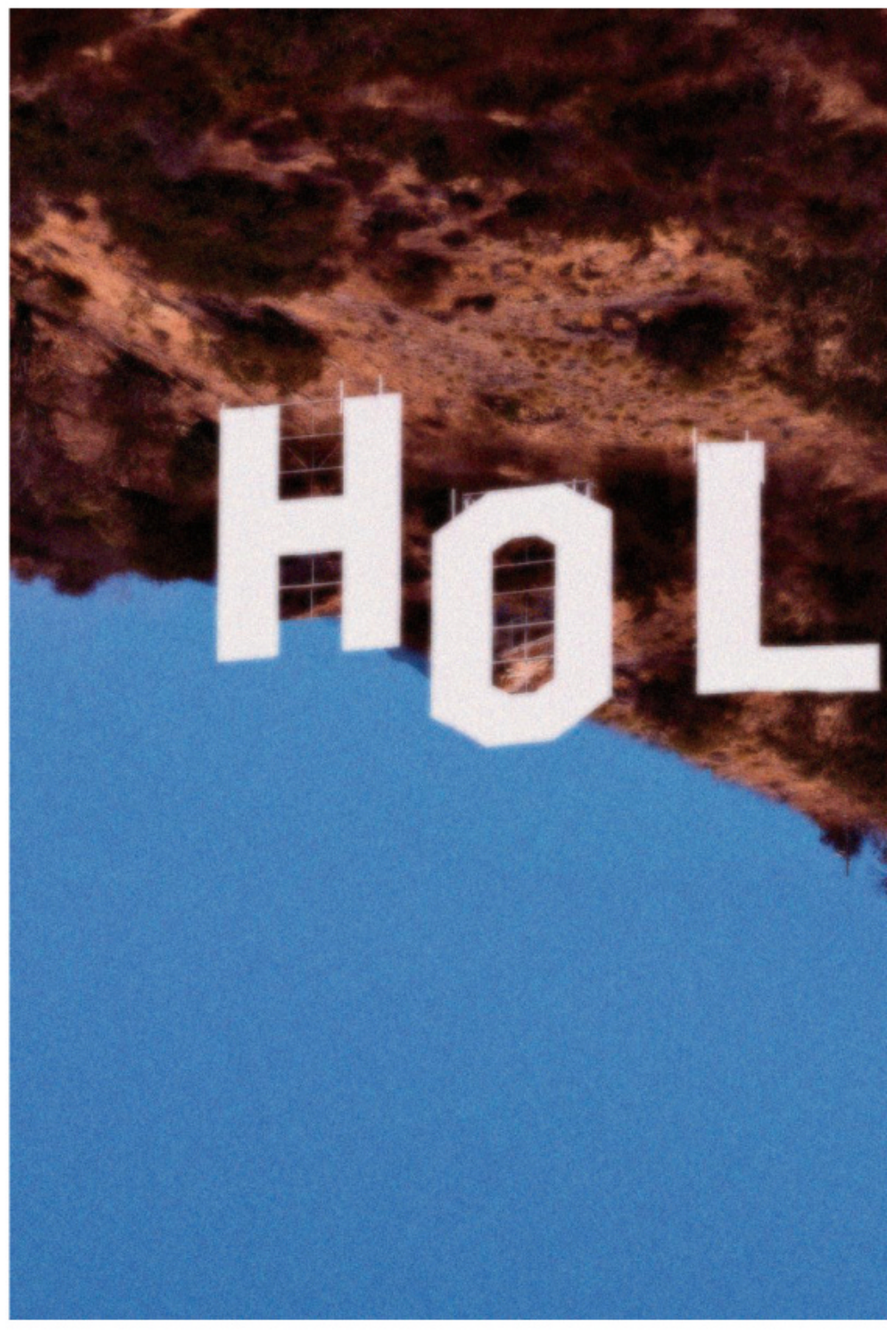
WITH TRUMP GONE, ART WILL UNCLENCH

IT'S OPEN SEASON ON THE GREAT GATSBY

WONDER WOMAN 1984 *ON THE SMALL SCREEN*

ILLUSTRATIONS BY NICOLÁS ORTEGA FOR TIME

Time Off is reported by Alejandro de la Garza and Julia Zorthian



IN THE DARK DAYS AFTER 9/11, DIRE PRONOUNCEments about our nation's new cultural identity rained down like the acrid particles floating over lower Manhattan. It would be the end of irony. The end of comedy. Our sense of innocence, particularly for Gen X and millennials, who largely had known lives of peace and security, was gone. Hello fear. RIP fun.

Yet six months later, *The Bachelor* debuted on ABC. Shortly after came *American Idol*. Then *Joe Millionaire*, a preposterous real-life acid test to shame gold-digging women. (The show garnered 35 million viewers for its finale.) Cynicism didn't end; it took steroids. Nowhere was that more manifest than in an obsession with celebrity that would come to define the decade. I was the young editor in chief of *Us Weekly* from 2002 to 2009 as that publication covered the frothy zeitgeist, as the soap-operatic lives of young stars who needed only one name—Britney! Lindsay! Jessica!—became American obsessions. At its peak, *Us Weekly* was read by 14 million young, educated people a week, and I often thought about why we lusted for that escape. If 9/11 taught us anything, it was to be suspicious, unsettled: danger lurks everywhere. An anxious public fled into alternate realities of no actual consequence. (*The Hills*, anyone?)

Hollywood shows like *The Simple Life* made it easy. Americans cultivated a metallic taste for zero-sum equations, a world of winners and losers in politics, foreign policy and, yes, entertainment. Loving to hate Heidi and Spencer ("Speidi"), it turned out, was a lot more fun than trashing Rumsfeld and Cheney. ("Chumsfeld," anyone?) Should J. Lo and Ben get married? Ask CNN, whose anchors devoted whole segments to the couple. Our escapism was apolitical and banal. But the effect, in some ways, was not. The aughts may have been the last time wide swaths of Americans shared a communal language, chugging from the same watercooler. Soon, social media and algorithms would splinter us into a million pieces.

Today, the teens and 20-somethings who binged *Gossip Girl* and *Survivor* are in their 30s and 40s. Having matured in the shadow of one trauma, many will craft the aftermath of another. The 1918 flu, the Depression, the world wars and 9/11 all resulted in entertainment booms. The difference today is that Hollywood is in chaos, some say decline. As production ground to a halt and advertisers fled in 2020, corporate overlords "right-sized" organizations to streaming-first orientations. The pandemic has resulted in hundreds of thousands of jobs lost; box office revenue is at a 40-year low. Content is now in the hands of streaming services, not the studios.

But Hollywood's endemic woes haven't altered people's appetite for TV. Our televisions are today's constant companion, bringing us *Tiger King* and eerie fan-free sporting events. Sure, we fantasize about postvaccine trips we'll take, parties we'll attend. Yet the truth is, the bulk of our free time on the other side will be spent right where our lockdowns began—on a sofa in front of a screen.

But what will that entertainment look like this time around?

From high art to treacle, feeling good will be the new Breaking Bad

FIRST, OUR ESCAPIST FANTASIES are different now. President-elect Biden talks about one America—not blue states and red states. In another era, this might sound corny. But conflict has depleted us. We used to cancel subscriptions and TV shows; now it's people. No surprise, many of the new shows that resonated last year—*Emily in Paris, Ted Lasso, The Queen's Gambit*—represented a new modern fantasy, where essential goodness is celebrated and rewarded. (Think anti-antiheroes to the previous decade's Don Draper and Walter White.) Watching these shows last year delivered temporary inoculation against toxicity. Look for more of this kind of escapist programming—from high art to treacle, feeling good will be the new *Breaking Bad*.

Second, Hollywood's executive purges will change content. Old Hollywood is a club of largely white men who, like the U.S. Senate, serve continuous terms stretching into decades. Millennials and Gen Z, diverse and woke, are the Bernie Sanders–AOC spoilers, forcing a reckoning with uncomfortable truths: *Pretty Woman* romanticizes sex trafficking; *Indiana Jones* employs racist stereotypes.

18+

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Plenty of Hollywood's legacy product hasn't aged well, and neither have its executives, whether ousted amid clouds of sexual impropriety (NBCUniversal vice chairman Ron Meyer) or alleged racism (NBC Entertainment chairman Paul Telegdy). *Fortune* 500 companies employed basic diversity and inclusion initiatives for years, for consumer optics and also because better profitability resulted as American demographics shifted. Uncomfortably, Hollywood always resisted doing the same, even if it hurt its own interests. (One recent study revealed that diverse casts in movies significantly improved box office receipts.) Now with a gun to its head (namely Twitter) and social movements too powerful to ignore, entertainment's corporate behemoths finally got the memo. In 2020, Netflix put Indian American Bela Bajaria as head of Global TV. Channing Dungey, a Black female executive, brought much needed representation when she was named chairman of Warner Bros. Television. C-suites finally are cracking open beyond white guys named Alan and Bob.

Third, the A-list is endangered. Hollywood recently erupted in outrage when WarnerMedia CEO Jason Kilar announced he would be putting the studio's biggest tentpoles concurrently in theaters and on its own HBO Max, breaking the tradition of "windowing"—where movies first get a theatrical run. Kilar is betting on two key truths: that technology almost always wins, as does the buyer holding the purse. The powerful talent agents at CAA and Endeavor have lashed out against the move—but the emotion is more fear than anger. The entire business model of stars whose eight-figure paychecks are funded by $100 million to $150 million productions (with theatrical back ends for top talent) is threatened. TikTok's top creator, Charli D'Amelio, just scored a family reality series on Hulu. Open a different app and you have Oscar winner Nicole Kidman on HBO. As streamers make even more shows to compete, the star power of any one actor is naturally diluted, and TV paychecks for most are nowhere in the same stratosphere. Expect the same stars who preach equity on their social media to feel it firsthand as the notion of a top-down A-list continues to erode.

Fourth, plurality is the new mass. While the old ad model of cable and broadcast TV supported (mostly white) family-in-front-of-the-TV hits—76 million watched *Seinfeld*'s finale—Netflix, with infinite cloud data and ambitions, programs 24/7 to every demographic nook and cranny. A Black 30-year-old, an Asian teen and a white boomer all have equivalent market value because everyone is a prospect who might pay $17.99 a month, all without heed paid to the idea of "prime time" for an advertiser-selected demographic. Disparate audiences are identified and served via algorithm and then stitched together for scale. A global marketplace also has taken subtitles out of the art house, as Nordic crime dramas, Korean soap operas and Spanish bank heists enter our living rooms. Whatever your fancy, there is a show for that.

Last, carpe diem time is coming. The French dubbed the decade after the 1918 flu the *années folles*—the crazy years. Radio, movies, parties, fashion, dance and jazz flourished. Now, a full century later, the quarterly UCLA Anderson Forecast expects a similar redux. "With a vaccine and the release of pent-up demand, the next few years will be roaring as the economy accelerates," wrote Leo Feler, a senior economist with the forecast. Live entertainment and Broadway were already on the upswing pre-COVID, as people craved IRL experience amid onscreen culture. The adage "You can't download an experience" will be especially apt as we emerge like restless horses in the gate from our almost Amish existence of baking bread and playing board games. Pre-COVID, live music was growing year over year, with $24 billion in ticket sales expected in 2022. Music festivals like Coachella already were the currency of Instagram and are only likely to come back bigger. In other words, expect the flex to keep going.

Upon writing this piece, I looked up the definition of *entertainment* in the Oxford dictionary: "the action of providing or being provided with amusement or enjoyment."

Are you ready for it? Truthfully, it sounds pretty good.

Min, a former co-president of the Hollywood Reporter–Billboard Media Group, is a contributing editor at TIME

POP CULTURE

Art can breathe again

By Judy Berman

From left: Alec Baldwin spoofs Trump on SNL; *ABC revives* Roseanne; *rapper YG says "FDT"; and Pedro Pascal terrifies in* Wonder Woman 1984

DO YOU REMEMBER HOW IT FELT TO BE alive on Nov. 9, 2016? If you spent the day in a big U.S. city where overwhelmingly liberal masses lived crushed up against each other with no room to escape the ambient mood, you might never forget it: residents trudging around silent, sleepless, dead-eyed, as though something had siphoned off all their serotonin. After the initial shock, conversations turned toward potential silver linings: Hey, wasn't adversity supposed to be good for art? Certainly Trump would deliver plenty of fodder for late-night hosts and punk bands. Shortly after the election, *New York* magazine art critic Jerry Saltz wrote, "Trump's victory is a crucible of possibility for a new generation, who will do what artists have always done in times like these: go back to work."

There wasn't much evidence to support this gallows optimism, even then. Pre-election pop culture had offered cartoonish Trump effigies, the spectacle of Alec Baldwin puckering his lips on *Saturday Night Live* and Cheeto epithets sprinkled like so much orange dust. You could argue that for art, the first casualty of the Trump era was subtlety, but it wouldn't be the last. The arts have suffered mightily with Trump in the White House. While his policies have made it harder to subsist as a creative professional, his dominance over the public sphere has distracted artists from their work and audiences from their engagement with it.

Put simply: Donald Trump was bad for art.

TO BEGIN WITH THE OBVIOUS, Trump lashed out at the arts and their practitioners, including Meryl Streep, Robert De Niro and John Legend, among others. More damaging have been his attempts to defund arts institutions such as the National Endowment for the Arts and the Corporation for Public Broadcasting, which helps fund PBS and NPR. His agenda may have indirectly hurt private arts funding too, as liberals opened their wallets to the ACLU instead. Then came COVID-19, which, largely because of the Trump Administration's disinformation and neglect, has hit the U.S. shockingly hard. Amid a dismal economy, Richard Florida and Michael Seman, in a publication by Brookings, estimated the losses within creative industries at 2.7 million jobs. In the fine and performing arts, roughly half of all jobs evaporated.

The emotional tenor of the Trump years hasn't exactly been a gift to the arts, either. By late 2016, it was common to see artists confess that the work that once gave their lives meaning now felt gratuitous, if not impossible. Those who did confront the moment couldn't carve out much nuance with the blunt weapon of rage.

It's not that we've been starved for good art. Yet the cultural realm suffered from a Trump obsession fed by the President's flouting of the norms that once made it possible for private citizens to forget about the government for full hours at a time. We got more ugly portraits, more mouth-breathing impressions, more fake-tan jokes. TV cashed in on polarization, offering a Resistance-flavored *The Handmaid's Tale,* Sacha Baron Cohen's *Who Is America?* and a short-lived *Murphy Brown* revival to some; *SEAL Team*, *Live PD* and a short-lived *Roseanne* revival to others. Trump has haunted superhero flicks from *Spider-Man: Far From Home* to *Wonder Woman 1984*. J.D. Vance's divisive 2016 memoir *Hillbilly Elegy* was treated as a Rosetta Stone for understanding Trump's America; Ron Howard's divisive 2020 film adaptation bookended his tenure.

Even comedy has had a rough few years. *SNL*'s political sketches became re-enactments of real events with celebrities stunt-cast as the leads. A subgenre I think of as "explainer comedy"

BALDWIN: NBC/GETTY IMAGES; ROSEANNE: ADAM ROSE—ABC/KOBAL/SHUTTERSTOCK; WONDER WOMAN 1984: WARNER BROS./EVERETT COLLECTION

has taken off, exemplified by the didactic stylings of John Oliver, Hasan Minhaj and Hannah Gadsby. Late-night hosts spent more time lamenting Trump's actions than lampooning him. One of the sharpest comedians of the Trump era, Michelle Wolf, skewered this trend in a Netflix talk show that was quickly canceled. Now we have Sarah Cooper, who lip-syncs Trump speeches to underline their self-evident madness.

NOT ALL POLITICAL ART (and pretty much all art is political) has devolved. The Trump years have given us sharp satires of generational wealth: *Succession, Knives Out,* a Best Picture win for South Korea's *Parasite.* TV has expanded rapidly, making room for characters that society often ignores (see: *Pose, Watchmen, Vida, When They See Us*). Childish Gambino's "This Is America" and Lana Del Rey's *Norman F-cking Rockwell!* sifted through the ashes of the American Dream. My favorite novel of 2020 was Lydia Millet's *A Children's Bible,* which translates the plight of youth on a planet threatened by inequality and climate change into the language of myth.

Yet so many of these works have roots that run deeper than Trump. It was the major progressive movements of the past decade—Black Lives Matter, Occupy, marriage equality, environmental activism, a newly visible transgender-rights movement—that primed the culture for art that was antiracist, conservationist, critical of capitalist excesses, inclusive of all identities. Even #MeToo and the Women's March, two responses to Trump's mistreatment of women, built on the foundation of Obama-era pop feminism.

Think of the indelible American art that preceded Trump's presidency: books like George Saunders' *Tenth of December,* Maggie Nelson's *The Argonauts,* Jesmyn Ward's *Men We Reaped* and Paul Beatty's *The Sellout.* Movies and TV shows including *Moonlight, Atlanta, Orange Is the New Black, Enlightened, Tangerine* and *The Leftovers.* Albums from D'Angelo's *Black Messiah* to Mitski's *Puberty 2* to Kendrick Lamar's *To Pimp a Butterfly.* And transformational works of art like Beyoncé's *Lemonade* and Kara Walker's *A Subtlety.* In his postelection polemic, *New York*'s Saltz hoped regime change would "jar professionalized artists from being part and parcel of the career machine," because "why should art want to serve consensus?"

But when I look back at the major artworks of the Obama years, I see the opposite of consensus. The experiences and ideas represented were simply too diverse to be homogenous. Yes, some of the period's prematurely postracial output feels naive now, but most creators were simply exploring a wide range of topics, many of which had little to do with the President.

Ironically, it's the Trump years that have yielded consensus art—art that glosses over ideological differences within, and beyond, the broad categories of right and left. A President who monopolizes the public's attention also possesses the power to force the individual voice into a defensive crouch. Trump may have lit a fire under some artists, but the exhaustion, trauma and precarity that characterized his tenure worked hard to extinguish it. Although periods of social upheaval inform art, that isn't the same as nurturing it. The Crusades had to end for the Renaissance to begin. When the cultural sphere expands, when human beings have the mental energy to exercise their imaginations, when speech is free but not weaponized in the service of hate, when the range of perspectives that can be expressed in relative safety broadens—that's when art flourishes.

Ironically, it's the Trump years that have yielded consensus art

The transition that's imminent will be neither instantaneous nor easy. COVID has ensured that the early Biden years will be some of the toughest in our history. No one's granting artists leave to go back to brunch, metaphorically speaking, if that's where they ever were. It will take time to shake the psychological tics of making art in the age of Trump—to stop framing every work as a response to him. But eventually, the Cheeto dust will dissipate, and the view will start to clear. ☐

Gatsby, revisited

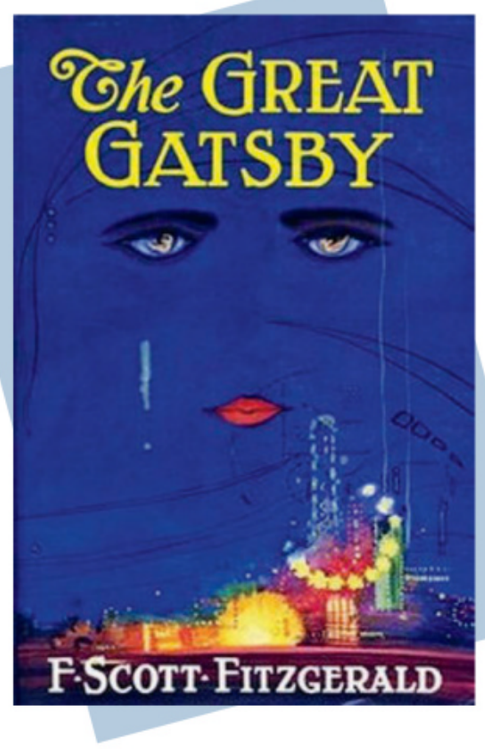
By Annabel Gutterman

BETWEEN THE GLITZY PARTIES, secret backstories and climactic murder in F. Scott Fitzgerald's classic novel *The Great Gatsby,* there's a tiny detail that readers may have missed: right before he gets in a car with antagonist Tom Buchanan—the ride that kicks off the novel's tragic end—narrator Nick Carraway realizes he's forgotten his own birthday. It's a detail that stuck with author Michael Farris Smith when he reread the novel in his 40s, and sparked a lingering question: What makes a man so detached from himself that he doesn't remember his own birthday?

In *Nick,* Smith's prequel to *The Great Gatsby,* released on Jan. 5, the author explores Carraway's life before he arrives in Jay Gatsby's world in West Egg, ruminating on his travels and search for home during and after serving in World War I. The timing of the prequel may seem strange, arriving 96 years after the original book's publication, but it's intentional: Smith's novel was published just days after *Gatsby* entered U.S. public domain on Jan. 1. Literary works are protected from replication for a certain number of years, depending on when they came out. The copyright for Fitzgerald's classic novel of greed, desire and betrayal has expired, so anyone can publish the book and adapt it without permission from his literary estate, which controlled the text for the 80 years since his death. That freedom could yield works that add to *Gatsby*'s legacy—see what *Wide Sargasso Sea* did for *Jane Eyre*—or it could open the door to editions that change the text for the worse.

"It has almost the status of a holy work, and it's seen as embodying all kinds of things about American values and society," says literary scholar James L.W. West III. In 2008, West set out to restore the text to match Fitzgerald's original version as closely as possible—rejecting Britishisms and other changes—and the resulting edition, published in 2018, is considered by the estate to be the most authoritative. But now that the copyright has expired, he and other scholars are both trepidatious and curious about what may come. "If I were a writer thinking about doing a prequel or a sequel," West says, "I'd be pretty nervous about putting my prose style up against Fitzgerald's."

For a book so celebrated, a sense of protectiveness is expected. Scribner reports it has sold more than 20 million copies of its editions in North America alone. Far from a success when it was originally published in 1925, *The Great Gatsby* is one of the great American novels, adapted several times for the stage and screen, adopted as shorthand in pop culture for the glamour of the Roaring '20s and recently recommended by former President Barack Obama as a book to help understand the complexities of America. It's required reading for students everywhere, for a reason: "It introduces them to a real master of the language," West says.



1925

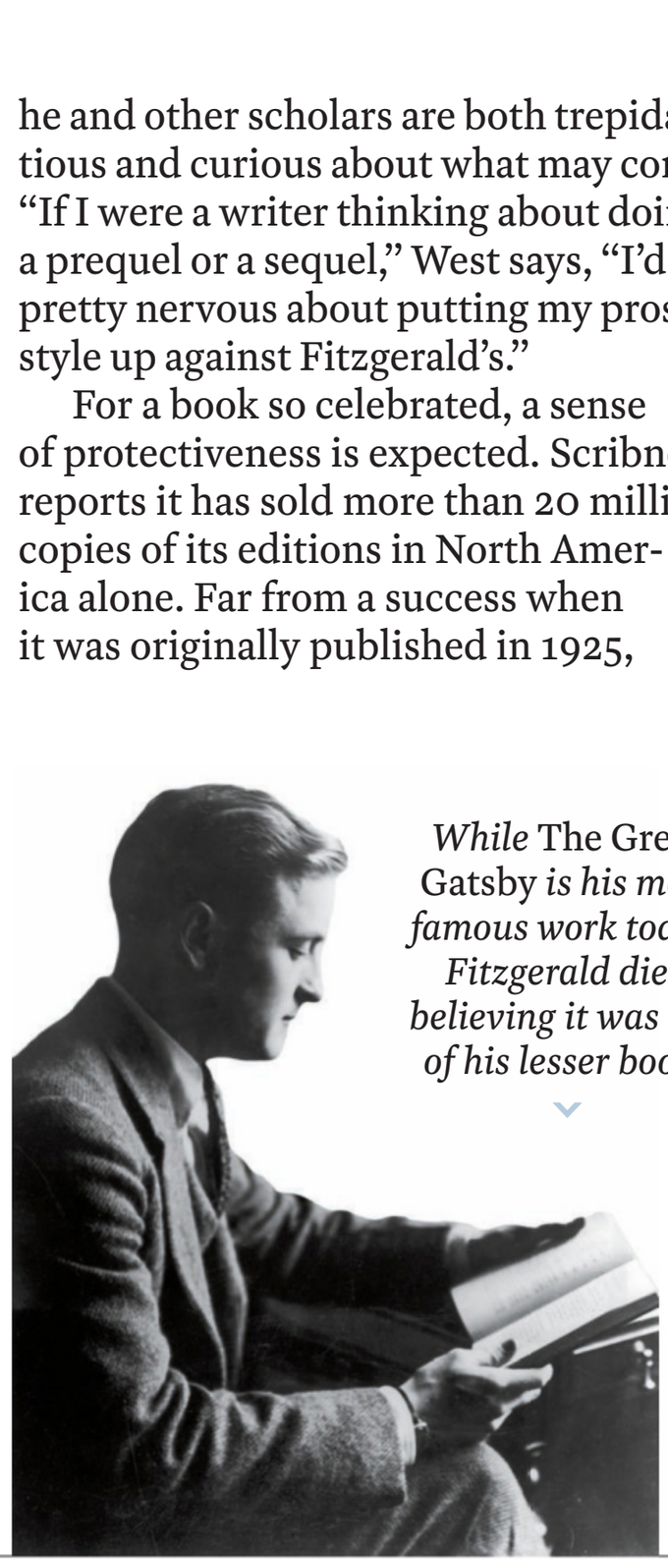
Charles Scribner's Sons publishes F. Scott Fitzgerald's third novel, *The Great Gatsby*

1940

Fitzgerald dies of a heart attack at 44 years old; *Gatsby* has sold fewer than 25,000 copies, and his last royalty check is for $13.13

1945

More than 123,000 copies of the book have been distributed to Army and Navy servicemen during World War II as part of the Armed Services Editions program



While The Great Gatsby *is his most famous work today, Fitzgerald died believing it was one of his lesser books*

WHEN HE FIRST SET OUT to write *Nick* in 2014, Smith, the author of five previous books, understood the weight of the project. But he couldn't shake his idea after connecting with the character through his own experiences living abroad and returning to find his sense of home changed. "That line about Nick when he realizes that he's on the edge of 'a decade of loneliness' really struck me," Smith says. He blocked out the possibilities of backlash from those who might describe taking on Fitzgerald's characters as sacrilege, and didn't tell his agent or editor about *Nick* until he finished writing it. So when he turned in his manuscript in 2015, he received unpleasant news: he would have to wait

FROM LEFT: F. SCOTT FITZGERALD: HULTON ARCHIVE/GETTY IMAGES; 1945: WILLIAM SHROUT—THE LIFE PICTURE COLLECTION/GETTY IMAGES; 1974, 2013: EVERETT COLLECTION

1960

After the book sells 50,000 copies the year before, the New York *Times* revisits the work and calls it "a classic of twentieth-century American fiction"

1974

The third film adaptation, starring Robert Redford, Mia Farrow and Sam Waterston, and directed by Jack Clayton, premieres

2013

The fourth and most recent movie adaptation, Baz Luhrmann's version featuring Leonardo DiCaprio, Carey Mulligan and Tobey Maguire, hits theaters

2021

The Great Gatsby enters public domain in the U.S., opening the door to adaptations and future editions

six years for the *Gatsby* copyright to expire, or risk legal consequences. But, he admits, "If I had known, I would have probably procrastinated."

In addition to projects like *Nick, Gatsby* fans can expect many more new editions of the original book—author Min Jin Lee and cultural critic Wesley Morris are both writing new introductions to the text. And an illustrated edition from Black Dog & Leventhal, also published Jan. 5, features the flashy iconography of the era.

Some might view the freedom to explore the story as an opportunity to address issues like Fitzgerald's flat depiction of women, anti-Semitic descriptions and lack of character diversity. In the U.K., where the copyright expired in 2011, a Bristol theater company will premiere a socially distanced adaptation with two women telling the story as soon as it's safe to do so. The production's director, Tom Brennan, found there was a lot to work with in the novel's details. "When you read the book, there is an unreliable narrator who is a dude that talks about women in a particular way," Brennan says, adding that the company is studying the book's female characters in particular. West is intrigued by what a playwright could do by shifting perspectives. "What if that book had been told by Daisy? Or Jordan Baker? Or Myrtle Wilson?" he asks.

WHAT MAKES *THE GREAT GATSBY* so beloved is neither its plot nor its characters. "It's not a particularly original story," says Jackson R. Bryer, president of the F. Scott Fitzgerald Society, which promotes and celebrates the author's work. "It's the way Fitzgerald tells the story and the beauty of the style." He likens the experience of reading *Gatsby* to that of poetry, where each phrase is deliberate, and echoes concerns about what may happen when anyone can edit the text. "It's like if you took a Robert Frost poem and put a wrong word somewhere," Bryer says. "It probably wouldn't change the overall meaning of the poem, but it wouldn't be the poem."

Even so, Bryer is hopeful that people will now revisit the novel, perhaps for the first time since school. He remembers how his own interpretation of *Gatsby* changed—he first read it as a tragic love story, and later realized that it interrogates the constraints of social class. And he finds *Gatsby*'s relevance unwavering today: "We're living in a time where the social barriers to getting ahead in America seem more stringent than ever before." West adds that the book has a staying power that has buoyed its success, describing it as "one of those remarkable literary works that seems to adapt to its times."

> ***'It has almost the status of a holy work.'***
>
> **JAMES L.W. WEST III,** literary scholar, on *The Great Gatsby*

The nature of copyright law means that all literary works will eventually enter public domain. *The Great Gatsby* is certainly not alone in that regard. Works by Edith Wharton, Agatha Christie and thousands of other writers entered public domain in 2019. Next year, William Faulkner's and Ernest Hemingway's first novels will join *Gatsby*. "The expiration of copyright is inevitable, and it certainly will mean that *The Great Gatsby* now belongs to the people," West says. "Whether the book will retain its hold on the American imagination or whether it'll take new directions with so many editions, I'm curious to see." ☐

Gadot as Wonder Woman, saving the world: a woman's work is never done

REVIEW

Wonder Woman 1984 could be more wondrous

By Stephanie Zacharek

WONDER WOMAN 1984 ISN'T GREAT, AND IT ISN'T TERRIBLE. It has simply arrived at a time when people need a diversion, and the studio behind the film, Warner Bros., made the responsible decision to release it in U.S. theaters and on HBO Max on the same day, a strategy that will apply to all their 2021 releases. Watching at home is a safe option at a precarious time. It's also a boon for large families: once you subscribe, you can just park the whole gang around the TV.

Yet it's fair to ask: Even if you're watching on the biggest TV, is *Wonder Woman 1984* a less exhilarating experience than it would be in a theater? Although Warner Bros.' decision was in this case a practical one, it does point the way toward new models of distribution. And while cinema nerds are forever arguing the merits of seeing *everything* on the big screen (guilty as charged), there's little doubt that blockbuster entertainments lose something on the small one. Who wants to be underwhelmed by a superhero?

The small screen may not be the greatest friend to *Wonder Woman 1984*, directed by Patty Jenkins. In this film's predecessor—the 2017 *Wonder Woman*, also directed by Jenkins and also starring Gal Gadot in the title role—Amazonian princess Diana Prince, in her superhero guise, stopped World War I and also fell in love with the first man she ever met, sweet, brave American pilot Steve Trevor (Chris Pine). *Wonder Woman 1984* finds Diana living in Washington, working as an anthropologist and archaeologist at the Smithsonian. Steve, the love of her life, is dead. In what may be the movie's best moment, Diana sits alone at an outdoor café table, and after ascertaining that no one is joining her, the waiter whisks the extra menu away. When you outlive the ones you love, being a superhero isn't always so super.

Diana does make a new friend when nerdy fellow anthropologist Barbara Minerva (Kristen Wiig) arrives at the museum. At the same time, a curious relic shows up in the collections, one with wish-granting properties. Diana benefits, inadvertently, from this stone's sacred hoo-ha: it brings Steve back to her. But its powers also wreak havoc when wannabe oil tycoon Maxwell Lord (*Game of Thrones*' Pedro Pascal) gets ahold of it. Soon, there's a megalomaniacal nutjob in the White House—as if *that's* never happened. As the world falls apart, Diana, armed with her zinger crown, must step in to save it.

GADOT IS A CHARMING, vital presence. Yet as stunning as she looks in her lithe Wonder Woman garb, she's most engaging as Diana Prince. Her human weaknesses are her most compelling feature. But just being a woman is never enough for anybody. In addition to saving the world, Diana–as–Wonder Woman is frequently tasked with saving little girls from danger—she whisks them to safety with a wink, and they beam at her appreciatively, so grateful that at last they have a superhero of their own.

Why do we always have to be reminded of Wonder Woman's purpose as a female-specific role model? Why can't she just *be*? The 2017 *Wonder Woman* held some promise that a new breed of woman-led superhero movies might be less formulaic. But now, in addition to swinging her magic lasso around, our heroine is saddled with a bunch of dull, lofty speeches. This, apparently, is the equality we fought for. Little girls may look up to Wonder Woman, but little girls also deserve better movies.

As a mild amusement, *Wonder Woman 1984* is perfectly suitable. But it's still O.K. to wish for less sanctimoniousness and more wonder. That holds true on the big screen for sure; on the small one, it may count double. ☐

'I'm very pro–theatrical release, and I will be that again, as soon as this is over.'

PATTY JENKINS, *Wonder Woman 1984* director, on SiriusXM

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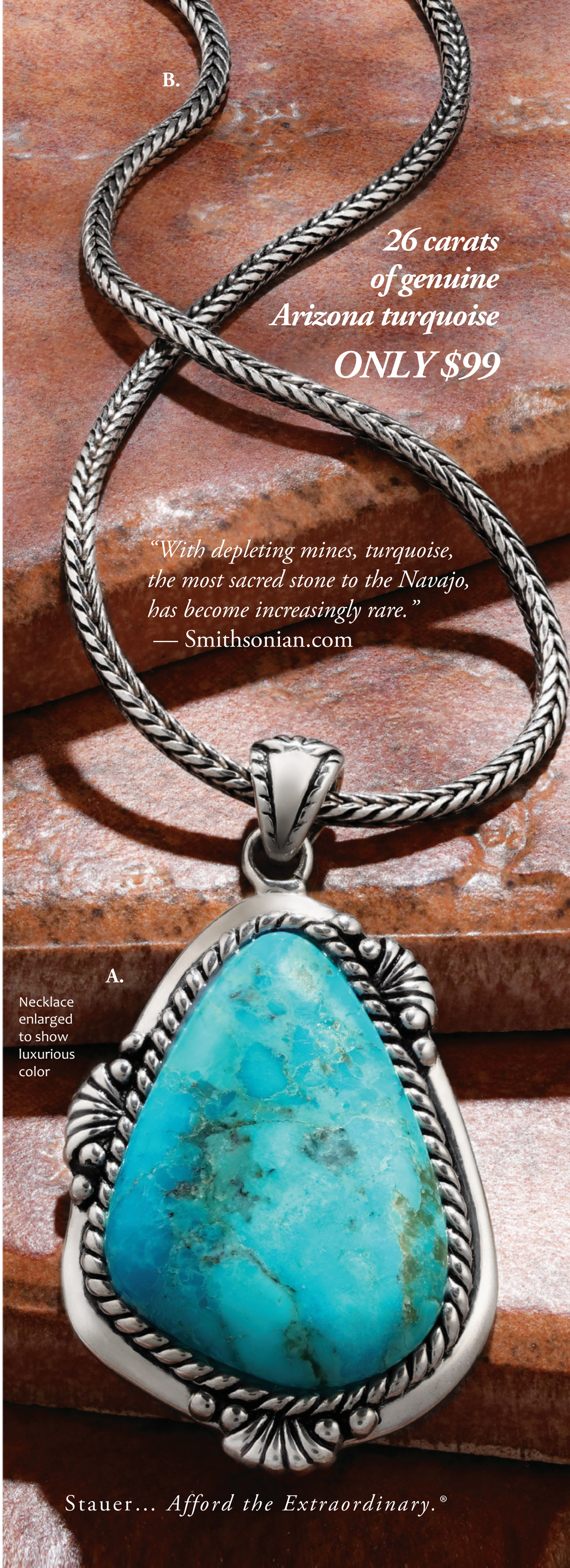

CHINA WATCH
PRESENTED BY CHINA DAILY 中國日報

Liu Fang Yuan in San Marino, Los Angeles County, California, reopens to the public in October with 4.6 hectares (11.4 acres) of new landscape. XINHUA

REVAMPED GARDEN BLOOMS IN CALIFORNIA

Venue immerses visitors in arts and literature

BY LIU YINMENG

Randall Bartlett, a native of Los Angeles, sat under the arched rooftop of a traditional Chinese scholar's studio. Intricate golden dragons embroidered on his black shirt glistened in the sun as he occasionally turned a page of his book.

Nearby, an elderly couple paused to read calligraphy chiseled onto a cloud-shaped rock. Across a pebbled mosaic pathway, a small group in their 20s gathered around a shimmering lake framed by willow trees to take photos of turtles hiding amid the water lilies.

The setting was the revamped Liu Fang Yuan garden, also known as the Garden of Flowing Fragrance, a 6-hectare (14.80 acres) space at the Huntington Library, Art Museum and Botanical Gardens in an affluent suburb nearly 18 kilometers (11.2 miles) northeast of downtown Los Angeles.

"I didn't have this when I grew up, so when I found it, it was just spectacular," Bartlett said. "Instead of being inside the Huntington Library and seeing a painting or a photograph of it, this (garden) is living and breathing."

Bartlett, who has been intrigued by Asian culture since he was young, drives 60 km from his home in Santa Clarita, California, to the Huntington Library several times a month. The collection-based educational and research institution is in San Marino, Los Angeles County.

Bartlett's favorite spot at the venue is the Liu Fang Yuan garden, which he visits regularly to meditate and read. For him the garden brings to life the Chinese philosophies he has learned from books.

"I have never had the opportunity to travel to Asia," said Bartlett, who has a vast collection of Chinese literature at home. "There are only a few gardens in the United States I've seen that represent some of things I may be able to enjoy were I to go to China and see some of the beautiful architecture and gardens they have there."

By immersing its visitors in arts and literature, Liu Fang Yuan, built by U.S. and Chinese artisans, transcends international boundaries and bridges the cultural gaps between the two countries. Although it is thousands of kilometers from China, it also connects the Chinese diaspora with ancestors and the rich culture back home.

After a postponement of nearly five months due to the pandemic, Liu Fang Yuan reopened to the public in October with 4.6 hectares of new landscape.

The additions include several pavilions and courtyards, a replica of a Ming Dynasty (1368-1644) scholar's studio, a restaurant, a complex of walled courtyards displaying miniature landscapes known as *penjing*, and a pavilion situated at the garden's highest point.

The expansion took the garden's total area to just over 6 hectares, making it one of the largest classical-style Chinese gardens in the world. When the venue first opened in 2008 it had eight pavilions and occupied more than 1.4 hectares.

Phillip E. Bloom, curator of the Chinese Garden and director of the Center for East Asian Garden Studies at the Huntington Library, said: "It's been 16 years of construction. Around 2000 we had a master plan made for the garden, but the idea for the venue goes back to the 1980s."

The initial aim was to create a collection of Chinese plants, particularly those found in gardens in the U.S. that were originally cultivated from China, Bloom said.

"When I was a kid we had peonies in our yard, and I probably just assumed that peonies were from the U.S. or Europe, but of course they are Chinese."

After research, the director of the Huntington's botanical gardens realized that plants alone were insufficient to demonstrate the essence of a Chinese garden — a combination of pavilions, courtyards, water, rockeries, calligraphy and plants. As a result, he started talking to Chinese-Americans in

the area to learn about Chinese gardens, Bloom said.

Eventually, it was decided to model a garden on 16th and 17th century scholarly retreats in Suzhou, a city near Shanghai.

The decision was made partly because of the prominence of classical gardens in that city, but also because parallels were found between the Huntington and Suzhou gardens.

Bloom said that Henry Huntington, founder of the Huntington Library, was a U.S. railroad magnate who used his fortune to collect rare books, artworks and to create gardens.

"Many Suzhou gardens were created by literati or scholars who were highly educated, but a lot were also created by merchants who tried to emulate a scholarly lifestyle," he said.

To preserve the authenticity of the Suzhou gardens, the Huntington Library sought help from the Suzhou Institute of Landscape Architecture Design and the Suzhou Garden Development Co., leading to collaboration between U.S. and Chinese architects, contractors and designers.

The garden's first construction phase took place between 2004 and 2008, followed by a second phase from 2012 to 2014 and a final one from 2018 to this year. In all stages of construction, artisans from Suzhou were flown in to work on details of the venue.

"There are some people who come every morning to walk the garden," Bloom said.

"There are people who bring their children or grandchildren every weekend, and then we have a lot of guides and volunteers who come to all sorts of different lectures about Chinese culture or to concerts that we hold periodically. It had a pretty big community impact."

The total cost of the garden was $54.6 million, which was contributed by individuals, corporations and foundations, particularly from the Chinese and Chinese-Americans in the region.

A pavilion in the garden. XINHUA

Walking on the wild side

BY XING WEN

Liu Yanli treks a landscape in Qinghai province in August that has been shaped by wind erosion.

We are still going on journeys, still traveling but in a slightly more sedate manner. Because of the time in which we live we are rediscovering the simple and beneficial joys of walking. Be it in the countryside, through forests, down hills, along ancient trails or across a vast expanse of desert or snow, this manner of travel has become increasingly popular in China.

From May 1 to Oct. 31 more than 140,000 signed up for trips organized by Youxiake, a tour operator in Hangzhou that invites participants to explore nature by foot. This represents a 9.3% increase over the corresponding period in 2019.

And the number of trekkers along its routes, including the Tengger Desert in Zhongwei in the Ningxia Hui autonomous region, Yubeng village in Dechen Tibet autonomous prefecture of Yunnan province, and Yading in Daocheng county in Sichuan province, has doubled, said Huang Bowei, the company's marketing director.

Not surprisingly, more tourists are choosing to explore domestic routes, according to Huang.

Liu Yanli, a trekker, said what she cherished most was taking a break from her hectic work schedule and urban lifestyle to spend time on the trail, where she can let her mind wander.

"Exploring the wild on foot brings me mental strength," she said.

Liu, in her 30s, first decided to go trekking because she wanted to experience scenic landscapes and majestic vistas firsthand. Her first trekking experience was on one of the world's classic routes, the Annapurna circuit, in Nepal in 2013.

Since then she has trekked across fields in Japan, along a coastal trail in Greece and over ice-capped mountains in New Zealand. She has also traveled to scenic spots in Italy, Jordan and other countries to indulge her passion.

Last year she resigned from her well-paid job as a human resources director for a Chongqing foreign-funded company and started to tackle more challenging routes that require trekkers to carry a full backpack for days or even weeks.

Chen Minlin does rock climbing in Qingyuan, Guangdong province, in October 2018. PHOTOS PROVIDED TO CHINA DAILY

In May and June she trekked over 1,500 km along National Highway 318, also known as the south route of the Sichuan-Tibet Highway, one of China's busiest routes.

She was inspired to undertake the trip several years ago after watching the American-Spanish drama film *The Way*, in which the protagonist (played by Martin Sheen) hikes along the Way of St. James, a Christian pilgrimage route to the Cathedral of Santiago de Compostela in Galicia, Spain.

"The route is the way of a pilgrimage in my heart," she said.

Each trekker has his or her own motivations.

For Chen Minlin, 24, the reason was simple. "Completing different trekking routes is like collecting cards in childhood — a lot of fun."

He has a passion and energy for sports, and during his college year once cycled National Highway 318. That is why, after graduating as a graphic design major in 2018, rather than hunting for a job that fits his specialty, he chose to work as a trekking team leader and tour planner for Youxiake.

Chen has led nearly 90 trekking teams to the mountainous areas in Guangdong province.

He soon discovered that leading a trekking team differs from normal sightseeing tours.

"I have to collaborate with, get along with, and ensure the safety of people from different backgrounds during a journey in the wild, which is full of uncertainties. That motivates me to be well prepared for each journey and to learn how to adapt to changes and deal with emergencies."

CHINA WATCH
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Village vistas deliver cash to local coffers

Green tourism has provided new hope for residents

BY MA ZHIPING

Members of the Li ethnic group of Qiandui in Hainan province love to call their village "a grassland in spring and summer, and a sea in autumn and winter". It is a vivid expression that encapsulates the local beauty as the seasons change.

With mountains on three sides and the upper branches of the Wanquan River on the fourth, fields in front of Qiandui village in Qiongzhong, center of the tropical island, become a "grassland" when villagers grow vegetables, maize, peanuts and rice as the dry season starts in spring and summer. The more than 133 hectares (330 acres) of fields turn into a "sea", when rainfall, as much as 200 millimeters (7.87 in.) on average, swells the rivers in autumn and winter.

The villagers led a humble life for a long time, because of limited farmland, lack of transportation and their simple means of production, said Hu Kaijun, 40, an official with the village committee and head of a tourism cooperative.

In 2014 about 40% of Qiandui's 1,121 residents were poverty-stricken, with per capita annual income of 3,800 yuan ($580), said Hu, who runs a three-story homestay, the largest and most eye-catching in Qiandui.

"The natural wonders are producing greater economic benefits for the locals, thanks to the development of ecotourism in the past several years," Hu said.

On the third floor of Hu's homestay house, a spacious terrace unfolds as visitors can enjoy a panoramic view of rows of bright red-roofed houses lined with coconut and betel nut trees and vast water areas lined with vibrant mountains.

Fu Yuzhi, a head of Qiandui, said the life of the villagers began to improve in 2015, when the provincial and Qiongzhong county authorities set up support programs and provided 30 million yuan to build roads and bridges, and supply natural gas and 4G telecommunication networks that would link the village with the outside world.

"Better communication with the outside world has also generated new ideas for development among the locals," Fu said. "We tapped the fine ecological resources and environment to develop tourism, encourage farmers to raise chickens, geese and black sheep, farm fish and shrimp, and open small household restaurants with Li-style food to feed visitors while continuing the traditional growing of betel nut and rubber trees."

The local government has provided free poultry seedlings to the poorer families, and arranged about 200 night-school training classes to teach the local people

Qiandui village on Hainan Island is surrounded by water every year during the rainy season. CHEN YUANCAI / FOR CHINA DAILY

Strike up the bands

BY CHEN NAN

When Alexander Brose and He Wei first came to Tianjin in 2017 to prepare for the opening of the Tianjin Juilliard School, the first overseas campus of the New York performing arts conservatory, only four people were there and the building of the new school was still on paper.

Today they have not only developed the Tianjin Juilliard School in numbers, with more than 70 staff members, 40 faculty members and about 130 students, but are also building the school culture gradually.

Even as the pandemic continued to rage, the school welcomed its inaugural graduate students and pre-college students in September.

"We were told at the end of this summer that we were, at least at that time, the only college in China to receive permission to bring in new international graduate students this year (2020)," said Brose, executive director and chief executive of the Tianjin Juilliard School.

"It's very difficult to bring them back to China with travel restrictions caused by the pandemic.

"Countless people in both the United States and China, including those at the Juilliard School in New York and our partners here, have been working for as many as 10 years to make this day a reality," Brose said.

The Juilliard School, founded in 1905 and located at the Lincoln Center in New York, is a world leader in performing arts education. The Tianjin school project started in 2015.

Thirty-nine students from 11 countries and regions enrolled for the Tianjin campus' inaugural graduate studies program, which offers three collaborative programs in orchestral studies, chamber music and collaborative piano.

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From left: A local fisherman heads back home. LI XINGHUANG / FOR CHINA DAILY Tourists enjoy traditional bamboo dancing in the village. CHEN SISI / FOR CHINA DAILY

farming and poultry cultivation techniques over the past four years, he said.

Chen Shuwen and Ou Yujiao, a couple who could not afford school fees for their two children several years ago, have become well-off and are leaders in raising wild pheasants. They earned 300,000 yuan in 2019 and have organized a cooperative for 34 of the once poverty-stricken households, leading them out of poverty.

"I never imagined that happiness could come so quickly," said Chen Fenglian, a Li woman and mother of three. "We have better food and clothes and are all very grateful for what the support teams have done for us."

Though an ordinary farmer, she has a busy schedule every day. She runs a five-room homestay, serving occasionally as a guide for tourists, grows betel nut trees on a 2.7-hectare block of land with her husband and picks herbal plants in the mountains to make a special tea that sells well online.

"Selling things online gives me a sense of accomplishment," said Chen, who is also a member of the village choir. It practices often and performs for visitors on holidays, she said.

> "THE NATURAL WONDERS ARE PRODUCING GREATER ECONOMIC BENEFITS FOR THE LOCALS, THANKS TO THE DEVELOPMENT OF ECOTOURISM IN THE PAST SEVERAL YEARS."
>
> **HU KAIJUN,**
>
> AN OFFICIAL WITH THE QIANDUI VILLAGE COMMITTEE

"We've particularly enjoy cultural exchanges with foreign tourists. We sing Li folk songs to Russians and they sing songs of their own to us. Though we don't understand the exact meaning of the songs, the feeling of getting close to a different group of people is good enough."

Fu said: "The most remarkable change in Qiandui was that most of the villagers have come to understand that happiness can only be harvested through hard work."

Abundant ecological resources have attracted investors, he said. Some investors from Fujian province and Hong Kong, for instance, have visited the place and shown a strong interest in developing healthcare projects in nearby areas.

With its germ-killing negative oxygen ions reaching as high as between 20,000 and 30,000 per cubic centimeter (1,220 and 1,830 cu. in.), 20 times more than in big cities, Qiandui and its nearby villages in Qiongzhong are expected to become ideal places for leisure and recuperation.

"I like to drink the tea that smells of fragrant herbal medicine, enjoy seeing how the Li women villagers brew tea, seeing their bright eyes and hearing their hearty laughter," Luo Ling, an internet user, writes in her travel weblog.

"Everything here makes you feel safe, sound and at peace. The change of seasons means a different beautiful scenery. Every element in Qiandui village is an image of beauty."

Villagers' per capita net income rose to 14,077 yuan in 2019, up 3.7 times in six years, and nearly 35,000 tourists visited, 4,000 of them from Russia.

Accolades have also followed as the village makes continuous progress, such as being named a "national ecological cultural village", "national forest village" and "provincial science and technology demonstration village".

Fu said the local leadership will further improve Qiandui's tourism facilities, develop more tourism business forms to turn the whole village into a model and bench mark of international rural tourism resort in Hainan.

Alla Sorokoletova is one of the graduate students on the Tianjin campus. She plays the flute and majors in orchestral studies.

The flutist, who is from Uzbekistan, graduated from the State Conservatory of Uzbekistan in 2010 with a bachelor of arts degree in flute performance and received her master of arts in the same subject from Lynn University, a private college in Florida, in 2017.

"The degrees and high-quality instruments were not available to me in my home country. It's my hope to some day be able to share the knowledge and experience I gain from my studies abroad in my home city and finally become a great performer and teacher."

He Wei, the school's artistic director and dean, said: "The three majors in the graduate program at Tianjin Juilliard School are all collaborative. It is critical for musicians to collaborate, which enables them to listen to each other and share music."

Graduate students and resident faculty members of the Tianjin Juilliard School perform at the second Tianjin Chamber Music Festival. PROVIDED TO CHINA DAILY

7 Questions

Alexis McGill Johnson The Planned Parenthood president on racial equity, working with Biden and the fight beyond *Roe*

What are your top priorities for the Biden Administration? On day one, an Executive Order that will demonstrate the Administration's commitment to sexual- and reproductive-health care. That order to eliminate the global gag rule, keep medication abortion easier to access during the pandemic and begin the process of rolling back harmful policies, like the Trump birth control rules that allow employers to essentially force their personal beliefs on employees. We're also working [toward] a budget that will eliminate the Hyde Amendment [which prohibits the use of federal funds to pay for most abortions].

Democrats did not do as well as expected in the House. How do you interpret the 2020 results? Over 7 million more Americans voted for Biden-Harris, and [their victory] was delivered by a coalition of young people, people of color, women and Black women, who have a very strong grasp of the various intersectional issues that face their communities, our communities. So that progressive coalition and the understanding of their lived experience should inform the Biden Administration and the future DNC.

What do you think of Joe Biden's choice of Xavier Becerra to lead the Department of Health and Human Services? It's tremendously exciting. Becerra is a staunch sexual- and reproductive-health champion. He understands how urgent it is for us to tackle inequity in our health care system.

How does Donald Trump's appointing Justice Amy Coney Barrett to the Supreme Court affect the future of reproductive rights? We now know that we are long past the point where we can rely on the courts as a backstop. So we're going to continue to work with our partners to elect champions up and down the ballot, because we know that on the federal level there's work that has to be done but that a lot of the fights are going to be happening in states.

"HOW DO WE GO BEYOND ROE TO FULFILL THE PROMISE OF SAFE, LEGAL ABORTION FOR ALL?"

During the presidential primaries, Senator Kamala Harris proposed a law that would protect the right to abortion nationwide. With Harris as Vice President, is that something Planned Parenthood would pursue? Even with *[Roe v. Wade]* in place, access to abortion is still limited. As our reproductive-justice colleagues always say, *Roe* is the floor, not the ceiling. We need to think about, How do we go beyond *Roe* to fulfill the promise of safe, legal abortion for all? That's not a single policy solution. You know, it's about the right but also the access.

Harris also made other issues of women's health a focus during her campaign for President. How will having her in the White House impact your work? I really value her leadership on issues like maternal mortality, which is part of sexual- and reproductive-health care. With all of these appointments and conversations, I think it's giving us a lot of hope about the ways in which this Administration is using the power of its personnel appointments to demonstrate and signal the direction of policy that isn't neat. All of these agencies impact us.

How is Planned Parenthood thinking about its own work in the context of health equity and racial justice? Planned Parenthood is a 104-year-old organization. The reckoning has hit us as well. It's been very powerful to lean into the work and to think about—with the patient at the center of everything we do—how we develop a stronger, intersectional claim that allows us to deliver care with the values that we espouse. —ABIGAIL ABRAMS

STEPHEN VOSS FOR TIME

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