DOUBLE ISSUE MAY 9 / MAY 16, 2022









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What you said about...

EARTH, INC. Justin Worland's April 25/May 2 cover story on how the business sector is tackling climate change generated discussion on Twitter. "Very good, very worth reading," posted Washington, D.C.-based climate strategist Brad Johnson. "Planet Earth's future now rests in the hands of big business," tweeted Paul Simpson, the Londonbased CEO of climateresearch nonprofit CDP. "If we expect governments alone to solve the #climatecrisis they will also fail. Collaboration is key." Sustainable-business expert Andrew Winston of Greenwich, Conn., replied, "So true. Like it or not, companies will have to take (or share) the lead." Toronto-based urban planner Jennifer Keesmaat pointed out that businesses are increasingly seeing that climate change will hurt their bottom lines, tweeting, "Big Business now realizes its exposure to systemic risks because of climate change."

Enrique Puertos of Cleveland, Ga., commended businesses that have already changed their tack. "We are already witnessing that change in the automotive industry as it embraces electric-powered vehicles over gas-powered ones," he wrote in an email to TIME. "Our existence depends on it."



In conversation with John Kerry

TIME sat down with special presidential envoy for climate and former U.S. Secretary of State John Kerry on April 13 at the Our Ocean conference, for which TIME was a media sponsor, on the Pacific island nation of Palau. (Pictured above is Kerry, at left, with Palau President Surangel Whipps Jr.) "We have succeeded, I think, in getting everyone to understand that you can't solve the climate crisis without the ocean," Kerry told TIME. Read the full conversation at time.com/kerry-oceans



TIME for Kids reporters

TFK is looking for 10 "Kid Reporters" for the 2022–2023 school year. Since 2000, TFK has been selecting kids from all over the country to report on local and national news. Kid Reporters have interviewed politicians and entertainers and covered live events from movie premieres to White House press briefings. Apply at timeforkids.com/ kid-reporter



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On the covers



Illustration by Tim O'Brien for TIME



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SETTING THE RECORD STRAIGHT

In "Make Mining Green" (April 25/May 2), we misstated the name of the Pew Charitable Trusts.

TALK TO US



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Letters should include the writer's full name, address, and home telephone, and may be edited for purposes of clarity and space

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'I'VE BEEN DOING THIS FOR 40 YEARS, AND THAT WAS A FIRST.'

TIM MANLY,

fire department chief in Brinnon, Wash., speaking to the *Kitsap Sun* on April 21 after rescuing a woman who had fallen into the hole of a public outhouse while trying to retrieve her phone

The number of critically endangered Sumatran tigers found dead in traps in Indonesia, authorities said on April 25



119

Age of Kane Tanaka of Japan at the time of her death on April 19; Tanaka was confirmed as the oldest living person in 2019, according to Guinness World Records

'Starting from 13 years old, I would think about what would I do if my dad was killed.'

DARIA NAVALNAYA, in a CNN documentary about her father Alexei Navalny

'We believe that ... they can win if they have the right equipment, the right support.'

LLOYD AUSTIN, U.S. Secretary of Defense, to reporters in Poland on his thoughts about Ukraine and the war, on April 25

'I know many who voted for me did not do so because they support me, but because they wanted to block the far right.'

EMMANUEL MACRON, President of France, in a speech after winning re-election over Marine Le Pen on April 24

\$2.1 TRILLION

Global military spending in 2021, a record, according to an April 25 report from the Stockholm International Peace Research Institute, including \$801 billion by the U.S. and \$65.9 billion by Russia

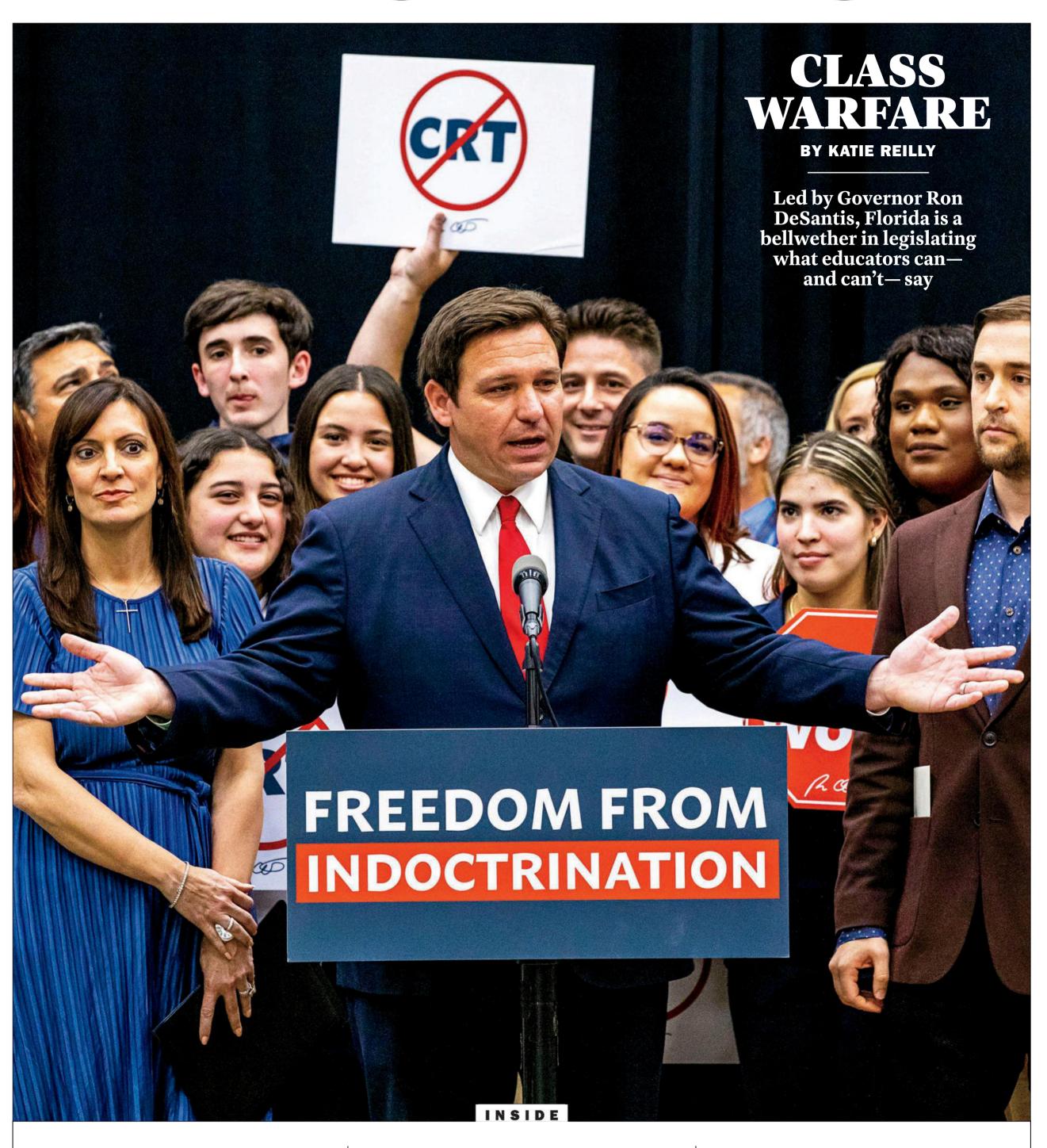


'We will get a major recession.'

DEUTSCHE BANK ECONOMISTS, in a report to clients on April 26

STRATIONS BY BROWN BIRD DESIGN FOR TIN

TheBrief



ENTERTAINMENT MEETS
POLITICS IN THE PHILIPPINES

WHY RENTS WON'T BE GOING DOWN ANYTIME SOON ANGELINA JOLIE TALKS TO ACTIVIST NADIA MURAD

This was months before Governor Ron DeSantis signed the legislation known as the Stop WOKE Act on April 22. But while backers of the law say it protects Floridians, some critics see the cancellation in Osceola as a harbinger for the whole of the Sunshine State. "I think that this bill is going to intimidate every teacher in the state of Florida, at every level," says Jeremy Young, senior manager of free expression and education at PEN

America, an organization that advocates for free expression.

The law prohibits, among other things, workplace or school instruction that teaches that individuals are "inherently racist, sexist, or oppressive, whether consciously or unconsciously" language that could be read to warn against discussions of systemic racism. And while allowing lessons on how discrimination robs individuals of their freedom, it bars teaching that some people should receive "adverse treatment" in the name of diversity—an apparent reference to affirmative action. State representative Bryan Avila, who sponsored the bill, called out Disney, one of the state's largest employers, during debate about the legislation. He criticized the company's diversity training, saying it would run afoul of the law.

"No one should be instructed to feel as if they are not equal or shamed because of their race," DeSantis, a Republican, said in a statement. "In Florida, we will not let the far-left woke agenda take over our schools and workplaces. There is no place for indoctrination or discrimination in Florida."

Some civil rights groups and free-speech advocates say the law itself will run afoul of the Constitution, especially as it affects not just K-12 schools but also public colleges and universities, where there are stronger protections for academic freedom. "Florida faculty have the constitutional right to speak freely in the classroom," said Adam Steinbaugh, an attorney for the Foundation for Individual Rights in Education, which advocates for free speech.

But the prospect of rolling the bill back doesn't assuage advocates' fears about its effects in the meantime.

"This dangerous law is part of a nationwide trend to whitewash history and chill free speech in classrooms and workplaces," Amy Turkel, interim executive director of the ACLU of Florida, said in a statement. "It will infringe on teachers' and employers' First Amendment rights and chill their ability to use concepts like systemic racism and gender discrimination to teach about and discuss important American history."

IF THE TREND is nationwide, Florida has taken a leadership role. The Stop WOKE Act—which stands for Stop the Wrongs to Our Kids and Employees—is just the latest example of controversial legislation coming out of the state to take aim at discussions of identity.

In March, Florida enacted a law, dubbed Don't Say Gay by critics, that bans public schools from teaching about

sexual orientation or gender identity in kindergarten through the third grade, and more generally prohibits teaching about those topics "in a manner that is not age-appropriate." The law could also allow parents to sue school districts if they think children were given instruction that violated it. LGBTQ-rights advocates have warned that it could negatively affect queer students' mental health.

Over the past year, DeSantis has also spoken repeatedly about "keeping critical race theory out of the classroom." (Critical race theory, which explores how institutions perpetuate racism, is not generally used outside graduate-level courses. But it has become a catchall for many conservatives; DeSantis calls it "state-sanctioned racism.") In March, the governor signed a law

letting parents review curriculum materials and school library books. "We've never seen anything like this, in terms of concerted attacks on public education in a single state," Young says.

The Florida department of education recently rejected 54 of 132 submitted math textbooks from being used next school year. The "problematic elements" included graphs of data on racial prejudice by age and political leaning, and a page that said students should "build proficiency with social awareness as they practice with empathizing with classmates" during a lesson on numbers.

Young says the rejection of the math textbooks is an early sign of how the state could approach enforcement of the Stop WOKE law moving forward.

"The Florida department of education, at a state level," he says, "is going to enforce this law to the absolute maximum that they can."

This bill is going to intimidate every teacher in the state of Florida, at every level.'

—JEREMY YOUNG, PEN AMERICA **NEWS TICKER**

Israel shuts border with Gaza

Israel closed its border with the Gaza Strip on April 24, preventing thousands of the territory's residents from going to work, after several rocket attacks on Israel by Palestinian militants. Frequent violent escalations by Israeli police at the site of Jerusalem's al-Aqsa Mosque have raised fears of a new upsurge in conflict.

North Korea parades weapons

At a military parade in Pyongyang on April 25, North Korean leader Kim Jong Un vowed to "strengthen and develop" his country's nuclear arsenal as fast as possible. The weapons displayed included a Hwasong-17 missile, theoretically capable of reaching the U.S. mainland. Kim said the arsenal's first mission was "to deter war."

New Ebola outbreak in the DRC

The Democratic
Republic of Congo
declared an Ebola
outbreak on April 23.
A 31-year-old man
died in northwestern
Équateur province
on April 21, after
first displaying
symptoms on April 5.
His sister-in-law, 25,
died April 25.



Climate action

Young climate activists stage a "die-in" in Lafayette Park across the White House on Earth Day on April 22. The Washington, D.C., protest was meant to highlight the lack of urgency in tackling climate change—even as experts warn that the time in which its effects can still be mitigated is quickly dwindling—and was one of dozens of actions in cities around the globe that called on leaders to take stronger action, and to bring an end to the use of fossil fuels.

THE BULLETIN

Gaming fame in Philippines elections

MORE THAN 130,000 PEOPLE GATHERED in downtown Pasig, a city just outside the Philippine capital of Manila, singing Ariana Grande's "Break Free" in March as part of a political rally organized by presidential candidate and current Vice President Leni Robredo ahead of the May 9 presidential election. While the rally caught the attention of Grande, who shared a clip on her Instagram, it did little for Robredo's election hopes, with polls showing her trailing front runner Ferdinand "Bongbong" Marcos Jr.

STAR SEARCH Philippine elections have been heavy on the entertainment factor since the ouster of dictator Ferdinand Marcos—Bongbong's father—in 1986. But the crossover between showbiz and politics has reached a new level. Currently five sitting Senators (out of 24) enjoy some sort of fame outside of politics, including onetime world boxing champion Manny Pacquiao, who is also running for President. At least 36 celebrities are seeking public office in the Southeast Asian nation of 110 million.

BIG DRAMA Just as fans of *teleseryes* (Philippine dramas influenced by Mexican telenovelas) talk about bombshell revelations over dinner, families and neighbors discuss televised Senate hearings. Action stars hold particular sway: outgoing President Rodrigo Duterte leaned into his nickname "Duterte Harry"—a reference to the brutal 1970s detective played by Clint Eastwood.

MODERN FAMILY Bongbong Marcos is capitalizing on star power in a different way; his campaign has been light on policy, and he's skipped televised debates. Instead he's leaning on his famous family's name, portraying his father's authoritarian regime as stable—despite human-rights abuses. Ultimately it's about breaking through the noise of the Philippines' many social ills, including poverty and corruption. Says Anna Pertierra, an anthropologist at the University of Technology Sydney: "Many voters may not really feel like a traditional politician is going to solve the problems that they feel that they're experiencing."—CHAD DE GUZMAN

NEWS TICKER

Kamala Harris tests positive for COVID-19

V.S. Vice President
Kamala Harris tested
positive for COVID-19,
the White House said
April 26. She had
just returned from
a weeklong trip to
California. According
to the White House,
she did not display
symptoms and is
isolating at home.
Officials said she has
not seen President
Biden since April 18.

Judge holds Trump in contempt

A New York State judge
held former President
Donald Trump in
contempt on April 25
for failing to provide
documents in a civil
fraud investigation into
his family's business
dealings. Judge Arthur
Engoron also ordered
Trump to pay a fine of
\$10,000 each day until
he complies. Trump's
lawyers said they plan
to appeal.

Harvard addresses ties to slavery

An April 26 report on the practice of slavery at Harvard University found that the school's leaders, faculty, and staff enslaved more than more than 70 people during the 17th and 18th centuries when slavery was legal in Massachusetts. The university said it will establish a \$100 million fund to address the impacts.

GOOD QUESTION

Is it time to track at-home COVID-19 tests?

officials—so experts worry that case numbers are now an unreliable way to judge the state of the pandemic.

Unlike COVID-19 testing sites, which must share data with public-health departments, individuals aren't required to report the results of their home tests. The U.S. Centers for Disease Control and Prevention recommends that people share their positive results with their doctor, who may recommend a laboratory test to confirm the result and add it to official tallies. But about 30% of people who tested positive using an at-home kit didn't get a secondary test, according to a January survey from the COVID States Project. That number is likely higher now, given the closure of some mass testing sites, the end of free testing programs for the uninsured, and the relaxation of pandemic precautions.

A national reporting system for hometest data could help experts track the pandemic—but the question is how to make one work.

Some state health departments and athome test kits already have systems for

voluntarily reporting results, but few people do. In a federal pilot program, more than 1.4 million tests were given to households in Tennessee and Michigan in 2021—but fewer than 10,000 test results were logged in a companion app, *Health Affairs* reports.

Public-health officials should work with test companies to make their self-reporting systems easier, says John Brownstein, chief innovation officer at Boston Children's Hospital. Instead of downloading an app, for example, people could send in their results via text message. His research group also runs a website where people can quickly log their results and see disease trends in their area. Although 100% participation in such a system is unlikely without reporting requirements or incentives, Brownstein still thinks it has value. "Not many people [write Amazon reviews]," he says, but enough do "to give you a sense of the value of a product."

Another possible option? Repeated surveys of American households, asking if anyone recently tested positive and on which type of test, says David Lazer, co-author of the COVID States Project survey. Without such data, Lazer says, the "missingness" in COVID-19 case counts is likely worse than ever. —JAMIE DUCHARME



COVID: BRONTË WITTPENN—SAN FRANCISCO CHRONICLE/GETTY IMAGES; HATCH: ANDREW HARRER—BLOOMBERG/GETTY IMAGES; LUCIO: ILANA PANICH-LINSMAN—REDUX

DIED

Wynn Bruce, 50, on April 23 after setting himself on fire in front of the Supreme Court on Earth Day in an apparent protest over climate change.

RECORDED

The hottest summer ever, in 2021, with temperatures 1.8°F above normal, the E.U.'s Copernicus Climate Change Service said April 22.

CONVICTED

Major General William T. Cooley, of abusive sexual conduct, a military court decided April 23—a first for an Air Force general.

COMMUTED

The sentences of 75 people convicted of nonviolent drug offenses, on April 26 by President Joe Biden, who pardoned three others.

ARRESTED

A Florida bride, 42, and her caterer on April 18, accused of serving marijuanalaced food to wedding reception guests on Feb. 19. THC was detected in the food, including lasagna.

PASSED

A bill to ask Togo's government to seek to formally join the Commonwealth, a group of mostly former British colonies, by the nation's parliament on April 22.

SENTENCED

Former leader of
Myanmar Aung San
Suu Kyi to five years
in jail by the country's
military junta for
alleged corruption.
She denies the
charges, and rights
groups condemned
the trials.



Hatch at the U.S. Capitol in Washington on May 10, 2016

DIED

Orrin Hatch

An unexpected dealmaker

orrin hatch ran for office—and won on his first try—as a check on the liberalism he saw seeping from Washington in the 1970s. Specifically, the deeply conservative Republican loathed from afar the liberal agenda of Senator Edward M. Kennedy. Over time, though, Hatch and Kennedy partnered as only polar opposites can to pass the Americans With Disabilities Act, to fund care for patients with HIV/AIDS, and to give states pots of money for children's health care programs that lifted millions of families out of the deep poverty Hatch knew in his early years.

The longest-serving Republican in Senate history died on April 23 in Salt Lake City. Of his 88 years, 42 were in the Senate.

Unflinching in his opposition to abortion rights, same-sex marriage, and union protections, Hatch nevertheless could huddle with unlikely allies to push legislation to the seven Presidents who cycled through Washington on his watch. While Hatch introduced constitutional amendments to outlaw abortion and to balance the budget, he also worked with Democratic Representative Henry Waxman to speed up generic-drug approvals and Senator Dianne Feinstein to expand federal funding for stem-cell research. Because no one questioned his ideology or found him to be a showman, Hatch's colleagues recognized him as an honest negotiator.

He considered seeking an eighth term in 2018, but Hatch listened to his constituents who respectfully signaled it was time to move on. By the end, Hatch's record was unmatched in the modern era: he had voted to confirm 10 Supreme Court Justices, written more than 750 laws into reality, and subtly steered the country rightward while still finding merit in a compromise grounded in trust.—PHILIP ELLIOTT

HALTED

Texas execution

A stay for Melissa Lucio

The highest criminal court in Texas on April 25 halted the execution of Melissa Lucio, a mother whose murder conviction in the death of her 2-year-old daughter has come under increasing scrutiny amid doubts about her guilt.

Lucio, 53, was sentenced to be executed by lethal injection on April 27 for the 2007 death of her daughter Mariah. But after the Texas Court of Criminal Appeals granted a stay of execution, her case now heads to a lower court for a hearing on her innocence.

Lucio's case has drawn outrage from a bipartisan group of more than 100 Texas state lawmakers. as well as anti-domesticviolence, religious, and Latino groups. They argue that medical evidence showing that Mariah's death was consistent with an accident, as well as a five-hour-long aggressive interrogation of a woman with a history of being abused, should be reason enough to halt her execution.

"It's just so clearly a case of coercive interrogation tactics," says Tivon Schardl, one of Lucio's attorneys, who has argued that Lucio asserted her innocence more than 100 times. —Sanya Mansoor



SPACE

White House bans U.S. tests of space weapons

SEEKING TO SLOW THE EMERGING SPACE ARMS RACE among world powers, the Biden Administration on April 18 announced a unilateral moratorium on antisatellite missile tests, calling on other spacefaring nations to follow suit.

Vice President Kamala Harris announced the U.S. prohibition after high-profile tests in recent years by Russia, China, and India that obliterated orbiting satellites and created hazardous clouds of debris that will linger in outer space for decades. "Simply put, these tests are dangerous, and we will not conduct them," she said during a speech from Vandenberg Space Force Base in California. "We are the first nation to make such a commitment."

The risk of human conflict extending into the cosmos is on the rise as the world has become ever more reliant upon satellites to communicate, navigate, and conduct daily life. More nations, militaries, and companies have taken advantage of novel space technologies in recent years, resulting in more capabilities here on earth but more competition in the heavens among global powers.

Antisatellite (ASAT) weapons testing goes back to the earliest days of the Cold War. Over the past decade, however, the U.S., Russia, and China have developed sophisticated antisatellite arsenals designed to render satellites deaf, mute, and blind in space. Missiles may be the most widely known space weapon, but several nations have developed other measures including lasers, jamming capabilities, cyberattacks, and maneuverable spacecraft designed to deceive, disrupt, deny, degrade, or destroy other nations' space systems.

Despite these advancements, there are few enforceable rules for military action in space. The 1967 Outer Space Treaty forbids countries from deploying "nuclear weapons or any other kinds of weapons of mass destruction" in space. But that language is broad, space experts and armscontrol analysts say, and could not foresee the rapid pace of technology now in development. Reining in the proliferation of such weaponry is essential, they say, to avoiding an international catastrophe—either intentional or accidental.

Until recently, space was seen as a peaceful domain. Many satellites, like the GPS constellation, were thought to be too far away and too costly to target. But growing missile technology and arsenals have brought them in range. This new reality was a prime driver behind the creation of the Space Force as a new uniformed service of the U.S. military in 2019.

And while the U.S.-Russia partnership in space traditionally transcended terrestrial political tensions, even during the Cold War, Russia's unprovoked invasion into Ukraine has raised tensions between the two countries' space programs. Dmitry Rogozin, head of Russia's space program, has threatened to pull out of the International



Space Station and stop supplying rocket engines to U.S. companies.

Todd Harrison, director of the Aerospace Security Project at the Center for Strategic and International Studies, said Washington is giving up very little by banning ASAT tests because the weapons "do more harm than good." But it "puts the United States back in the position of leading by example."

-w.j. Hennigan

Fatima, 29, with her 5-month-old Diego and two relatives, leaves an ICE office on April 19

ECONOMY

Why the rent won't stop rising

NEW YORK UNIVERSITY GRADUATE student Garrett deGraffenreid expected the rent on his Manhattan apartment to rise, but he didn't anticipate by how much. Last year's lease averaged to \$1,600 per month. On Feb. 11, he got a notice that a new lease would raise it to \$2,750: a 69% surge.

Double-digit rent spikes are hardly isolated to Manhattan. From 2021 to 2022, rents rose 26% in Henderson, Nev., and 39% in Miami,



per Zumper, a rental platform. Nationwide, from March 2021 to March 2022, rent for a one bedroom rose an average of 12%.

For millions, these hikes are existential. If you can't afford your new lease, but you also can't afford to pony up for moving expenses, what happens? This is not a short-term, pandemic-related problem, experts say. It's born of a deep disconnect between supply and demand.

The elephant in the room is a lack of new housing. Since 2008, new construction has moved at a snail's pace, and pandemic-related supplychain problems and labor shortages have made things worse. At the same time, demand has spiked as remotework policies pushed millions of renters to towns and small cities, where would-be buyers were iced out of the housing market: home prices rose 17% last year alone. To meet the current demand for affordable homes, builders would have to construct 4.6 million new apartments by 2030, according to the National Apartment Association.

Congress, meanwhile, allocated nearly \$47 billion from 2020 to 2021 to stave off evictions during the

COVID-19 crisis. Some \$22 billion remains unspent, and could theoretically be used to help people facing displacement from rent spikes, but it's unclear exactly how. "We actually have to fix this problem in the long

run," says Ann Oliva of the Center on Budget and Policy Priorities.

Some other federal funds could help: in addition to the \$47 billion in rental assistance, Congress allocated \$350 billion to facilitate "state and local fiscal recovery" projects. Such projects can include offering hazard pay to essential work-

ers or building new infrastructure. Oliva says governments could jump on that funding to help renters with price hikes in the short term, and to help address the underlying mismatch between housing supply and demand down the road.

Unfortunately, if there's a light at the end of the tunnel, it's too far away to see for deGraffenreid and others in the same situation now. At the rate of current housing construction, people all over the country will likely see rents increase again next year.

—ABBY VESOULIS

IMMIGRATION

Lawsuit filed over tracking immigrants

MORE THAN 216,000 PEOPLE WITH pending cases before U.S. immigration courts have been placed in a federal government tracking program, according to federal data released April 14.

Since President Joe Biden took office, the number of immigrants in the Alternatives to Detention (ATD) program has more than doubled, reflecting the Administration's embrace of new surveillance technology as a tool to limit reliance on governmentfunded detention centers.

While immigrant advocates have

long called on U.S. Immigration and Customs Enforcement (ICE) to reduce or end the use of immigrant detention centers, they say the ATD program raises a fresh set of concerns about immigrants' privacy and civil

'How are

people's

most

personal

data being

used?'

—JACINTA GONZALEZ, MIJENTE rights. On April 14, three immigrant advocacy organizations—Just Futures Law, Mijente, and Community Justice Exchange—filed a lawsuit against ICE, calling on the agency to provide information showing what data is being collected on individuals enrolled in the ATD program, who are increasingly moni-

tored through a phone app called SmartLINK, which combines GPS with voice and facial recognition.

As the number of immigrants monitored under ATD has ticked up, the number in ICE detention centers has declined. But it's not a direct one-to-one correlation, says Austin Kocher, assistant professor and researcher at Transactional Records Access Clearinghouse, a research organization at Syracuse University. The number of immigrants in ATD has expanded, while the number of people in immigrant detention facilities has fluctuated, he says. "[ATD] is more of a mechanism for [ICE] to expand their ability to monitor immigrants who are in the country," Kocher says.

An ICE spokesperson would not comment on the new litigation but said the agency is committed to protecting privacy rights and the civil rights and liberties of those in the ATD program.

For the immigrant advocates who have filed suit against ICE, the bigger issue is how immigrants' data is being harvested and utilized. "We're gonna continue to be part of this lawsuit until we can get some basic information to understand how people's most personal data, their biometric information, is being used by private companies and the government in this moment," says Jacinta Gonzalez, senior campaign director at Mijente.

—JASMINE AGUILERA

ECOPRENEURS

Green steel from Sweden

BY ALEJANDRO DE LA GARZA

AT A STEEL PLANT IN LULEA, SWEDEN, WORKERS MAKE the world's most essential construction material the old-fashioned way: piling iron ore and coke, a kind of coalderived fuel, in a huge blast furnace, heating the mixture to enormous temperatures, and then "tapping" the cauldron of molten metal, which sends a stream of white-hot pig iron—and showers of sparks—spilling out along a sluiceway.

But less than a mile away, the plant's owner, SSAB, is piloting a less dramatic steelmaking process at a new facility. "It doesn't look that spectacular," says Martin Pei, executive vice president and chief technology officer at the Swedish steelmaker. "You don't see very much either, because it's all automatically controlled."

It's spectacular in a different way, though. Traditional blast furnaces emit huge amounts of CO₂. But SSAB's HYBRIT pilot plant—built in collaboration with Swedish state-owned mining company LKAB and state-owned power company Vattenfall—emits nothing but water vapor when it refines iron ore. Last summer, the facility produced iron for the world's first fossil-fuel-free steel, blazing a trail toward decarbonizing one of the world's most heavily polluting industries.

Steel is among the most important materials in modern society, going into everything from buildings and bridges to cars and bicycles. It's also critical to building renewable-energy infrastructure like wind turbines, which the world needs in order to eliminate fossil fuels. But making it is an incredibly polluting process, with the industry responsible for about 8% of the world's CO₂ emissions. Addressing those emissions is one of the most pressing and difficult challenges of the global energy transition.

With the success of the HYBRIT project, SSAB CEO Martin Lindqvist has set the company on perhaps the most aggressive decarbonization plan in the industry, ramping up green steel production and switching over to electric steel furnaces in order to cut most of the company's emissions from its operations in Sweden and Finland by around 2030. Their green steel endeavor might have been considered little more than a pipe dream just a few years ago. "Our colleagues in the industry, they were just [shaking] their heads, and thought that we were, at best, naive," says Lindqvist. "Now everyone seems to think that this is the right way to go."

Some 75% of the world's steel is made using blast furnaces like the traditional one in Lulea, which use huge amounts of fossil fuels to refine iron ore. Making that process work without fossil fuels, specifically coke, is a serious metallurgical challenge. Iron is one of the most common elements on the surface of the earth, but it's almost entirely found in the form of iron ore, where iron atoms are bonded tightly with oxygen. The task of turning that ore into iron, and then steel,



A plant in
Oxelosund
produces the
world's first
fossil-fuel-free
steel, made using
sponge iron from
SSAB's new pilot
facility in Lulea

involves first stripping away those oxygen atoms. In a blast furnace, carbon monoxide generated by burning coke accomplishes that job, prying loose oxygen from the iron ore to form carbon dioxide, which is then released into the atmosphere. SSAB's HYBRIT plant accomplishes the same task using hydrogen separated from water by renewable energy. For this hydrogen-based reduction to work, hydrogen is heated to about 1,600°F with renewably generated electricity and then injected into a furnace containing iron ore pellets. The hydrogen combines with oxygen in the iron ore to form water vapor, leaving behind what's known as sponge iron, which can then be melted down with recycled scrap to make steel.

working on the project in 2016. Back then, Lindqvist says, most other steelmakers trying to go green were talking about diverting carbon dioxide produced during steelmaking and burying it underground, a process known as carbon capture and storage (CCS). "CCS for us was giving a Band-Aid



'If we have the chance to really solve the root cause ... why not do that?'

to a patient with a broken leg," says Lindqvist. "If we have the chance to really solve the root cause of the real problem, why not do that?"

SSAB, LKAB, and Vattenfall spent about \$2 million studying hydrogensteel technology, and in 2017, they had one of their first successes. "I still remember when I held that first piece of fossil-free steel made in a laboratory in Stockholm," Lindqvist says. "I thought, This might actually work." Lindqvist and other executives then went to their companies' boards and asked for \$160 million to build a pilot plant to develop the technology further. If that trial was successful, the next step was building a full-scale production plant.

Last August, SSAB used the pilot plant to produce its first emissions-free steel. Workers involved in the process made a video documenting the effort. "When I saw that video ... I almost had tears in my eyes because they were so proud," says Lindqvist. "They felt that we were doing something very important, and that we were part of a solution."

With HYBRIT's success, SSAB is moving ahead with plans to scale up

—MARTIN LINDQVIST, CEO, SSAB

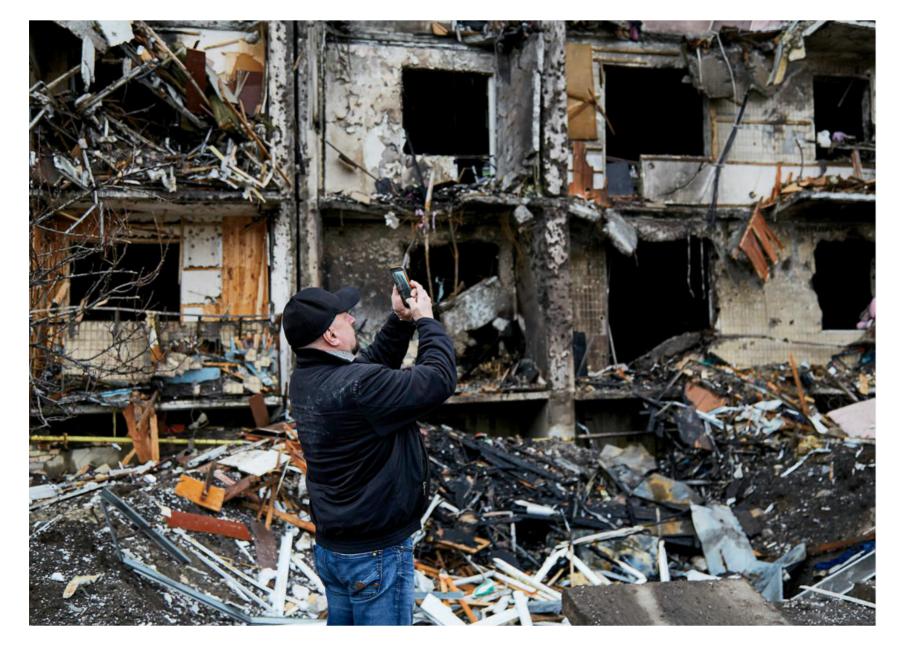
its green steel process to a million tons a year by 2026. But there are significant obstacles to a similar ramp up for other steelmakers around the world. For one thing, green steel costs about 25% more to make than its conventional counterpart, according to the RMI, a climate think tank. Some steel buyers, like automakers, have been eager to purchase slightly more expensive "green steel" in an effort to cut emissions from their products' value chain—Volvo, for instance, made the world's first vehicle using entirely fossilfuel-free steel from SSAB last October. But some analysts are doubtful if the wider market of steel buyers will be willing to pay more.

Another problem is that the green hydrogen steelmaking method only works with a kind of very high-quality iron ore, which not everyone uses—though companies pursuing the technology say they are developing ways to use lower-grade ores as well. There's also an international dimension: even if policies in Europe and the U.S. help facilitate a transition to zero-carbon steel, the biggest player is still China, which produces half the world's steel, largely in coal-fired blast furnaces. "China is always a bit of a mystery box," says Thomas Koch Blank, a principal at RMI. "China has very high top-down aspirations [to decarbonize steel], and it's a little unclear how fast they trickle down to real market policy."

There's also the simple fact of how much needs to change in such a short time span. The world produced nearly 2 billion tons of steel in 2021. Even if SSAB decarbonizes all its furnaces, it'll only amount to just under half a percent of the world's annual production. "Things are going very fast," says Domien Vangenechten, a policy adviser at European climate think tank E3G. "But it's way too early to say that we are on the right trajectory toward net-zero emissions in the steel industry."

Still, Vangenechten says, the past three years have been "remarkable" compared with where things were before. SSAB isn't the only company leading that change—Swedish startup H2 Green Steel, for instance, is also aiming to commercialize hydrogen-based steel production in coming years. What's unique about SSAB is that they've been in the steelmaking business for more than 140 years, an anomaly in a world where many legacy companies tend to do all they can to delay climate action. And while the conventional climate narrative has been that polluting sectors only change when outside disrupters like Elon Musk or Engine No. 1 shake things up, Lindqvist, the CEO of SSAB since 2011, is an old hand in the steel world, having worked at the company for nearly $2\frac{1}{2}$ decades.

Those facts might be an exception that proves a rule about old, polluting industries. Or perhaps it's a signal that those companies actually have more capacity to change than their executives assume, if they decide to step up to the moment. For Lindqvist, the decision to pursue radical decarbonization came partly as a cold-eyed business plan, and partly because it was the right thing to do. "Everyone has a responsibility to reduce emissions," he says. "But as the CEO of a big emitter of carbon dioxide, I have a big responsibility."



WORLD

How Ukraine is crowdsourcing digital evidence of war crimes

BY VERA BERGENGRUEN

IT ALL LOOKS LIKE A GAME AT FIRST. VERIFIED USERS OF Ukraine's government mobile app are greeted with icons of military helmets and targets. An automated prompt helps you report Russian troop movements in your area, and rewards you with a flexed-arm emoji. "Remember," the message says. "Each of your shots in this bot means one less enemy." Another option on the menu, denoted by a droplet of blood, prompts Ukrainians to report and submit footage of war crimes in places now associated with atrocities: Bucha, Irpin, Gostomel.

This chatbot, created by Ukraine's Digital Ministry and dubbed "e-Enemy," is one of a half dozen digital tools the government in Kyiv has set up to crowdsource and corroborate evidence of possible war crimes. Since the start of the invasion, Ukrainian officials, lawyers, and human-rights groups have scrambled to design new ways to catalogue and verify reams of video, photo, and eyewitness accounts of criminal behavior by Russian forces. Ukraine has adapted popular government apps to allow citizens to document damage to their homes, used facial-recognition software to identify Russian military officials in photos, and rolled out new tools to guide users through the process of geotagging and time-stamping their footage in hopes it may help authorities hold the perpetrators responsible.

The result is a systematic effort unlike any in the history of modern warfare, experts say. Crowdsourcing digital proof of war crimes has been done in other conflicts,

'We need a record for humanity of what happened.'

—FLYNN COLEMAN, HUMAN-RIGHTS LAWYER A man takes a photo on Feb. 25 of a Kyiv residential building damaged by a Russian missile

but "the use of open-source information as evidence in the case of Ukraine may be at altogether a different level," says Nadia Volkova, director of the Ukrainian Legal Advisory Group.

The apps, chatbots, and websites designed by Ukrainian officials categorize different kinds of war crimes and human-rights violations and feed them into one centralized database. These include the killing or injury of civilians by Russians; physical violence or imprisonment; denial of medical care; looting; and seizure of property by occupying forces.

Ukrainians are rallying to the cause. A website set up by the office of Ukraine's Prosecutor General has received more than 10,000 submissions of detailed evidence from citizens, an official told TIME. The government's efforts are supported by a legion of outside human-rights groups, citizen sleuths, cybervolunteers, and opensource analysts.

what all this will yield remains unclear. International war-crimes cases are notoriously difficult to prosecute. Successful efforts are typically built on traditional forensic evidence, witness testimonies, and documents. But Ukrainian officials say the purpose of using digital tools to crowd-source evidence of Russian atrocities extends beyond a war-crimes trial in the Hague. They see it as a defense against a flood of Russian disinformation, including claims from Kremlin officials that the horrors from Bucha or Mariupol are "fake" or staged.

Mykhailo Fedorov, Ukraine's Minister of Digital Transformation, says the country's collection of "citizen evidence" is another way that Ukraine is reinventing modern warfare. "This war has been the most radical shift in warfare since World War II, at least in Europe," he tells TIME. "If you look at what happened in cyberwar, we have changed the playbook basically

overnight ... I firmly believe that we will be able to change the way international justice is being administered as well in the aftermath of this war."

Fedorov's ministry quickly realized that their prewar project to digitize the country's government services had now become an invaluable tool for documenting war crimes. In order to make a report through the e-Enemy chatbot, users have to log in through a portal launched in 2020 that lets Ukrainians share digital identifying documents on their smartphones for more than 50 government services. Roughly 40% of Ukrainian citizens use the app, according to Fedorov. "We use rigorous authentication in order to weed out fake content," Fedorov says. "As a result, about 80% to 90% of the user-submitted content is usable."

More than 253,000 people have sent reports and footage of Russian forces' movements and actions through the chatbot. More than 66,000 have submitted evidence of damage to their homes and cities. The dashboard on the government's war-crimes portal lists almost 6,500 submissions of photos, videos, and other documentation. One graphic, cataloging "crimes against children," counts at least 191 killed and another 349 wounded.

Another section is labeled "Enemy's personal data," allowing the user to provide any identifying information about Russian troops. As of April 14, the office said it has identified 570 "suspects," including Russian military and political officials, ministers, and heads of law enforcement.

Holding them accountable will be a complicated process. "Trying war criminals is incredibly difficult because the burden of proof is so high," says Flynn Coleman, an international human-rights lawyer. Still, the value of Ukraine's crowdsourced evidence goes beyond what can be proven in international court. "It's a basic right for all the survivors and families," Coleman says. "We need a record for humanity of what happened here: not just justice, but a record, because memories fade."

Q&A

Activist Nadia Murad on sexual violence as a weapon of war

BY ANGELINA JOLIE

IN 2014, NADIA MURAD'S HOMEtown of Kocho, Iraq, was captured by the Islamic State. Several members of her family were killed, and she, along with other women and girls from the town, were abducted and held as sex slaves. After months in captivity, Murad escaped and found refuge in Germany. She has since dedicated herself to raising awareness about the use of rape and sexual violence against women and children as a weapon of war, and was awarded the Nobel Peace Prize for her efforts. She recently launched the Murad Code, which offers guidelines on how to sensitively collect evidence from survivors and witnesses during wartime. I spoke to her about recent reports of sexual violence being used against women and children during the Russian invasion of Ukraine.

A.J.: There is evidence that this violence is done to intentionally destroy the human being, the family, the community. Could you help those who don't understand why it is a weapon?

N.M.: Terrorist groups use rape as a way to destroy women because they know that this can stay with women. They know that the stigma and the shame in many communities follow a woman after sexual slavery and rape. For my family these days, when I see my sisters-in-law after what they have been through, nothing is the same for us. When we talk, there is nothing for

With Ukraine, what do you hope governments are doing at this time

us to talk about as a nor-

mal family anymore.

that might help with accountability? When the international coalition was formed to defeat ISIS, they made the mistake of not considering specifically that violence against women was a main element of this war. Violence against women and sexual violence in particular in conflict zones is considered a side effect. World leaders need to understand that whether it's in Yemen or Ukraine or any other place, violence against women will occur, and we should make sure that we have that in mind when planning to deal with these conflicts.

There has been a lack of accountability for these crimes that has really emboldened people to behave this way, and not consider it a crime of war. It is my belief as a survivor that we cannot separate accountability from prevention. If we do not hold those who have committed these crimes accountable, it will not prevent this from happening to other women.

I have so much admiration for women like you who have held together and continued to do this work in the absence of justice. Someone has to say what happened to us. I know it's the right thing to do because I know I will not be the last one to

face this type of violence.

I know it's going to
take a long time, but
I know it's the right
thing to do.

Jolie is a TIME contributing editor and special envoy of the U.N. High Commissioner for Refugees

Goodbye, ISS. Hello, private space stations

BY JEFFREY KLUGER

FROM ITS INCEPTION, THE INTERNATIONAL SPACE Station (ISS) was an improbable machine. As big as a football field and made of 17 pressurized modules and a pair of massive solar wings, the \$150 billion spacecraft has been an instrument of research, exploration, and politics, built and maintained by 15 nations, led by the U.S. and Russia. Even as the war in Ukraine rages, NASA and Roscosmos, the Russian space agency, continue to cooperate in space.

But what politics cannot break, time and age can. The ISS is getting old. Its first component was launched nearly 24 years ago, and orbital hardware can last only so long before equipment breaks down, small air leaks appear, and the constant punishment both by micrometeorites and the continual thermal cycling the station goes through on every 90-minute orbit—from 121°C (250°F) on the sunlit side of Earth and -157°C (-250°F) on the nighttime side—take their own toll. NASA and the ISS partners had originally intended to keep the station in service only until 2025, when it would be sent on an incineration plunge through the atmosphere and into the ocean. In December, the Biden Administration gave the ISS a reprieve, extending its life to 2030—provided the hardware can last that long. But whatever its exact end date is, the station is on the clock.

On Dec. 2, NASA made it clear that whenever that clock tolls, the U.S. will be getting out of the space-station game, likely for good. Instead, the space agency signed a \$415.6 million seed-money deal with three companies— Blue Origin, Nanoracks, and Northrop Grummanto develop their own private space stations, on which NASA and other customers could lease space for professional crews and tourists. And those three companies aren't alone. NASA previously inked an agreement with Houston-based Axiom Space under which the company will launch up to four modules to dock with the ISS, which will later decouple and become their own free-flying space station before the ISS is de-orbited and retired. The first module is set to launch in September 2024. Add the other three companies now under NASA contract, and there could be four private space stations orbiting Earth before the end of the decade.

"I believe it's a \$1 trillion industry, especially when you start manufacturing things in space," says Matt Ondler, Axiom's chief technology officer. "We're certainly seeing interest in the private astronaut market. And we're really seeing a lot of interest in countries flying astronauts whom they can't currently fly because they're not part of the ISS."

But not everyone agrees there's a commercial ecosystem that could support even the one space station we've got, never mind four private ones. "I think that the International Space Station was sold on the promise that



A rendering of Blue Origin's Orbital Reef, one of four planned private space stations there were billions of dollars to be made in the results from research conducted aboard," says John Logsdon, founder of the Space Policy Institute at George Washington University. "We've now tested that hypothesis, and after 20 years, there's not been any validation."

NASA, obliquely, seems to agree. It avoids putting a dollar figure on what the ISS has kicked back into the U.S. economy, instead speaking of the 2,500 R&D experiments run aboard the station and the 2,100 scientific papers tied to station research.

But whether the private space stations will show the same iffy balance sheet or not, the plans are being drawn, the metal is being cut, and the age of the commercial stations—at least to hear the space agency and the industry tell it—is here.

THE NAME YOU GIVE a spacecraft doesn't really mean a thing. If it flies, it flies—that's all that matters. That said, the folks at Blue Origin take no small amount of pride in the lyrical name they've given their planned space station: Orbital Reef.



"I actually don't know which member of the team suggested it," says Brent Sherwood, Blue Origin's director of advanced development programs. "But I have promoted a philosophy in my team about partnering that I call building a coral reef, meaning that aerospace ultimately needs to be an ecosystem with a lot of species that interact in different ways."

Wherever the name came from, the hardware the team envisions is impressive. Orbital Reef, which the company hopes to launch in the second half of this decade, would consist of just three modules compared with the ISS's 17. However, each module would be bigger than those on the current station—so much so that combined, they would provide 91% of the ISS's habitable space. As the market develops—if the market develops—the company could add more modules to accommodate more customers.

How Blue Origin would launch its modules remains an open question. The company's New Shepard rocket has been launched on 20 suborbital missions, four of them crewed. But New Shepard is not designed to lift heavy cargo to orbit. For that, the company will have to rely on its still-in-development New Glenn rocket. Blue Origin has been secretive about its progress on New Glenn; Sherwood says only that there will be "more date specificity" later this year.

Impressive as the plans for Orbital Reef sound, the folks at Northrop Grumman believe they have an edge on Blue Origin—and the fact is, they do. As part of NASA's Artemis program to return astronauts to the moon in this decade, the agency is planning to build what it calls Gateway, a minispace station orbiting the moon that would serve as a way station for astronauts descending to or returning from the lunar surface. Northrop Grumman has been selected to build the core module of the Gateway, known as Halo, and construction is already under way.

"Hardware is already being cut. The structure is being fabricated at this point," says Rick Mastracchio,

Northrop's director of business development. That matters for the company's Earth-orbit spacestation plans, because the core module of that structure would essentially be a stretched version of the Halo module.

Nanoracks is not nearly so far along, but what it lacks in actual hardware, it makes up for in simplicity. The company has dubbed its station Starlab and its central laboratory module the George Washington Carver Science Park, and envisions the entire structure as less than half the size of Orbital Reef. The advantage is that it's faster out of the gate, because Nanoracks wants its station to be habitable after just a single launch of a single module.

"We're not trying to build a Taj Mahal in space," says Nanoracks board chairman Jeffrey Manber, who's aiming for a late 2027 launch. "We want something that's sustainable, that's frugal, yet exciting."

For all this industrial churn, the question remains: Is there a real market for private space stations? NASA is certainly one customer, planning

to pay for the privilege of sending its own astronauts to work aboard some of the new outposts. But with a potential four stations flying at once, there could be more supply than the agency's work demands.

There are, too, plenty of deeppocketed adventurers who will keep at least a marginal space-tourism industry viable, and all of the companies are open to flying astronauts from other, friendly countries' space programs, as well as crew members from private industry conducting potential for-profit research in orbit.

"It's like a traditional business park," says Sherwood. "We do the utilities—the sewers, power lines, all the stuff that makes it usable. The tenants have their own business model—maybe a filmmaker or a national laboratory. But my attitude is if you pay your rent and you don't break my space station, then I'm happy."

Still, Sherwood himself agrees that his business park might not be joined

by a lot of other business parks. "The good news is [that the market] exists, it's proven, it's stable, it's predictable. The bad news is it's stable, it's predictable. It's not necessarily a large growth market. And so if you start subdividing it across multiple providers, you weaken the business case for all of them."

Instead, as with the personalcomputer business in the 1980s, there is likely to be a sort of Darwinian winnowing, with the strongest company or two surviving and the others squeezed out by having too few customers or too little revenue to survive in a competitive climate. Indeed, some of the stations may wind up as nothing more than vaporware, finding themselves shelved before they're built if the market doesn't develop or the manufacturing price climbs too high. Either way, one thing is certain: close to a quarter-century after the first component of the ISS went online, the U.S. government is retiring its spacestation portfolio. The laws of commercial natural selection will determine who picks up that work.

'I believe it's a \$1 trillion industry.'

--MATT ONDLER, CHIEF TECHNOLOGY OFFICER, AXIOM SPACE

Virginia state legislator **Danica Roem**'s road map for protecting LGBTQ kids

BY MADELEINE CARLISLE/MANASSAS, VA.

SETTLING DOWN WITH A CHAI LATTE IN A coffee shop in Manassas, Va., Danica Roem acknowledges that some of the rumors about her are true. She did once do a keg stand on camera while people yelled, "Suck it!" But she insists that she never threw that keg out the window, as an old Facebook post alleged.

The post in question was dug up by Roem's opposition research on herself during her 2017 run for the house of delegates to represent Virginia's 13th district—a blend of exurbs and historic battlefields roughly an hour south of Washington, D.C.—where she ultimately defeated the incumbent Republican to become the first openly trans person elected to and seated in a U.S. state legislature. She's using a newly published memoir, *Burn the Page*, to reclaim the power of moments other politicians might hope to keep buried, detailing stories her opponents have tried to use against her.

There's no point in the former vocalist of the thrash-metal band Cab Ride Home denying being a metalhead. And yes, she partied in her 20s—at times aggressively as she navigated gender dysphoria before starting to transition in 2012. She also spent more than a decade as a reporter, and sometimes still swears like one. The aim of her book, Roem says, is to show readers they can "succeed because of who you are, not despite it."

Her own success came in the suburbs, where half of Americans live and every election tells a story. At 33, Roem flipped a seat a social conservative had held for 26 years by focusing on local issues while benefiting from Northern Virginia's increasingly left-leaning demographics. She won re-election in both 2019 and 2021—an election where Democrats performed poorly overall in Virginia and lost control of the house of delegates. She'll be on the ballot again come 2023, she says, but is coy about grander statewide or national ambitions. She was recently named the executive director of Emerge Virginia, a nonprofit that recruits and trains Democratic women to run for office. "Because I clearly didn't have enough jobs," she laughs, applying liquid eyeliner in the back booth of the coffee shop before TIME's photo shoot.

Now is a critical moment for trans rights in the U.S. In the past two years, conservative state

ROEM QUICK FACTS

Metalhead

Cab Ride Home, the thrash-metal band that counted Roem as vocalist, played its last show in 2017, a month after she won the Democratic primary.

Muckraker

Roem's more than 10 years as a reporter included stints covering local issues with the Gainesville Times and the Prince William Times, and writing about national politics for The Hotline.

Ink

In 2020, the day before the Democrat-controlled legislature made Virginia the 38th state to ratify the Equal Rights Amendment, Roem had its first 24 words tattooed on her left arm.

Lawmaker

Roem has gotten
32 bills to the
governor's desk
and signed into
law, including a ban
on issuing lighter
sentences to
people accused of
homicides who say
they were panicked
by their victim's
sexual orientation
or gender identity.

lawmakers have introduced a torrent of anti-LGBTQ legislation. Of
the at least 238 measures put forward
in 2022, roughly half specifically target trans people, according to an NBC
News analysis. Fifteen states have
banned trans students from playing on sports teams consistent with
their gender identity. Four states have
banned trans youth from receiving
gender-affirming health care. This
spring, two states banned classroom
instruction about sexual orientation or
gender identity in certain grade levels.

"I am, to say flabbergasted doesn't even begin to do it," Roem, 37, says about the surge of anti-LGBTQ legislation. "They're picking on the most vulnerable constituents they represent. They're picking on children."

ROEM'S DISTRICT INCLUDES the site of two major Civil War battles and a former plantation home. There are more things named after Confederate General Stonewall Jackson in the area, she says, than there are Starbucks in all of greater Prince William County. "This is not the place where the first out and seated trans state legislator was supposed to come from," she says.

The lifelong Manassas resident concentrates on local policies, informed by her years of covering the community as a journalist. Her 2017 slogan was "Fix Route 28 now!" As she often quips: trans people get stuck in traffic too. In Roem's first bid for office, she built an extensive ground game, knocking on over 75,000 doors. "I show up," she says. "You can't just put up TV ads and hope that people like you."

Roem says that when she started writing her memoir in 2020, she began to think that anti-LGBTQ legislation in Virginia was becoming a thing of the past. But, she's learned, "politics is a pendulum, and right now it has taken a very nasty turn against these kids." This term, Virginia Republicans introduced bills that would ban trans athletes from playing on sports teams consistent with their gender identity and eliminate the requirement that schools follow the state department of education's model policies for





treatment of trans students. Neither bill has passed, but Roem believes the session offers an "inkling" of what is to come if Republicans regain control of the state senate and maintain the house come November. "I am significantly worried that a lot more trans kids will kill or hurt themselves," she says, "or be hurt by another person, before the pendulum swings back."

She's particularly alarmed by the lack of corporate response. In contrast to the outcry in 2016 over North Carolina's so-called bathroom bill, no major companies have announced plans to boycott any state over the latest anti-LGBTQ laws. In Roem's view, corporate America has "sat on their damn hands."

NOW ISN'T THE TIME for Democrats to get complacent, Roem says. Her advice: advocates need to put pressure on corporate communities, ask them why they are doing business in states where their employees or their employees'



—DANICA ROEM

families could be hurt, and show up to vote. As for the LGBTQ youth targeted by these laws, Roem's message is simple: You have to care about politics. Because whether or not you do, politics cares about you.

As the midterms approach, Roem finds she has company. The LGBTQ Victory Institute reports that from 2019 to 2020, the number of national and local LGBTQ elected officials increased by 21%. Roem wants her political success to continue serving as a road map for candidates from underrepresented groups looking to make a run for office. She hopes she's shown that if you own your narrative and tell your story before your opponents can, a metalhead trans woman who can do a keg stand can also hold a Democratic seat in a swing district in the South.

"We can turn the pendulum back," Roem says. "And nihilism doesn't win campaigns. Hard work does." She likes to quote Motörhead: "Don't let them bastards grind you down." □





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2022 China Silver Panda: Since its first issue, the China Panda coin series has been one of the most widely collected series ever, highlighted by one-year-only designs. This 2022 Panda features its first-ever privy mark honoring the coin's 40th anniversary. Struck in 99.9% fine silver at the China Mint.

2022 Australia Wedge Tailed Eagle: Introduced in 2014, the Wedge-Tailed Eagle is the first-ever collaboration between U.S. Mint designer John Mercanti and a foreign mint. With a new design for 2022, it's struck in 99.9% fine silver at the Perth Mint.

GovMint.com • 1300 Corporate Center Curve, Dept. WRD235-02, Eagan, MN 55121

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The View

HEALTH

LET'S TEST TO TREAT

BY STEVEN PHILLIPS AND MICHAEL MINA

With vaccination rates hitting a wall and boosters plateauing in effectiveness, getting lifesaving pills to vulnerable people made ill by COVID-19 is the single most critical strategic step to allow society to return to a new normal. The goal is clearly articulated in President Biden's Test to Treat plan. Now we need to make this plan work for all Americans by moving it to the homes of those who are sick.

INSIDE

WE ALL THINK COVID IS OVER. ISN'T IT?

THE METAVERSE IS COMING TO A CONCERT NEAR YOU

THE CASE FOR STARTING OVER ON CHILD PROTECTION

A federal Test to Treat initiative on the scale of our vaccination effort could achieve, we estimate, at least a 50% sustained decrease in both national mortality and hospitalizations.

Ensuring availability of treatment

for all high-risk people, by linking it to home tests, is our pandemic response get-out-of-jail card. However, too few people today know of or are able to get these lifesaving oral medications. Test to Treat (T3) makes free treatment available to those who receive a diagnosis from a medical provider at a "one stop," approved Test to Treat facility that has the medicines in stock. In practice, perhaps less than 10% of pharmacy outlets have the providers and clinics that can promptly evaluate and deliver the treatment all in one location. The resulting paradox is that while 9 out of 10 Americans live within five miles of a pharmacy, millions of treatments—more than half of the available supply—are sitting on shelves unused because of difficulty accessing this medical diagnostic pathway.

HERE'S A SIX-POINT road map of how we can achieve this now:

First, set a clear initiative goal. The goal of a national Test to Treat program must be to safely get the treatment course of pills in the mouths of every eligible COVID-19-positive person within three days of onset of symptoms. The country's vulnerable population of 80 million stands to benefit the most from T3. Although they number less than a quarter of the population, they suffer over 80% of all deaths and hospitalizations. For them these pills are a lifeline.

Second, expand program eligibility. The "vulnerable" are defined as those over age 65, immunocompromised, or who have specific underlying conditions. The oral antivirals are indispensable to this population because their vaccine effectiveness wanes most quickly.

When taken within the critical first three days of symptom onset, Pfizer's

oral antiviral Paxlovid can lower the risk of severe disease by almost 90%. Merck's Lagevrio is an alternative that lowers risk by 30%. Both are taken at home as a three- to five-day course of pills. Equitable and timely access to these treatments is the delivery highway to get to our new normal while cutting down on hospitalizations and deaths.

As supply increases, extending coverage to those less vulnerable will have additional benefits: reduced



Mary Ann Neilsen holds her last Paxlovid pills while recovering from COVID-19 in California on Jan. 6

hospitalizations, enhanced virus clearance in the community, and further reduction in transmission. This will diminish the need for isolation and allow faster return to work or school.

Third, leverage reach and speed through a new at-home program. This requires a well-choreographed one-stop system: 1) rapid test diagnosis of COVID-19; 2) an immediate telemedicine evaluation and, if medically indicated, a prescription by an authorized medical provider; 3) rapid dispensing of the medicine through a local pharmacy, health care provider, or direct delivery to the home.

The only way to realize the goal of reliably and rapidly getting oral treatments to 80 million eligible Americans is to bring the medicines directly to the home. This could immediately expand T3 from the current sparse 2,000 national locations to hypothetically every household in America.

Several testing companies are already doing this at-home testing

model with states, employers, and individuals. (One of these is eMed, where Dr. Mina is the chief science officer.)

Fourth, ensure treatment is provided safely. Drugs like Paxlovid come with potential significant safety concerns. Side effects and interactions with other prescribed drugs are not uncommon and must be evaluated by a qualified health professional. Whether at-home or on-site, a thorough assessment of current medications and relevant past medical history is obligatory to assure safe treatment.

Fifth, stand up an enhanced federal program like Operation Warp Speed. The only viable solution to fulfill the promise of a program of this scale is through government leadership.

Sixth, we estimate the annual cost of the enhanced T3 program to cover the 80 million vulnerable Americans to be in the \$10 billion range. The projected cost savings from avoided hospitalizations alone

is about \$15 billion. Additional economies will be captured through reducing outpatient clinic visits, limiting transmission, and avoiding more costly on-site testing.

COVID-19 is both seasonal and cyclical. It will surge again and again in the not too distant future. Now is the time to invest in "endemic preparedness."

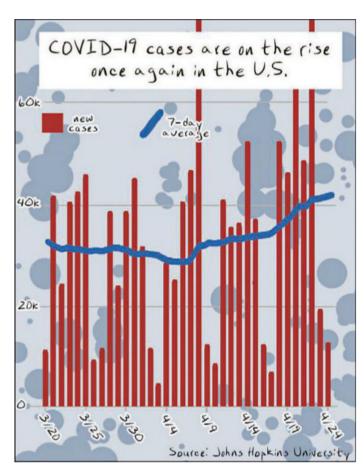
Phillips is vice president of science and strategy at COVID Collaborative; Mina is the chief science officer of eMed **SOCIETY**

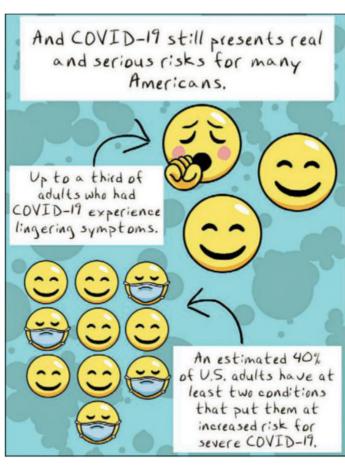
What it feels like when people act like COVID-19 is over

BY AUBREY HIRSCH









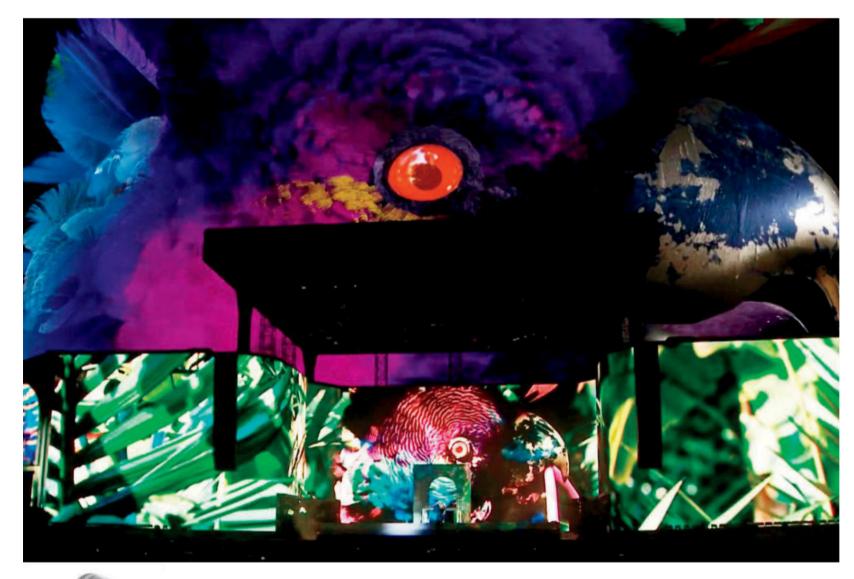














Into the Metaverse By Andrew R. Chow

STAFF WRITER, CULTURE & TECH

IF YOU WERE WATCHING THE COACHella YouTube livestream on either of the festival's Saturday nights in April, you might have done a double take as giant leafy trees and a Godzilla-size parrot slowly rose above the stage of the electronic artist Flume. Were they giant inflatables? Mirages on a 200-ft.-tall LED screen? Sheer hallucinations of the mind?

None of the above. This year, Coachella partnered with Unreal Engine—Epic Games' 3D software development tool—to create what organizers say is the first livestream to add augmented reality (AR) tech into a music festival performance. Unreal Engine worked with Flume's artistic team and other technical collaborators to create massive psychedelic 3D images that blended in seamlessly with his stage design, floating around the artist and into the Indio, Calif., sky.

But nobody at the festival could see those enormous parrots—only viewers at home. The result, although it lasted only a few minutes, serves as a template for how live-event planners might A Coachella livestream was boosted by augmented reality

wield metaverse technology going forward to create unique experiences for at-home viewers. Many metaverse builders believe live events will be increasingly hybrid, with both digital and real-world components— and that immersive tools might help make each version of the event distinctive and desirable in its own right. "It doesn't make sense to just re-create the live music experience virtually," says Sam Schoonover, the innovation lead for Coachella. "Instead, you should give fans something new and different that they can't do in real life."

The giant parrots, which were designed by the artist Jonathan Zawada, are only the beginning of what might be created in AR for live concerts. Future performers could have lighting effects surrounding their faces at all times, or sync their dance moves to those of surrounding avatars. Schoonover says these AR experiences will jump another level when AR glasses are more common. Eventually you might be able to see the concert in 3D, as if from the festival grounds, surrounded by floating birds, plants, and whatever else artists dream up all while still sitting on your couch.



For more news on immersive tech, crypto, and metaverse development, subscribe to **time.com/metaverse**



WASHINGTON CORRESPONDENT

Here's the thing about absolute denials: you can make them, but only once.

So when House minority leader Kevin McCarthy released a statement on April 21 denying reporting that he confidentially told Republican colleagues in the wake of the Jan. 6 attempted insurrection he planned to tell then President Donald Trump to resign, Washington took notice. McCarthy called the book excerpt from two New York *Times* reporters "totally false and wrong."

It was a double-dog dare

if ever there were one in political journalism, right up there with Gary Hart's challenging reporters to prove his affair that ultimately ended his 1988 presidential bid. Nine hours after McCarthy lashed out, the journalists, Jonathan Martin and Alexander Burns, were on Rachel Maddow's MSNBC show. And they had the receipts—in this case, the audio recording from

McCarthy's close-circle call with just three of his top lieutenants.

The call, quite literally, was coming from inside the House. It is merely the latest example of why assumptions about McCarthy's rise to Speaker in a Republican-led House may prove ill-founded.



For more insights from Washington, sign up at time.com/theDCbrief

Q&A

The case for a 'fundamentally different' child-welfare system

BY JANELL ROSS

a record of writing about social problems in ways that researchers and laypeople alike recognize as real. Her new book, *Torn Apart*, applies her lens to the American child-protection system—which, as Roberts explains in this conversation with TIME, consistently fails to live up to its name.

What brought you to this topic?

I learned about the child-welfare system intimately when I was working on my book *Killing the Black Body*. I was doing research on prosecutions of Black women for being pregnant and using drugs. [I] discovered that Black children were grossly overrepresented in the [child-welfare] system.

At every level of action these agencies take, there are racial disparities? One of the most striking findings in a recent study is that more than half of all Black children will experience a child-welfare investigation by the time they

reach age 18: 53%. But Black children are also more likely than white children to be taken from their families and put in foster care. They're more likely not to go to college after experiencing foster care, more likely to go to prison. So the outcomes are bad too.

Why are these disparities so pervasive? The system is designed to deal with the hardships of children who are disadvantaged by structural inequality—including structural racism—by accusing their parents. Some people will say, "Well, Black children are more likely to have all these interventions because they have greater needs." But, first of all, why do they have greater needs?

And secondly, why is the response to their greater need this very violent, traumatic approach of family separation?

about the infrastructure that theoretically protects children as more like a policing force that punishes need. In a way it's to punish parents who don't conform to certain norms. Look at Texas. Governor Greg Abbott's directive to caseworkers to investigate the families of children who were provided with gender-affirming care; that's a very clear case.

What are we to make of the way

DOROTHY ROBERTS

that directive has galvanized such a strong response?
We should object to Governor Abbott's directive, but the same kinds of incursions on Black families have been happening at a higher rate for decades, and it has never gotten that level of public outcry.

So, what needs to be done here? There are vulnerable children of all races who actually are in danger. [In] a nation that truly provided income support, health care, affordable housing, equal high-quality education for all the vast majority of children in foster care today would not be there. There still would be, of course, children who are profoundly neglected or physically or sexually abused. But the system we have now doesn't prevent that from happening. We need a fundamentally different way that gets to the root of why there's so much violence in our society.



Inside Zelensky's World

As casualties mount and the war nears a critical moment, two weeks in the presidential compound show how the Ukrainian leader has changed



THE NIGHTS ARE THE HARDEST, when he lies there on his cot, the whine of the air-raid sirens in his ears and his phone still buzzing beside him. Its screen makes his face look like a ghost in the dark, his eyes scanning messages he didn't have a chance to read during the day. Some from his wife and kids, many from his advisers, a few from his troops, surrounded in their bunkers, asking him again and again for more weapons to break the Russian siege.

Inside his own bunker, the President has a habit of staring at his daily agenda even when the day is over. He lies awake and wonders whether he missed something, forgot someone. "It's pointless," Volodymyr Zelensky told me at the presidential compound in Kyiv, just outside the office where he sometimes sleeps. "It's the same agenda. I see it's over for today. But I look at it several times and sense that something is wrong." It's not anxiety that keeps his eyes from closing. "It's my conscience bothering me."

The same thought keeps turning over in his head: "I've let myself sleep, but now what? Something is happening right now." Somewhere in Ukraine the bombs are still falling. Civilians are still trapped in basements or under the rubble. The Russians are still committing crimes of war, rape, and torture. Their bombs are leveling entire towns. The city of Mariupol and its last defenders are besieged. A critical battle has started in the east. Amid all this, Zelensky, the comedian turned President, still needs to keep the world engaged, and to convince foreign leaders that his country needs their help right now, at any cost.

Outside Ukraine, Zelensky told me, "People see this war on Instagram, on social media. When they get sick of it, they will scroll away." It's human

nature. Horrors have a way of making us close our eyes. "It's a lot of blood," he explains. "It's a lot of emotion." Zelensky senses the world's attention flagging, and it troubles him nearly as much as the Russian bombs. Most nights, when he scans his agenda, his list of tasks has less to do with the war itself than with the way it is perceived. His mission is to make the free world experience this war the way Ukraine does: as a matter of its own survival.

He seems to be pulling it off. The U.S. and Europe have rushed to his aid, providing more weapons to Ukraine than they have given any other country since World War II. Thousands of journalists have come to Kyiv, filling the inboxes of his staff with interview requests.

My request was not just for a chance to question the President. It was to see the war the way he and his team have experienced it. Over two weeks in April, they allowed me to do that in the presidential compound on Bankova Street, to observe their routines and hang around the offices where they now live and work. Zelensky and his staff made the place feel almost normal. We cracked jokes, drank coffee, waited for meetings to start or end. Only the soldiers, our ever present chaperones, embodied the war as they took us around, shining flashlights down dark corridors, past the rooms where they slept on the floor.

The experience illustrated how much Zelensky has changed since we first met three years ago, backstage at his comedy show in Kyiv, when he was still an actor running for President. His sense of humor is still intact. "It's a means of survival," he says. But two months of war have made him harder, quicker to anger, and a lot more comfortable with risk. Russian troops came within minutes of finding him and his

His mission is to make the free world experience this war the way Ukraine does family in the first hours of the war, their gunfire once audible inside his office walls. Images of dead civilians haunt him. So do the daily appeals from his troops, hundreds of whom are trapped belowground, running out of food, water, and ammunition.

This account of Zelensky at war is based on interviews with him and nearly a dozen of his aides. Most of them were thrown into this experience with no real preparation. Many of them, like Zelensky himself, come from the worlds of acting and show business. Others were known in Ukraine as bloggers and journalists before the war.

On the day we last met—the 55th of the invasion—Zelensky announced the start of a battle that could end the war. Russian forces had regrouped after sustaining heavy losses around Kyiv, and they had begun a fresh assault in the east. There, Zelensky says, the armies of one side or the other will likely be destroyed. "This will be a full-scale battle, bigger than any we have seen on the territory of Ukraine," Zelensky told me on April 19. "If we hold out," he says, "it will be a decisive moment for us. The tipping point."

IN THE FIRST WEEKS of the invasion, when the Russian artillery was within striking distance of Kyiv, Zelensky seldom waited for sunrise before calling his top general for a status report. Their first call usually took place around 5 a.m., before the light began peeking through the sandbags in the windows of the compound. Later they moved the conversation back by a couple of hours, enough time for Zelensky to have breakfast—invariably eggs—and to make his way to the presidential chambers.

This set of rooms changed little after the invasion. It remained a cocoon of gold leaf and palatial furniture that Zelensky's staff find oppressive. ("At least if the place gets bombed," one of them joked, "we won't have to look at this stuff anymore.") But the streets around the compound became a maze of checkpoints and barricades. Civilian cars cannot get close, and soldiers ask pedestrians for secret passwords that change daily, often nonsense phrases, like coffee cup suitor, that would be hard



for a Russian to pronounce.

Beyond the checkpoints is the government district, known as the Triangle, which Russian forces tried to seize at the start of the invasion. When those first hours came up in our interview, Zelensky warned me the memories exist "in a fragmented way," a disjointed set of images and sounds. Among the most vivid took place before sunrise on Feb. 24, when he and his wife Olena Zelenska went to tell their children the bombing had started, and to prepare them to flee their home. Their daughter is 17 and their son is 9, both old enough to understand they were in danger. "We woke them up," Zelensky told me, his eyes turning inward. "It was loud. There were explosions over there."

It soon became clear the presidential offices were not the safest place to be. The military informed Zelensky that Russian strike teams had

Zelensky, with his chief of staff Andriy Yermak, center, speaks to journalists in Bucha on April 4

parachuted into Kyiv to kill or capture him and his family. "Before that night, we had only ever seen such things in the movies," says Andriy Yermak, the President's chief of staff.

As Ukrainian troops fought the Russians back in the streets, the presidential guard tried to seal the compound with whatever they could find. A gate at the rear entrance was blocked with a pile of police barricades and plywood boards, resembling a mound of junkyard scrap more than a fortification.

Friends and allies rushed to Zelensky's side, sometimes in violation of security protocols. Several brought their families to the compound. If the President were to be killed, the chain of succession in Ukraine calls for the Speaker

of parliament to take command. But Ruslan Stefanchuk, who holds that post, drove straight to Bankova Street on the morning of the invasion rather than taking shelter at a distance.

Stefanchuk was among the first to see the President in his office that day. "It wasn't fear on his face," he told me. "It was a question: How could this be?" For months Zelensky had downplayed warnings from Washington that Russia was about to invade. Now he registered the fact that an all-out war had broken out, but could not yet grasp the totality of what it meant. "Maybe these words sound vague or pompous," says Stefanchuk. "But we sensed the order of the world collapsing." Soon the Speaker rushed down the street to the parliament and presided over a vote to impose martial law across the country. Zelensky signed the decree that afternoon.

As night fell that first evening, gunfights broke out around the

government quarter. Guards inside the compound shut the lights and brought bulletproof vests and assault rifles for Zelensky and about a dozen of his aides. Only a few of them knew how to handle the weapons. One was Oleksiy Arestovych, a veteran of Ukraine's military intelligence service. "It was an absolute madhouse," he told me. "Automatics for everyone." Russian troops, he says, made two attempts to storm the compound. Zelensky later told me that his wife and children were still there at the time.

Offers came in from American and British forces to evacuate the President and his team. The idea was to help them set up a government in exile, most likely in eastern Poland, that could continue to lead from afar. None of Zelensky's advisers recall him giving these offers any serious consideration. Speaking on a secure landline with the Americans, he responded with a zinger that made headlines around the world: "I need ammunition, not a ride."

"We thought that was brave," says a U.S. official briefed on the call. "But very risky." Zelensky's bodyguards felt the same. They also urged him to leave the compound right away. Its buildings are nestled in a densely populated neighborhood, surrounded by private homes that could serve as nests for enemy snipers. Some houses are close enough to throw a grenade through the window from across the street. "The place was wide open," says Arestovych. "We didn't even have concrete blocks to close the street."

Somewhere outside the capital, a secure bunker was waiting for the President, equipped to withstand a lengthy siege. Zelensky refused to go there. Instead, on the second night of the invasion, while Ukrainian forces were fighting the Russians in nearby streets, the President decided to walk outside into the courtyard and film a video message on his phone. "We're all here," Zelensky said after doing a roll call of the officials by his side. They were dressed in the army green T-shirts and jackets that would become their wartime uniforms. "Defending our independence, our country."

By then, Zelensky understood his role in this war. The eyes of his people and much of the world were fixed on him. "You understand that they're watching," he says. "You're a symbol. You need to act the way the head of state must act."

When he posted the 40-second clip to Instagram on Feb. 25, the sense of unity it projected was a bit misleading. Zelensky had been alarmed by the number of officials and even military officers who had fled. He did not respond with threats or ultimatums. If they needed some time to evacuate their families, he allowed it. Then he asked them to come back to their posts. Most of them did.

Other people volunteered to live in the bunkers of the presidential compound. Serhiy Leshchenko, a prominent journalist and lawmaker, arrived a few days after the invasion to help the team counter Russian disinformation. He had to sign a nondisclosure agreement, forbidding him from sharing any details about the bunker's design, location, or amenities. All its inhabitants are bound by this pledge of secrecy. They are not even allowed to talk about the food they eat down there.

Its isolation often forced Zelensky's team to experience the war through their screens, somewhat like the rest of us. Footage of battles and rocket attacks tended to appear on social media before the military could brief Zelensky on these events. It was typical for the President and his staff to gather around a phone or laptop in the bunker, cursing images of devastation or cheering a drone strike on a Russian tank.

"This was a favorite," Leshchenko told me, pulling up a clip of a Russian helicopter getting blown out of the sky. Memes and viral videos were a frequent source of levity, as were the war ballads that Ukrainians wrote, recorded and posted online. One of them went like this:

Look how our people, how all Ukraine United the world against the Russians Soon all the Russians, they'll be gone And we'll have peace in all the world.

IT WASN'T LONG before Zelensky insisted on going to see the action for himself. In early March, when the Russians were still shelling Kyiv and trying to encircle the capital, the President



drove out of his compound in secret, accompanied by two of his friends and a small team of bodyguards. "We made the decision to go on the fly," says Yermak, the chief of staff. There were no cameras with them. Some of Zelensky's closest aides only learned about the trip nearly two months later, when he brought it up during our interview.

Heading north from Bankova Street, the group went to a collapsed



bridge that marked the front line at the edge of the city. It was the first time Zelensky had seen the effects of the fighting up close. He marveled at the size of a crater left by an explosion in the road. When they stopped to talk to Ukrainian troops at a checkpoint, Zelensky's bodyguards, he says, "were losing their minds." The President had no pressing reason to be that close to the Russian positions. He says he just

In the village of Mala Rohan, mourners attend the funeral of Artur Shchukin, who died March 25

wanted to have a look, and to talk to the people on the front lines.

A few days later, Zelensky went on a ride that aides refer to as "the borscht trip." At a checkpoint near the edge of the city, the President met a man who would bring a fresh pot of borscht for the troops every day. They stood there, within range of enemy snipers and artillery, and had a bowl of soup with bread, talking about the Soviet Union and what the Russians had become since its collapse. "He told me how much he hated the Russians," Zelensky recalls. Then the cook went to the trunk of his car and pulled out some medals he had earned while serving in

PHOTOGRAPH BY MAXIM DONDYUK 35



the Soviet military. The conversation left a deep impression on Zelensky. "It felt right," says Yermak. "Just talking to the people we work for."

Such outings were rare. Though he received frequent updates from his generals and gave them broad instructions, Zelensky did not pretend to be a tactical savant. His Defense Minister was seldom by his side. Nor were any of Ukraine's top military commanders. "He lets them do the fighting," says Arestovych, his adviser on military affairs.

His days were a succession of statements, meetings, and interviews, usually conducted through the screen of a laptop or a phone. Courtesy calls took up time, like one Zoom session with the actors Mila Kunis and Ashton Kutcher, who had raised money for Ukraine through a GoFundMe campaign. Ahead of his nightly address to the nation, Zelensky would set out themes in conversation with his

An elderly couple collects belongings from their bombed apartment in Borodyanka, near Kyiv, on April 5

staff. "Very often people ask who is Zelensky's speechwriter," says Dasha Zarivna, a communications adviser. "The main one is him," she says. "He works on every line."

Through March and early April, Zelensky averaged about one speech per day, addressing venues as diverse as the parliament of South Korea, the World Bank, and the Grammy Awards. Each one was crafted with his audience in mind. When he spoke to the U.S. Congress, he referenced Pearl Harbor and 9/11. The German parliament heard him invoke the history of the Holocaust and the Berlin Wall.

The constant rush of urgent tasks and small emergencies had a numbing effect on the team, distending the passage of time in ways that one adviser describes as hallucinogenic. Days would feel like hours, and hours like days. The fear became acute only in the moments before sleep. "That's when reality catches up with you," says Leshchenko. "That's when you lay there and think about the bombs."

ing much more often from the bunker. The Ukrainian forces had driven the enemy back from the suburbs of Kyiv, and the Russians were moving their forces to the battle for the east. On the 40th day of the invasion, Zelensky made another trip outside the compound, this time with cameras in tow. He rode that morning in a convoy of armored vehicles to Bucha, a well-to-do commuter town where Russian troops had slaughtered hundreds of civilians.

Their bodies were left scattered around town, Zelensky said, "found





in barrels, basements, strangled, tortured." Nearly all had fatal gunshot wounds. Some had been lying in the streets for days. As Zelensky and his team saw the atrocities up close, their horror quickly turned to rage. "We wanted to call off all peace talks," says David Arakhamia, whom Zelensky had chosen to lead negotiations with the Russians. "I could barely even look them in the face."

On April 8, while investigators were still exhuming mass graves in Bucha, Russian missiles struck a train station in Kramatorsk, in eastern Ukraine. Thousands of women, children, and elderly people had gathered with their luggage and their pets, hoping to catch evacuation trains. The missiles killed at least 50 and injured more than a hundred others. Several children lost limbs.

Zelensky learned about the attack through a series of photos taken at the scene and forwarded to him that

The victim of a mortar attack in Bucha lies in her kitchen on April 6

morning. One lingers in his mind. It showed a woman who had been beheaded by the explosion. "She was wearing these bright, memorable clothes," he says. He could not shake the image that afternoon, when he walked into one of the most important meetings of his career. Ursula von der Leyen, the top official in the E.U., had traveled to Kyiv by train to offer Ukraine a fast track to membership. The country had been waiting for this opportunity for decades. But when the moment finally came, the President could not stop thinking about that headless woman on the ground.

As he took the podium next to von der Leyen, his face was a shade of green and his usual gift for oratory failed him. He could not even muster the presence of mind to mention the missile attack in his remarks. "It was one of those times when your arms and legs are doing one thing, but your head does not listen," he later told me. "Because your head is there at the station, and you need to be present here."

The visit was the first in a parade of European leaders who began coming to Kyiv in April. Smartphones were not allowed inside the compound during these visits. A large cluster of phone signals, all transmitting from one place, could allow an enemy surveillance drone to pinpoint the location of the gathering. "And then: kaboom," one guard explained, tracing the arc of a rocket with his hand.

Zelensky and his team still spent most nights and held some meetings in bunkers underneath the compound. But the Russian retreat allowed them to work in their usual rooms, On days when I came to the compound alone, the mood was more relaxed. Custodians dusted the cabinets and put fresh lining in wastebaskets. The first time it surprised me to find the metal detector and X-ray machine unplugged at the entrance while a janitor worked around them with a mop. Later it felt normal for a tired guard to glance in my bag and let me through.

Upstairs the war began to feel far away. Mykhailo Podolyak, one of a quartet of the President's closest advisers, declined to barricade the windows in his office. He didn't even close the drapes. When he invited me to meet him one day in April, the room was easy to find, because his nameplate was still on the door. "We go downstairs when we hear the air-raid sirens," he explained with a shrug, referring to the bunker. "But this is my office. I like it here."

Such faith in Kyiv's air defenses seems like a coping mechanism, the offspring of defiance and denial. There is no way to stop the type of hypersonic missiles that Russia has deployed against Ukraine. The Kinzhal—the name means dagger in Russian—can travel at more than five times the speed of sound while zigzagging to avoid interceptors. It can also carry one of Russia's nuclear warheads. But Podolyak sees no point in dwelling on this information. "The strike is coming," he told me. "They'll hit us here, and it'll all be ruins." There was no fear in his voice as he said this. "What can we do?" he asked. "We've got to keep working."

The fatalism functioned as an organizing principle. Some crude precautions—barricaded gates, bullet-proof vests—had felt necessary during the war's opening stage. Later, when

there was no longer a risk of Russian commandos bursting through the doors, Zelensky's team understood that such defenses were ultimately futile. They were facing an invader with a nuclear arsenal. They had decided not to run. What was the point of hiding?

ZELENSKY NOW WORKS most often in the compound's Situation Room, which is neither belowground nor fortified. It is a windowless boardroom with one embellishment: a trident, the state symbol of Ukraine, glowing on the wall behind Zelensky's chair. Large screens run along the other walls, and a camera faces the President from the center of the conference table. At around 9 a.m. on April 19, the faces of his generals and intelligence chiefs filled the screens in front of Zelensky.

Overnight, the President had given a video address to the nation, announcing the start of the battle for eastern Ukraine. Now he wanted to hear where the fighting was most intense, where his troops had retreated, who had deserted, what help they needed, and where they had managed to advance. "At certain points in the east, it's just insane," he told me later that day, summarizing the generals' briefing. "Really horrible in terms of the frequency of the strikes, the heavy artillery fire, and the losses."

For over a month, Zelensky had been texting with two Ukrainian commanders. They were the last defenders of Mariupol, a city of half a million people that the Russians encircled at the start of the invasion. A small force is still holding out inside an enormous steel factory. One of their leaders, Major Serhiy Volynsky of the 36th Separate Marine Brigade, had been in touch with Zelensky for weeks. "We know each other well by now,"

'I've aged from all this wisdom that I never wanted.'

—Volodymyr Zelensky



Zelensky told me. Most days they call or text each other, sometimes in the middle of the night. Early on, the soldier sent the President a selfie they had taken together long before the invasion. "We're even embracing there, like friends," he says.

The Russian assault on Mariupol has decimated the brigade. Zelensky told me about 200 of its troops have survived. Before they found shelter and supplies inside the steel factory, they had run out of food, water, and ammunition. "They had it very hard," Zelensky says. "We tried to support each other."

But there was little Zelensky could do on his own. Ukraine does not have enough heavy weaponry to break through the encirclement of Mariupol. Across the east, the Russian forces have



Zelensky addressing the Portuguese parliament via videoconference on April 21

clear advantages. "They outnumber us by several times," says Yermak.

In almost every conversation with foreign leaders, Zelensky asks for weapons that could help level the odds. Some countries, like the U.S., the U.K., and the Netherlands, have agreed to provide them. Others wavered, most critically the Germans. "With the Germans the situation is really difficult," Zelensky says. "They are acting as though they do not want to lose their relationship with Russia." Germany relies on Russia for a lot of its natural gas supplies. "It's their German

pragmatism," says Zelensky. "But it costs us a lot."

Ukraine has made its frustration clear. In the middle of April, German President Frank-Walter Steinmeier was already on his way to visit Kyiv when Zelensky's team asked him not to come.

At times the President's bluntness can feel like an affront, as when he told the U.N. Security Council that it should consider dissolving itself. Olaf Scholz, the German Chancellor, told me he would have appreciated if Steinmeier had been invited to Kyiv "as what he is, a friend." But Zelensky has learned that friendly requests will not get Ukraine the weapons it needs. That is how Zelensky understands his core responsibility. Not as a military strategist empowered to move battalions around a map,

but as a communicator, a living symbol of the state, whose ability to grab and hold the world's attention will help determine whether his nation lives or dies.

His aides are keenly aware of that mission, and some give Zelensky mixed reviews. "Sometimes he slips into the role and starts to talk like an actor playing the President," says Arestovych, who was himself a theater actor in Kyiv for many years. "I don't think that helps us." It is only when Zelensky is exhausted, he says, that the mask comes off. "When he is tired, he cannot act. He can only speak his mind," Arestovych told me. "When he is himself, he makes the greatest impression as a man of integrity and humanity."

Perhaps it was lucky for me to meet the President toward the end of a very long day. Nearly two months into the invasion, he had changed. There were new creases in his face, and he no longer searched the room for his advisers when considering an answer to a question. "I've gotten older," he admitted. "I've aged from all this wisdom that I never wanted. It's the wisdom tied to the number of people who have died, and the torture the Russian soldiers perpetrated. That kind of wisdom," he added, trailing off. "To be honest, I never had the goal of attaining knowledge like that."

It made me wonder whether he regretted the choice he made three years ago, around the time we first met. His comedy show had been a hit. Standing in his dressing room, he was still glowing from the admiration of the crowd. Friends waited backstage to start the after-party. Fans gathered outside to take a picture with him. This was just three months into his run for the presidency, when it was not too late for Zelensky to turn back.

But he does not regret the choice he made, not even with the hindsight of the war. "Not for a second," he told me in the presidential compound. He doesn't know how the war will end, or how history will describe his place in it. In this moment, he only knows Ukraine needs a wartime President. And that is the role he intends to play. —With reporting by NIK POPLI/WASHINGTON and SIMMONE SHAH/NEW YORK

Portraits of the Unbowed

Russians protest the war in Ukraine despite beatings, jail, and loss of livelihood

Photographs and interviews by Mary Gelman

WHEN WORDS ARE SO CLOSELY controlled that it's a crime to call a war a war, what drives someone to speak out?

The Russian protesters seen here cite a variety of things. One is a sense of moral responsibility: to fight tyranny and to put an end to a conflict that is claiming the lives of Ukrainian civilians. For some, it's anger—rage that such crimes are being carried out in the name of the Russian people, and that authorities have detained thousands of Russians for daring to protest.

Undergirding all these feelings, however, is an enduring hope: a dream of a better, freer Russia, and an end to the violence in Ukraine.

"Hope gives you the strength to act," says Mary Gelman, the Russian photojournalist who made these portraits. "If you think that everything is doomed and you are nothing, you become a very comfortable instrument for the regime."

Katya, who lost her job at Moscow cinemas after signing a letter protesting the invasion, takes heart from other dissidents. "I see a lot of likeminded people who inspire me, and I am not so afraid with them here," she says. "We have us, and we haven't been broken. There are more of us who are against this, but the power wants to convince us it's the opposite."

Hope is also an important motivator for Gelman herself, who has chosen to continue working as a photojournalist despite considerable risks. Even before the invasion of Ukraine, journalists who contradicted the government-sponsored narrative in Russia faced harassment, imprisonment, and even death. Gelman sees it as her duty to show different points of view—something that's even more essential in a time of censorship and propaganda, she says.

"Loving your motherland does not mean supporting the power and always agreeing with them," Gelman explains. "It's wanting a better life for your people, saying to the authorities, 'No' or 'You're wrong,' and trying to change something if needed. It's hard to do it in this authoritarian regime, but necessary." —TARA LAW



PALAD'D'A, a St. Petersburg artist, feminist, and member of the Udmurt people, spoke out against the war on social media. She was imprisoned for two days. "I don't think the monsters will disappear if you close your eyes ... The main thing is not to keep silent."







ELENA was sentenced to five days' imprisonment for wearing a green ribbon, a symbol of peace, in her hair. "I can talk only about this war. Other topics are pointless to me. To be apolitical now is a crime."

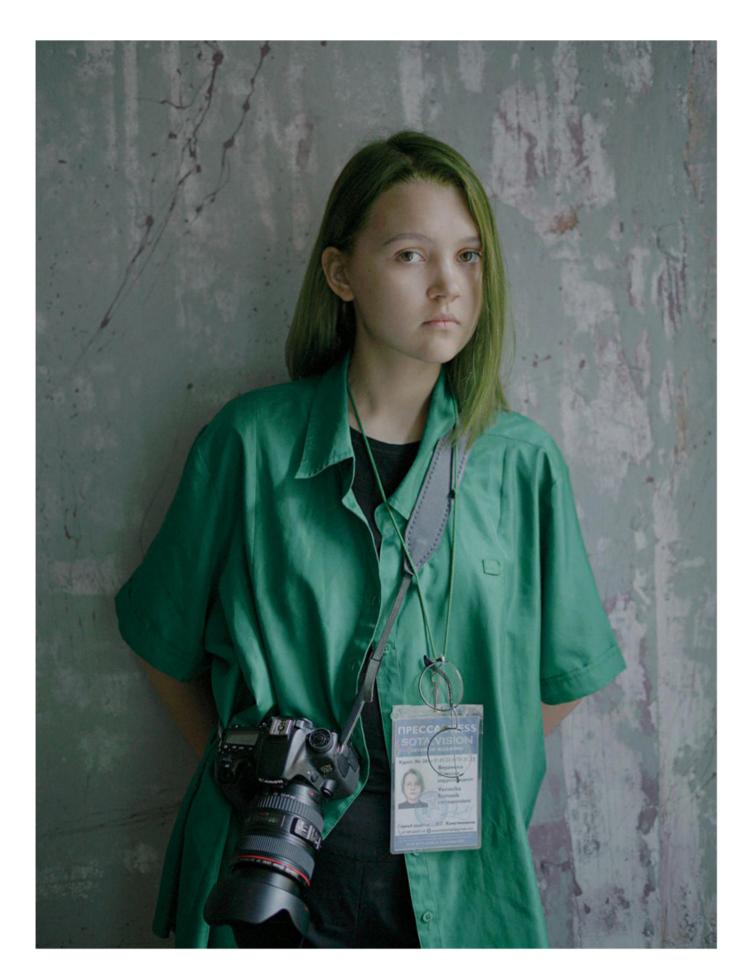
*ELENA OSIPOVA, a 77-year-old artist known as the "conscience of St. Petersburg," mounted her first protest in 2002. The day of the Ukraine invasion, a Moscow reporter phoned her for comment. "I said, 'The Russian Führer comes to Anschluss.'"



MISHA attended antiwar protests in St. Petersburg, and was tased by police and imprisoned for five days. "I believe we can build a country that is free, proud, and open to the world. But first, the war must end!"



ZLATA, who has HIV and cervical cancer, was arrested at a protest and imprisoned for 15 days. "The police took our phones, insulted me, and called me a 'whore' and 'contagious' ... They dragged me across the floor, beat my arms, and spat at me."



NIKA, a student at St. Petersburg State University, faces expulsion for antiwar activities. She has been detained five times for her work as a photojournalist for the independent media organization SOTA. "We are doing everything to stop this madness."

> KATYA lost her job after signing a letter protesting the invasion. "What's happening now is really a tragedy. I am worried about the intensification of repression; I have a feeling that people like us are not welcome here."





The Quiet European

Chancellor Olaf Scholz is charting a new course for Germany at a time of historic crisis. He just doesn't want to talk about it



THREE DAYS AFTER RUSSIA ORDERED troops into Ukraine, German Chancellor Olaf Scholz stood before the Bundestag, the federal Parliament in Berlin, and addressed the lawmakers in a special Sunday session. "Feb. 24, 2022, marks a watershed moment in the history of our continent," he said, calling the Russian invasion a *Zeitenwende*, an epoch-changing event.

Scholz, who had taken office only a couple of months earlier, met this historic moment with a response that would overturn decades of military policy—and with it, a crucial part of postwar German identity. He announced a €100 billion plan to boost the country's notoriously depleted armed forces, promised to end reliance on Russian fossil fuels, and, for the first time since the Second World War, declared Germany would send weapons to a conflict zone. "The issue at the heart of this is whether power is allowed to prevail over the law," Scholz told his Parliament, "or whether we have it in us to set limits on warmongers like Putin."

Exactly what those limits should be—and how quickly Germany should impose them—has been the subject of fierce debate in the two months since. For decades, Germany has been an economic powerhouse with a military that lagged behind, embracing pacifism in atonement for the Holocaust and other devastations it caused in the 20th century. With his Zeitenwende speech, Scholz presented a road map for Germany to emerge as a true global power with a military to match. "We have to be strong enough. Not so strong that we're a danger to our neighbors," Scholz says, during an April 22 interview with TIME, his first with a major Englishlanguage publication since the start of the war. "But strong enough."

The announcement of this new era

for Germany was met warmly by allies around the world, many of whom had complained about Germany's hesitancy in the run-up to the invasion. And though the speech raised questions at home, the three parties in his coalition quickly swung into line, as did the broader public: a March 1 poll for the broadcaster RTL found that 78% of Germans supported Scholz's plan to send weapons to Ukraine and fund improvements to the German army. "It was a really great moment," Marie-Agnes Strack-Zimmermann, chair of the Bundestag Defense Committee, says of the speech. "And then it went quiet."

Quiet is Scholz's hallmark trait. A reserved man who, as his biographer Lars Haider puts it, "deliberately does not answer questions directly," Scholz has yet to find his political rise impeded by his apparent reluctance to explain himself. But in this moment of historic crisis, when the future not just of Ukraine but of the entire European order hangs in the balance, his subsequent reticence has inflamed critics at home and abroad, turning the expectations raised by the Zeitenwende speech to widespread frustration.

When it comes to military and financial aid, the international perception has been that Europe's largest economy is shirking its responsibilities at a time when smaller nations, from Poland to Estonia, are stepping up to provide hefty donations of money and weapons. It was only on April 26, after weeks of conflicting deflections, that Scholz answered Ukraine's pleas and agreed to send heavy weapons directly.

And then there is the matter of imported Russian oil and gas. Not even the killing of hundreds of civilians in Bucha or the brutal siege of Mariupol—which Scholz calls "immoral crimes"—have persuaded the Chancellor to implement an immediate embargo on Russian fossil fuels.

Now that Gepard tanks will be rolling across Ukraine—a rare delivery of heavy weapons systems from a Western nation's own stockpile—the decision is being cast by many as the Chancellor caving to criticism from allies. But when he spoke with TIME four days earlier, Scholz seemed immune to pressure, calmly maintaining instead



that he was committed to the promises of the Zeitenwende speech, was working as fast as possible in tandem with Germany's allies—and trying to avoid a dangerous escalation in hostilities.

In his view, he has been entrusted by the German people to lead based on what he believes—and not what polls say—is right for the country. "If you are a good leader," Scholz says, "you listen to the people, but you never think they really want you to do exactly what they propose."

ON THE WINTER DAY in 2021 that Chancellor Angela Merkel's 16 years in power came to an end and Scholz took office, his father told a reporter that his son was just 12 years old when he declared he wanted to become Chancellor. It's not hard to believe; Scholz joined the center-left Social Democratic Party (SPD) while he was still in high school. After practicing law for several years, he entered the Bundestag in 1998 and soon





Scholz receives a standing ovation after his speech to the German Parliament on Feb. 27

rose through the party ranks, becoming general secretary in 2002.

Although he left Parliament for a successful seven years as mayor of Hamburg, the city where he grew up, he returned in 2018. He was serving as vice chancellor and finance minister in the "grand coalition" government that Merkel's Christian Democratic Union (CDU) had formed with the SPD, when she announced she would be retiring in 2021. Scholz lost his initial bid to become party leader, but his robust response as finance minister to the COVID-19 pandemic—as well as a simple campaign theme of "respect" that resonated with working-class voters helped him regain the top spot and, with it, the chancellery. If it's daunting to fill the shoes of a leader in power for so long that she was affectionately nicknamed "Mutti," he doesn't admit it.

Like his predecessor, Scholz is tightly guarded about his personal life. Over the course of two hours with TIME, he divulges few details: he played the oboe as a child, he didn't have an Easter break because of the war, and he took up running in his 40s on the advice of his wife, fellow SPD politician Britta Ernst. He otherwise spends what little free time he has reading history books and newspapers. Government spokesperson Steffen Hebestreit jokes that he rarely has to give his boss a press review in the morning. "When he comes in, he's already read everything."

If the media's heavy criticism of his handling of the war made for a tough morning the day we meet, the Chancellor doesn't show it. It's fitting for a man whose dry communication style earned him the moniker "Scholzomat" (as in, Scholz the automaton). In this, Scholz shares another key similarity

with Merkel, Haider says. "He is not a great communicator. He works hard and prefers to speak out only when there is something to say." Unlike many politicians who woo voters with rhetoric and charm, Scholz has never been one for effusive expression or even the clear explanation of his actions. If Volodymyr Zelensky is Europe's great orator, Scholz is his opposite: reserved instead of emotive, methodical instead of spontaneous, and reticent to the point of opacity about his decisionmaking.

His supporters find his combination of work ethic, knowledge, and restraint reassuring. Comparing the Chancellor with his British counterpart Boris Johnson, SPD lawmaker Adis Ahmetovic observes that while Johnson is "a performer, an entertainer, Olaf Scholz is a leader." And the Chancellor cites his electoral success as proof that his understated approach works. "The first rule for a politician is to be yourself," he says. "Leadership needs to be clear, to have a course, an idea about where the country has to go."

Scholz's idea of where the nation should go is, of course, shaped by where it has been. "Living in Germany, you can't go away from the disasters of the first half of the 20th century, which were caused by Germany. It is in all the things we do politically, and it is in my mind too, because we have a historic responsibility to help secure peace." For Germany, that means learning to think beyond itself to the broader collective. "We should be the nation that is willing to find the European solutions that are good for all, not just for our country."

IN THE WEEKS before the Russian invasion, Scholz was criticized for not doing enough. Behind the scenes, he says he was preparing to respond to a Russian invasion. On Feb. 15, the Chancellor flew to Moscow in a last-ditch attempt to avert war. Describing that meeting as a "very bad experience," Scholz says he pushed back as Putin expounded on his ideas of a "greater Russia." "I was saying: 'Please understand, if politicians start to look at history books for where borders were before, we would be at war for hundreds of years."

Younger Europeans might take for granted the international order that

has allowed for decades of stability on a continent marred by centuries of bloodshed, but the 63-year-old Chancellor grew up in a divided Germany and believes deeply in the importance of the European Union, NATO, and the principles of sovereignty and territorial integrity that underpin those alliances. Nine days after Scholz's Moscow trip, Putin ordered troops into Ukraine and shattered that rules-based order. "The invasion is a really severe injury to European peace," he says, gesturing for emphasis. "We are fighting for Ukraine's sovereignty. No country is the backyard of another; this is an imperialistic view of politics. And this is why we had to react as strongly as we did."

A shift away from the pacifism that had defined decades of policy may have been seismic for Germany, but critics say Scholz's follow-through is too hesitant. "We Germans are sleeping," says Thomas Erndl, deputy chairman of the Bundestag's committee on foreign affairs and a member of the opposition, "while the U.S. is taking a leadership role and Eastern European countries are taking a leadership role."

By the end of March, Germany had supplied Ukraine with just €1.2 million of military aid—none of it in heavy weapons—while tiny Estonia had managed to come up with €2.2 million. (When pressed, Scholz notes that as Europe's largest economy, Germany contributed a major share to the E.U.'s €1.5 billion military aid package.) After the atrocities in Bucha emerged in early April, leading members of Scholz's governing coalition began pushing harder for the delivery of heavy weapons. The pressure increased on April 20-and threatened to blossom into a full-blown scandal—when the newspaper Bild revealed that a list of available weapons submitted by the defense industry at the end of February had not been turned over to Ukraine until April, and only then with about half the original options removed.

Scholz insists that Germany's deliveries are perfectly aligned with that of its allies. How, then, would he explain the criticism leveled at his government? "That is perhaps a good question for you to answer," he replies, with a tiny, sphinx-like smile. In mid-April, as the

U.S. began delivering heavier-duty weapons, Berlin began ramping up its own support. On April 15, it doubled an existing €1 billion military support fund for foreign nations, most of which will go to Kyiv. On April 21, it released a plan to replenish Soviet-era tanks and armored vehicles from Eastern European countries with models from its own stocks, as well as to train Ukrainian soldiers in Germany to use Netherlands-supplied Panzer Howitzers. And on April 26, Berlin announced it would send about 50 Gepard anti-aircraft cannon tanks, its first direct delivery of heavy military equipment to Ukraine.

For weeks leading up to this pivotal moment, however, the chancellery had offered contradictory explanations for why it wasn't doing more. Scholz insists that these were not delay tactics and that he was simply taking the time necessary to avoid unnecessarily escalating German engagement in isolation. "There will be no activity of Germany that is not absolutely part of the activities of our allies," he says.

But as Germany has waited to see what others are doing before stepping up, even members of Scholz's own coalition have grown frustrated. "The war has been going on for 60 days," says Strack-Zimmermann. "In a situation that terrible, every day counts."

MEANWHILE, GERMANY'S PAYMENTS

to Russia continue. In February, Scholz halted his country's €10 billion Nord Stream 2 gas pipeline project, which had been designed to double the flow of Russian gas into Germany. But he has refused to impose an immediate embargo on the import of Russian fossil fuels. "We are implementing sanctions that will hurt Russia," he says. "But not hurt us more than they do the Russians."

Cutting off Russian fossil fuels would definitely hurt. With few energy resources of its own, Germany relies heavily on imports, and, in 2021, got

'We have a historic responsibility to help secure peace.'

roughly 50% of its coal, 34% of its oil, and 55% of its natural gas from Russia, according energy think tank Agora Energiewende. Although it has reduced that significantly since the start of the war, it is still among the most dependent countries in Europe.

Berlin ignored warnings from the U.S. and the Baltic states about that dependency—which only expanded after Russia's annexation of Crimea in 2014. Developing closer ties with Russia had been a priority for a succession of Chancellors, with its roots in Willy Brandt's Ostpolitik—or "east policy"—that sought stability through engagement with Russia, and helped Germany atone for its postwar guilt. (As many as 24 million Soviets died in World War II, the highest death toll of any nation.)

Over time, that belief in change through engagement morphed into one that held that the best way of assuring geopolitical security was to tie Russia into a mutually beneficial trade relationship. Germany got cheap oil to fuel its booming industry, while Moscow gained political influence, most notoriously with former Chancellor Gerhard Schröder, who sits on the boards of multiple Russian energy companies.

Scholz is clear that the era of codependency is coming to an end, but he takes the long view. "We are preparing for getting out of the situation," he says, with emphasis on the *preparing*. In line with sanctions that the E.U. recently imposed, Germany plans to phase out Russian coal by the end of summer. By the end of the year, the same will be true of oil imports, Foreign Minister Annalena Baerbock has said. But cutting off natural gas will take longer due to fewer alternative sources and the need to build the infrastructure to transport and store them.

Scholz notes that Germany is working hard to quickly build that infrastructure—and that once it does, as part of its green transition, there is no going back. "Russia really misunderstands the intensity and the earnestness with which we are working on getting rid of the necessity to import any fossil fuels."

However laudable those goals may be, it doesn't change the more immediate needs. Anton Hofreiter, chair of the Bundestag's committee on Euro-



German Chancellor Angela Merkel welcomes Scholz during a cabinet meeting on Jan. 9, 2008, in Berlin

pean affairs and a member of the Green Party that is part of the governing coalition, argues that embargoes on coal and oil—alternative sources for which can be more easily found—should take effect much sooner than the government has planned. As in: the next few weeks. "The Putin regime earns so much money selling oil—from two to four times as much as it does selling gas," he says. "So if we are serious about cutting off the regime from its money supply, it's important we act fast."

For now, Scholz is following the lead of Germany's industry, which warns that an abrupt cutoff would lead to factory closures and mass unemployment. On April 22, the Bundesbank, Germany's central bank, reported that an energy embargo now would cause the German economy to contract 5% over predictions for 2022, and provoke one of the deepest recessions in decades. But that amount roughly corresponds to the 4.6% that the German economy shrank in the first year of the pandemic, which helps explain why many economists conclude that such a contraction would be manageable especially if the government applies some of the same tools it did during that crisis. "There would be a recession and there might be some scarcity," says Veronika Grimm, an economist at the University of Erlangen-Nüremberg, who sits on the council of economic experts advising the Berlin government. "But it would not be a catastrophe."

Scholz's rejection of an immediate embargo, coupled with his characteristic reluctance to explain himself, has left some wondering if the German political elite remains conflicted over how to handle Moscow. But when pressed on whether he envisions some kind of rapprochement with Russia, Scholz concedes that there is no going back. While Russia will remain, as he puts it, "a reality" with which Ukraine will have to reach an agreement for peace, "there will never be a special relationship between Germany and Russia that is not the European relationship with Russia."

THERE IS NO DOUBT that under Scholz, Germany has made a dramatic aboutface. "A few weeks ago, hardly anyone could have imagined that Germany would deliver weapons to a war zone at all; today they should be as heavy and effective as possible," says Haider, who sees the German tendency to think in absolutes as part of the reason many believe Scholz isn't doing enough.

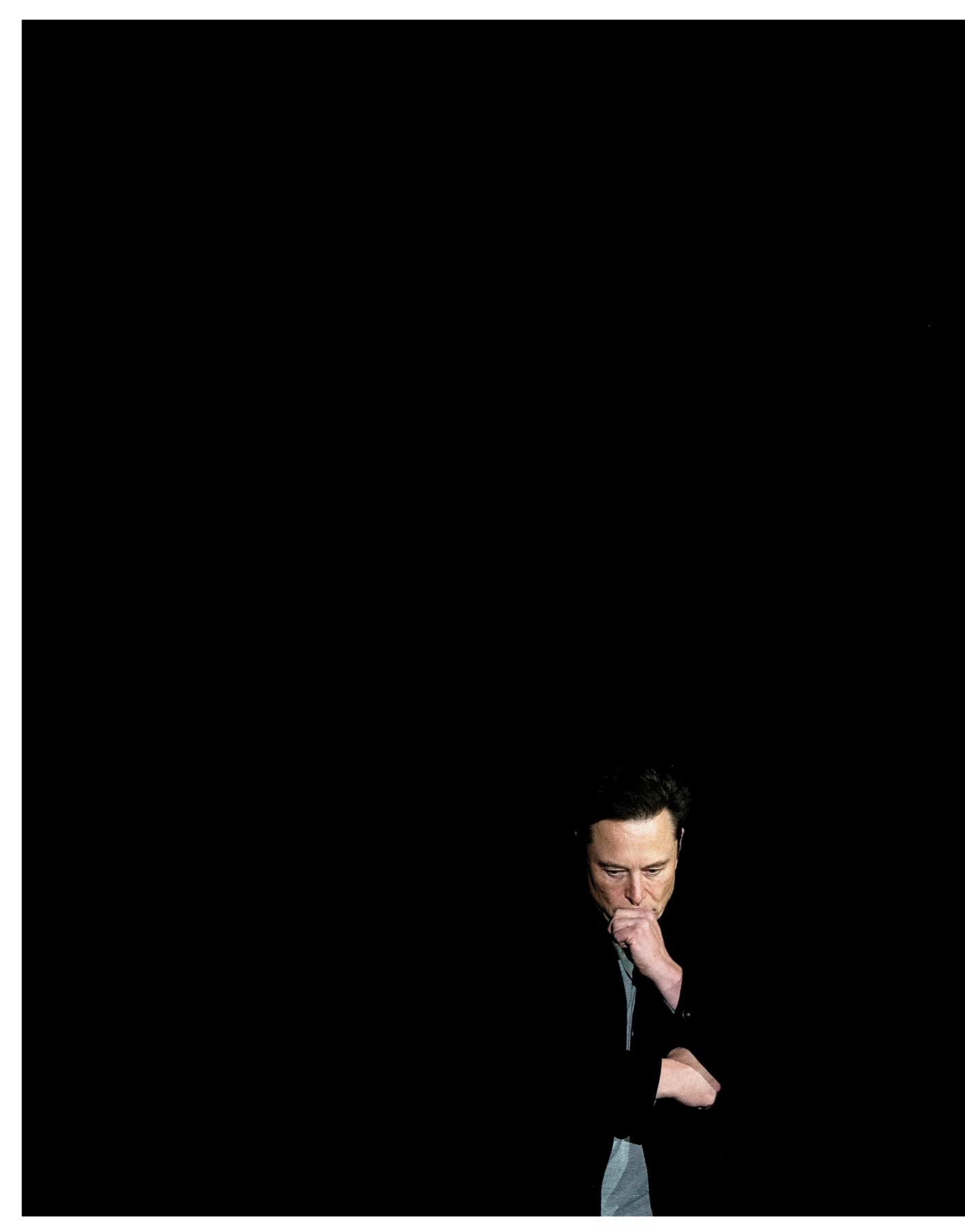
But the other is a communication problem. "We are not telling the story," defense committee chairwoman StrackZimmermann says. "We must explain what is happening in Ukraine and what it means to Germans and to Europe. We must explain to our allies what we are doing with weapons. And OK, he's a quiet guy. But he needs to talk."

Claudia Major, an analyst at the German Institute for International and Security Affairs, argues that the lack of communication also impedes Scholz's ability to bring about a real Zeitenwende at home. "To change the way a country behaves in security and defense policy—and this is what was announced in the speech—takes years," she says. To pull it off, "you would need a long-term implementation plan for constant explanation on why the world has changed, how it has changed, and what needs to be done about it." Without regular and clear explanation of policies, she adds, the rest of the world is left wondering whether Germany can't do something or whether it just doesn't want to.

And without a narrative, not even actions might register. "We have made some progress in the last few days," law-maker Hofreiter says on April 25. "But when I talk to colleagues from other European countries, they all say, 'We are still waiting for Germany."

Yet if Scholz is a reluctant communicator, he is not a reluctant leader. He remains unperturbed by the tide of criticism rising around him. In part, that is just the nature of a man who, according to spokesperson Heiberstreit, lives by two rules: don't get hysterical, and don't get offended. But it's also because he believes that Germans themselves are conflicted on the best course of action. "As a politician, I always have this feeling of two hearts in your breast," he says. On the one hand, people urge him to do everything he can to stop Russian aggression. On the other, they want him to do avoid any escalation—especially with Putin's threats of nuclear war.

And because they understand that there are tough decisions to be made, they look to those who lead them. "I trust the people," Scholz says. "And I'm sure they trust that we will do the job of thinking through all the difficult things." —With reporting by SIMON SHUSTER/BERLIN, ELOISE BARRY/LONDON, and LESLIE DICKSTEIN/NEW YORK



BUSINESS

TWEET STORM

TWITTER'S EMPLOYEES WEIGH WORKING FOR ITS NO. 1 TROLL

BY BILLY PERRIGO

THERE'S AN OLD JOKE AMONG TWITTER EMPLOYEES THAT being on the platform is like playing a huge online multiplayer game where every day there's a different main character—meaning a person who's critiqued, harassed, or otherwise shoved into the spotlight. According to the joke, you have just one goal: never become that main character yourself.

One day in 2018, Twitter's main character was Vernon Unsworth, a British diver who'd spent days assisting the rescue of Thai boys trapped in a flooded cave. After billionaire Elon Musk offered a minuscule submarine to the rescue divers, Unsworth told the media that Musk's idea was just a useless PR stunt. Musk then took to Twitter, where (in tweets that he later deleted) he baselessly accused the man of being a "pedo guy," or pedophile. The tweets prompted hundreds of Musk fans to pile on to the diver with abusive, humiliating attacks. Musk subsequently apologized for the tweets in court, saying he did not mean them literally.

The saga was an example of dogpiling: a phenomenon in which powerful Twitter users spur legions of fans to harass others. For years, Twitter employees have been working—albeit with limited successes—to reduce dogpiling and other abuse.

On April 25, those Twitter employees learned that Musk, architect of the "pedo guy" saga and many others over the years, could become their new boss—after the board accepted a \$44 billion bid from the world's richest man.

In statement announcing that Twitter had agreed to let him purchase the social network, the CEO of Tesla and SpaceX spoke in grandiose terms familiar to anyone who follows his pronouncements on colonizing Mars or building EVs: "Free speech is the bedrock of a functioning democracy, and Twitter is the digital town square where matters vital to the future of humanity are debated," he said. But many fighting for democratic spaces online have questioned whether Musk's ownership of Twitter would undermine, rather than bolster, democracy.

With over 85 million followers, Musk has used his influential account to not only insult critics and share memes, but also, per regulators, to make "false and misleading public statements" that boosted Tesla's stock price and harmed investors.

Some Twitter employees believe this record bodes

PHOTOGRAPH BY JIM WATSON

especially poorly for the company's antiharassment efforts. "Multiple times, his followers have been the perpetrators of targeted harassment, and the use of his profile has encouraged dogpiling which are the exact behaviors we're trying to limit," said an employee on the platform's health team, which works on making the site a safer online space for users. "Since Trump was banned, Musk has become Twitter's power user No. 1," the person said. The employee, who was not authorized to speak publicly, feared a Musk acquisition would at the very least reduce user trust in Twitter's anti-abuse efforts, and at worst could result in the work being deprioritized or scrapped.

Members of marginalized communities—disproportionately the victims of online abuse—are among those most protected by Twitter's current content moderation. Activists from these communities share Twitter employees' concerns. "If Elon Musk were to take over, the damage that would be done would spread from Twitter workers not being able to implement the things they need in order to keep the platform safe," Jelani Drew-Davi, a campaign manager at the digital civil rights group Kairos, told TIME in the days before the deal. As an example of Musk's record, Drew-Davi cited a lawsuit alleging a culture of rampant racist abuse toward Black workers in a Tesla factory.

Since the explosion of social media over a decade ago, researchers have found that sites that privilege free speech above all else tend to become spaces where civic discourse is drowned out by harassment, restricting participation to a privileged few.

That finding has informed Twitter's recent work. While the company does remove tweets and ban accounts of severe offenders, it focuses more on nudging users to be kinder. A stated priority is facilitating "safe, inclusive, and authentic conversations." It has also pledged to "minimize the distribution and reach of harmful or misleading information, especially when its intent is to disrupt a civic process or cause offline harm." In cases where tweets are found to be bad for civic discourse but not illegal—like misinformation or insults—tweets often aren't deleted but removed from

recommendation algorithms, meaning that Twitter doesn't boost them to users who do not follow their author. It is unclear whether these priorities will continue under Musk.

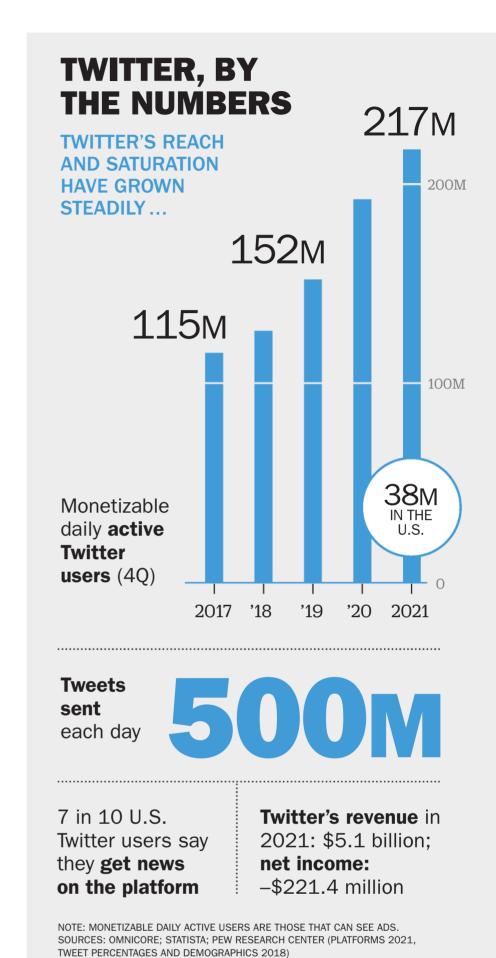
"In a way, [Musk's] goals are aligned with ours in that we are certainly interested in protecting democracy," says the Twitter employee on the health team. "But the idea of bringing more free speech to the platform exposes his naiveté with respect to the nuts and bolts. A lot of platforms [have been] founded on this free-speech principle, but the reality is that either they become a cesspool that people don't want to use, or they realize that there is actually the need for some level of moderation."

Business analysts point out that content moderation is good for profits too. Without it, Twitter "would be swamped by spam, porn, antivaccination misinformation, QAnon conspiracies, and fraudulent campaigns," said Paul Barrett, deputy director of the NYU Stern's Center for Business and Human Rights, in a statement. "That's not a business that most social media users or advertisers would want to associate with."

Musk's takeover deal took several twists and turns, as Twitter's board of directors seemed reticent, adopting a strategy known as a "poison pill" to ward off a takeover. From the start, Musk cast his quest as flying in the face of intransigent Silicon Valley elites, often aligning with GOP talking points that conservatives are being unfairly censored online and—in a move that could open the door for former President Donald Trump's return to the platform—has said he would prefer "time-outs" for users who break the site's rules, rather than permanent bans. (Twitter banned Trump permanently after Jan. 6, 2021,

'SINCE TRUMP WAS BANNED, MUSK HAS BECOME TWITTER'S POWER USER NO. 1.'

—TWITTER EMPLOYEE



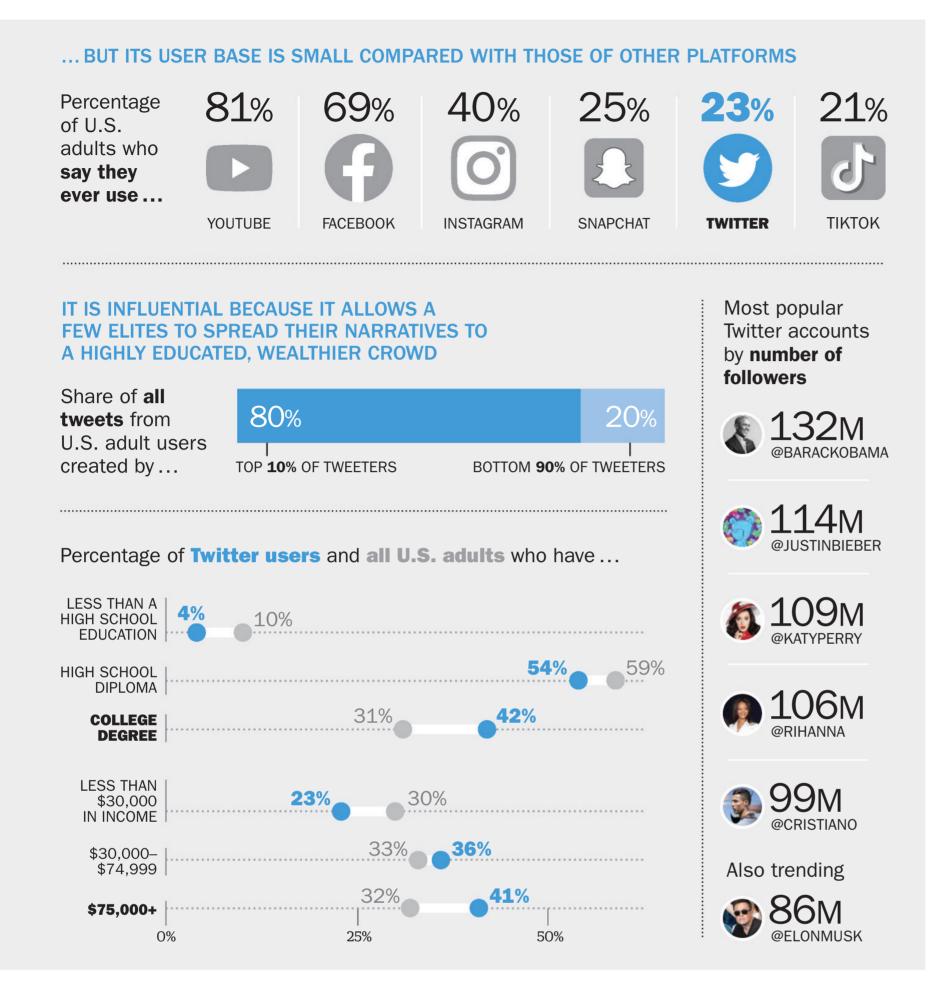
for incitement to violence during his attempt to undemocratically overturn the results of the 2020 election.)

results of the 2020 election.)

ALONGSIDE VAGUE COMMITMENTS to

add an edit button and get rid of spam, Musk's most substantial call has been for Twitter to be more transparent about its algorithm's decisionmaking. But Twitter is already among the most transparent of all social networks in terms of researching its own flaws and sharing the results.

That research suggests, in practice, more conservative views may have benefited most from Twitter's algorithm. Last October, Twitter found that, in the run-up to the 2020 election in the U.S., right-wing partisan news sources received a greater boost from its algorithm than moderate or left-leaning news sources. It also found a similar effect for politicians in six out of the seven



countries studied, including the U.S.

Six months on, the team behind that research is continuing its work on algorithmic bias, amid suggestions from some conservatives that such work means meddling with freedom of speech. Early indications suggest, according to Twitter, that the platform's boosting of center-right politicians isn't an intrinsic quality of its algorithm. Instead, researchers found that amplification shifts in line with the topics people care about and changes in how users behave. The data is helping the researchers better understand the algorithmic amplification of political content, which may one day allow the company to intervene as dangerous real-world events unfold. But doing so would be a political intervention necessarily based on Twitter's values. Overnight, those values appear to have changed from "facilitating healthy conversation" to Musk's selfprofessed free-speech "absolutism."

On Twitter, where discourse is limited to 280 characters per tweet, nuanced discussion isn't easy—and in the febrile climate, even Twitter's own employees run the risk of becoming the platform's dreaded main character. Rumman Chowdhury, the leader of the algorithmic amplification research team, suggested in a series of tweets that she was opposed to Musk's buying the company. Her comments referenced his capacity to weaponize Twitter mobs against critics. "Twitter has a beautiful culture of hilarious constructive criticism, and I saw that go silent because of his minions attacking employees," she wrote. Soon enough, she muted her notifications on the thread, adding: "the trolls have descended." —With reporting by JULIA ZORTHIAN

VIEWPOINT

WHAT MUSK BELIEVES

BY MOLLY BALL

"WE HAVE DEMOCRACY?" ELON Musk interjected, with an impish smile. He'd just been asked how worried he was about the state of the American system of government. "We have a sort of democracy, I guess," Musk went on, balancing his toddler son on his knee at a party marking his selection as TIME's Person of the Year last December. "We have a two-party system, which generally means that issues get assigned in a semi-random manner into one bucket or the other, and then you're forced to pick one bucket. Or like there's two punch bowls, and they both have turds in it, and which one has the least amount of turds? So I don't agree with, necessarily, what either party does."

The exchange was a revealing one, both for the answer Musk provided and the question he avoided. His interviewer, TIME editor-in-chief Edward Felsenthal, had hoped to engage him on the concern, widely shared among political experts, that our democracy is in danger—that the rule of law and free, fair elections are under threat from creeping authoritarianism, disinformation and institutional deterioration. But Musk seemed to regard American democracy as merely one of many temporary, inevitably flawed political arrangements undertaken in the course of our ongoing struggle for human progress.

If he were starting over, Musk volunteered, he might structure things quite differently. "People have asked me, say, a Mars society, what are my recommendations for that," he mused. He said he would favor a direct democracy where the people voted on issues, with short, simple laws to prevent corruption. Pressed again on the problems facing the current system, such as citizens' ability to access good information and express their preferences at the ballot box, he again redirected, suggesting such concerns are the gripes of congenital pessimists.

This posture—the head-in-theclouds futurist who is too fixated on his cosmic ambitions to engage with the grimy minutiae of governance—is a common affectation for Musk. But his stunning move to buy Twitter and take it private has made his views on politics, society, and human discourse a matter of urgent concern. The world's richest man stands soon to control the world's most influential media platform, a venture he claims to have undertaken not for profit but for the good of society. His nonanswer to the question about the state of American democracy shows why his politics is so hard to pin down and his goals are so widely misunderstood. It also helps explain why he wanted to buy Twitter.

MANY PEOPLE LOATHE MUSK, who has cultivated a public persona of roguish obnoxiousness. On Twitter, where he has more than 80 million followers, he alternates in-joke memes about sci-fi or computer chips with silly or provocative utterances, as if he were a random sh-tposter. His friend Bill Lee, who claims to have persuaded Musk to join Twitter in the first place, told me that Musk became "probably the most viral social influencer ever" by accident, not design, and that he viewed it as a way to let off steam and connect with people directly.

Musk has often used his platform in toxic fashion: sliming a heroic cave diver as a "pedo guy," grossly mocking a Senator's Twitter photo. His tweets have gotten him in trouble with the Securities and Exchange Commission, which sued him for misleading investors in 2018. But Musk generally does not concern himself much with other people's feelings, as his own brother Kimbal told me: "He is a savant when it comes to business, but his gift is not empathy with people."

Yet what matters isn't whether Musk is a nice person so much as what he wants with his \$44 billion platform. And it is in trying to read his motivations that both left and right seem to be getting Musk wrong.

MANY LIBERALS SEE MUSK as a rapacious profiteer whose dealings with government are aimed at maximizing his income and evading responsibility. But Musk's billions are mostly on paper, not hoarded offshore, a reflection of the value investors have assigned to Tesla. If he has sometimes paid little or no federal tax, that's mostly because our system taxes income, not wealth. Those who think Musk ought to be paying more taxes should blame the tax code, not him, as the liberal Senators who are trying to change the system acknowledge. "The scam is what's legal here," Senator Ron Wyden told me of the proposal he backs to tax billionaires' wealth.

Musk seems somewhat uninterested in being rich except as a means to realizing his ambitions for humanity. He has repeatedly driven himself to near bankruptcy, as when in 2008 he put up his own money to help Tesla make payroll through a tough stretch. He sees himself as an engineer and bristles at being described as an "investor." Before his Twitter bid, Tesla was said to be the only publicly traded stock he owned.

Another misconception about Musk is that his companies are bilking the government. In 2010, Tesla received a \$465 million federal loan, but that was years after Musk had poured millions into getting the company launched. Tax credits for electric vehicles also contributed to Tesla's bottom line for many years. But even if it were true that Tesla couldn't have made it without government help, it's odd to hear liberals criticize the deployment of public funds to encourage environmental innovation. (Such spending was a hallmark of Obama Administration policy; back in 2012, it was Republicans who painted Tesla as a Solyndra-like boondoggle.) SpaceX has also received billions of government funding in the form of NASA contracts, though the company similarly first had to get off the ground (so to speak) on the strength of Musk's will and wallet. And Musk's innovations in rocket design



Musk at a Tesla event in Austin on April 7

have arguably saved taxpayers billions, enabling, for example, astronauts to be ferried to the International Space Station for a fraction of the exorbitant price the U.S. previously paid Russia to do it.

Liberals also take issue with Musk's corporate leadership, and critics who assail his reckless disregard for public health and safety have a point. In 2020, Musk defied local public-health authorities to keep his factories open as the pandemic raged, putting workers at risk. Musk's companies have faced lawsuits over working conditions, including allegations of sexual harassment and racial abuse. In February, California's agency for fair employment claims alleged that Tesla tolerated "rampant racism" for years, allowing pervasive discrimination, which Tesla denies. Musk isn't personally accused of harassing workers, but he can certainly be blamed for the workplace climate at his companies.

Tesla has resisted union organizing,



which appears to be the reason the Biden Administration has lavished praise on the belated foray into electric vehicles of companies like General Motors while ignoring Musk's contributions. Such slights rankle Musk, for good reason: an American company has become the world leader in an industry vital to the future of the climate, yet the President appears too beholden to his political allies to even acknowledge, much less celebrate, its success.

Musk is not a fan of government regulation, seeing it as bureaucratic squelching of innovation, and has said he believes budget deficits are out of control and worrisome. He has also signaled opposition to the censorious "woke" culture that has come to dominate liberal discourse. His explanations

THE LESSON OF MUSK'S CAREER IS TO TAKE HIS AMBITIONS SERIOUSLY

for the Twitter purchase have centered on concern for free speech, which resonates with conservatives who believe they've been censored by the platform—none more so than Trump. All this has led many on the right to side with Musk. Before the deal closed, a group of Republican members of Congress sent a letter to the company's board, seeming to threaten a congressional investigation should it reject Musk's bid.

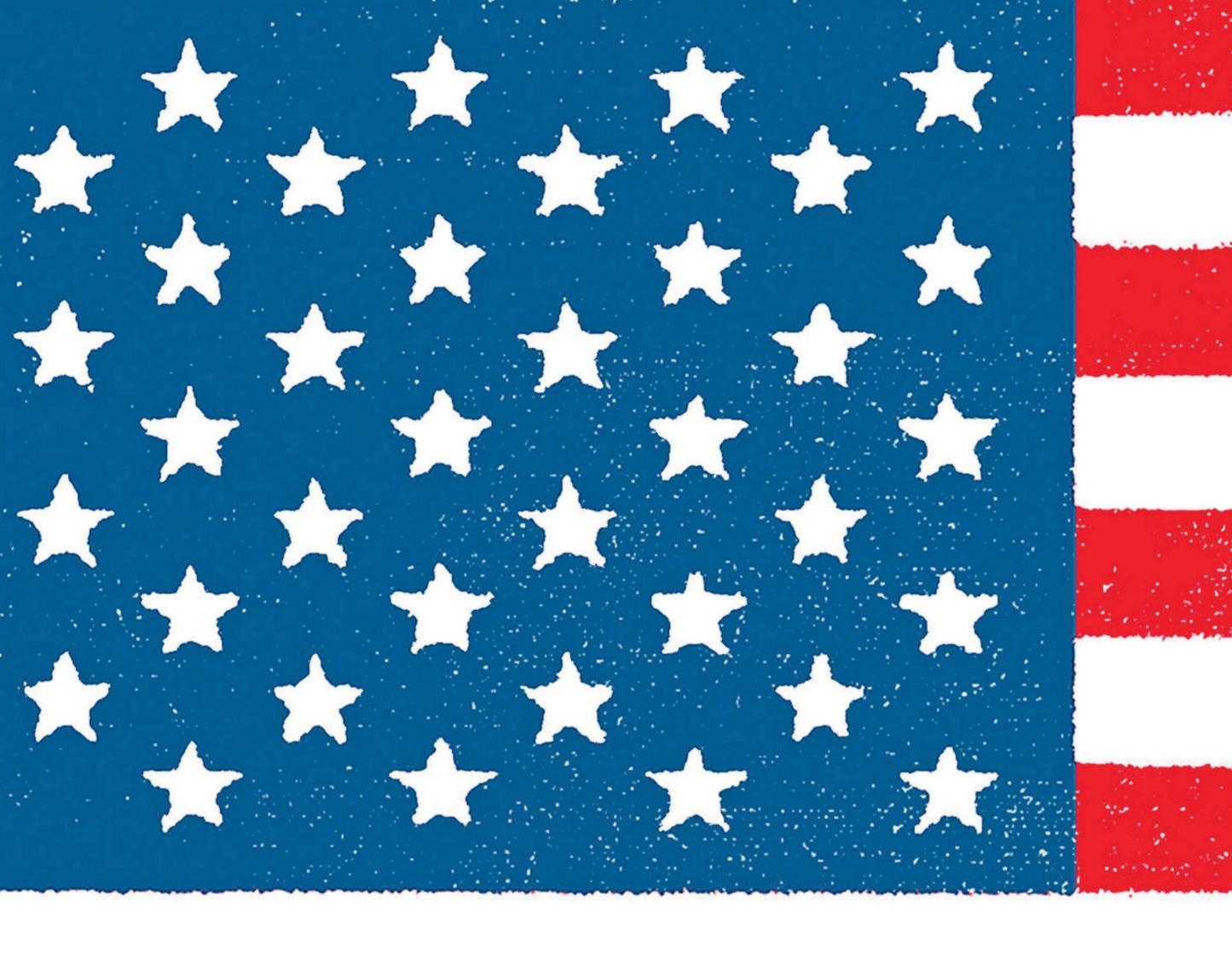
BUT THE CONSERVATIVES now celebrating his Twitter acquisition are likely mistaken to see him as an ally. Musk was such a strong supporter of former President Barack Obama that he once stood in line for six hours to shake his hand. After Trump was elected, Musk agreed to serve on two presidential advisory councils—the Strategic and Policy Forum and the Manufacturing Jobs Initiative—but he lasted less than six months, resigning from both in June 2017 in protest of the Administration's decision to pull out of the Paris climate accord. (In this, he showed less patience for Trump's antics than other CEOs: the councils were disbanded a

few months later, after Charlottesville.) Musk's careful neutrality on everything from Chinese human-rights abuses to Texas abortion law is an outrage to those who believe he's morally obligated to take a stand, but his orientation on many key public-policy issues appears broadly progressive.

As his answer to the democracy question showed, Musk sees himself transcending the left-right political divide. It's a view that has fueled his career: a rejection of assumptions and stale binaries and an ability to think through problems in new ways. The thing about Musk that critics miss is that he's not another businessman moving money across ledgers. When he took over Tesla, engineers and investors had been trying for decades to make electric cars viable; Musk had the vision to champion a new type of battery design and the guts to go all-in when many doubted it could work. When he started SpaceX, America had virtually abandoned the space race it once dominated; Musk taught himself rocketry and invented a spacecraft from scratch.

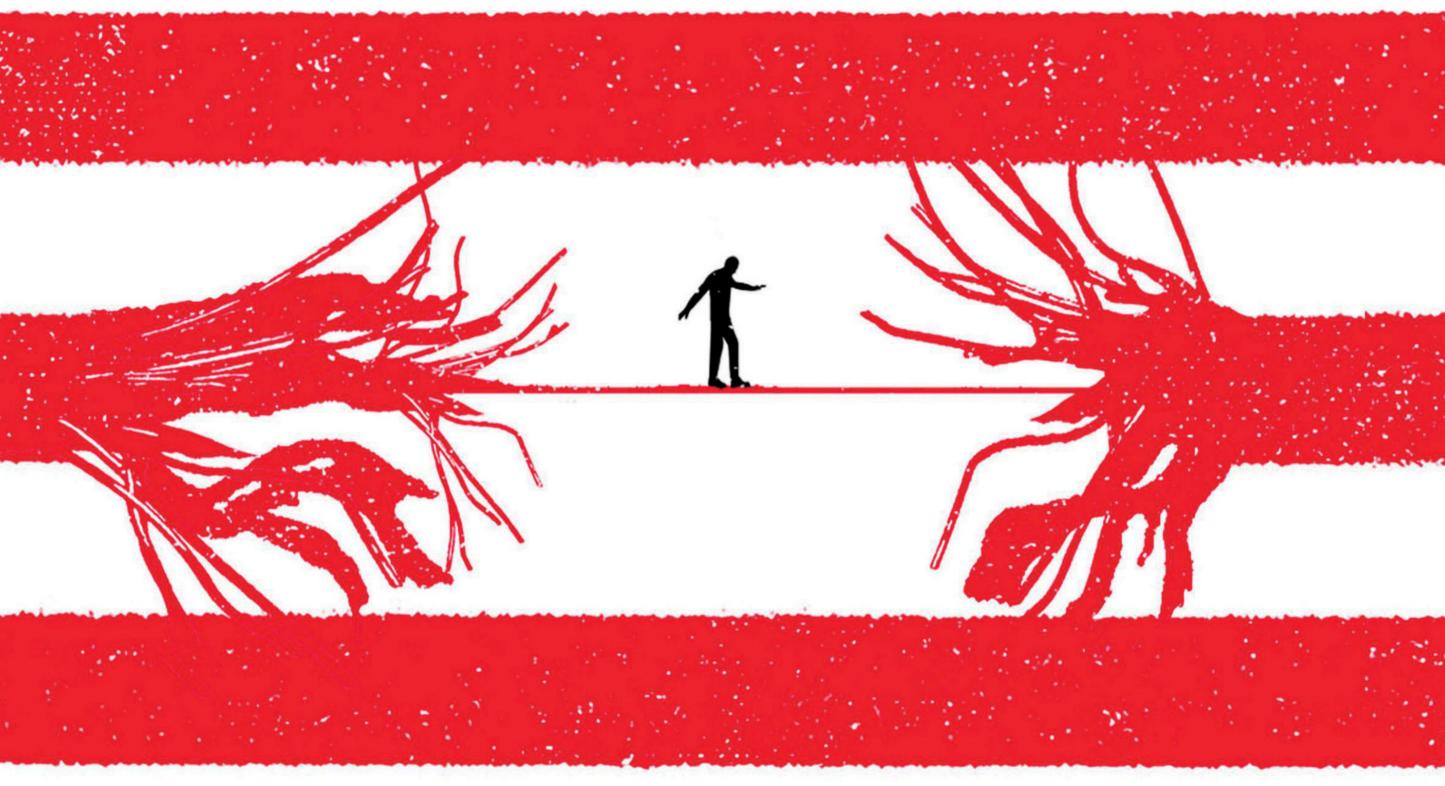
Liberals and conservatives may not agree on much, but virtually everyone sees that the digital public square is badly broken. It's not clear what ideas Musk will bring to the challenge—in a statement announcing the purchase, he proposed "enhancing the product with new features, making the algorithms open source to increase trust, defeating the spam bots, and authenticating all humans." If fixing social media were easy, someone would have done it already.

But the lesson of Musk's career is to take his ambitions seriously. He's rich not because he gamed the system but because he's a genius who uses the incredible force of his will to mobilize resources to pursue his ideas. He's devoted himself to tackling what he views as humanity's biggest problems, and he has decided, as he put it recently, that "having a public platform that is maximally trusted and broadly inclusive is extremely important to the future of civilization." Elon Musk has picked the next hard problem he wants to solve. Democracy could depend on whether he succeeds. —With reporting by MARIAH ESPADA



NATION

MIDDLE CLASS, LOW



HOPES

THEY THOUGHT THE PANDEMIC MIGHT BE A TIME TO CATCH UP FINANCIALLY. BUT THINGS ARE WORSE THAN EVER

BY ALANA SEMUELS AND BELINDA LUSCOMBE

Jeff Swope felt the first spurt of anger bubble up when he learned in February that his landlord was raising the rent on the empty two-bedroom apartment next door by more than 30%, to \$2,075 a month.

Although Swope, a 42-year-old teacher, and his wife Amanda Greene, a nurse, make \$125,000 a year, they couldn't handle that steep a rent increase—not alongside the student loans and car payments and utility bills and all the other costs that have kept growing for a family of three. "The frustration—it was always a frog in the boiling water type of thing. I'd always felt it, but on a basic level. Something's always brewing," says Swope from his modest apartment, where Atlanta Braves bobbleheads compete with books for shelf space. "We looked at the rent increase, and it was like, OK, this is ridiculous. I was like, 'What the—???'"

For Jen Dewey-Osburn, 35, who lives in a suburb of Phoenix, the rage arose when she calculated how much she owed on her student loans: although she'd borrowed \$22,624 and has paid off \$34,225, she still owes \$43,304. (She's in a dispute with her loan servicer, Navient, about how her repayments were calculated.) She and her husband know they're more fortunate than most—both have good jobs—but they feel so stuck financially that they can't envision taking on the cost of having children. "It's just moral and physical and emotional exhaustion," she says. "There's no right choices; it feels like they're all wrong."

The exasperation of Omar Abdalla, 26, peaked after his 12th offer on a home fell through, and he realized how much more financial stability his parents, who were immigrants to the U.S., were able to achieve than he and his wife can. They both have degrees from good colleges and promising careers, but even the \$90,000 down payment they saved up was not enough when the seller wanted much more than the bank was prepared to lend on the home they wanted.

Abdalla's parents, by contrast, own two homes; his wife's parents own four. "Their house probably made more money for them than working their job," he says. "I don't have an asset that I can sleep in that makes more money than my daily labor. That's the part that kind of just breaks my mind."

Middle-class U.S. families have been treading water for decades—weighed down by stalled income growth and rising prices—but the runaway inflation that has emerged from the pandemic is sending more than a ripple of frustration through their ranks. The pandemic seemed at first as if it might offer a chance to catch up; they kept their jobs as the service sector laid off millions, their wages started climbing at a faster rate as companies struggled to find workers, and they began saving more than they had for decades. About one-third of middle-income Americans felt that their financial situation had improved a year into the pandemic, according to Pew Research, as they quarantined at home while benefiting from stimulus checks, child tax credits, and the pause of federal student-loan payments.

But 18 months later, they increasingly suspect that any sense of financial security was an illusion. They may have more money in the bank, but being middle class in America isn't only about how much you make; it's also about what you can buy with that money. Some people measure it by whether a family has a second refrigerator in the basement or a tree in the yard, but Richard Reeves, director of the Future of the Middle Class Initiative at the Brookings Institution, says that what really matters is whether people feel that they can comfortably afford the "three H's"—housing, health care, and higher education.

Over the past year alone, home prices have leaped 20% and the cost of all goods is up 8.5%. Families are paying \$3,500 more this year for the basic set of goods and services that the Consumer Price Index (CPI) follows than they did last year. Average hourly earnings, by

contrast, are down 2.7% when adjusted for inflation. That squeeze has left many who identify as middle class reaching to afford the three *H*'s, especially housing. In March, U.S. consumer sentiment reached its lowest level since 2011, according to the University of Michigan's Surveys of Consumers, and more households said they expected their finances to worsen than at any time since May 1980.

"The mantra has been: work hard, pay your dues, you'll be rewarded for that. But the goalposts keep getting moved back," says Daniel Barela, 36, a flight attendant in Albuquerque, N.M., who is exquisitely aware that his father had a home and four kids by his age. Barela and his partner made around \$69,000 between them last year, and he feels as if he's been jammed financially for most of his adult life. He lost his job during the Great Recession and, after a major credit-card company raised his interest rate to 29.99% in 2008, he had to file for bankruptcy. "No matter what kind of job I've held and no matter how much I work, it never seems to be enough to meet the qualifications to own a home," he says.

Even if people Barela's age, who make up much of the middle class today, earn more money than their parents did, even if they have college degrees and their choice of jobs, even if they have a place to live, an iPhone, and a flat-screen TV, many are now sensing that although they followed all of American society's recommended steps, they somehow ended up financially fragile. "Our income supposedly makes us upper middle class, but it sure doesn't feel like it," says Swope. "If you're middle class, you can afford to do fun things—and we can't."

TIME TALKED TO DOZENS of people across the country, all of whose incomes fall in the middle 60% of American incomes, which is what Brookings defines as the middle class. For a family of three, that means somewhere between \$42,500 to \$166,900 today. Here's what we heard:

"The American Dream is an absolute nightmare, and I just want out at this point."

"It's really discouraging. I'm losing hope. I don't know what to do."



"We did what we're supposed to do—but we're just so cost-burdened."

"It's the most money I've ever made, but I still can't afford to buy a home."

"I've put down roots here. I don't want to be forced out."

Many mentioned resentment toward their parents or older colleagues who don't understand why this younger generation don't bear the hallmarks of the middle class, like a single-family home or paid-off college debt. "Boomers could literally work the minimumwage job, they could experience life go to national parks or have children and own homes. That's just not possible for us," says Julie Ann Nitsch, a government worker in Austin who, when the home she rents goes up for sale in May, will no longer be able to live in the county she serves.

They have a point. Homeownership has become more elusive for

Amanda Greene and Jeff Swope outside their rental in Canton, Ga.

each successive generation as real estate prices have outpaced inflation. More than 70% of people ages 35 to 44 owned a home in 1980, according to the Urban Institute, but by 2018, fewer than 60% of people in that age group had bought a place to live. The soaring value of owner-occupied housing, which reached \$29.3 trillion by the end of 2019, has created a divide, enriching the older Americans who own homes and shutting out the younger ones who can't afford to break into the market.

Millennials and younger generations came of age in the worst recession in decades, entered a job market where their wages grew sluggishly, and then weathered another recession at the beginning of the pandemic. Through it all, costs continued to rise. Median household income has grown just 9% since 2001, but college tuition and fees are up 64% over the same time period, while out-of-pocket health care costs have nearly doubled. Just half of all children born in the 1980s have grown up to earn more than their parents, as opposed to more than 90% of children in the 1940s. Both millennials and Generation X have a lower net worth and more debt when they reach age 40 than boomers did at that age, according to Bloomberg.

Their worries matter for the larger American economy. As Joe Biden said in 2019, "When the middle class does well, everybody does very, very well. The wealthy do very well and the poor have some light, a chance. They look at it like, 'Maybe me—there may be a way.'"

If the middle class is feeling left out of one of the strongest economies in decades, when the unemployment rate is at a historic low, it's a grave sign that social discord is coming. Right now, there's no Great Recession, no tech meltdown, no collapse of complex real estate investment products to explain away why things are tight. On the surface, the economy looks buoyant. But like Swope's slowly cooking frog, lots of middle-income earners are realizing that they're in hot water and going under.

"It's not like this volcano came out of nowhere," says Reeves, the Future of the Middle Class Initiative director. "To some extent, we've seen these longterm shifts in the economy like sluggish wage growth and downward mobility. It can take some time for the economic tectonic pressure to build sufficiently and now the volcano is erupting."

THE COSTS of all three *H*'s have soared over the past few decades, but it's the cost of housing—usually the largest and most crucial expenditure for any family—that is fueling so much of the current discontent. Housing prices have climbed steadily for decades, with the exception of a dip from 2007 to 2009, but growth reached a fever pitch in the past year. Few places are immune; more than 80% of U.S. metro areas saw housing prices grow at least 10%. In the Atlanta metro area, where Swope and Greene live, the median listing price is \$400,000, up 7.5% from last year. (They think they could afford a house that costs \$300,000.)

The rising prices are driven by a legion of forces, including a lag in building in the wake of the Great Recession, a rise in short-term rentals, speculation by institutional investors who own a growing share of single-family homes, a shortage of construction materials, and labor and supply-chain issues. They're exacerbated by growing demand from families looking to spend the money they've saved, boomers who are aging in place rather risking life in a facility during the pandemic, and millennials anxious to start a family.

The recent scramble to buy homes has been well documented, but in many places, renters are in a worse position than buyers. Rents rose almost 30% in some states in 2021, and are projected to rise further this year.

Trouble with the *H*'s

The middle class is getting squeezed as essential costs skyrocket. Average hourly earnings fell 2.7% from last year, making the three H's feel ever further away

HOUSING

Change in past year

+17% Rent

+**19.8%**Home prices

HEALTH CARE

Per capita spending on health care in the U.S.

\$**11,800**2020

\$**2,968**1980

HIGHER EDUCATION

+64%

Change in tuition and fees since 2001

\$36,635

Average studentloan debt in 2020

SOURCES: REALTOR.COM; S&P CORELOGIC CASE-SHILLER U.S. NATIONAL HOME PRICE NSA INDEX; CENTERS FOR MEDICARE AND MEDICAID SERVICES; NCES; EDUCATION DATA INITIATIVE David Robinson, 37, was born and raised in Phoenix and now lives with his girlfriend and three children in a modest three-bedroom apartment in Maryvale, which he considers a low-end part of town. In September, their rent went from \$1,200 a month to \$2,200, with extra fees, after, he says, "some property-management company based out of Washington [State]" bought the building. His rent now represents about 50% of his income as a utilities surveyor.

"It's kind of hard to do anything with your family," he says. "After buying clothes, food, and [paying] the other bills like electricity, water, stuff like that, the financial cushion wears really thin. I'm pretty much working to pay someone else's bills." He crosses his fingers that their cars hold out a little longer, not to mention their health.

Amanda Greene, Jeff Swope's wife, knows that feeling. She owes \$19,000 on her Toyota Corolla, which she downgraded to after her Jeep Cherokee died unexpectedly. And before she married Jeff and went on his health plan, insurance for herself and her 7-year-old daughter through her employer cost \$1,400 a month. Greene covered only herself, and paid out of pocket for her daughter. She has a condition that requires extensive testing, and is still paying off thousands of dollars that her insurance didn't cover.

Medical costs have typically risen faster than inflation over the past two decades, propelled by the increased cost of care and more demand for services due to the aging population. National per capita spending on health care in 1980 was \$2,968, when adjusted for inflation; by 2020 it was four times that. The pandemic compounded the challenges, as many people lost jobs and the insurance that came with them. More than half of adults who contracted COVID-19 or lost income during the pandemic also struggled with medical bills, according to a survey done by the Commonwealth Fund.

Higher education, the third *H*, has also become steadily more expensive as the cost of college grew and federal funding for public universities plummeted. As prices rose, more students took out loans. Average student-loan debt in 2020 was \$36,635, roughly

double what it was in 1990, when adjusted for inflation. Families struggle for decades to keep up with payments. Greene thought she was setting herself apart when she went to a private college to get a degree in nursing. Now she owes \$99,000 in loans, while her two sisters who didn't go to college are debt-free.

For many college graduates, the pandemic provided some relief when the CARES Act paused payments on federal student loans. Suddenly, people had money to pay their other bills, and saw what life would be like without crippling student debt. Greene watched an app on her phone as her loans paused at \$99,000—and stayed there. She's dreading when payments start up again.

All told, the three *H*'s—rent, health care, and higher-education loans—take up a growing share of Swope and Greene's take-home pay. Add necessities like food and utilities, and they have months when they write their rent checks without having enough money in their checking account. (Swope gets paid monthly.) They don't eat out. They switched to generic grocery brands. Although they both work full time, Swope is considering picking up a part-time job.

Some economists argue that the parlous state of the middle class is being disguised by poor accounting. Eugene Ludwig, the former comptroller of the currency in the Clinton Administration, says the CPI distorts the real economic picture for lower- and middleincome Americans because it counts the costs of discretionary items such as yachts, second homes, and hotel rooms. By his calculations, the cost of household minimal needs rose 64% from 2001 to 2020, 1.4% faster than inflation. In March, the Ludwig Institute for Shared Economic Prosperity released a report that suggested housing prices had actually risen 149% (the CPI put it at 54%) and medical costs were up 157% (vs. the CPI's 90%).

"We found that while people in 2001 maybe did have just a little bit of discretionary spending, by 2019 as a comparison, many households did not, particularly the ones with more children," says the Ludwig Institute's executive director, Stephanie Allen. (The pandemic made tracking these data too unreliable to estimate discretionary spending since then, she says.)

THE STRESS AND ANGER people in their 30s and 40s feel is spilling over into their relationships with their parents' generation. Today, a family in the U.S. making the median household income would need to pay six times that income to buy a median-price house. In 1980, they would have needed to pay double. But many boomers don't seem to have much sympathy for their children's predicament. Jeff Swope's father was able to support a family of three on a social worker's salary, and bought a house in Sandy Springs, Ga., for around \$50,000. His mother sold it last year for \$255,000, and that buyer sold it in March for 30% more than that.

Swope, on the other hand, graduated from college with a marketing degree in

'It can take some time for the economic tectonic pressure to build and now the volcano is erupting.'

—RICHARD REEVES

2003, and got a job selling Yellow Pages ads. When that business disappeared with the proliferation of online search engines, he waited tables and got a second degree so he could teach. He graduated in 2008 in the midst of the Great Recession and supported himself by working as a trivia host and taking whatever teaching placements he could find.

He didn't get an entry-level public school teacher job until 2013. Even now, his income, \$55,000, wouldn't be enough to support a family. He and Greene applied for preapproval for a mortgage but haven't heard back. He feels stuck. "It's kind of like, you're not an adult unless you have a house," he says. "The older generation looks down on you because they just don't understand."

One of the things it's harder for some folks to grasp are the ripple effects of structural changes that were just beginning when they were younger. The decades-long decline of unions, for example, has made it harder for workers to negotiate better wages and benefits. Swope is not in a teachers' union, because Georgia doesn't allow for collective bargaining for public educators, which is one reason the average public school teacher there made 5% less in the 2020–2021 school year than in 1999–2000, when adjusted for inflation. In Massachusetts, a state with strong teachers' unions, the average public school teacher's salary grew 19% over the same time period.

Across the nation, a job with health care and other benefits is becoming harder to find. There are at least 6 million more gig workers than there were a decade ago. Even revenue-rich companies like Google and Meta outsource such functions as cleaning, food service, and some tech jobs, excluding many of the people who work in their offices from the benefits of full-time employment.

At the same time, the unabated rise of automation and technology has meant that ever more employers want workers with a college education. About two-thirds of production supervisor jobs in 2015 required a college degree, according to a Harvard study, while only 16% of already employed production supervisors had one.

Flight attendant Daniel Barela's father Daniel Barela Sr. can't understand why his children are struggling. When he first moved to Albuquerque in 1984, he was making \$5.40 an hour as a custodian. He doesn't have a college degree, but he worked his way up at his company and bought the house where Daniel grew up. He and his wife now own nine properties around New Mexico.

"My generation—we didn't end the week at 40 hours," he says. "It started at 40 hours if you wanted to be successful, and we did whatever it took. This generation—at 40 hours, they're exhausted. They don't call it the Me Generation for nothing."

The elder Barela has a pension, which people in his role wouldn't receive today. And he acknowledges that housing is more expensive than it was when he was buying real estate. But he's also been surprised how hard it is to find someone

to help him fix up one of his rental properties for \$12 to \$15 an hour. "It's not just my kids. I see it in other kids they just don't want to work," he says.

This frustrates his son to no end. He's put in long hours to work his way up in the aviation industry and still can't even qualify to own a home. Whenever he gets a raise, he says, health-insurance premiums and other costs go up the same amount. It's not just his imagination. According to the Ludwig Institute, a teacher and an ambulance driver in Albuquerque would make \$77,000 a year, which is higher than the U.S. median income of \$67,000—but they'd still have to go \$6,000 into debt to meet their minimum adequate needs every year.

During the pandemic, Barela did have a taste of what life might have been like for his father. Since he was furloughed, and receiving unemployment benefits and stimulus money, he was able to pay off all his debt, he says. Now that he's working again, he's back to using credit cards and living paycheck to paycheck.

It's getting so Barela is feeling as if he should just fulfill his father's prophecy and stop trying so hard. Toil hasn't gotten him anywhere. Why put in more hours dealing with angry passengers for pay that will get eaten up by bills? "I think if anything, COVID taught us: Is it worth working to the bone over quality of life?" he says. "For myself, I will start to just sustain what I need to sustain, but I'm not going to bend over backwards to fulfill some corporate mantra."

He—like Jeff Swope, and many of the other people interviewed for this story-direct much of their frustrations at the very rich, who accumulate wealth in investments, which when withdrawn are taxed at a far lower rate than wages. Widespread dissatisfaction and shrinkage in the ranks of the middle class has long been linked with political instability. In times of great economic inequality, the rich oppressed the poor or the poor sought to confiscate the wealth of the rich, leading to violence and revolution. But the presence of a middle class has helped America evade that conflict, says Vanderbilt University law professor Ganesh Sitaraman. That's why he argues that "the No. 1 threat to American constitutional government today is the collapse of the middle class."

It's no coincidence that the diminishing faith Americans have in their institutions has mirrored the decline in the fortunes of the middle class. And President Biden, who has long fashioned himself as a champion of those in the middle, is nevertheless losing their support; only a third of people approved of his handling of the economy in a March NBC poll, a drop of 5 percentage points since January.

Some economists believe that the years following World War II were an anomaly—a period of unprecedented productivity growth and prosperity that will never be replicated. Millions of people went to college on the GI Bill, and wages shot up, allowing families to buy

'The No. 1 threat to American constitutional government today is the collapse of the middle class.'

—GANESH SITARAMAN, VANDERBILT UNIVERSITY LAW PROFESSOR

homes and cars and televisions.

That means that comparing middleclass workers with their parents may not be the most useful way to measure their economic state. If their childhoods were built in a period of exceptional economic growth, it's no wonder that people like Swope and Barela feel left behind today. Moreover, previous generations kept many Americans, including people of color and women, from entering the workforce and from owning homes. "Some of the reasons middle-class Americans were able to do so well before is that they were excluding people from the labor market, and they had strong trade unions that got them higher wages than the market would have given them," Reeves says.

ADJUSTING TO THE NEW WORLD isn't going to be easy. Reeves cautions

The relationship between Daniel Barela Jr., left, and Sr. has been strained by Daniel Jr.'s struggle to feel middle class

families to compare themselves not with their parents' generation, but instead with where they would be without the policy actions during the Great Recession and the pandemic recession. Where would the American economy be if the government hadn't bailed out the banks and the auto companies? What if it hadn't paused student-loan payments during the pandemic and sent out stimulus checks and child tax credits? If families could compare themselves with the counterfactual, they might not get so angry-and maybe their anger wouldn't be as easily weaponized against whoever they think created their economic woes, whether it be people of different races, or Big Business.

A little while ago, after Jeff Swope found out about the rising prices in his apartment complex, he posted something in a Facebook group called No One Wants to Work that mocked all the businesses complaining about how they can't find workers—while they're offering minimum wage for terrible jobs.

"A nurse and a teacher with a 125k household income are about to not be able to not get ahead with any savings. It's that bad," he wrote. Some of the commenters blamed him for poor money management. They couldn't sympathize with someone making a six-figure income and still struggling.

But many more of the hundreds of commenters felt something else that they knew exactly what Swope was feeling. "My boyfriend and I have union jobs at a steel mill and are in about the same boat," one wrote. Another, also a nurse, wrote that she and her husband, an engineer, were also living paycheck to paycheck. In the comments, their fury was unbridled. "Absolutely ridiculous that you can have two of the most important jobs out there and still barely afford to live," another commenter said. "I hate this country." —With reporting by LESLIE DICKSTEIN/NEW YORK







Many boys in Bangladesh were put to work during the pandemic. School is resuming without them

BY CORINNE REDFERN AND ALI AHSAN

Alomgir, 11, steers a boat toward a field where he can collect grass for his family's animals in Kushtia district on Dec. 14

PHOTOGRAPHS BY ALLISON JOYCE

y the time the sun sinks over the Bangladeshi capital of Dhaka, Rekha is struggling to sit still. Twisting her plastic bangles, the 34-year-old mother of two checks her phone to make sure she hasn't missed a call from her 12-year-old son, who was due home 30 minutes earlier. Rekha wanders outside to peer through the front gate, anxiety sketched all over her face. "This job is too dangerous," she says, frowning. "Every morning I say goodbye and I pray, 'Please Allah, send him home tonight."

Rekha has cause to worry. In the 18 months since her elder son Rafi started work in a local glass factory, he's returned home bruised and bleeding more than once. One afternoon, he severed the soft skin of his palm with a sharp blade intended to slice a window pane. As blood soaked the child's T-shirt, he was rushed to the emergency room by his employer—but nobody called Rekha to let her know. "I feel bad inside, like I am a bad mother," she says. "I know Rafi doesn't want to work. He wants to be at school."

When authorities first shuttered Bangladesh's schools in March 2020, nobody could have anticipated they would remain closed for the following 18 months, in what would go on to become one of the most restrictive school closures in the world. Classes returned on a rotating schedule in September 2021, but schools were closed for four weeks over January and February amid a COVID-19 surge driven by the Omicron variant. Now, two years on from the first lockdown, child-rights advocates say tens of thousands of pupils across the country have not returned to school. The majority, they say, are boys ages 12 and older who were pushed into full-time work during the interim.

Rafi was once one of more than 1,100 students ages 5 to 17 who attended

Shantipur High School in Dhaka until the government imposed its nationwide lockdown in March 2020. In September 2021, the school's staff heaved open the metal gates that face a busy street in central Dhaka and waited; teachers poised in pressed shirts and blazers waited for them to return, blackboards still damp from a sponge.

But only 700 pupils appeared over the following days, and numbers haven't increased in the months since. By December, so many of the wooden benches and desks were sitting empty that the school started selling them off as scrap material. Two-thirds of the children missing from the classrooms are adolescent boys. "They are the only wage earners of their families now," says head teacher Biplab Kumar Saha.

Although it's impossible to know exactly how many children in Bangladesh have started working since the start of the pandemic, attendance figures for 20 schools across the country collated by TIME reveal that boys accounted for at least 59% of dropouts from March 2020 to November 2021, a gender imbalance confirmed by data from the nonprofit organization BRAC.

stirred **GROWING CRISIS** THE Bangladeshi authorities to ratify the International Labour Organization's (ILO) Convention 138 on child labor in March. They declared that no child under the age of 14 should be employed in any industry, and promised to eradicate child labor in its entirety over the next three years. But as household incomes across the country plunged by an average of 23% during the first 18 months of the pandemic, many parents say they're out of alternatives: unless their son goes to work, his siblings won't be able to eat.

That wasn't the case two years ago. When the schools first shut, Rafi's parents were concerned about their sons' education—Rafi's younger brother is just 8—and joined with other neighborhood families to find a private tutor to teach a dozen of the local children for an hour every day. But as weeks passed and Bangladesh remained in lockdown, the family's financial situation quickly deteriorated.



By the summer of 2020, Rekha's husband Tajul, a successful entrepreneur, had lost his clothing business and started working two jobs—manning a small roadside stall by day, before patrolling a market as a security guard through the night. The hours were long, and his income still wasn't enough to pay back microcredit loans and cover rent. Debt collectors began showing up at their door, threatening Rekha, who suffers



from abscesses and diabetes and is too sick to work. In desperation, Tajul turned to Rafi. "It wasn't the plan, but the situation became really bad," Rekha recalls.

Rekha had never imagined she would be sending her son to work 12-hour days at a glass factory. "But now we are living a devastated life," she says, gesturing around the bare concrete room where the whole family eats and sleeps.

A classroom at Shantipur High School in Dhaka sits empty on Dec. 2

When the pandemic first hit, concern initially focused on girls being forced into marriage, as struggling families tried to reduce their costs by marrying off their daughters to men sometimes more than twice their age. One survey conducted by the nonprofit Manusher Jonno Foundation recorded almost 14,000 underage marriages across one-third of the country during the first six months of lockdown, with

half the girls ages 13 to 15. At Shantipur High School, where Rafi used to study, the teachers kept careful track of their female pupils. They learned that in most cases, those who dropped out had moved to rural communities and enrolled in schools outside the city. At least 15 girls were forced into illegal, underage marriage. It's 15 too many, the school's head teacher Saha says—but it's also fewer than he had feared. What he hadn't anticipated was the impact the pandemic would have on the boys. "It was beyond our expectation and imagination."

Secondary education isn't free in Bangladesh, and tuition fees average approximately 3,000 taka (\$35) a year. In a country where 1 in 5 people survived on less than \$1.90 per day before the pandemic, the costs of stationery, textbooks, and uniforms also add up fast. Girls ages 11 to 16 typically receive a small uniform stipend and tuition subsidy of up to 3,500 taka (\$40) each year from the government in an attempt to counter the threat of child marriage and incentivize their families to keep them in school. "But for families with sons, education presents a significant cost," says Safi Khan, director of education for BRAC. "It's an impossible situation, and there is very little support."

one of the first signs of economic crisis is when adolescent boys begin dropping out of school, says Tuomo Poutiainen, Bangladesh director for the ILO. "It is gendered," he says. When schools were closed, most families felt that sending their daughters to work was too much of a risk, but that sons might present an emergency source of income.

Despite millions of dollars in foreign aid supporting girls' education, child-rights advocates in Bangladesh tell TIME they are struggling to summon equal support for the thousands of adolescent boys who have dropped out of school since the outbreak of COVID-19. It's as if donors are "intentionally blind" to child labor, says Tony Michael Gomes, director of World Vision Bangladesh. "I see a huge disconnection ... If you really ask what exactly they're funding and if their re-

sources are impacting the lives of the children, the answer might be no." Sheldon Yett, UNICEF representative to Bangladesh, agrees. "I don't want to de-emphasize the risk that girls are under," he says. "But we must not lose sight of the specific needs of boys."

For many parents, the costs of their children's education have collided with mounting debts, leaving them with few options but to pull their sons from their classrooms. "I felt terrible," says Helena, whose 11-year-old, Alomgir, threw his exercise books in the trash when she told him he couldn't return to school in September.

When Alomgir's friends left the village and traipsed along the track to the local elementary school a few days later, Helena found her son sobbing in the shade of their wooden hut. "When I saw him crying, I cried too," she says. She understands his pain. As a child, Helena was top of her class until her brother forced her to drop out of school and marry an older man. She was only 12 years old.

Helena has already had to reconcile herself with depriving one son of an education: five years ago, her husband fell sick, and the family had to send Alongir's then 11-year-old brother to work at a brick kiln, where he earns 300 taka (\$3.50) a day. "We thought that we could ensure the rest of our sons were educated by sacrificing the eldest one," Helena says. But when the countrywide lockdown began in March 2020, the kiln closed for four months, and the family had to take out a 40,000-taka (\$465) loan to cover rice and medical care. Two years later, they still owe 30,000 taka (\$350), and Helena fears it's Alomgir who will continue to pay the price.

Data on child labor in Bangladesh is

'I felt terrible.'

—HELENA, MOTHER OF ALOMGIR, ON PULLING HIM FROM SCHOOL AT AGE 11 TO HELP SUPPORT THE FAMILY notoriously scant. According to the ILO, rates appeared to be decreasing before the pandemic, but there hasn't been a nationwide, government-led survey on child labor since 2013. In 2019, UNICEF conducted its own study, reporting that 1 in 10 boys ages 12 to 14 in Bangladesh was working full time. Incomes vary, but research suggests the majority of boys under the age of 14 earn less than \$40 per month.

"We don't have updated statistics since the pandemic [began], so we don't know exactly what the impact is going to be on child labor, but we know anecdotally that it's a lot worse," says UNICEF's Yett.

Even before Bangladesh ratified the convention, its constitution decreed that "hazardous" child labor, such as brick breaking or leather tanning, was illegal—but the current law does not prohibit children under the age of 14 from providing for their families in informal sectors, such as domestic work or agriculture. (Because they are victims of exploitation, TIME has chosen not to publish the faces or surnames of children in this story.) Repercussions for those who employ children in any industry are rare, say child-rights advocates, citing an incident in July 2021 when a fire broke out in a juice factory and killed at least 52 employees, including at least 16 children as young as 11. The owners were briefly arrested and released on bail, but the court case is still pending.

For all the demonstrable dangers, many factory owners say they have seen a marked increase in the number of parents going from door to door over the past two years, offering their small sons up for work. One businessman in Narayanganj, a riverside city southeast of Dhaka, tells TIME that he has employed approximately 10 children in his garment factory since the start of the pandemic. The youngest was 8 years old. "Their age doesn't matter. Rather, can he cope? Can he deliver?"

The businessman argues that he's supporting the families the government has failed. "We have too many people in this country and too few resources," he says. "Education gives no guarantee to [the children's] future." A few meters



away, two boys, ages 12 and 13, are folding knockoff Adidas tracksuits, coughing on clouds of cotton dust.

AS INFLATION SOARS and more families descend into poverty, getting Bangladeshi children out of the workplace and back into schools will take more than the public-facing ratification of the ILO convention establishing that no child under the age of 14 should go to work, says Yett. He notes that the legislation doesn't even come into effect for another year. "There is no single magic bullet here. Ratification of the convention is critical, but not enough." There are many factors at play, he says, including the fact that education is compulsory only until age 10, and that there is little to no social support for families facing financial collapse.

Still, since schools partially reopened in September, many teachers have started visiting students' homes,

Kamran, 13, sorts through shirts at his job at a garment factory in Narayanganj on Dec. 1

pleading with their parents in person to return their children to class. "We loved them," Saha says of his school's former students, adding that some of his teachers were close to crying when they saw their once overcrowded classrooms filled with empty desks.

Today, two years after he last attended school, Alomgir is silent as he tends to the family's five goats—scratching one behind her ears as he ushers her toward the pile of grass he cut that morning. His parents don't want him to join his father and brother at the brick kiln. There is plenty of work on the family's farm, and Helena isn't ready to give up her hope that they could find the money for him to resume schooling in the future. "I have to

believe I can make it happen," she says.

Other families are less hopeful. Just a 10-minute walk from where his former classmates are studying English and history, Rafi sweeps the floor of the glass factory under his employer's watchful eye. Before the pandemic, he was boisterous and talkative, his parents say—a bouncing ball of energy who never kept quiet, and rarely remained still.

These days he returns home exhausted, prone to outbursts of emotion. "Because of you, my life is over," he tells his mother. Rekha is unsure how to comfort him, fearing he might be right. "We are ruining his future," she says, blinking back tears. —With reporting by SIMMONE SHAH/NEW YORK

This story was supported by the Pulitzer Center

T H E

NEW

SCIENCE

0 F

• A BABY ZEBRAFISH IS JUST HALF THE size of a pea. A recent look inside its transparent brain, however, offers clues to the far bigger mystery of how we remember—and how we forget.

In an experiment that yielded insights into memory and the brain, a team of researchers at the University of Southern California taught the tiny creature to associate a bright light with a flash of heat, a temperature change the fish responded to by trying to swim away. Using a custom-designed microscope, the team then captured images of the animals' brains in the moments before and after they learned to associate the light and the heat. It's the first known look at how a living vertebrate's brain restructures itself as the animal forms a memory.

In the image published with the team's research, the event looks like a dissipating firework. A frenetic spattering of bright yellow dots represents new connections created between brain cells at the moment the memory

Forget

CAN'T RECALL THE NAME OF YOUR THIRD-GRADE TEACHER? DON'T WORRY—IT'S JUST YOUR BRAIN CLEARING THE DEBRIS

BY CORINNE PURTILL

formed. But the image also shows a second, parallel force at work in the animal's brain as those connections are made. An overlapping sprinkle of bright blue dots indicates synaptic connections that disappeared at the same time the new ones formed, as if the components of earlier zebrafish memories were making way for the new arrival.

This glimpse into the mind of a zebrafish illuminates one of the most intriguing new fronts in science's quest to understand the brain: the biology of forgetting.

We often experience forgetting as a frustration—the misplaced wallet, the name just on the tip of your tongue. And until fairly recently, the widely held convention in neuroscience was that forgetting was merely a glitch in the memory system. The brain's job was to gather and store information, and the inability to retain or retrieve those memories was a



failure of some neurological or psychological mechanism. Over the past decade or so, however, science has determined that forgetting is not just the failure of memory but its own distinct force.

"We were all taught forever, everyone, that forgetting is a passive breakdown of the memory mechanisms," says Scott A. Small, a professor of neurology and psychiatry at Columbia University and author of the 2021 book Forgetting: The Benefits of Not Remembering. "The fundamental insight—the eureka, I think, of the new science of forgetting—is that our neurons are endowed with a completely separate set of mechanisms ... that are dedicated to active forgetting."

The brain forms memory with the help of a complex tool kit of neurotransmitters, proteins, and carbohydrates, as well as other cells, Small writes; forgetting, too, has its own set of dedicated molecular tools working to clear away what's no longer relevant.

The mere existence of these neurobiological tools doesn't prove that they're useful; nature also gave us the appendix, and we're still trying to figure out what the point of that one is. But a "constellation of findings" in recent years, Small says, indicates that culling the vast amount of information the brain collects and encodes is a necessary function of cognition—as essential for survival as the gathering of useful knowledge. And now that we know this culling function exists, some researchers are exploring the possibility that disruptions to forgetting could provide insights into complex psychological conditions like post-traumatic stress disorder.

After all, forgetting, says Oliver Hardt, an assistant professor of psychology at McGill University, is "one of the most fundamental aspects of a memory system. Without forgetting, nothing would work."

THE NOBEL PRIZE—WINNING neuroscientist Eric Kandel, a professor of biochemistry and biophysics at Columbia University, established in the 1970s that changes in the chemical signals between neurons were the biological basis of all learning or memory making.

When neighboring brain cells, or neurons, are excited at the same time, neurotransmitter chemicals fire across the microscopic gap between the ends of the neurons' spindly dendrites. This change in the synapse—the connection point—between neurons is what makes a memory. For transient short-term memories, that change is fleeting. The more a memory is revisited and repeated, however, the stronger and more enduring that change becomes. That's true of all animals capable of learning, Kandel found, from humans to the humble zebrafish. ("Practice makes perfect," Kandel said in his Nobel lecture, "even in snails.")

If all animal brains are capable of forming new synaptic connections, it stands to reason that they're also equipped to pare those connections away. That picture of the zebrafish brain illustrates the simultaneous creation of new synaptic connections between some neurons, and receding connections between others.

From an evolutionary perspective, the purpose of memory "is not to allow us to sit back and say, 'Oh, do you remember that time?" says Sheena Josselyn, a senior scientist at the Hospital for Sick Children, and a professor of psychology and physiology at the University of Toronto. "It really is to help us make decisions."

Without forgetting, the evolutionary benefits of a strong memory would become redundant, says Hardt. In the course of a single day, the brain registers hundreds of thousands of bits of information, some of it relevant and much of it utterly inconsequential: the way your socks felt when you pulled them onto your feet, the shirt color of a stranger standing before you in the grocery-store line.

"You would have an endless amount of useless stuff accumulating there constantly," Hardt says. "And each time you want to think about something"—something key to your survival, such as the location of food or the signs of an approaching predator—"all these memories would pop up that are completely meaningless and that make it hard for you to actually do the job of predicting what is next."

Hardt is among the many scientists who suspect that this culling of nonessential memory is one of the key purposes of sleep. A good night's sleep quite literally produces a clearer mind.

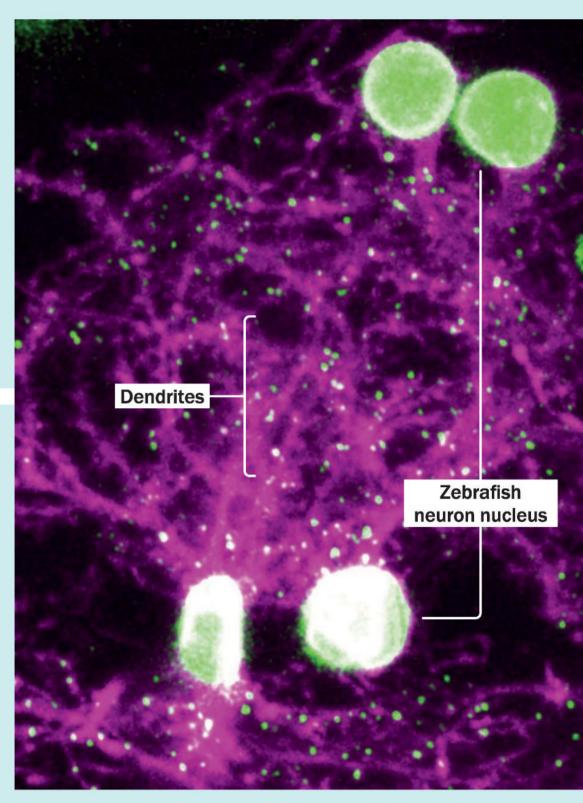
JOSSELYN AND HER SPOUSE Paul Frankland run the Josselyn Frankland Neurobiology Lab at Toronto's Hospital for Sick Children. Frankland's research at the hospital has focused on the kind of forgetting that takes place in the hippocampus when new learning takes place—the corresponding gain and loss of neuronal connections that the zebrafish brain showed.

Frankland's breakthrough in forgetting came while he was studying neurogenesis, or the formation of new brain cells, in mice. A graduate student noticed that the more quickly new neurons formed in the animal's hippocampus, the less likely the animal was to recall some older memories. Mice with more brain cells learned new mazes faster, but they were also more likely to forget the layouts of previous mazes they had mastered before their brain growth.

Frankland has theorized that's why it's so difficult for people to remember events from early infancy, a time of exponential neural



The brain of a living zebrafish larva.
The small green and white dots represent synaptic connections prior to the training exercise



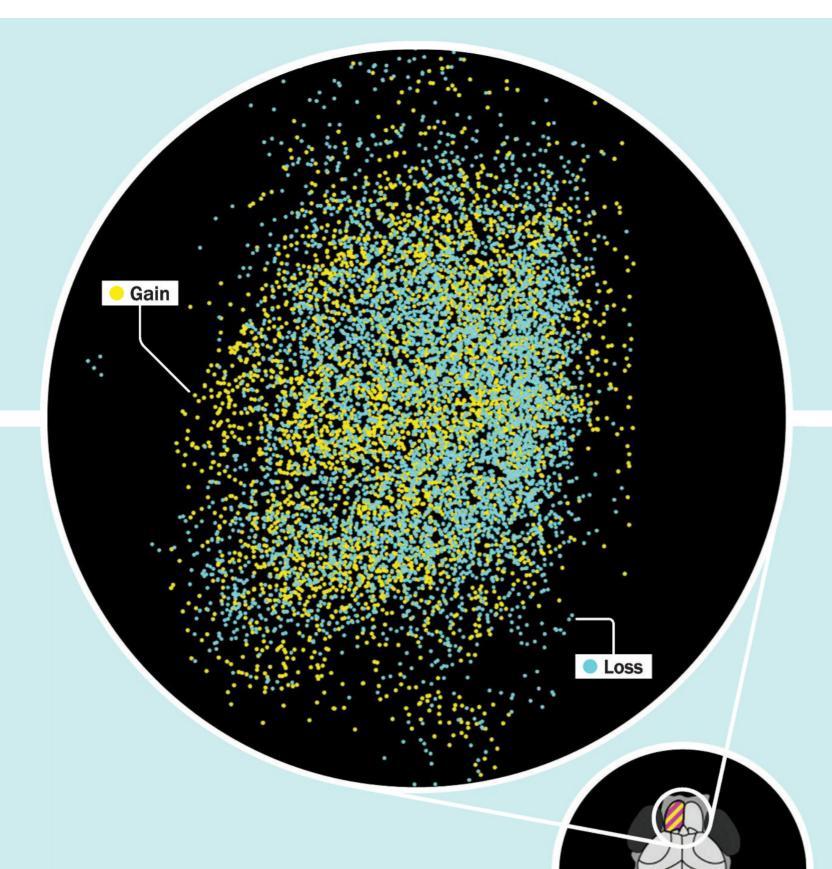
development. In this model, forgetting in the hippocampus isn't a zero-sum, one-for-one replacement of knowledge, so much as an ongoing reconfiguring of memory so that more recent (and likely, more useful) information is available more readily. "The world changes," Frankland says, "and so the more recent things are more relevant to remember to predict the future than the more distant things."

Just as the brain's cells and circuits distinguish between long- and short-term memory, there also appears to be a distinction between memories that have decayed beyond the possibility of retrieval and what researchers call "transient" forgetting—the temporary (if deeply irritating) inability to recall a piece of learned information.

Studies in fruit flies, most notably in the Scripps Research Institute lab of neuroscience professor Ronald L. Davis, have identified dopamine as a key factor in the animals' ability to learn and forget. Last year, the lab found a dopamine-releasing circuit in the flies' brains linked to transient forgetting. Flies that had

'We are inundated with so much information on a daily basis that the brain fights back.'

—RONALD L. DAVIS, SCRIPPS RESEARCH INSTITUTE



been taught to associate a particular odor with a shock to their feet seemed to forget what they'd learned when distracted by stimuli like blue light or a puff of air. This temporary loss of memory was accompanied by the release of dopamine from a particular set of cells onto the cells thought to hold memory.

If fruit flies have a mechanism that temporarily suppresses some memories, it stands to reason humans do too. "Forgetting may be the basal state of the brain. We are inundated with so much information on a daily basis that the brain fights back and says, 'I can't handle this. I need to forget as much of the unimportant information as possible," Davis says. "The brain is designed to slowly erase information that's coming in on a daily basis unless consolidation says, OK, this memory is important. And so it overrides the forgetting mechanism."

AS THE NEUROSCIENCE of forgetting emerges, some researchers are questioning whether the mechanisms that regulate forgetting might also hold valuable clues to other mysteries of cognitive and behavioral health. In his book, Small points to a few key areas in which the neuroscience of forgetting might point the way to other breakthroughs. One area of interest is autism. In one 2016 study, when a protein associated with forgetting was inhibited in fruit flies, those that had been modified to contain genes linked to autism demonstrated "behavioral inflexibility," or difficulty adopting new patterns of behavior.

Image showing synaptic changes when a memory is made. Each yellow dot represents a new synaptic connection formed; each blue dot represents a connection lost

The aversion to excess stimuli that some people with autism spectrum disorder show, Small says, could be the result of a brain unable to let go of unessential inputs.

Post-traumatic stress disorder, likewise, could be the result of an injury to the forgetting function. One theory is that PTSD develops as a result of an overgrowth of synaptic connections in the amygdala, the part of the brain that acquires and stores fear memories, after intense or repeated exposure to a frightening stimulus. Early studies show that drugs that accelerate the loss of fear memories—most notably MDMA—could be effective in treating the symptoms of people with PTSD.

The memory loss associated with Alzheimer's disease and other forms of dementia ranges far beyond the kind of routine forgetting that takes place in a healthy brain. Yet understanding the minute physical processes behind the undoing of memory could help researchers understand more about this most painful symptom of the disease, and maybe even find ways to slow or stop it.

"Perhaps we need to understand the forgetting process, how that works, why it is there, in order to find a better way to address it if it goes out of control," Hardt says.

SEVERAL RESEARCHERS INTERVIEWED for this piece referenced the Jorge Luis Borges short story "Funes the Memorious" to illustrate forgetting's role in how we navigate the world.

An injury sustained in a riding accident leaves the title character with a chronic inability to forget anything at all. Funes learns multiple languages with ease and can cite millennial-long strings of historical facts—the kinds of things we think we'd do with infinite capacity for recall. But he's miserable. Funes can't let go of anything. He looks at a landscape and registers every leaf on the vines, every hair in a pony's mane. He's swamped by minute changes of age and expression each time he looks at another person's face. Memories don't comfort him; they only overwhelm. "My memory, sir, is like a garbage heap," Funes tells the narrator.

Forgetting serves us well. It tunes out useless information so we can focus on the relevant. Without it, neither anger at a slight nor the pain of grief would fade; feelings of love and attraction would not either, making it impossible to move on from relationships. Memories build us, and forgetting chisels away the excess, shaping the way we see ourselves and our world.





CULTURE

SCREEN SCAVER

MoviePass co-founder Stacy Spikes is trying to stage a comeback and help movie theaters in the process

BY ELIANA DOCKTERMAN

ANY RESEMBLANCE TO STEVE JOBS WAS UNINtentional, or so Stacy Spikes claims. Back in February, minutes before Spikes was set to take the stage at Lincoln Center in New York City to announce the resurrection of his old company, MoviePass, he realized he was sweating through his white button-up shirt and jacket. He changed into a more breathable black mock turtleneck, which, on his slim figure, paired with dark jeans, sneakers, and glasses, looked a lot like an homage to the Apple co-founder. "I didn't want to be thinking, Are they going to see my sweaty pits?" Spikes, 54, says during an interview in a Manhattan office several weeks later. "When people said, 'That's very Steve Jobs,' I was like, 'Everybody in New York dresses in all black."

Spikes will invite the comparison again when his memoir, *Black Founder: The Hidden Power of Being an Outsider*, arrives in December. For the stark cover, he wore a nearly identical black shirt. Like Jobs, Spikes built a company from scratch only to be pushed out. Like Jobs, he watched from the sidelines as it fell apart. And like Jobs, he will attempt a triumphant return to the business he built.

But while Jobs was self-assured to the point of polarizing colleagues and occasionally the public, Spikes charms you into buying his vision of the future—specifically the future of moviegoing. He asks everyone he meets what films they've seen lately. He refuses to disparage a movie (to a journalist, anyway), even when I try to goad him into criticizing some of this year's Oscar contenders. He's eager to discuss why his friend might have missed the majesty of *Dune*'s sandy hills by watching the sci-fi epic at home rather than in an IMAX theater. "An adventure should never come

with a pause button," he says. He loves a dramatic metaphor: during his MoviePass 2.0 presentation, he included a slide of a phoenix rising from the ashes.

Most people who are familiar with MoviePass and it had more than 3 million members at its peak in the late 2010s—probably remember it as the company that offered cardholders the chance to see one movie per day at the theater of their choice for just \$9.95 a month, and then predictably crashed and burned when the deal proved too good to be true. For Spikes, the story is more complicated and more personal. It is one of struggling for years to secure funding, which he attributes at least in part to racial discrimination, and then being ignored when he disagreed with the business plan put forth by the company that bought a majority stake. He illustrated the implosion of Movie-Pass during his presentation with a picture of the Hindenburg.

Spikes is staging a comeback in a radically altered moviegoing environment. COVID-19 scared people away from theaters, and the proliferation of streaming services has kept them on their couches. The 2021 domestic box office, which includes the U.S. and Canada, trailed 2019's by 60%. "We're at the point where the industry is willing to try things," says Daniel Loría, editorial director at Boxoffice Pro. "This is probably the perfect time for MoviePass to come back if it was ever going to come back at all."

In its heyday, Spikes says, MoviePass increased any one user's moviegoing somewhere between 100% and 144% by incentivizing customers to take risks on movies they wouldn't otherwise see. Now Spikes believes he can boost attendance again. "We ask, Will anyone go to

movies anymore? But we don't ask that about other events," he says. "We don't ask, Is anyone going to go to basketball games anymore? Soccer games? Because you can watch those at home, but the live experience is different."

Spikes is a magnetic pitchman, but it's impossible to assess the feasibility of his plan. He is still trying to strike deals with theater chains and won't even specify a date for the product's release beyond that he's targeting summer movie season. Perhaps most salient, while he says there will be a tiered pricing plan, he won't say what those numbers actually are until launch day. He will say this: "It won't be \$10."

SPIKES OFTEN TELLS the story about how *Blade Runner* convinced him he wanted to pack his bags for Hollywood. When he was 14, he watched it in a theater wedged between his father, who fell asleep, and his inattentive brother. "I kept nudging my dad, who was just snoring, and my brother's like this." Spikes fidgets in his seat. "And I'm

there thinking, How can I be a part of this world?" Spikes worked in a video store as a high schooler in Houston, left Texas for California with just \$300 in his pocket, and got a job as a production manager at a production company at 19. He worked briefly on the business side of record com-

panies before helping to market film soundtracks at Sony. By age 27, he was vice president of marketing at Miramax.

But it was films like *Dumbo* that set him on his career trajectory. "Do you know that *Dumbo* song with the crows?" he asks, before singing a few bars of *that* song, the one sung by a bird named Jim Crow. (Disney now runs a warning in front of the movie.) "As a kid, I guess it was supposed to be flattering that you were getting seen in something," says Spikes. "But as I got older and worked in the movie business, I had this whole different view of what I saw in my childhood."

val, which featured the works of BIPOC filmmakers, including Ava DuVernay and Ryan Coogler before they were household names. "I was the Spike Lee of distribution because there was no one of color on that side of the fence," he says. In 2004, the festival hosted the premiere of the thriller *Collateral* starring Jamie Foxx, Tom Cruise, and Jada

In 1997, he founded the Urbanworld Film Festi-

Pinkett Smith. "I felt like I'd summited Everest, but I needed to find what was next."

In 2006, he designed a system that would allow moviegoers to sign up for a subscription and request tickets via text message. There were already subscription services at the movietheater chains in Europe, so Spikes was just introducing the concept to the U.S. "Everyone was like, 'A subscription? That's stupid," he says. "I was laughed out of conference rooms."

Or worse. For years, he was unable to get funding for his venture. Black entrepreneurs received about 1% of venture-capital funding in 2011, the year he ultimately launched the company. (A decade later, that number has barely ticked up: Black founders received 1.2% of VC funding in the first half of 2021, when startups raised a recordbreaking \$147 billion.) "When you want access to higher capital, there's a Black tax on you," Spikes says. "It was like I had to run faster, climb higher than these guys who had multiple failed businesses. If you don't look like Mark Zuckerberg, you don't fit the mold. I saw a lot of people getting funding for worse business ideas, but they dropped out of Stanford, so they got a shot."

Spikes used to bring an analyst named Geoff Kozma with him to pitch meetings to run the

numbers in real time. "So Geoff and I walk into the meeting, and the guy walks over to Geoff, puts his hand out, and goes, 'Stacy, it's so nice to meet you,' and Geoff goes, 'That's Stacy.'" Kozma was a young white man. "But even after that, at that meeting and a lot of other meet-

ings, Geoff would be sitting there, and the VC guys' attention would start drifting toward him. They'd start asking him questions instead of me. And I was like, Really?"

The rejections were particularly upsetting because, as his current and former co-workers attest, Spikes is obsessed with going to the movies. Ryan McManus, who started as an intern at the first iteration of MoviePass and is now head of product for MoviePass 2.0, has worked with Spikes on and off for nearly a decade. "I've saved every movie-ticket stub going back to 2003," says McManus, "and he was even more passionate about movies than I was."

In 2011, Spikes brought on Hamet Watt as a cofounder, and they were able to raise a combined \$1 million from AOL and the venture-capital firm True Ventures. MoviePass launched that year, but five years after that, it still wasn't profitable. Mitch Lowe, a former Redbox and Netflix executive, acted as an early MoviePass adviser, and found working with Spikes frustrating. But he felt they always had a connection, and agreed to come on board as CEO in 2016. "His main investor brought me in to essentially be his boss," Lowe says. "That would be hard for anybody. He put his heart and soul into it.

'When you want access to higher capital, there's a Black tax on you.'

-STACY SPIKES







But he and I were great partners for that first year and a half, two years."

Around that time the company had 20,000 subscribers who were being charged \$34.95 to \$49.95 per month, and it was still losing about \$50,000 to \$110,000 per month. Lowe, too, struggled to convince investors that MoviePass had juice. Looking back, he says Spikes may indeed have faced discrimination, but there was clearly a problem with the business proposition as well. "I met with 120 different investors and got *no* on 120," Lowe says. "My wife is African American, so I see racism out there. I see the way people are treated. But I would not say that was the only reason. I wasn't with Stacy in any of his investment meetings, but I can tell you I had

Spikes, who has been infatuated with Hollywood since he was a teen, makes weekly trips to the movies 120 nos, and I'm a white guy."

Then, in 2017, the data-analytics firm Helios and Matheson bought 51% of the company for \$25 million. To increase subscribers, Helios and Matheson wanted to run a "promotion" dropping the price to \$9.95 a month. Spikes, who had experimented with price points ranging from \$19.99 to \$49.99 over the years, was not wild about the idea. The average movie-ticket price in the U.S. was \$8.97, so users would have access to near unlimited movies for just over the price of a single ticket. In the press, Lowe and Ted Farnsworth, CEO of Helios and Matheson, said they hoped MoviePass would work like a gym membership: plenty of people pay the monthly fee and never go, so the gym turns a profit. Here's the problem: people don't like running on a treadmill; they do like going to the movies.

Still, Spikes says he agreed to the promotion as long as they upped the price again after 100,000 new sign-ups. "It happened in literally 48 hours," says Spikes. "I was like, 'Great, turn it off.' And they were like, 'No, no, leave it on. See what happens. We know what we're doing."

Spikes calculates they were losing \$30 per customer per month. Lowe says it was closer to \$17. Either way, they were losing money. "The math didn't work," says Spikes. In December 2017, the same month MoviePass reached its millionth subscriber, Spikes was removed from the board. The next month, he was informed he was no longer needed at the company.

A few days after he was ousted, Spikes went to the movies. "I walk up to the kiosk. And the person on my left pulls out a MoviePass card. The person on my right pulls out a MoviePass card. And they're literally looking and smiling at each other. And you knew we were all part of something big," he says. "And I'd created that. I never forgot that feeling."

By the first half of 2018, MoviePass members were buying 6.6% of all movie tickets in the U.S., according to Lowe. But that year, Helios and Matheson reported an estimated net loss of \$329.2 million. In 2020, Helios and Matheson filed for Chapter 7 bankruptcy, and in 2021 the Federal Trade Commission filed a complaint alleging that the company had failed to secure customer data and had engaged in fraudulent practices like invalidating users' passwords to try to prevent them from buying too many tickets. The resulting settlement prohibited the company from misrepresenting its practices and required it to put better security programs in place. But by then, MoviePass was long gone: it shuttered in September 2019. (Lowe said he could not comment on the FTC investigation because of a nondisclosure agreement, but blames the demise

of MoviePass largely on user fraud—members sharing cards with one another and otherwise bypassing the system. Farnsworth did not respond to requests for comment.)

Spikes equates what he experienced with PTSD. "I was licking my wounds for about two months when my wife was like, 'You need to put some clothes on and get out of the house." Then, late last year, he heard from someone working on a documentary about the rise and fall of Movie-Pass that nobody had bought the company assets during the bankruptcy auction. He called the trustee, who said the minimum bid was \$250,000. Spikes talked him down to \$140,000.

IN SEPTEMBER 2020, Spikes drove alone from his home in Manhattan to Hoboken, N.J., donned two masks, and sat in a theater with 10 other people to watch the action film *Tenet*. The next weekend he returned to see it again. "He's my people, right?" Spikes says of director Christopher Nolan, who very publicly refused to debut his movie on a streaming service. "I told my wife, even if I have to get on a plane to fly to an open theater, I'm going to support this movie. And I've been at the movies pretty much every weekend since."

He's likely one of the few who can make that claim. Movie attendance plummeted during the pandemic: In 2019, 76% of people in the U.S. and Canada saw at least one movie in theaters. In 2021, that number dropped to 47%. People may have gotten used to streaming movies at home, especially since services like Disney+, HBO Max, and Peacock all launched right before or during the pandemic.

Every year, the Motion Picture Association releases data on the combined theatrical and home/mobile entertainment market. In 2019, it found that global digital spending (which includes purchases and rentals of movies from companies like Amazon and Apple) made up 48% of the market, theatrical sales made up 42%, and purchases of physical content like DVDs made up 10%. In 2021, digital spending made up 72% of the market, theatrical 21%, and physical content 7%. That digital spending calculation doesn't even include the money customers pay for subscriptions to streaming services like Netflix.

The window between a theatrical release and a streaming release is also shrinking; would-be moviegoers often have to wait only a few weeks to stream a movie like *The Batman*. The Oscarwinning *CODA* was released simultaneously on streaming and in theaters, and studios occasionally skip the theater altogether. Spikes dismisses the threat of streaming and compares the situation to when DVDs went mainstream in the late '90s. "We forget that we were worried people

2019

\$42.5 billion

billion

HIGHEST-GROSSING FILM

\$2.8 billion



Avengers: Endgame

PERCENT OF PEOPLE IN THE U.S. AND CANADA WHO WENT TO THE MOVIES AT LEAST ONCE 76%

NUMBER
OF MOVIES
RELEASED
BY MAJOR
STUDIOS IN
THEATERS

81

NUMBER
OF ORIGINAL
FILMS
RELEASED
EXCLUSIVELY
TO STREAMING

113

DIGITAL SALES AND RENTALS AS A SHARE OF THE TOTAL MOVIE MARKET 48%

would stay home then too," he says. But Rich Daughtridge, CEO of the upstart chain Warehouse Cinemas and president of the Independent Cinema Alliance, views the proliferation of streaming differently: "We see our main competition as the couch."

Spikes often touts the loyalty of MoviePass customers. When he first founded the company, he was inspired by Steve Jobs' biography to suggest that every employee—including himself—spend at least one day per month on the customer-service line. He recalls one not-so-happy customer who dropped her phone while running to the theater and demanded the company buy her a new \$600 smartphone. "I was like, 'But, ma'am, you dropped your phone,'" he says. "I think I gave her a free month."

But more often the calls would turn into discussions about how much MoviePass members adored going to the movies. They hadn't abandoned cinema because of Netflix. They'd abandoned it because movie tickets had gotten too expensive: movie attendance was already declining before the pandemic, even as the box office ballooned thanks to higher ticket prices. MoviePass's relatively low (and later, absurdly low) price tag helped increase its customers' attendance, until those fervent moviegoers quite literally loved MoviePass to death.

Persuading moviegoers to return to MoviePass may prove less challenging than wooing movie theaters. MoviePass buys tickets for its users directly from the theater. If it can buy discounted tickets, in exchange for promoting the theater on its app and incentivizing customers to go to the movies on slow-traffic days, the company can flourish. But if it has to pay full price for tickets, it will have to rely heavily on other revenue streams like advertising.

Spikes claims that the pandemic has made theaters much more open to MoviePass. "Before, the conversation was 'Eh,'" says Spikes of his initial proposal in the 2010s. "Now the conversations are, 'Congratulations on buying it. How soon can you be up?' So COVID definitely did something it would have taken us years to do."

My exchanges with theaters were more measured. The head of a small theater chain, who asked to remain anonymous because the company is still considering working with Spikes, said the customer-service issues that plagued Movie-Pass at the end of its first run "left a bad taste in our mouths." The big chains—AMC, Regal, and Cinemark—declined to comment for this story. Loría of Boxoffice Pro says those chains likely see MoviePass as competition to their own loyalty programs, which were developed, at least to some degree, because of the success of MoviePass 1.0.

Spikes is undeterred. He says he's had

preliminary conversations with Cinemark and Regal, but AMC has not responded to his calls: "My feeling is at the beginning there may be some competitiveness, but if you still have empty seats, what do you care? Get bodies in there."

Smaller chains and independent theaters—which make up about 20% of the industry, according to Daughtridge—seem more open to working with MoviePass. Alamo Drafthouse has 36 locations across the country and boasts comfy seats, meals instead of just concessions, and alcohol. The founders pride themselves on exhibiting smaller films that the bigger chains don't show. In theory, their interest in saving the indie filmgoing experience should align with MoviePass's mission. According to Lowe, in 2018, MoviePass was buying 30% of all movie tickets sold in the U.S. for smaller films (ones that grossed \$20 million or less).

"We've been quite disruptive in the space," says Michael Kustermann, the chief experience officer at Alamo. "So I think we were always curious about MoviePass. I think the \$9.95 thing was a mistake. But like all good disrupters, there was probably a seed of a great idea that theaters should have been thinking of themselves." Kustermann says Alamo, which has its own loyalty program, has not yet decided whether it will partner with MoviePass but has not ruled it out. "Instead of being dictatorial about how people get in the door, Alamo focuses more on the experience once they're in the door." After all, most theaters make their money on concession sales, and that's especially true of chains that sell alcohol.

"I'm definitely intrigued," says Daughtridge, of Warehouse Cinemas, which has two theaters in Maryland. He and Spikes have spoken several times about the potential of MoviePass 2.0. "We're just running the numbers to make sure we don't cannibalize our own sales."

THIS SUMMER WILL PROVE a crucial test for MoviePass's viability, as a backlog of delayed blockbusters, like *Top Gun: Maverick, Doctor Strange in the Multiverse of Madness*, and *Jurassic World Dominion*, debut exclusively in movie theaters. "All the good content had been moved out. So it's kind of like starving the patient and asking why they're not gaining any weight," Spikes says of the box office.

Optimistic prognosticators point to *Spider-Man: No Way Home*, which in December had the second biggest opening weekend in Hollywood history despite premiering during the Omicron surge, as a sign that audiences will come back. But even with that coup, the domestic box office totaled around \$4.5 billion last year, compared with \$11.4 billion in 2019.

2021

TOTAL GLOBAL BOX OFFICE

\$21.3 billion

BOX OFFICE \$4.5 billion

HIGHEST-GROSSING

\$1.9 billion



Spider-Man: No Way Home

PERCENT OF PEOPLE IN THE U.S. AND CANADA WHO WENT TO THE MOVIES AT LEAST ONCE

47%

NUMBER
OF MOVIES
RELEASED
BY MAJOR
STUDIOS IN
THEATERS

57

NUMBER
OF ORIGINAL
FILMS
RELEASED
EXCLUSIVELY
TO STREAMING

179

DIGITAL SALES AND RENTALS AS A SHARE OF THE TOTAL MOVIE MARKET 72%

About 10% of the estimated 5,500 movie theaters open pre-pandemic in the U.S. closed either temporarily or permanently, according to Comscore, and the theaters that are open today are mostly surviving on a few hits like *Spider-Man* and *The Batman*. Cinephiles fear a future in which studios make only superhero films for the big screen and relegate everything else to streaming. MoviePass doesn't move the needle on the Marvel or *Star Wars* movies—people are going to come out for those anyway—but it may be able to have a substantial impact in driving ticket sales to indie films, Oscar bait, and documentaries.

If MoviePass can scale, then it could play a major role in saving the moviegoing experience. But with just months before launch, MoviePass won't confirm whether Spikes has brokered any deals at all. MoviePass can exist without theater buy-in, but it's unclear if it can thrive. To that end, Spikes will try to build a subscriber base quickly with several changes from its original incarnation, including tiered pricing options and in-app credits that customers can earn by watching ads. They will be able to apply these credits toward tickets for friends and family members who don't subscribe to MoviePass, and eventually, Spikes says, users will be able to trade credits among themselves via blockchain technology. Customers can also invest as stakeholders in the company.

During the MoviePass relaunch presentation, Spikes floated the idea of implementing technology that would track the user's eyes during an ad and pause the ad if the user looked away or put the phone down. The demo immediately drew comparisons to dystopias like *A Clockwork Orange*. "I can say it's given us some level of pause," Spikes tells me when we meet. "If it's something that we even decide to deploy, it might be radioactive. So it maybe doesn't see the light of day." A month later, he says he's decided it will not be a part of the app launch this summer, though he may consider integrating it later.

It's clear that Spikes cares deeply about the future of cinema, but he's also desperate to give the MoviePass story a happy ending. "I sometimes worry if I build something new, someone will take it away from me again," he admits. Yet he forged ahead with the relaunch. "I knew I could build something again. Because you can't take my intelligence. You can't take away my passion."

If MoviePass succeeds, Spikes will be vindicated. Lowe and others who pushed him out will be cast as the obstacles he had to overcome to make his comeback. I ask Lowe how he feels about his role in that potential narrative. "I'd be so happy for his success in this," he says. "It wouldn't bother me at all for people to say that he told me so." — With reporting by MARIAH ESPADA

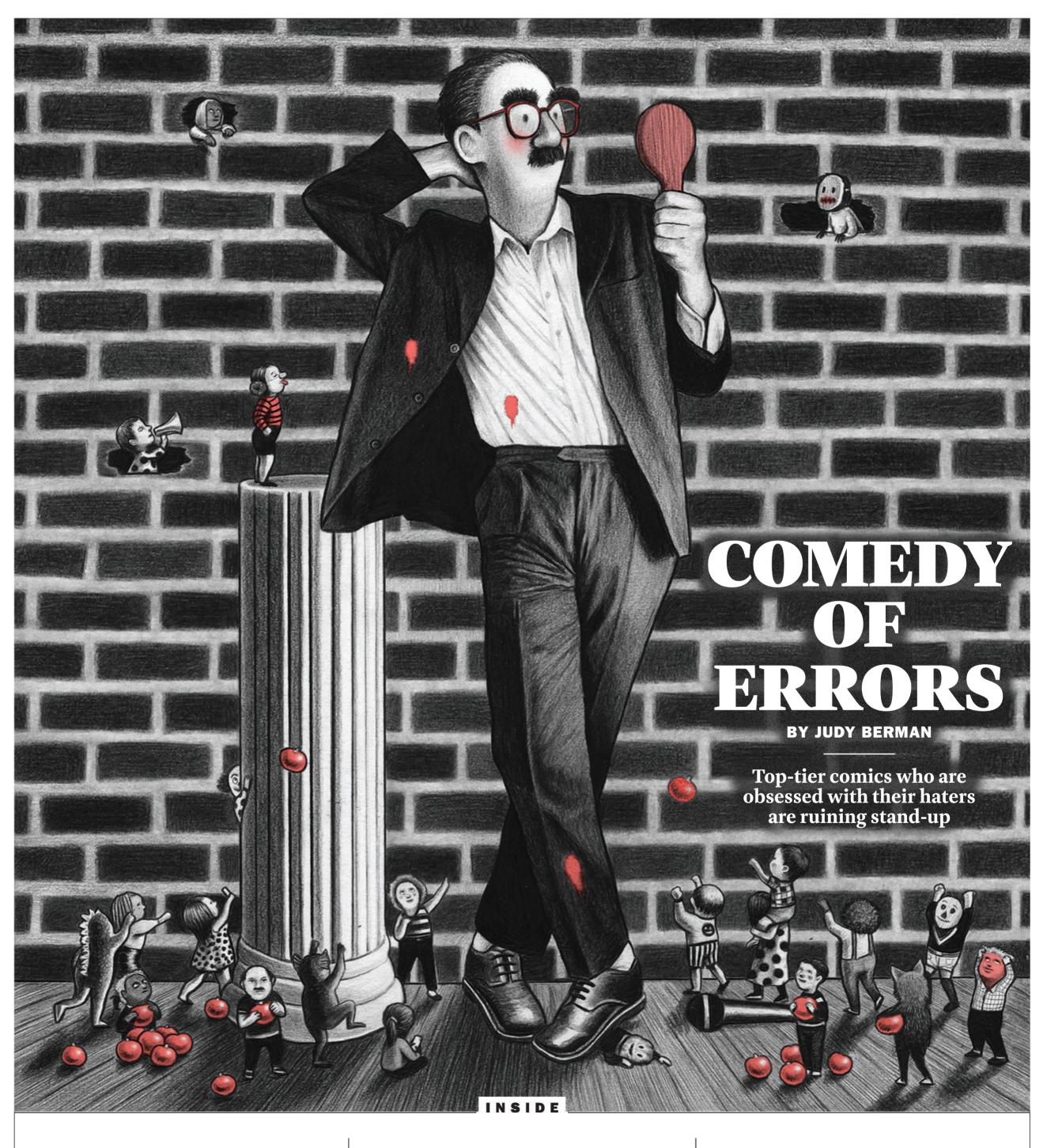


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SHINING GIRLS TRACKS A KILLER WHO CAN SEE THE FUTURE

AN URGENT WARNING FOR WOMEN'S RIGHTS IN HAPPENING

CARLO ROVELLI SHARES HIS METAPHORS FOR THE UNIVERSE

Clapter comedy threatened to overtake stand-up during the Trump era, as audiences weary of unintentional black humor in the news turned to pop culture's clear-eyed court jesters just to feel sane. But recently, catalyzed by a fiery debate surrounding free speech, hate speech, and cancel culture, clapter has metastasized into something even more corrosive—something that goes beyond the actual substance of comedy's much discussed woke wars. As in all other corners of our polarized society, comedians have defaulted to binary ideas about right vs. wrong, our side vs. their side, justice warrior vs. truth-teller. And that impacts voices on all sides of these issues.

From provocateurs like Dave Chappelle to progressives like Hannah Gadsby, comics are allowing the faceless "haters" who criticize them on social media to consume their work. As these conflicts escalate, the result is even more attention for these stars. That isn't just bad for public discourse—it's also bad for a mainstream comedy landscape that too rarely spotlights the many voices doing subtler, gentler, weirder, or more experimental work.

In defending their ideas and their work, too many of the most famous stand-ups have become smug, narcissistic, self-righteous, petty. Maher epitomizes this exhausting phenomenon. As excruciating as some of his opinions are (on R. Kelly: "The music didn't rape anybody"), what's most unappealing is the manner in which he delivers them—as though he's the only sane, smart person in the world. The more public pushback he gets, the more sanctimonious he becomes. "We never stand up to the people who wake up offended and live on Twitter," Maher complains in the special, as though his Real Time monologues weren't engineered specifically to inflame that crowd and rally his own social media surrogates. This sort of sentiment is common among comedians of his cohort: rich, famous, middle-aged, liberal men with ride-or-die fandoms who rail against cancel culture as a threat to their free speech, despite the fact that said culture doesn't even have the power to prevent Louis CK from winning a Grammy a few years after he admitted to sexual misconduct.

The vagueness of his targets separates him from someone like Dave Chappelle, who has become the most prominent face of the free-speech-at-all-costs contingent. There's plenty to say—most of which has already been said—about the transphobic streak in Chappelle's comedy. In discussing his style more than his content, I don't mean to minimize discussions around his attacks on a vulnerable minority that right-wing lawmakers are currently attempting to



Chappelle, top, and Maher play victim to the woke masses

legislate out of existence. But Maher's righteousness reminded me of Chappelle, different though he may be.

CHAPPELLE ISN'T ABOVE pandering to audiences thirsty for provocation, but he's overall a more complicated thinker. His tone veers between openhearted empathy and viciousness, drawing attention to contradictions in viewers' own opinions on fraught issues and leaving room for what is often productive ambiguity around what he actually believes. And when he speaks on topics about which he's "not supposed to" have a take, there is often reason to be glad he did. But in last year's *The Closer*, which Chappelle frames as his response to the LGBTQ community, the tactic backfires. An emotional anecdote about his friendship with the late trans comedian Daphne Dorman is undermined by lazy stereotyping and faulty logic that often positions queer or trans identity and Black identity as mutually exclusive. "Gay people are minorities," Chappelle says, "until they need to be white again."

What has stuck in Chappelle's craw, as he admits in the special, is

the accusation that he's "punching down" at trans people. That hurts because—given that they've labeled him transphobic and he too represents an oppressed community—he feels like the injured party. If he is going to show trans people kindness, then they need to show him kindness first. "Empathy is not gay," he says. "Empathy is not Black. Empathy is bisexual. It must go both ways." It's a surprisingly sweet joke, but one that fails to acknowledge his long history of painting the trans community, with the exception of one trans woman who met Chappelle on his own terms, as monolithic. As far as Dave Chappelle is concerned, it seems, the most important thing about trans people is that they're angry at Dave Chappelle.

Such sanctimony isn't limited to comedians bent on offending the politically correct. My personal beliefs, for what it's worth, align more closely with those of Hannah Gadsby, the Australian comic who broke through in the U.S. with a 2018 Netflix special, Nanette, that connects her experiences in comedy with the trauma she's suffered as a woman and a lesbian. Gadsby's particular talent as a comedian is synthesis. She can pull together a seamless set, incorporating a wide range of topics and emotional beats, by weaving in callbacks, refrains, and meta-commentary—and she knows this so well that she flaunts it, outlining at the beginning of both Nanette and 2020's follow-up Douglas what she's going to do and how she's going to do it. It's a neat trick, but one that can slide into the territory of condescension when Gadsby starts explaining to her audience how she expects them to react to her material, as though she's a powerful enough manipulator to override any conceivable viewer's capacity for free thought.

Her critics latched on to this tone, protesting that *Nanette* shouldn't be classified as comedy. *Douglas* takes up the accusation in earnest. Of course not everything in *Nanette* was supposed to be funny, Gadsby tells the crowd: "I turned the laugh tap off myself. It was a decision. I stand by it." Elsewhere, she launches into a self-consciously shrill rant about men—

just, she says, to bait her haters. The problem with this stuff isn't that it's not funny (although it isn't) so much as that it isn't insightful or challenging in the way that her other material can be. It's self-absorbed. It protests too much.

that address serious themes, in tones that are also sometimes serious, are the problem. Stand-up is a relatively young art form, and there are only so many ways to stand in front of a microphone and deliver punch lines. More fluidity between the worlds

There's precious little space left for introspection or humility or self-doubt

of stand-up, spoken word, storytelling, theater, and music should only be daunting to genre purists—who, frankly, need to lighten up. The rest of us get to spend time with work that defies expectations, from *Nanette* to Chappelle's blistering response to the murder of George Floyd, 8:46, to Bo Burnham's *Inside*. Earlier this spring, HBO unveiled Jerrod Carmichael's



Rothaniel, a deeply personal special directed by Burnham that plays like a conversation and a confession, studded with very funny jokes, about the contradictions of being a gay Black man coming out in his mid-30s.

I don't believe, either, that the woke wars are at the core of comedy's current crisis. What I see is an elite tier of highly paid, well-known comics who can't seem to accept the fact that the privilege of performing for an audience of millions—and being treated as not just an entertainer but a thought leader—carries with it the burden of subjecting yourself to public scrutiny. Self-deprecation has gone out of style in stand-up. Now there's precious little space left for introspection or humility or self-doubt. Meanwhile, the epidemic of controversycourting smugness has been exacerbated by a content-hungry streaming industry that incentivizes comedians to insert themselves into the news cycle. When one of their names trends on Twitter, that's free advertising for the comic and the platform that releases their specials. No wonder Netflix doubled down on its support for Chappelle.

This is all a shame, because vulnerability goes a long way toward defusing the anger directed at people who tell jokes. Why has Larry David—a 74-year-old straight white guy who never met a piety he didn't want to puncture—thrived for long enough to charm millennials and Gen Z? Because his jokes about other people rarely overshadow his jokes at his own expense.

There's a difference between using your platform to wring laughter out of the human folly in which we all participate every day and using it to fight petty battles against the haters. Comics who position themselves as infallible are always going to catch hell for ripping into others. "Who are these perfect people that we have in America now?" Maher demands in #Adulting, during a riff on the supposed cancellation of Aziz Ansari. "So many perfect people who never make a mistake, never do anything wrong, yet get to judge your date." Comedian, heal thyself. **TELEVISION**

Losing her mind to catch a killer

BY JUDY BERMAN

I'VE NEVER LOST MY MIND, AT LEAST AS FAR AS I know. But if my grasp on reality ever started to slip, I imagine it would feel much like the experience of watching Apple's cerebral sci-fi crime drama *Shining Girls*. When we meet our protagonist Kirby Mazrachi (Elisabeth Moss), she's a timid Chicago *Sun-Times* archivist who shares an apartment with her punk-rocker mom (Amy Brenneman) and a cat. Then, without warning, reality shifts. Kirby comes home to find that she lives on a different floor of the same building, with a husband (Chris Chalk), whom she remembers only as a co-worker, and a dog. Instead of explaining the twist, the show immerses viewers in her disorientation.

What we do know about Kirby is that she was on track to become a star reporter before narrowly surviving a brutal assault. Only after she regained consciousness did the facts of her life start shifting. Since then, she's drifted through a series of realities, which arrive with no apparent rhyme or reason. When a murder occurs whose details match those of her attack—the assailant leaves objects in the bodies of his exclusively female victims—Kirby teams up with hardboiled reporter Dan Velazquez (Wagner Moura) to not just catch a potential serial killer, but also make sense of what's happening to her. The ingredients of a typical male-misogyny, female-trauma narrative are all there in this adaptation of Lauren Beukes' widely read 2013 novel. Yet Shining Girls doesn't lecture. Instead, like a number of recent series, it uses genre conceits to place audiences inside the perspective of a character forced to reopen historical wounds.

Although suspense takes hold around the eight-episode season's midpoint, the show moves slowly at first; as frustrating as that can be, it's the only way to build a world that keeps mutating. Scenes recur, with minimal explanation. Settings, hairstyles, and characters change, often slightly but always suddenly. Instead of a single performance, Moss gives a cluster of them, finely calibrating Kirby's posture, confidence, and anxiety level to reflect each new reality. The villain, Harper (Jamie Bell), is clear to viewers from the start. The mystery is his apparent omniscience and how it connects to Kirby's crisis. Because the show sticks so close to her fractured consciousness, we come to appreciate how hard it is for her to survive, let alone conduct such an unusual investigation.



Moura and Moss hunt an allseeing killer

SHINING GIRLS SHOWRUNNER Silka Luisa uses time travel as a mechanism of control and a way of demonstrating how one man's violent impulses multiply across generations. It serves a similar purpose in the recent second season of Netflix's Russian Doll, which makes the New York subway a conduit to Nadia Vulvokov's (Natasha Lyonne) Jewish immigrant forebears. HBO's bloody motherhood farce The Baby, Apple's sci-fi reckoning with the violence of Jim Crow racism in The Last Days of Ptolemy Grey, and Starz's hauntedhousewife horror comedy Shining Vale, all released over the past few months, use genre tropes to plunge their viewers into the minds of characters haunted by oppressive pasts that leak into the present.

From forced birth to lynching, the atrocities of earlier eras make viscerally terrifying fuel for psychological thrillers because they actually happened—and we still feel their reverberations today. Not for nothing are the protagonists of these shows all women, people of color, or both. For them, like their counterparts in a real world afflicted with virulent new strains of old hatreds, the return of society's repressed bigotry represents the same existential threat that Harper poses to Kirby. On a series whose purposely bewildering twists function as metaphors for the psychological power aggressors wield over their victims, the only way to stop history from repeating is to confront it. This, you might say, is the method in Shining Girls' madness.

The only way to stop history from repeating is to confront it

SHINING GIRLS premieres April 29 on Apple TV+



Haft (Foster) is a man at odds with his secret past

MOVIES

THE BOXER UNDONE BY HIS SINS

Now that so many books, movies, and TV shows fixate on emotional suffering, many of us are asking: How much is too much? The Survivor, directed by Barry Levinson, tells the real-life story of Harry Haft, played here by Ben Foster, a scrappy lightheavyweight boxer of the late 1940s who did well enough for himself—Rocky Marciano was one of his opponents. But Haft's story comes with an anguishing twist: a Polish Jew, he'd survived the concentration camps by fighting other prisoners to the death, for the entertainment of their SS overseers. After escaping the camps, Haft tried to build a new life for himself in the U.S., only to be dogged by guilt and, in the movie's telling, haunted by a lost love.

At its core, The Survivor is a story of deep moral complexity, and Levinson isn't quite subtle enough to tease out the nuances. He shifts dutifully between Haft's boxing career and the horrific deeds he's striving to forget, using some harrowing and effective flashbacks. But in places Levinson belabors Haft's struggles: a few potent, understated sequences would be more telling than endless shots of Foster furrowing his brow with pained, feverish intensity. Even so, The Survivor's overall clumsiness can't fully dim the power of its central idea: this is the story of choices no human being should ever be forced to make, and its final note of forgiveness feels like a salve.

—Stephanie Zacharek

MOVIES

A grim but timely warning from 1960s France

IN AUDREY DIWAN'S TENSE AND quietly radical film Happening, Anne, a bright young student in early 1960s France, discovers she's pregnant. The law, as the doctor who breaks the news tells her, "is unsparing." Anyone who helps her terminate the pregnancy will land in jail, as will she. Her closest friends abandon her when she confesses her plight; the father of the unborn child absolves himself of responsibility. A doctor who feigns sympathy pretends to help her, though in reality he's trying to seal her fate. And when she begs a male teacher to help her catch up on the lectures she's missed, he asks bluntly what has caused her absence. "The illness that strikes only women," she says, "and turns them into housewives."

Happening—which won the top prize, the Golden Lion, at last year's Venice Film Festival—is a difficult film to watch. That's in part because of an agonizing, if discreetly shot, scene in which the heroine—played with raw, bruised resolution by Anamaria Vartolomei—attempts a DIY abortion with a knitting needle. (When I saw the film in Venice, several audience

members left the theater during this scene, though among those filing out, I counted not a single woman.)

But Diwan's film is less harrowing for its depictions of physical suffering than for its forthright exploration of Anne's emotional desolation. She's a country girl whose dream is to become a professor. But women who have sex before marriage are written off as "fast"; their sexual desire is treated as a flaw, a cause for shame.

Happening is adapted from the 2000 book by the French writer Annie Ernaux, detailing the experience of her own abortion in 1963. It's an unyielding picture in some ways; you might long for a sliver of optimism tucked amid its layers of grim truth. But then, all its hope lies in Anne's face, as uncompromising as an early crocus. This is the face of a woman who deserves much more respect for her body, for her very life—than her society affords her. And if 1960s France seems like a faraway time and place, Happening comes entwined with a warning: the country it's showing us could very likely be the United States of Tomorrow.—s.z.



Sandrine Bonnaire and Anamaria Vartolomei: second-class citizens in 1960s France



ESSAYS

Kisses, not stones

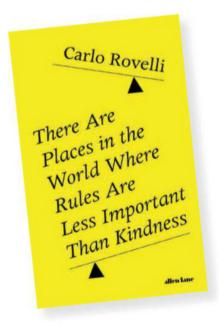
BY JEFFREY KLUGER

eaten by a bear in 1976—though even he admits it would have been his own fault. Camping alone in western Canada, he decided to save the money it would have cost him to pitch his tent in a designated area. No sooner had he prepared to settle in than the grizzly appeared. Fortunately for Rovelli, the bear was more interested in the easy pickings of the food supplies he had left out in the open than it was in human prey. "I packed super rapidly," he says, "left the food, took my tent and backpack, ran to the campsite, and was happy to pay the \$2 it cost to camp there."

That \$2 ensured that Rovelli remained in the world, and—to the gratitude of millions of his modern-day readers and followers—that the world got to keep Rovelli. It turned out to be a good deal all around.

The 65-year-old research physicist now directs the quantum-gravity research group at the Centre de Physique Théorique in Marseilles, France, and is the best-selling author of seven books, including 2014's Seven Brief Lessons on Physics—which has been translated into more than 40 languages—and the new There Are Places in the World Where Rules Are Less Important Than Kindness, a

Rovelli's new book is his seventh



collection of his newspaper columns.

Quick-talking and small-framed, Rovelli is rather blasé about trafficking in the nearly hallucinogenic concepts of his field, from quantum theory—which involves the behavior of matter and energy at the atomic and subatomic levels, where the precepts of classical physics break down—to relativity. "I'm a simple mechanic," he says. "In Italian that's almost a pejorative. However, I'm not the person who thinks that science is a fundamental explanation of everything. I think scientists should be humble. They are not the masters of today's knowledge."

Maybe not. And yet, Rovelli's life's goal is to be the first physicist to reconcile quantum mechanics and more traditional theories of gravity and Einsteinian space-time. That work, should he achieve it, would make Rovelli more than just an accomplished physicist and a gifted communicator. It would make him a legend.

ROVELLI BEGAN BREAKING RULES

long before he pitched his tent in a place he wasn't supposed to. Born in Bologna, Italy, he ran away from home at age 14 and hitchhiked across Europe. At 16, he began experimenting with LSD, which he credits with first allowing him to understand that linear time, as we experience it, may not be all there is. And once he enrolled in college, at the University of Bologna, he decided to study physics rather than philosophy because the queue at the registration table was shorter.

"Physics was a little bit of a random choice," he says. "I also discovered, to my surprise, that I was good at it."

Good indeed. Rovelli has come to conclude that if you want to understand how the universe works—and he would very much be happy to teach you—it's important to grasp three essential concepts. First, things don't happen according to exact equations, but rather only to probability. Next, space-time is not a continuum but is ultimately reducible to "grains," the

smallest possible units of the universe. Finally, Rovelli argues, all objects—even grizzly bears—have properties only insofar as they relate to other objects. "The world is not made of stones," he says. "It's made of kisses."

work as a HEART SURGEON and you can explain straightforwardly what your job involves. Work as a theoretical physicist and you're left resorting to metaphor.

What makes things really challenging is that the universe does a good job misleading us with what appears to be simplicity. The ground is down there; space—which has no grains as far as we can see—is up there; time moves forward. The trick for all of us, physicists included, is not learning new truths but unlearning old falsehoods.

'I think scientists should be humble. They are not the masters of today's knowledge.'

The stem-winding title of Rovelli's new book comes from a 2016 essay in which he visits a mosque in Senegal. He removes his sandals before stepping inside the building, as directed, but carries them inside with him. A young man approaches him and points to the sandals; Rovelli realizes that the rule is actually that dirt-shedding shoes should not enter the building at all. He hurries back outside and leaves the sandals behind. An old man picks the sandals back up, places them in a bag, and carries them into the mosque himself to hand them back to Rovelli. The man's desire to put the traveler's mind at ease about his shoes has taken precedence over even that rule.

The universe Rovelli has devoted his life to explaining might be a cold, indifferent, even unkind one—at least insofar as it largely limits us to our tiny little beachhead of earth. But it is a clearer and more elegant one for Rovelli's efforts. That, in a very real sense, is its own act of kindness.

FICTION

The thrills of twintuition

BY LAUREN MECHLING

Former child actors Mary-Kate and Ashley Olsen long ago transitioned from Hollywood starlets to fashion moguls and now run the Row, an extravagantly priced minimalist clothing line. A lesser-known fact: the twin sisters are also literary muses.

"I was thinking about the Olsen twins," author Janelle Brown admits when discussing her latest literary thriller, I'll Be You. The mystery centers on a pair of former B-list child actors facing very adult problems: Sam is an addict who lives in a tiny Hollywood apartment and works as a barista, while Elli is a seemingly perfect suburban mom who runs a flower-arranging company and has become involved with a dodgy empowerment group.

The novel, the author's fifth, is her twistiest and tightest work yet. Told from both sisters' points of view, I'll Be You is a cleverly crafted and psychologically nuanced yin and yang, complete with crackling observations about wellness culture, the fertility industry, the undertow of addiction, and the ways in which show business

Brown's fifth novel takes inspiration from NXIVM



can mess up children. The book opens when Elli, who has headed off to a supposed spa weekend, goes AWOL, leaving her young daughter in the care of her parents. Overwhelmed, the grandparents call Sam for help. She's the only person who understands the danger Elli is in—and the only person who can transform into Elli and lead an impersonation cum investigation to find her.

Elli, it turns out, has been draining her savings to fund GenFem, a cult that restricts calories, collects compromising information about its members, and metes out "Severances" when followers misbehave. Brown's long-standing fascination with the NXIVM cult was another source of inspiration. She's been collecting material since news first broke in 2017 about the cult that engaged in sex trafficking, extortion, and other crimes. Brown was drawn to details about the partner of NXIVM leader Keith Raniere: Nancy Salzman, a former psychiatric nurse, who pleaded guilty to a racketeering conspiracy charge and was sentenced to three and a half years in prison. "For me, Nancy was the creepiest character in the whole NXIVM world, with her background in therapy and psychiatry, and the things she was doing to these girls—including her own daughter," Brown says. "So I started kind of imagining a character like her." This thought experiment helped her invent Dr. Cindy, a supposed healer who lures Elli into her orbit.

The seductive yet dangerous worlds of the Hollywood system and a cult provided perfect backdrops for Brown's enduring fascination: "I write about people who are making very bad decisions," she says. "In every one of my stories, you watch them do it—and then you watch them try to crawl out of the hole that they've dug for themselves."

EXCERPT

The mega-influence of Anna Wintour

BY AMY ODELL

ON THE EVENING OF MAY 2, ANNA WINTOUR WILL TAKE her place at the top of the carpeted steps leading into New York City's Metropolitan Museum of Art. Wintour, now Condé Nast's global chief content officer as well as the global editorial director of *Vogue*, has been hosting the Met Gala for nearly 30 years. She is always happy on this night—but it's work. So every detail must be perfect.

Former Met Gala planner Stephanie Winston Wolkoff describes Wintour as "militant" each year. "Where is everybody? It's time," Wintour says. "Can you tell me where they are?" The *Vogue* staff knows. Every guest has a prearranged arrival time, and Wintour's people know what cars they'll arrive in, if they've left the house, what they'll be wearing, and if they've broken a zipper along the way.

A night of excess, the Met Gala is where Wintour flaunts her dominance over an industry that's predicated on the understanding that there is an "in" and an "out." In Wintour's world, some people are always "out"—low-performing assistants, the Met's event planners who tell her she can't hang a dropped ceiling over a priceless statue, the Hilton sisters. Some, whose success, power, creativity, and beauty are undeniable, are therefore always "in." Some get moved from one status to the other. Wintour's longevity as a fashion mega-influencer in a business that is fickle by design is unmatched, and the Met Gala is the ultimate manifestation of her power. But her selection of who gets her endorsement in the industry, and therefore who gets fast-tracked to success, extends far beyond the guest list.

"As much as she loves a person who has talent," longtime colleague André Leon Talley said before his death, "if she does not love you, then you're in trouble."

THE MET GALA started as a fundraiser for the Costume Institute in 1948, a midnight supper for New York society. Wintour began planning it in 1995. The guest list led it to be dubbed the "Oscars of the East Coast," but that moniker no longer fits: in terms of the cultural significance of the red carpet, the Met Gala now surpasses the Oscars.

The event has not been without controversies, which have only increased buzz. In 2018, Scarlett Johansson walked the "Heavenly Bodies" carpet in one of the more demure evening gowns of the night, by Marchesa, but still caused quite a spectacle. It was the first major red-carpet appearance for the label since designer Georgina Chapman's husband, Harvey Weinstein, had been brought down for decades of sexual harassment and abuse in 2017.

Someone working closely with Wintour at the time said there was no indication that she had known about the allegations against Weinstein. Nonetheless, her loyalty to certain people ran deep. Weinstein had feverishly courted her favor since the mid-'90s, desperate for her approval



Odell
interviewed
more than 250
people for the
biography

and for *Vogue* to cover his films. Their decades-long relationship seemed to explain why Wintour had to be talked out of having lunch with him at his invitation after the news came out (to avoid the possibility of being photographed together). And presumably why it took eight days for her statement denouncing his behavior to appear in the New York Times after it broke the story. ("Anna has been in the public eye for 30 years, speaks regularly about her life and work, and yet she has often found herself in a position in which others claim to be telling her story," a spokesperson for Vogue wrote when asked to comment on this piece. "Anna: The Biography was written without Anna's participation.")

Before she issued her statement, Wintour cut off contact with Weinstein and set up a call with his wife, whose career she had been supporting for more than a decade. The day after the 2018 gala, on The Late Show With Stephen Colbert, Wintour commented directly: "Georgina is a brilliant designer, and I don't think she should be blamed for her husband's behavior. I think it was a great gesture of support on Scarlett's part to wear a dress like that, a beautiful dress like that, on such a public occasion." A dress that Wintour, as she does for most of her guests, had likely approved.

Over the decades, Wintour has seemed to view it as her job to rehabilitate her favorite designers felled by scandal. When John Galliano was fired from Christian Dior after being filmed spewing an antisemitic tirade at a bar in 2011—saying, "I love Hitler"—Wintour sprang into action. Before she managed to place him in a job at what's now Maison Margiela, she called Parsons to ask if he could have a faculty appointment. The school was prepared to give him a three-day class to teach, but was forced to cancel it after a wave of backlash.

Wintour's alliances with powerful men came under further scrutiny when *Vogue*'s favored photographers Mario Testino and Bruce Weber were also accused of sexual misconduct. This time, however, Wintour announced that, despite them being her







From left: Anna Wintour at the 1995 Met Gala; Scarlett Johansson at the 2018 event; Alexandria Ocasio-Cortez in 2021

personal friends, *Vogue* would stop working with them right away.

THE ABILITY to make decisions about who matters is the great source of Wintour's power—along with her ability to put people in the "out" bucket in an instant. "If you get frozen by her, that's it. She's a Scorpio, you're done," says friend Lisa Love. "It's that cold."

Anyone who attends the Met Gala this year will know that they are, at least for now, "in." But being blessed by Wintour does not always translate to positive feedback outside of the industry. Last year, U.S. Representative Alexandria Ocasio-Cortez attended for the first time, wearing a gown by Aurora James that read TAX THE RICH. For a politician whose every move draws debate, entering Wintour's world, even just for a night, stirred up a swarm of critics, among them *Times* columnist Maureen Dowd, who wrote, "AOC wanted to get glammed up and pal around with the ruling class at an event that's the antithesis of all she believes in."

It's a sentiment that echoes how

people feel about exclusionary practices across every category of life in America. In 2020, with social-justice protests sweeping the globe, Wintour's leadership of Vogue, particularly practices that led to a decades-long lack of diversity in its pages and on her staff, came under harsh scrutiny. On June 4, 2020, she sent her staff an email, quickly leaked to the New York Post's Page Six, which read, "I know Vogue has not found enough ways to elevate and give space to Black editors, writers, photographers, designers, and other creators. We have made mistakes too, publishing images or stories that have been hurtful or intolerant. I take full responsibility for those mistakes." Days later, the New York Times published an article headlined "Can Anna Wintour Survive the Social Justice Movement?"

Yet Wintour's influence remains profound and unmatchable. She ended 2020 with a promotion, announced in mid-December, to Condé Nast's chief content officer, giving her oversight of all magazine brands. The mere mention of Wintour's name

remains enough to prevent advertisers from pulling money from Condé Nast magazines. Her phone call is all it takes to get a brand to sponsor a museum exhibit for millions of dollars. She is, in a capitalist society, exactly the kind of person a company like Condé Nast wants to keep at all costs.

At 72 years old, Wintour surely has a plan for her exit from Condé Nast and for her future—but, aside from telling friends maybe she'll do something where she's being paid for her advice instead of giving it away, she hasn't told them what it is. Sally Singer, who worked for her for nearly 20 years, explains Wintour's vision for *Vogue*, which perhaps mirrors the one she had for herself. "There was never an idea that *Vogue* was an editorial project alone," she says. "It was an intervention into the fashion world."

Wintour has built her own kingdom. And the world's most beautiful, most powerful people are living in it. The rest are just looking on.

Odell is the author of Anna: The Biography, from which this piece is adapted

What to watch, read, and listen to right now

PODCASTS

Borderline Salty

The new podcast from Bon Appétit Test Kitchen alums Carla Lalli Music and Rick Martinez answers listeners' cooking questions on matters like how to shop for meat on a budget and the best technique for flipping pancakes. For even more tips, see Martinez's new cookbook, Mi Cocina.

MUSIC

WE

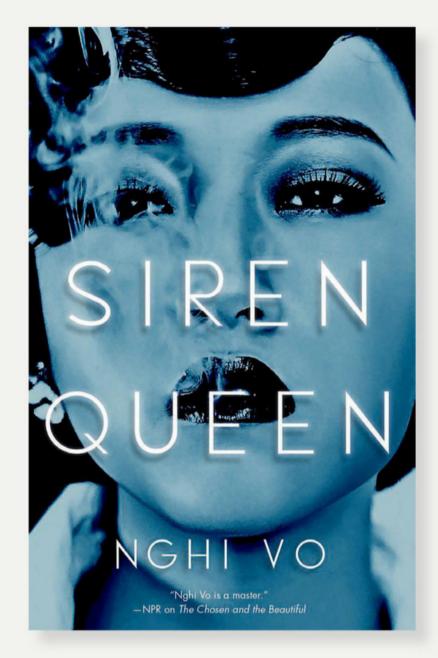
Arcade Fire has big anxieties: "Standing at the end of the American empire," front man Win Butler sings on the new album WE. Yet WE is a record not of sadness but of uplift. Through bighearted guitar anthems, the rock band lays out a credo for empathy and community, in which music could be "your race and religion."



TELEVISION

Old Enough

There's nothing cuter on Netflix than this Japanese show that debuted in the early '90s. Each 10-minute episode features a young child running household errands alone for the first time. From picking up groceries to delivering gifts, their adventures remind us of the wonder that can be found in the mundane.

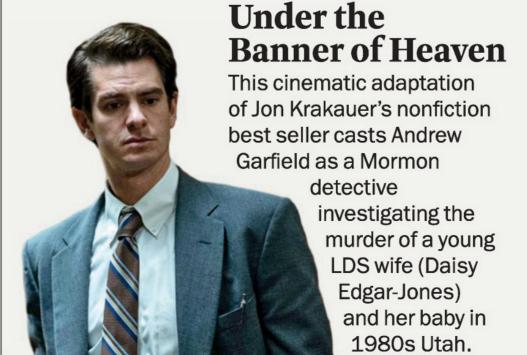


BOOKS

Siren Queen

In Nghi Vo's latest work of speculative fiction, Luli is determined to become an Old Hollywood star.
This Hollywood, however, is populated with monsters and demons—and Luli has to reckon with those sinister beings as she pursues fame at any cost.

TELEVISION



MOVIES

Paris, 13th District

Longing and heartbreak take center stage in Jacques Audiard's Paris, 13th District, the adaptation of Adrian Tomine's graphic novel Killing and Dying. Following four sometime lovers, sometime friends, the black-and-white film is an ode to the city of love.



TELEVISION

Selling Sunset

The inexplicably addictive docusoap following glammed-up real estate agents selling Los Angeles mansions returns for a season that promises to deliver behind-the-scenes details about the tabloid newsmaking romance between agent Chrishell Stause and broker Jason Oppenheim.

BOOKS

We Do What We Do in the Dark

When Michelle Hart's Mallory is in college, she begins an affair with an older, married woman—fueled, perhaps, by the loneliness that follows her mother's death. Years later, she must decide whether to confront the woman.

—Judy Berman, Andrew R. Chow, Eliana Dockterman, Angela Haupt, and Cady Lang



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Tina Brown The journalist on her new book about the British royal family, Prince Andrew's sleaze, and what Diana would have been like as Queen

What was the biggest surprise in writing your new book, The Palace Papers? How incredibly difficult it is to fit in that system. You know it's a gilded cage; you know that there's all these constrictions. But by the end of it, I just felt like I'd been trapped in a mothballed cupboard with people banging on the door trying to get out.

You note that "even at her most bitter ebb with the royal family, [Diana] was always a monarchist." How would she have performed as Queen? The irony was that at the very end of her life in the '90s, she and Charles became on quite cordial terms. Today, in her 60s, she would have been in her prime. I believe she would have been an absolutely superb Queen.

You note that "Love and Strategy would be a good name for a Kate Middleton perfume." How big a role did Kate's mother have in "arranging" her union with William? No, it was a complete love match, and still is. I think that [Kate] fell madly in love with William, but there's a difference between falling madly in love with somebody and being able to navigate for 10 years the obstacle course that was like a snakes and ladders game. I think that [Kate's] mother was hugely helpful in keeping that course steady.

You call Prince Andrew "a coroneted sleaze machine" and paint him as arrogant, entitled, and vindictive. Does he have any redeeming qualities? In some ways, I feel sorry for him. He's clearly a dim bulb, there's very little going on upstairs, and he's something of an oaf. Unfortunately, being intellectually dim and surrounded by sycophancy is a very bad combination.

You write that William and Kate calm each other down, while Harry and Meghan feed each other's sense of indignation and victimhood?

It's interesting; I came to think that William had very much become a Windsor, and Harry has become all-out Spencer [Diana's family]. The Spencers are a very hotheaded, impetuous family with a lot of swashbuckling drama.



I suppose the British people are lucky he wasn't the firstborn son? So lucky! Whatever misgivings you have about Prince Charles, he's an extremely decent man who strives to do good in the way that he sees it. Imagine if Andrew was about to be King! I think it would be the death of the institution.

Your portrayal of Prince Harry has him utterly consumed by hatred of the press. Doesn't that make his current foray into media all the more puzzling? I'm told that is most puzzling to the royal family themselves at the moment. Apparently, what they say about Harry is, "We don't recognize him." He's now writing a book that invades not just his own privacy but also that of his family, when he's always suffered so deeply from these tell-all books.

After Meghan and Harry's hugely successful first tour to Australia in 2018, you write that Meghan believed that "the monarchy likely needed her more than she needed them." Was she correct? A lot of her instincts were right, as we saw from the recent Commonwealth tour [by William and Kate] that went so badly. Meghan sensed that a lot of the stuff she was doing in Australia felt archaic. I think she had a lot to offer in terms of media modernity. But her pushback was just chaotically executed and done with such recklessness.

You suggest that if William and Kate's marriage got into trouble, "the whole Windsor house of cards could come tumbling down." It is in a fragile state. [But] I think that William has quite a lot of resemblance to his grandmother. He's very prudent, he's thoughtful, he's not headstrong. That's a lucky thing for the monarchy. You have to wonder, if the first son had been Harry, would it have survived? —CHARLIE CAMPBELL



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