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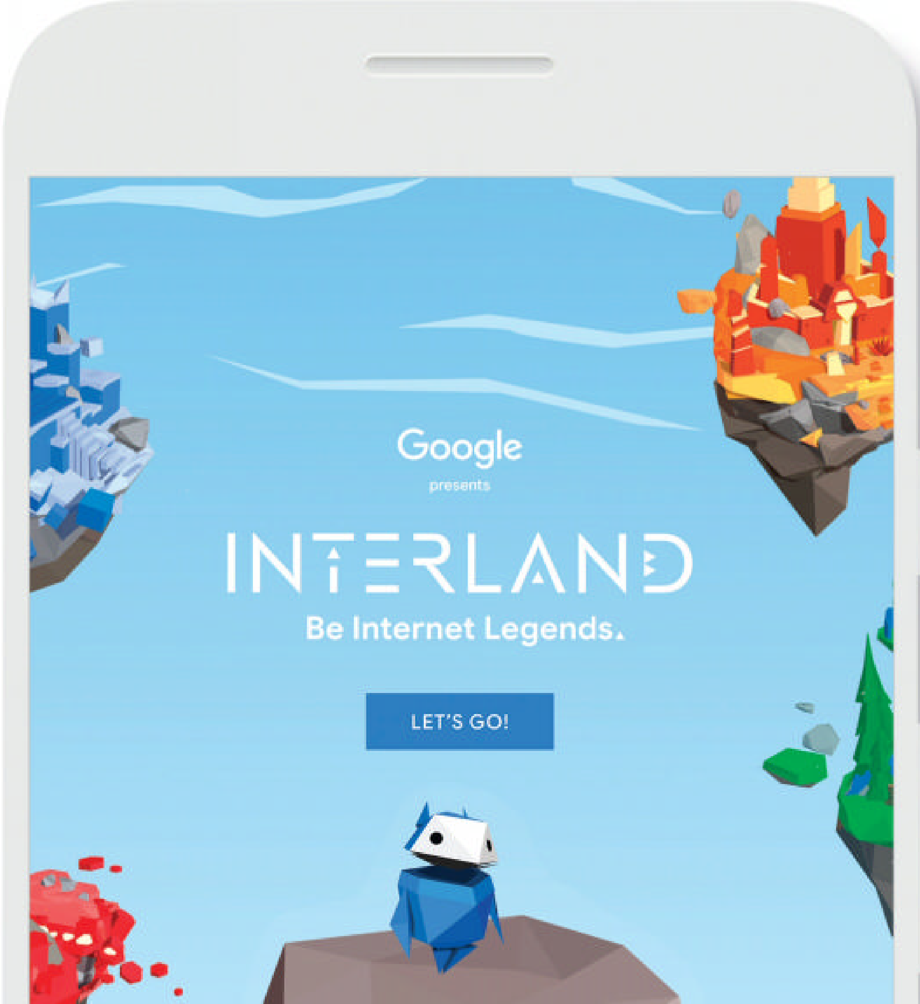
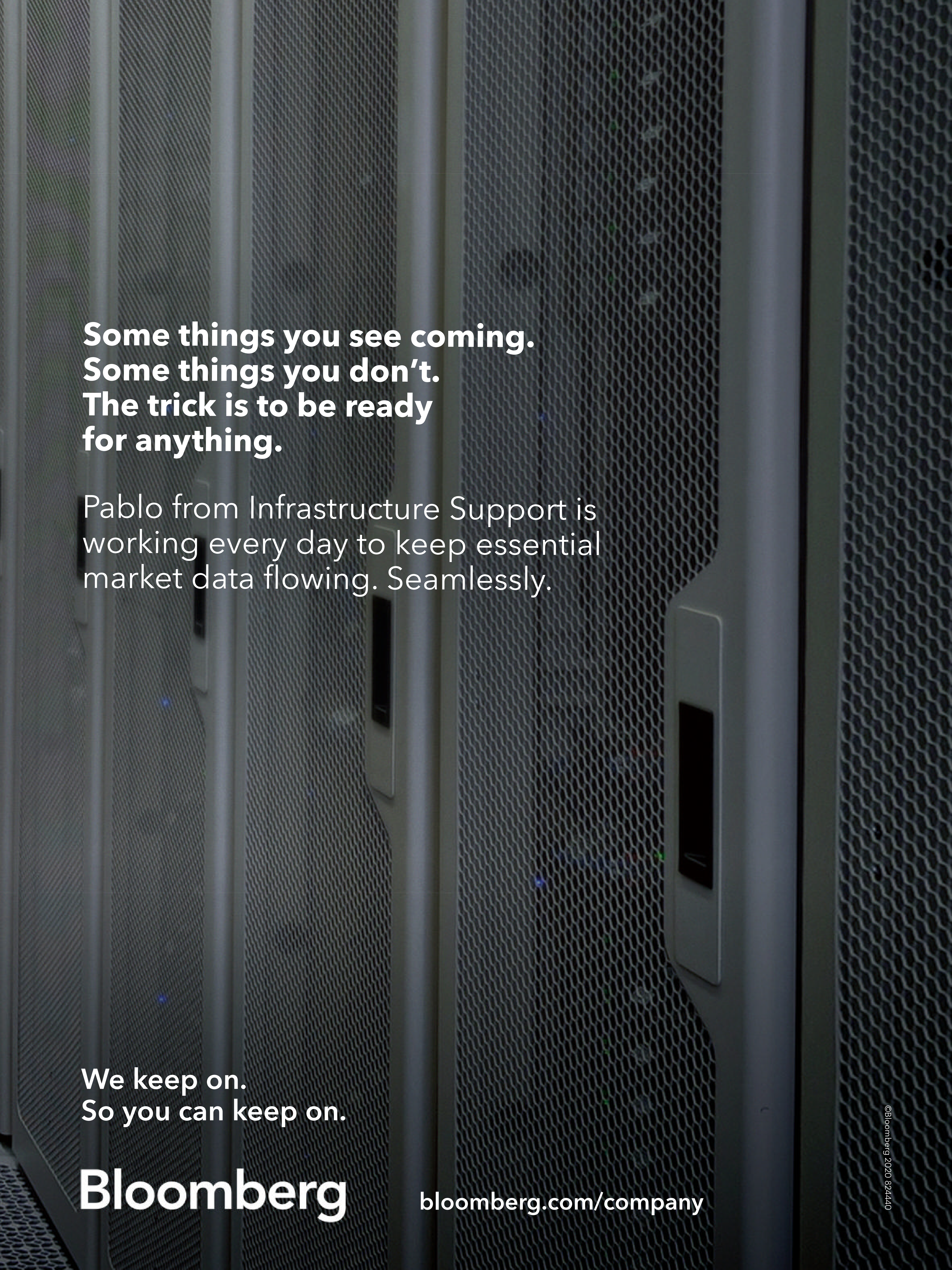


Bloomberg Businessweek
May 10, 2021

JEFF WINS

Amazon has never been stronger. An intimate look at how Jeff Bezos turned a rare moment of weakness into a display of dominance 38

Photographed responsibly by Pablo with a tripod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Bloomberg Businessweek

May 10, 2021

◀ Reporter Patrick Clark, with wife Eleanor and the kids, in their home-for-a-week, a Sunseeker Classic motor home

PHOTOGRAPH BY LYNDON FRENCH FOR BLOOMBERG BUSINESSWEEK

FEATURES

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■ COVER TRAIL

How the cover gets made

❶

"So this week we've got the juicy story of Jeff Bezos' divorce and the ensuing scandal, as reported by the *National Enquirer*."

"Ahh, the schadenfreude of seeing Jeff get a taste of the ol' tabloid smearing your personal life."

"The schadenfreude was short-lived. He basically destroyed them after the story came out."

"Well. You don't eff with Jeff."

❷

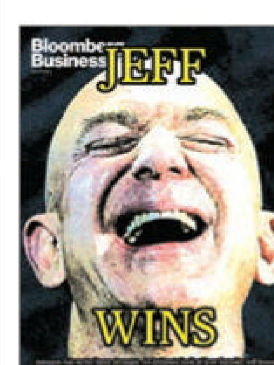
"Wow, yes to this! But maybe lose the 'always'?"

"I mean, it pretty much *is* 'always.'"

"But it's better if *we* don't say 'always.'"

"Oh, so *Jeff* can say 'always'—like...maybe with his face?"

"Perfect!"



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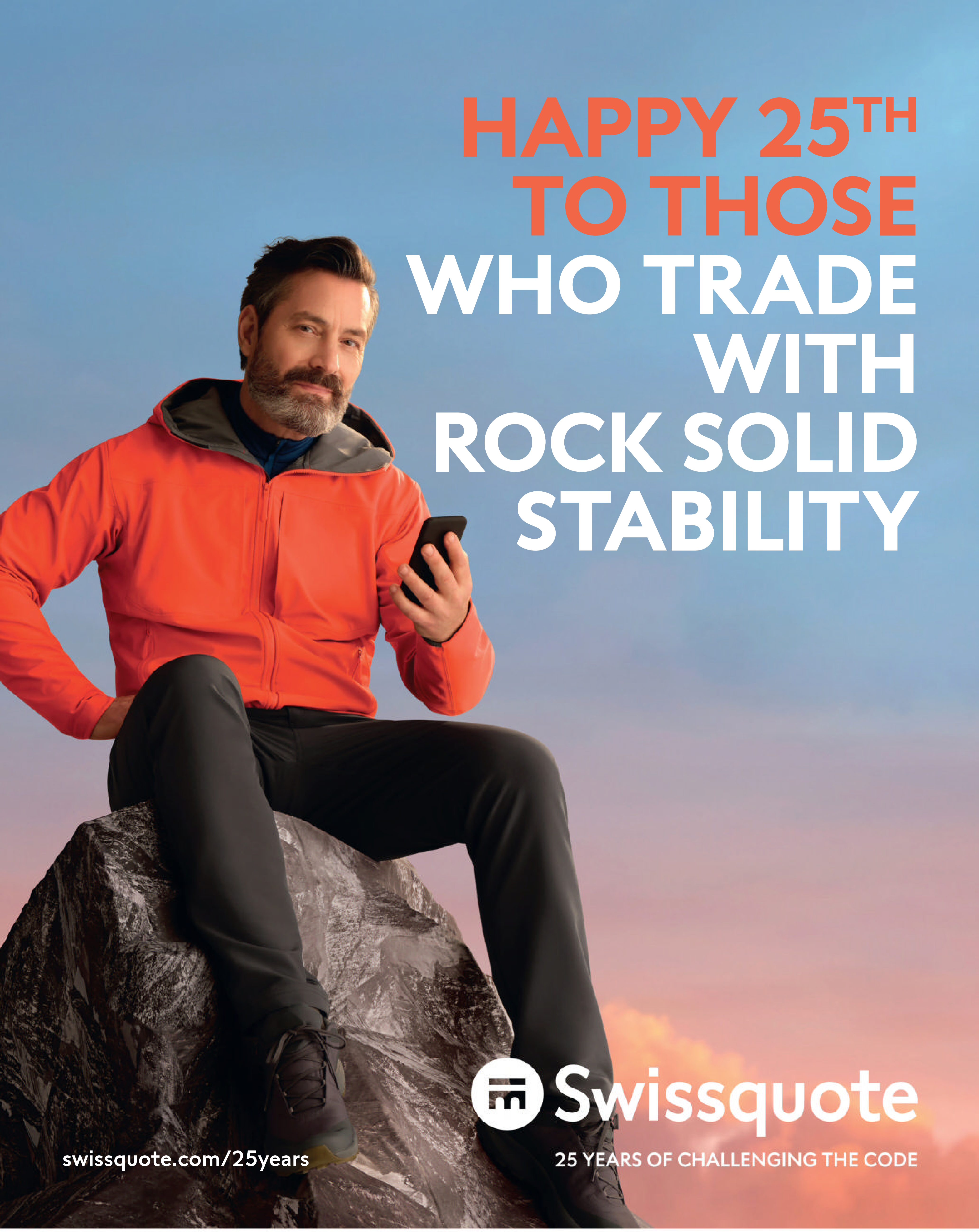
POLITICS: PHOTOGRAPH BY KRISTIAN THACKER FOR BLOOMBERG BUSINESSWEEK. COVER TRAIL: JORG CARSTENSEN/GETTY IMAGES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25 YEARS OF CHALLENGING THE CODE

IN BRIEF

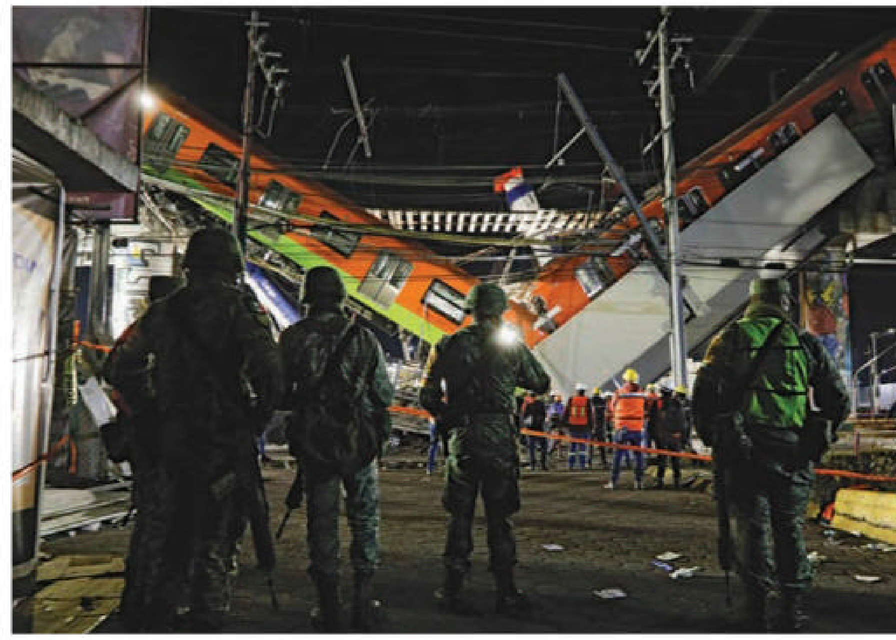
● Global coronavirus cases topped 154 million, and deaths have exceeded

3.2m

Meanwhile, more than 1.2 billion vaccine doses have been given worldwide. Although infection rates are falling in the U.K. and the U.S., India is experiencing a sharp surge of more than 300,000 cases daily, bringing its total to more than 20 million.

● Warren Buffett named his successor on May 3.

America's most renowned investor thus answered one of the biggest questions in the finance community: Who will take over at Berkshire Hathaway? His choice is Vice Chairman Greg Abel, who's spent more than two decades at the company.



● At least 24 people were killed in Mexico City on May 3 when a metro overpass collapsed under a crossing train into the street below. The accident is one of the worst on the commuter system since it was inaugurated in 1969.

● Bill and Melinda Gates said on May 3 that they plan to divorce after 27 years of marriage. The co-founder of Microsoft and his wife command a fortune of an estimated $146 billion and oversee one of the world's biggest philanthropic operations.

● Private equity giant Apollo Global Management agreed to buy Verizon's media unit for

$5b

Its brands, including AOL, Flurry, and *TechCrunch*, will be rolled into a new entity dubbed Yahoo.

● Wall Street wants its workers back at their desks.

Goldman Sachs plans to get its U.S. and U.K. employees to return to offices next month, following JPMorgan Chase's lead. But an Accenture survey of financial-services executives found that many employees want to maintain flexibility, working partially from home.

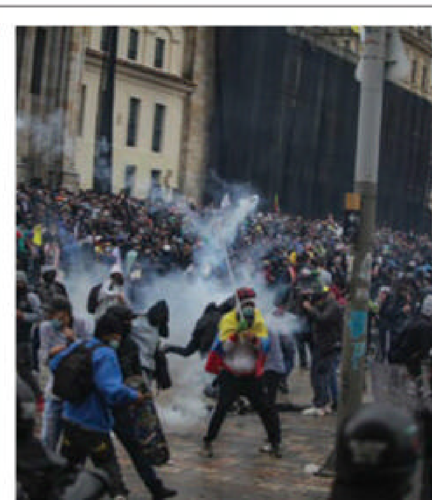
● The cost of pollution in the EU exceeded

€50

($60) per metric ton for the first time on May 4. The bloc's cap-and-trade system seeks to slash emissions and force industries to clean up.

● "His words of support for those involved in the riots legitimized their violent actions."

Facebook's independent content oversight board on May 5, declining to lift the social network's suspension of Donald Trump.



● Colombian security forces have killed more than 20 people during protests against President Iván Duque's plan to raise taxes. The demonstrations, which began in Cali, Bogotá (above), and other cities on April 28, have continued even after the government withdrew the proposal and Finance Minister Alberto Carrasquilla resigned on May 3.

● Honest Co., the beauty- and baby-products company co-founded by actress Jessica Alba, rose more than

40%

above its IPO price on May 5, valuing the business at more than $2 billion. Alba holds about 5% of the stock.

MEXICO: LUIS CORTES/REUTERS. GATESES: FREDERIC STEVENS/GETTY IMAGES. COLOMBIA: JUANCHO TORRES/GETTY IMAGES

Waiving Vaccine Patents Isn't a Fast Covid Fix For Nations in Need

With patients in India dying in the streets and crematoriums melting down from overuse, pressure is building on the U.S. and other rich nations to waive patents so that anyone, anywhere can produce coronavirus vaccines. There's no question that boosting global manufacturing and distribution of shots should be an overriding priority, but the focus on intellectual property misses a crucial point. IP waivers, by themselves, won't get the job done.

India, South Africa, and more than 50 other countries have asked the World Trade Organization for a temporary waiver of intellectual-property rights for vaccines and Covid-19 therapeutics. They say rich countries have cornered the market, inoculating their populations 25 times faster than poor countries, and have delayed sharing stockpiles until their own needs have been met. Meanwhile, India, which has fully vaccinated barely 2% of its people, at one point hit 400,000 cases a day.

Closing this gap is a moral imperative. It's also in everyone's interest. The virus variant contributing to India's surge has already spread to the U.S., U.K., and elsewhere. Other mutations will emerge if the pandemic isn't brought under control.

The Biden administration on May 5 said it would support further talks to allow the IP waivers. The trouble is, merely allowing other drugmakers to produce shots doesn't mean they could. Even if they were able to reverse-engineer the vaccines—unlikely, especially for the newer mRNA technology—they'd still lack the personnel, specialized technology, critical inputs, and manufacturing techniques to produce at scale. The real challenge is to induce and enable vaccine makers such as Pfizer, Moderna, and Johnson & Johnson to expand their output or to work with others, licensing their technology and sharing the full range of supporting know-how.

Neither approach is easy. Whether as producers or as partners, the main developers are already stretched thin and rightly concerned about maintaining quality. Key inputs are in limited supply. And it will take months, at best, to get new facilities up and running. Manufacturers say they'll make 12 billion doses this year. Will demand justify additional investment?

IP isn't the only bottleneck, or even the central one. The U.S. and its allies need to work with the companies to eliminate other obstacles to increased production and distribution—devising, in effect, a global version of Operation Warp Speed.

Generous financial support for the main developers to expand their production in low-income countries should be the first line of attack. But the fastest way to scale up will often be by repurposing other companies' factories, under license and under the main developers' supervision.

Rich-country governments can hasten such arrangements with financial support and by relieving other choke points. They should help find and do due diligence on manufacturing partners in the developing world; provide funding to retool and staff facilities, as the U.S. and Japan have already agreed to do in India; invest in factories to produce crucial ingredients and ensure these flow freely to where they're most needed; help to negotiate contracts, ensuring sufficient demand for manufacturers and alleviating liability concerns; work to accelerate regulatory approvals; and support the distribution capacity of low-income countries, many of which are struggling to get shots into arms even when they have the vaccines.

The full extent of necessary support will take time, commitment, and money to deliver. If the effort succeeds, countless lives will be saved. And if it yields a stronger global system of vaccine manufacturing and distribution, the program will pay dividends not just this time but also in the next pandemic. Ⓑ

For more commentary, go to bloomberg.com/opinion

■ AGENDA

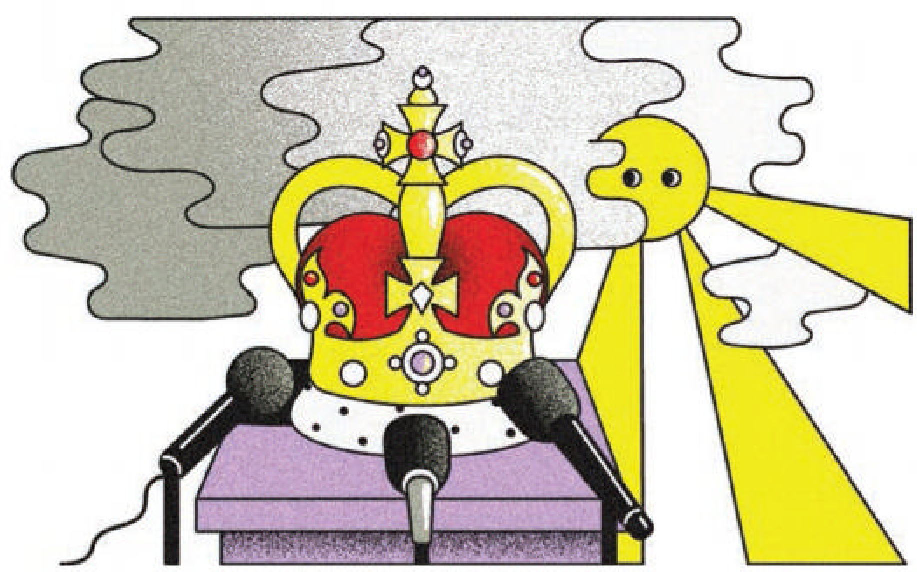


ILLUSTRATION BY EMMA ERICKSON

► The Queen's Speech

Queen Elizabeth II delivers her annual address on May 11, reading out a list of government priorities for the year. Steeped in rules and etiquette, the rite is the monarch's first major engagement after Prince Philip's death last month.

► Chinese online retail giant Alibaba reports fiscal fourth-quarter earnings on May 13. The company has come under increased scrutiny by the government over its market dominance.

► China unveils key April economic data on May 17, including industrial production and retail sales figures. The economy has led a global rebound from the pandemic.

► Mexico's central bank decides on interest rates on May 13. Economists expect the borrowing rate to stay at 4%, even though the economy is expanding more quickly than predicted.

► Hedge funds and money managers must disclose their holdings to U.S. regulators by May 17, providing an insight into their investments in a bumper year for trading.

► BioNTech reports earnings on May 10. The pandemic has propelled the German company out of obscurity; with its partner Pfizer it's now one of the main engines of the vaccine push.

► Restocking your bookshelves? Sotheby's has a May 11 sale of rare volumes collected by French banker Hubert Heilbronn, including works by Marcel Proust and Alexandre Dumas.

My United Kingdom Is Fraying

● I'm one of the world's most iconic flags. But ahead of an important Scottish vote, I may come to embody what was, not what is

● By the Union Jack

The British and I have always had a complex relationship. Over the centuries, I've stood for empire-building and division, flown through war and peace, represented football hooliganism and royal pageantry, and adorned iconic designs as well as millions—maybe billions—of knickknacks and souvenirs.

I was born in 1606, shortly after the merging of the crowns of England and Scotland, coming of age after the Acts of Union that formed Great Britain in 1707 and later added Ireland in 1801. By the 19th century I was everywhere our navy could sail, the potent symbol of the British Empire, combining the crosses of three patron saints: St. George of England, St. Andrew of Scotland, and St. Patrick of Ireland.

My colors are as visible as ever now. The U.K. recently ordered that I should be flown from government buildings every day. Yet the ambiguities of the red, white, and blue are also more evident as the U.K. struggles to define its identity after Brexit.

Traditionally a banner of strength, I'm being reasserted as a symbol of unity at home and mercantile adventure abroad. Prime Minister Boris Johnson talks of a confident "Global Britain" outside the European Union. Yet the forces unleashed by Brexit are intensifying the friction within the U.K. itself.

An election in Scotland on May 6 has effectively become a referendum on whether the nation has the right—or need—for another vote on independence. The pro-independence camp, led by the Scottish National Party, looks to be headed for an emphatic victory.

And Brexit has inflamed Northern Ireland's simmering tensions after turning a previously seamless sea border with Britain into an active fault line. After 100 years of partition, polls show a majority of Northern Irish favor having a vote on reunification with the south. There's also rising support for autonomy in Wales, which has been united with England since being conquered in the 13th century and isn't represented on the flag. The way things are moving, I—the Union Jack, or Union Flag to purists—may come to embody what was, not what is.

But the U.K.'s unraveling, as well as my own, has been a political dynamic since well before Brexit became a word, and any suggestion of my demise would be premature. Nick Groom, an English academic and author of *The Union Jack: The Story of the British Flag*, says my components reflect compromise and concession as much as empire or power. "There's a temptation to simply use it in the context of the most immediate U.K. politics," he says. "And that overlooks the ambiguities, the rich history, and a way of reforging bonds."

When England beat West Germany to win the soccer World Cup in 1966, fans in London's Wembley Stadium waved me—not just the red-and-white English cross of St. George, as they do now. Guitarist Pete Townshend of the Who had me made into a jacket back then, and I watched the last vestiges of empire crumble while London swung its way through a postwar cultural revolution. A more volatile period followed, punctuated by the Clash and Freddie Mercury, but polluted by National Front skinheads who inspired "liberal and left-wing antipathy" toward me, Groom says.

By the late 1990s, I'd adapted. The Labour Party had swept to power under Tony Blair, who became the youngest prime minister in 185 years. I turned into Cool Britannia, Britpop, and Britart. My ambiguities never went away, though. In 2007, Blair's Labour successor, Gordon Brown—a Scot—moved to scrap the traditional practice of flying me only on 18 specific days of the year, mainly to mark national or royal occasions. "It is critical that this symbol is not hijacked by those who seek to work against values of tolerance and respect," the government said. Notably, though, Scotland was exempted, while Northern Ireland had its own rules, to avoid sectarian conflict.

Brexit was a sign of insularity to many of its opponents, a pandering to jingoism, an English rather than a British revolt. They rallied behind the EU's blue with gold stars. To supporters, it was a moment of reclaiming sovereignty, a withdrawal from an uneasy 47-year relationship with the Continent, and a time to champion the Union Jack again.

When the U.K. left the EU on Jan. 31, 2020, the Union Jack flown in Brussels was solemnly taken down, folded, and removed from the bloc's headquarters. (It's now stored in the city's House of European History, part of an exhibition opening on May 9.)

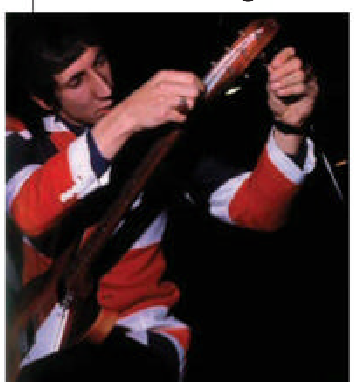
In Britain, though, my visibility has only increased since Brexit. Ministers in London are conspicuously flanked by two of me at televised coronavirus briefings. In March, when the U.K.'s culture ▶

Clockwise from top left: *The Death of Major Peirson* by John Singleton Copley; V-E Day at London's Trafalgar Square; members of Sir Ernest Henry Shackleton's expedition near the South Pole, 1909; the Beatles in Nice in 1965

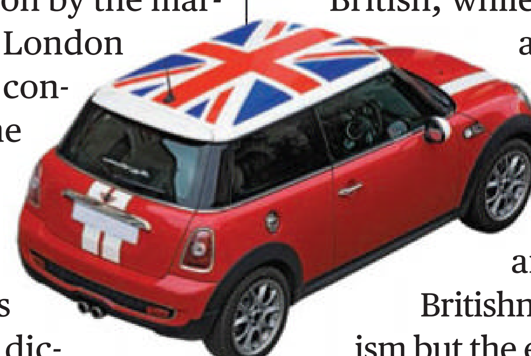
GETTY IMAGES (4)

◀ secretary, Oliver Dowden, announced the guidelines to insert me more into public life, the aim was to promote "a proud reminder of our history and the ties that bind us." It was also perhaps an acknowledgment that those ties are fraying.

"What Britain has lost is a sort of taken-for-grantedness about the flag, and Brexit has accelerated that," says Duncan Morrow, professor of politics at Ulster University in Belfast who led a community relations council in Northern Ireland and advised the Scottish government on tackling prejudice. "It's become an issue of party or side rather than a transcendent symbol."



Scottish leader Nicola Sturgeon says her nation has the right to another independence referendum after being taken out of the EU against its will. The U.K. government refuses to grant one, with Johnson and his Conservative Party saying the focus should be on rebuilding after the pandemic rather than what they call a divisive referendum. Should Sturgeon's SNP, which has run the semiautonomous administration in Edinburgh since 2007, prevail in the election by the margin predicted, prepare for the standoff with London to escalate. A recent scandal over Johnson's conduct in office will no doubt factor into how the Scottish vote.

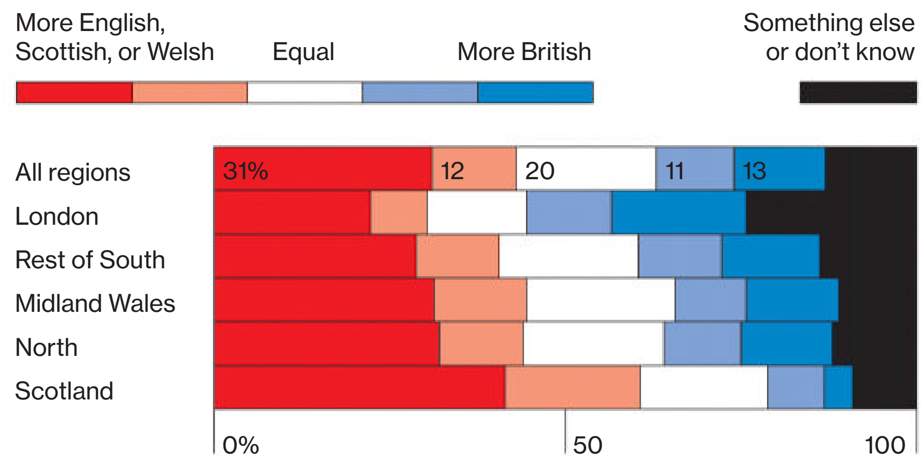


In Scotland, for supporters of independence, the blue-and-white Scottish Saltire displaying the cross of St. Andrew represents the future. Scottish government guidelines dictate that it takes precedence over me. Outside the Scottish Parliament in Edinburgh, I fly alongside the Saltire and the EU flag—much to the annoyance of the pro-Brexit faction of British media.

In Northern Ireland, the division is more acute. Union Jacks and the Irish tricolors are tribal expressions to differentiate between unionists and nationalists. The emotions are more akin to those around the Confederate flag in the U.S. My presence—or lack thereof—has been known to trigger riots. The province's one-foot-in, one-foot-out arrangement with the EU after Brexit has exposed that lingering toxicity. In recent weeks, youths in Belfast torched vehicles and clashed with police in "loyalist" areas where I'm still painted on streets. Protesters say the Brexit deal, which established a customs border between Northern Ireland and the rest of the U.K., jeopardizes its place in the union. The leader of the government in Belfast, the unionist Arlene Foster, on April 28 announced she will step down at the end of May, blaming the Brexit deal for destabilizing the region.

United But Divided

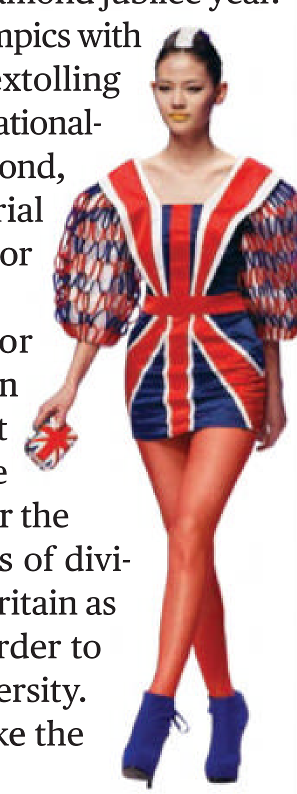
How adults surveyed described their identity



DATA: YOUGOV SURVEY OF 2,551 PEOPLE IN SEPTEMBER 2020

Whether the U.K. exists as we know it in, say, a decade may now be moot. In a YouGov survey last year, 31% of respondents identified as English, Scottish, or Welsh rather than British, while a far smaller proportion—13%—identified as British before anything else.

How quickly things can change. It was only a decade ago, in 2012, that we celebrated the queen's diamond jubilee year. London hosted the Olympics with an opening ceremony extolling Britishness, not tub-thumping nationalism but the exportable kind: James Bond, Mr. Bean, Paul McCartney, the Industrial Revolution, and World Wide Web inventor Tim Berners-Lee.



In his novel *Middle England*, author Jonathan Coe had one character reflect on how the country felt "at ease with itself" at that moment. But the book was set in the years running up to and immediately after the 2016 Brexit referendum, when the seeds of division were being sown. Such a display of Britain as this positive, unifying force might be harder to imagine now, says Morrow at Ulster University. "Looking back now," he says, "it looks like the end of an era."

But when one era ends, another begins. I would not have lasted this long if my unwavering stripes couldn't accommodate contradictions, ambiguities, and changing ideas of what defines the union. That's what makes me what I am, and ultimately what I will always represent. Ⓑ —*Rodney Jefferson*

Clockwise from top left: Pete Townshend during a performance; an Austin Mini Cooper S; a 2012 fashion show in Beijing; Scotland's Nicola Sturgeon in March; punk fashion, 1986

ALAMY (2), GETTY IMAGES (3)

Laggard Doesn’t (Always) Mean Loser

● At least a few companies still in the vaccine race will likely succeed as Covid lingers

The Covid-19 vaccine rollout has given drugmakers the kind of brand-name shorthand usually reserved for more mundane consumer products: People talk about getting Pfizer, Moderna, J&J, or Astra much as they might reach for a Kleenex or a Popsicle. And those companies have contracts to provide billions of doses, appearing to leave little room for other entrants. So why are dozens of hopefuls still working on shots?

The answer is that while early leaders stand to book immense profits, the problem is big enough—and the continuing challenges daunting enough—to leave room for at least a few more companies. The offerings of two that got to the market quickly, AstraZeneca Plc and Johnson & Johnson, have been linked to rare blood clots, slowing their rollout. The handling requirements and high cost of the Moderna and Pfizer-BioNTech messenger RNA vaccines mean governments in poorer places would welcome a cheaper, easier-to-ship alternative. And the rise of new variants opens the door to shots that target the evolving coronavirus. “While we’re thrilled with the vaccines that we have, and we’re so lucky that these vaccines turned out to have such high efficacy and a good safety profile, we can improve further,” says Soumya Swaminathan, the World Health Organization’s chief scientist.

Including offerings from China, Russia, and India, 11 vaccines have been greenlighted for use in various countries, according to researcher Airfinity Ltd. The WHO says there are a total of 93 vaccines in human trials around the world, and an additional 184 are being studied in the lab. While there won’t be demand for anywhere near that number, a handful of later arrivals have strong prospects in a market likely to see sales approaching $50 billion this year alone.

Like Moderna and Pfizer-BioNTech, CureVac—a small German company that’s teamed up with automaker Tesla to make portable drug “printers”—is developing a shot based on mRNA, which turns the

Edited by James E. Ellis, David Rocks, and Dimitra Kessenides

PHOTO ILLUSTRATION BY 731; PHOTOS: ALAMY (3) body's cells into tiny vaccine factories. CureVac has moved more slowly, running trials on animals and working to create a version that's stable at refrigerator temperatures, unlike the deep freeze required for the first generation of mRNA shots. Its clinical trial results are due soon, and if they're positive, CureVac has said Europe could authorize use of its vaccine by June. The company is also working with U.K. pharma giant GlaxoSmithKline Plc on a next-generation shot that would protect against multiple strains of the virus.

Novavax Inc., an American vaccine developer that's been in business for more than three decades but hasn't yet brought a product to market, has told investors that it could get U.S. Food and Drug Administration clearance by May—and it got a shout-out from President Joe Biden in a White House ceremony in April. There are strong grounds for thinking it will succeed: The company already released U.K. data showing 89.7% efficacy against Covid symptoms and is waiting for results from a larger study in the U.S. "We've got a product that is clearly at the top of the list of vaccines," Stanley Erck, Novavax's chief executive officer, told investors.

Also expected before the end of the year is a vaccine jointly produced by Glaxo and Sanofi. Their shot was delayed last year after underwhelming results in older people, showing how tricky vaccine development can be. Still, good trial results with a stronger version of the product—which relies on recombinant DNA, the technology Sanofi uses in its flu shots—would make the team a contender. And Sanofi is working on an mRNA shot with another partner that could be available by next spring. "We're learning every day," Thomas Triomphe, head of Sanofi's vaccine unit, told investors in April. "That's true for all the different vaccine types. And we're going to keep learning."

That doesn't leave much space for even later arrivals, but many companies insist they can still bring something unique to the table. Some aim to create shots proven to be effective for at-risk groups such as cancer patients. Others are developing pills, which could speed inoculation programs, or products akin to a nicotine patch that could both cheaply deliver the vaccine and measure a person's immune response to it. Valneva SE, a French company that's using an inactivated version of the coronavirus, says its approach could result in a good booster that would protect against variants that can evade more-targeted shots. And Altimmune Inc., based in Maryland, is working on a nasal spray, which it says would be more effective than shots because the vaccine would be delivered directly to the respiratory tract. "If Covid-19 becomes endemic, we're going to need yearly boosts," CEO Vipin Garg said on an earnings call. "So it really doesn't matter what vaccine people received at the beginning."

The world is still waiting for the Covid-vaccine dream: a single-dose version that's inexpensive, highly effective, easy to deliver, and presents no safety concerns. With the path out of the pandemic still unclear as variants spread and countries such as India reel from record infections, it's smart to continue work on a broad range of technologies, says Ravindra Gupta, a professor of clinical microbiology at Cambridge University's Institute for Therapeutic Immunology and Infectious Diseases. "We don't really know, longer term, what's going to be most effective," Gupta says. "The more options we have, the better." *—Naomi Kresge and Tim Loh, with Suzi Ring and Cristin Flanagan*

● Number of vaccines in human trials globally

93

THE BOTTOM LINE Leading players are on track to deliver billions of doses, but there's still room for a few more companies in a market likely to see sales approaching $50 billion this year.

Yes, Streaming Ads Are on Repeat

● Commercials on services like Hulu, Pluto, and Discovery+ have become an $11 billion business

Ben Chappell was binge-watching *The X-Files* on Hulu recently when he kept seeing the same ads for sports betting apps again and again. He says that over three hours he watched the same commercials many times. Hulu says it caps the frequency a user can see the same commercial at two times per hour, four times per day, or 25 times per week. Customers can exceed those limits when additional ads for the same product are sold by third parties, however.

"It's complete overkill," says Chappell, 37, who lives in Lakewood, Colo., where sports betting is legal and such ads are flooding the zone. "Maybe I'd watch them if it wasn't the same commercial over and over." Instead, he just hits the mute button.

One reason for the repeated commercial déjà vu Chappell fumes about: Demand for streaming TV ads is red-hot. This year, U.S. advertisers will spend $11.4 billion on streaming TV commercials, according to EMarketer, up from $8.1 billion in 2020. The boom is being driven, in part, by a slate of new services catering to consumers willing to sit ▶

◀ through a few commercials in exchange for paying less to access the programming. Some services with ads, such as ViacomCBS Inc.'s Pluto TV and Fox Corp.'s Tubi, are free, while others, like Discovery+, Paramount+, and Peacock, typically cost $5 to $6 a month. Paramount+ and Peacock also charge $10 a month to go commercial free. In June, WarnerMedia will roll out an ad-supported version of HBO Max. According to CNBC, it will initially be priced at $9.99 a month.

The newcomers are competing for ad dollars with older services including Hulu and YouTube, streaming platforms like Roku and Amazon.com, and even makers of smart TVs such as Samsung that sell ads inside their apps or inside other streaming services. In the year ended in January 2021, ad-supported services increased their share of U.S. streaming homes to 26%, from 24%, according to Nielsen.

Advertisers, however, are struggling to figure out how many people are actually watching their commercials, how often the ads are appearing, and where the spots are being shown. Advertisers can buy directly from a streaming service such as Peacock or Discovery+ or buy across hundreds of streaming apps from connected-TV platforms, TV manufacturers, or third-party brokers. Many have their own way of counting viewers. Nielsen is developing a metric for the industry to buy and sell advertising more easily across TV and streaming services, but it won't be ready until 2024. "It's fragmented, and advertisers have to stitch it all together," says Dave Morgan, chief executive officer of Simulmedia, which helps marketers buy more precise TV ads.

Brad Adgate, an industry consultant, says the current state of the business is reminiscent of the early days of cable TV, when advertisers bought commercials on new channels like MTV or USA with no way of knowing whether they were getting their money's worth. After Nielsen began measuring cable audiences in the 1980s, advertisers got more comfortable with the medium, and the whole thing took off. "It was the Wild West back then, as it is now with streaming," Adgate says.

Streaming services promise advertisers they can better target particular slices of viewers. Jon Steinlauf, Discovery Inc.'s chief U.S. advertising sales officer, says that on Discovery+, "If you only want to reach women with two children under 12 with $100,000 in income, we can sell you that." Yoplait can buy a Discovery+ ad right after a scene on a cooking show during which someone said the word yogurt–something difficult to do on TV. (Targeting to meet promised demographic goals may also be why some viewers get repetitive ads.)

Because the inventory per hour is limited and streaming ads typically can't be skipped, media companies argue that such spots are more valuable. The price of ads on Discovery+ is about three times higher than on the company's cable networks, which include HGTV and TLC.

By this fall, Peacock's viewership among a key demographic, 18- to 49-year-old viewers, should be roughly the same as the audience on the NBC broadcast network in prime time, so the ad rates are expected to be about equal, says Laura Molen, president of advertising and partnerships at Comcast Corp.'s NBCUniversal unit. "Media is a vehicle to get advertisers to consumers," she says. "Think of Peacock as a luxury vehicle."

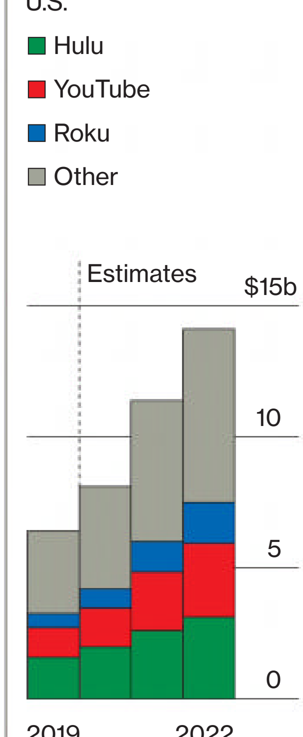
Some ad buyers say streaming services should be priced more like economy sedans, however. On traditional TV, advertisers typically know the exact time, network, and program during which every commercial appeared. But some streaming platforms will only disclose in which group of content, like lifestyle or sports programs, the ad ran, or only provide the total number of times an ad was seen. That can make it hard to determine whether a commercial appeared next to controversial content or how many times it streamed to a specific household.

"They'll say, 'We're not going to tell you where it ran. Just trust us that it ran against this target audience,'" says David Spencer, assistant manager of audience buying strategy for General Motors Co. "That's not something that we're OK with."

Advertisers also say streaming services can't target viewers with the same precision as Google or Facebook Inc. Jack Kelly, national integrated media manager at Subaru of America, which advertises on Peacock, Discovery+, Hulu, and Paramount+, says he'd like to show viewers different commercials depending on whether they own a Subaru or are just thinking about buying one. But he can't do that yet on a streaming service. "That's the holy grail of advertising," he says. —*Gerry Smith*

THE BOTTOM LINE Streaming services can target ads to small slices of subscribers. But the repetition of marketing pitches that can't be skipped has drawn criticism from some viewers.

▼ Ad revenue for videos streamed to TVs in the U.S.



PHOTOGRAPH BY ERIC HELGAS FOR BLOOMBERG BUSINESSWEEK. ILLUSTRATION BY LIA KANTROWITZ. DATA: EMARKETER

Covid Means There's Even Less Joy in Mudville

● Capacity constraints and distancing rules bring big headaches for season ticket holders

To say that Ralph Bracco is a baseball fan would be an understatement. The 63-year-old actor had attended every New York Yankees opening day since before owner George Steinbrenner fired manager Billy Martin—for the first of several times—in 1978. But Covid almost ended that streak. Bracco entered a March 22 lottery to buy opening day tickets, holding online almost half an hour before learning he'd just missed qualifying for a purchase. "This year is completely different," says Bracco, who was forced to turn to third-party seller Seat Geek. "The Yankees didn't care that I was a season ticket holder for more than four decades. I was No. 326 on a virtual line."

Covid restrictions are easing at U.S. baseball stadiums, bringing joy to club owners and scattered cheers to players, but there's still plenty of angst for many of the most committed fans. With attendance limits changing unpredictably and seats for even the most-valued customers reassigned to reduce crowding, the pandemic has left some season ticket holders feeling like they've struck out.

"We've been sharing season tickets for about 35 years, and while it's never simple with our six-way split, it's never been nearly this convoluted," says Larry Tye, a Boston-area author. "We're never sure if we'll actually get the game we want or where the tickets will be."

Major League Baseball teams play 81 regular season home games each year. The length of the season allows plotlines on the diamond to develop organically over months. It also means that die-hards who regularly sit in the same seats forge deep relationships with neighboring fans and friends who often share packages of season tickets.

That's changing as teams cope with local Covid-19 restrictions. Only the Texas Rangers opened at full capacity. The Atlanta Braves will make all their seats available beginning on May 7. But many others began their seasons allowing just 20% of seats to be filled. The Toronto Blue Jays have yet to welcome any of their fans in Canada, playing instead at their spring training facility in Florida.

Ball clubs generate 40% to 60% of their revenue from tickets, food concessions, and souvenirs,

says Marc Ganis, co-founder of Sportscorp Ltd., a Chicago-based sports consultant. "So this can have a big impact on their finances."

In Los Angeles, Mark Hartstein, a retired forensics investigator, administers a pool of Dodgers season tickets that his father first bought in 1966. His group didn't get their usual four field seats along the first-base side and were instead moved to a section that cost $35 more per ticket. They also weren't guaranteed their customary tickets for the home opener. Hartstein's biggest complaint has been the short notice the Dodgers gave fans to make decisions about this season. "They make us beg and clamor, and they do all this at the last minute, with no consideration for our time or seniority," he says. "They gave us 22 hours' notice."

Stan Kasten, chief executive officer, says the Dodgers lost more than $100 million in revenue as a result of ball park closures last year even as they won the World Series. He understands the plight of fans but cited "not just unforeseen, but unimaginable, hurdles that we've had over the past year." Due to capacity restrictions, the Dodgers can sell only 15,000 seats per game out of 56,000. "You can't fit all of your season ticket holders into 25% of your seats," Kasten says. "Most people understand this and have a pretty decent attitude about it."

But being moved around rankles fans like ▶

◀ Will Swarts, a Brooklyn-based editor at a nonprofit who shares Mets season tickets with friends and had grown to love his regular field seats behind first base about 25 rows back. This year the team has offered his group different seats each month. The latest batch was in the very last section behind center field. While they cost about $22 each, one-third of what he normally paid, he's still disappointed. "Everything has been so 'Wait and see what the venue can accommodate,'" he says.

The Yankees are letting season ticket holders purchase groups of tickets in multiweek phases. Chris Polek, a New Jersey printing-supplies-company executive, wanted to attend opening day but would have had to commit to buying his usual four seats for 10 more games at $80 each—a $3,200 gamble at a time when finding others to use them would be difficult.

Polek, 57, would normally offer extra tickets to clients, friends, or employees, but New York state required that stadium attendees show proof of vaccination or a negative Covid test from within the past 72 hours. "You can't just go to the game on the fly like you used to," he says. "You can't just call up somebody and say, 'Hey, can you come to the game today? Have you had a negative Covid test?'" —*Christopher Palmeri and Rob Golum, with Carey Goldberg, Elizabeth Elkin, Henry Goldman, Kim Chipman, and David Voreacos*

THE BOTTOM LINE Baseball season ticket holders typically enjoy good seats and preferential treatment. But pandemic health restrictions are taking a toll on some of the sport's best customers.

More Merchants Are Courting Cash

● Surcharges for credit card purchases become common as businesses try to avoid swipe fees

In Central Brooklyn, notices are appearing near the registers of a growing number of small businesses. "Dear Loyal Customers," many of them begin, before announcing a "discount": The displayed prices reflect a reduction for those paying with cash. Prices for credit and debit card sales are 4% higher.

As the economy marches away from cash—a trend hastened by the growth of digital alternatives and, more recently, by sanitary concerns over Covid-19—and electronic transaction fees take bigger bites out of retailers' sales, a small but increasing number of businesses are nudging their customers in the other direction. That's in defiance of a hostile legal landscape and what's always been assumed to be Consumer Psychology 101—don't punish shoppers for their payment choice. Along a mile or so stretch of Nostrand Avenue in Brooklyn, for example, at least five businesses give preferential treatment to cash buyers. Several are getting help from, of all places, the payment industry itself.

Credit cards, of course, are extremely convenient for businesses and customers alike. But the convenience comes at a cost borne mostly by merchants. In 2019 swipe fees for credit card transactions amounted to $93 billion in the U.S., or 2.2% of credit card sales, according to Nilson Report. Small merchants lack the muscle to negotiate lower rates with payment processors or ways to tweak the interchange fees that credit card companies

▼ Jerry Walsh of Mayday Hardware

PHOTOGRAPHS BY NOAH O'LEARY FOR BLOOMBERG BUSINESSWEEK. DATA: NILSON REPORT themselves charge. For them, the transactions cost much more: 2.8% in stores and 3.1% online, according to consulting firm CMSPI.

"It's unseen money," says a Nostrand Avenue retailer who began adding a surcharge about six years ago and asked not to be identified so as not to draw the card networks' attention. "I'd add up the monthly bill, and it would come to $600. It would be about 3% of my sales."

Credit cards that reward consumers with cash back or travel points have higher transaction fees than other cards, which rubs some merchants the wrong way. "If you pay attention to the television commercials for these cards, you would think those rewards were coming from the producer of the credit card, when instead they're coming from the retailer," says Jerry Walsh, who owns Mayday Hardware in Brooklyn's Prospect Heights neighborhood. "If I'm the one paying for the reward, shouldn't I get the credit for that?"

In Australia, merchants were first permitted to surcharge card transactions in 2003; by 2014, according to the Reserve Bank of Australia, 43% did so. In the U.S., retailers have tried over the past several decades to loosen the rules imposed by credit card companies, but the wins have been few. Federal law has protected cash discounts since the 1980s, but card networks made it difficult to use them until Congress intervened again in 2010. Surcharging became possible only after major credit card companies, attempting to settle antitrust lawsuits, began to allow it in 2013.

Neither Visa Inc. nor Mastercard Inc. will disclose how many merchants have reported their intention to surcharge, and many other businesses never tell the credit card companies that they're surcharging. According to the referral website Merchant Maverick, most payment processors in the U.S. offer a program that automatically calculates surcharges or discounts and properly displays them on receipts, and many now specialize in that.

More than 200 payment processors, including the giant payroll software firm, Paychex Inc., use software from technology company CardX LLC to provide surcharging capability to professional firms and online business-to-business companies, which incur higher transaction fees. From 2019 to 2020, CardX's transaction volume nearly doubled, to about $5 billion.

But adding a surcharge remains chancy for merchants. For example, the notices appearing in Brooklyn, which were provided by a payment processor, are ambiguous, using the term "discount" to describe what sounds like a surcharge. Card network rules bar surcharges on debit cards. (They may

▲ Businesses in central Brooklyn display notes explaining cash discounts

also violate New York law, which requires merchants to display separate cash and credit prices for every item.) Mayday Hardware has separate notices that describe two different programs. Other merchants don't have any signs disclosing the surcharge at all.

"We actually discourage this practice," says Leon Buck, the top lobbyist on financial issues for the National Retail Federation, which would rather save money for merchants and their customers by tightly regulating swipe fees. The surcharges, he says, "are adding to the problem rather than helping."

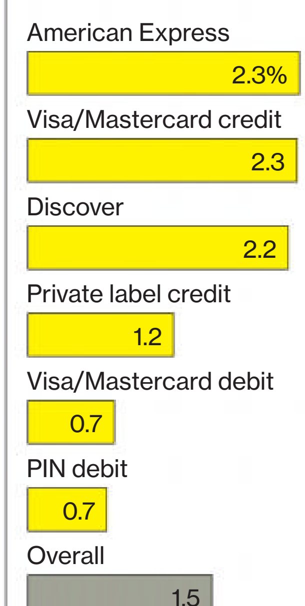
Industry representatives and observers insist big merchants will never risk alienating their customers by making them pay their transaction costs. American Express Co., in an April 2020 study, found, among other things, that three-fourths of consumers would refuse to pay a surcharge—they'd pay cash, shop elsewhere, or leave empty-handed.

But on the ground, proprietors say they're seeing something else. "In the beginning, there were complaints, but now everybody's used to it," says Angel Martinez, proprietor of the Mermaid Fish Market in Brooklyn." Many say customers, to their surprise, are forgiving. "They understand, because I tell them about it," says the Nostrand Avenue retailer. "It doesn't just appear on their receipts."

And while some merchants report a modest number of customers switching from credit to cash, at Mayday Hardware, Walsh says his credit card sales have actually increased. "We Americans have grown accustomed to low nuisance charges and simply accept them as a way of doing business," he says. "I think it's becoming the new norm." If Walsh is right, it may not be long before his much larger competitors follow suit. —*Robb Mandelbaum*

THE BOTTOM LINE Payment processors are devising surcharging programs for small businesses, which means purchases made by credit cards cost up to 4% more.

▼ Processing fees on card transactions as a share of purchase volume in 2019



Bad Trip

● Justin Zhu was fired for taking LSD before an important meeting. The whole situation was even weirder

Justin Zhu, chief executive officer of digital marketing startup Iterable Inc., was walking down Broadway in San Francisco on April 26 when he was summoned to a surprise conference call and abruptly fired. His co-founder, Andrew Boni, and the company's entire board told him he was losing his job, primarily because he had taken LSD before a meeting in 2019.

The incident had indeed happened—Zhu says he was trying to take a small dose to improve his focus and accidentally took too much—but he also was being fired for other reasons. For the previous 10 months, Zhu had been talking with a reporter from *Bloomberg Businessweek* about his experience as CEO, the challenges of being Chinese in Silicon Valley, and his disputes with two of Iterable's key investors. He hadn't cut off the conversations when investors asked him to, the final straw in a long-running feud.

Zhu's firing has blossomed into a bizarre saga that hits on many of the classic Silicon Valley cultural touchpoints: founders who don't act like conventional businessmen, the search for additional productivity through drug use, and the risks of talking openly about the pressures of the job. It's also a story steeped in the tense ethnic politics that are roiling the tech community and American society at large.

"In the early days, they're looking for weird," Zhu, 31, says now about venture capital investors. He'd taken Iterable from an idea to a company valued at about $2 billion, a stunning success by most measures. But when a company reaches that stage, he says, the new mantra becomes: Reduce the risk.

Zhu started his career as a software engineer at Twitter in 2011. After two years, he and Boni, who's now 32, poured their life savings into a startup, Iterable, that created marketing campaigns and notifications that target consumers in highly tailored ways, such as via email or text alerts telling customers the status of their food delivery orders. Before long, it started winning clients, and investors clamored to sign on. By the end of 2016, Iterable was valued at $125 million.

In person, Zhu exudes quirkiness in a way that fits with the freethinking ethos of Silicon Valley. At a recent business lunch, he wore a planet- and star-emblazoned teal velour sweatshirt that he says he bought because it reminded him of Antoine de Saint-Exupéry's *The Little Prince*. He likes to discuss the amorality of capitalism, the principle of cosmic debt, and the need for more love in the world.

Even as Iterable thrived, Zhu says he sometimes felt alienated and sad. He believed that he and the company were too focused on sales and money at the expense of altruistic goals. When he attended the 2019 wedding of one of his investors in Lebanon, Zhu met an entrepreneur who suggested he take small quantities of LSD to improve his concentration and overall well-being. Zhu researched the idea and found studies that linked microdosing with improved focus and lower stress.

Back in San Francisco, Zhu was preparing for an important meeting with a prominent investor group. Believing that limited quantities of LSD would improve his pitch, Zhu, who had never before used the drug, decided to try the microdosing plan. He took what he thought was a small amount of LSD shortly before the meeting.

It didn't go as expected. When he tried to walk the potential investors through a series of financial projections, Zhu looked at the screen and saw numbers and images swelling and shrinking, making them impossible to discern. His body felt as if it were melting away, he says. After an awkward pause, a colleague stepped in. Zhu took a swig of his tea, decided to speak from memory, and pressed ahead. The pitch didn't lead to an investment.

Zhu's relationship with venture investors had already become strained. He wore cargo shorts and a T-shirt to a meeting with Geodesic, a VC firm founded by John Roos, a former U.S. ambassador to Japan. An Iterable board member later informed him Geodesic wouldn't invest, implying it was partly because of his casual clothing. A person familiar with the firm's thinking says Zhu's attire didn't factor into the firm's decision, asking not to be named discussing private business matters.

At another investor meeting, Zhu noted that the abbreviation AI, for artificial intelligence, sounded like the Mandarin word for "love." Afterward, a colleague asked him if he was "becoming Adam Neumann," referring to the ousted CEO of WeWork known for holding forth on similar topics. He says he later heard that an investor questioned whether he'd been high at the time. Zhu says he wasn't, describing his foray into workplace microdosing

Edited by Joshua Brustein

PHILIP PACHECO/BLOOMBERG

as a one-time event. Boni told him he preferred the more circumspect version of Zhu. Using his given Chinese name, Zhu says he replied that he was finally showing the real Zhu HaoRan.

In late 2019, after Iterable succeeded in raising an additional $60 million, two of his investors, Murat Bicer, general partner at CRV, and Shardul Shah, partner at Index Ventures, took Zhu out to dinner to celebrate. At a corner table at the restaurant Hakkasan, the two VCs directed the conversation toward the topic of the company's leadership. Shocked, Zhu asked them if they were thinking of replacing him as CEO. "This is still your company," Zhu says Bicer assured him, but Bicer also asked him to consider the benefits of a more experienced leader.

Zhu, who was born in Shanghai, says he recalled an early conversation with an Asian investor who said that Zhu would probably one day be asked to step aside for a White executive. He told the investors he wanted to stay on, in part to set an example for other East Asian immigrants. "I didn't feel any understanding," he recalls. "They were like, 'OK.'" Then, he says, Bicer changed the subject.

Asked about the dinner, as well as other details of Zhu's account, Index Ventures declined to comment through a spokeswoman. CRV didn't respond to repeated requests for comment, and Bicer did not provide comment.

In the early days of the coronavirus pandemic, Zhu lined up a $30 million loan to keep the business running in case the bottom fell out of the economy. To close on the loan, the bank wanted references from his board, and Zhu says Shah stalled. Eventually, Shah asked to meet with Zhu, co-founder Boni, and Bicer in San Francisco's ▶

▼ Zhu took Iterable from an idea to a company valued at about $2 billion

◀ South Park, a VC hub. The men gathered on benches outside, and the investors again brought up the topic of finding a new CEO. "You're just pattern matching," Zhu recalls telling them. "Your last 20 CEOs who went public, they were probably all Caucasian guys."

Both Index Ventures and CRV have backed notable East Asian CEOs. Still, it wasn't a wild assertion. Most Silicon Valley CEOs are White men; many are from India, but few are from China, Japan, or Korea.

Some of the disconnect with Shah, Zhu felt, was because of his East Asian background. Zhu believes his preference to seek consensus instead of shutting down dissenting views or engaging in noisy debates is a cultural trait his investors mistook for weakness—a stereotype about East Asians that academic researchers have cited as a reason for their underrepresentation in leadership positions in the U.S. In a paper last year, an MIT professor and his colleagues wrote that the "bamboo ceiling" reflected "an issue of cultural fit."

Over the phone later that week, Zhu says Shah asked him to commit to running his board meetings with "more presence" and "driving it harder"—habits Zhu says weren't in his nature. Most of the board also wanted Zhu to commit to memorizing key company metrics as part of a performance improvement plan. Zhu says he went along with the plan and the loan came through with Shah's approval. But the conversation didn't sit well with Zhu.

"I run the company with Eastern values," he says. "That doesn't mean I'm not equipped to be CEO."

Zhu says the dispute amounted to discrimination, even if it doesn't fit the stereotypical image of racial bias. Bicer grew up in Turkey, and Shah is of South Asian ethnicity. And when Zhu was fired, the board replaced him with Boni, who was Iterable's president and who, like Zhu, is of East Asian descent. (Zhu says he suspects the board sees Boni as a placeholder and will replace him, too.)

By late summer 2020, business at Iterable was booming again. It was time to raise more money. But by this point, Zhu had grown distrustful of Shah and wanted to minimize his involvement in the deal. With Shah's cooperation, he arranged for the investment firm Silver Lake to buy about half of Index's shares and take over Shah's board seat, as part of a funding round that would value Iterable at $2 billion.

The issue of bias and violence toward Asians entered the national conversation after eight people were shot and killed in Atlanta in March. Zhu, who can remember fleeing from schoolyard bullies who beat him up and told him to go back to China, helped organize a campaign called Stand With Asian Americans. The effort garnered pledges of support by 7,500 Asian-American business leaders and allies.

Zhu became more convinced he needed to tell his story. He informed his board, which no longer included Index, that he had been talking with a reporter at Bloomberg, and for the first time told them about the microdosing incident. They asked him not to discuss that or his deliberations with his investors. Zhu said he wanted to tell all of it, even at the risk of his position. "The only reason to share this is to help founders who are suffering, and any person who's going through the things I'm going through," he says.

"I run the company with Eastern values. That doesn't mean I'm not equipped to be CEO"

Toward the end of April, Zhu's investors again asked him not to speak with the press. Shortly afterward, he got the call telling him he was fired. Zhu sat down in a park in San Francisco's Financial District, absorbing the news. "That's the price of justice these days," he says. "I'd rather tell the story and even be fired." —*Sarah McBride*

THE BOTTOM LINE A successful startup's decision to fire its founder illustrates the complicated relationships between investors and unconventional Silicon Valley executives.

The *Fortnite* Fallout

● Apple and Epic meet in court, making the collapse of a once-close relationship complete

In 2011 when Apple Inc. Chief Executive Officer Tim Cook wanted to show off the first major product under his leadership—the iPhone 4S—the company invited Epic Games onto the stage. Mike Capps, Epic Games Inc.'s president at the time, made a quick joke about how much money his company's games made from Apple devices. Then he helped run a demo of *Infinity Blade II*, designed to showcase both Epic's new game and the power of the latest iPhone's chip.

The event was a public demonstration of a close corporate relationship that has since disintegrated. On May 3 a federal court began hearing arguments in a trial centered on Epic's claims that Apple extracts money from developers by abusing its market power, and Apple's counterclaims

PHOTO ILLUSTRATION BY 731; EPIC GAMES (3); GETTY IMAGES (1)

that Epic breached its contract. On the first day of arguments, Epic said developers were "trapped" in Apple's anticompetitive marketplace, while Apple accused Epic of waging a "fundamental assault" on a business model that had enriched many developers.

The financial stakes could extend into the billions of dollars, and the decision may have ramifications for tens of thousands of mobile developers. The *Infinity Blade II* presentation wasn't an isolated incident: Epic was featured at several other Apple product launches and was often highlighted on the App Store. People with knowledge of Apple's relationships with app makers describe its partnership with Epic as one of its closest with any developer, asking not to be named to avoid upsetting Apple. In legal documents, Apple said it spent more than $1 million marketing games for Epic, and even stationed an employee in Australia, to provide the developer with tech support when it was the middle of the night in California.

Epic engineers met frequently with teams within Apple, viewing future hardware and software releases before competitors and consulting on internal Apple projects, such as its tools that allow game developers to maximize the use of the company's graphics chips.

The relationship began souring in 2017, when Epic released the megahit *Fortnite*. The game maker hired Apple engineers to work on its products and, from the perspective of some Apple employees, lost interest in helping Apple improve its general gaming software. Epic was only concerned with things that helped *Fortnite*, says one person who was involved in Apple's relationship with Epic.

A spokeswoman for Epic says this characterization is false and that the company "continued to work closely with Apple until they backed away from Epic." It also saw Apple's tight control over its App Store as self-serving, distorting the economics of mobile apps. In 2017, Epic CEO and founder Tim Sweeney began publicly criticizing Apple's payment system, in which the company took as much as 30% of sales and blocked many developers from using other payment methods to avoid the fee. At a conference in Germany that year, he called the cut taken by app stores "a parasitic loss," according to the website GamesIndustry.biz. "We should be angry about this," he said, "and we should constantly be on the lookout for other solutions, and new ways to reach gamers."

The Epic spokeswoman says Sweeney

repeatedly asked to discuss strategy concerning the App Store but that Apple was only willing to talk about operational issues. In January 2018, Sweeney sought a meeting with Apple to gauge the possibility of allowing Epic to open its own app market on Apple devices. Apple balked at the idea, saying that allowing outside stores would loosen the platform's security and hinder its ability to generate revenue. Epic's store, started later that year for games that ran on PCs and Macs, took a 12% commission and allowed developers to choose their own payment systems, terms that many developers may prefer to Apple's.

Last year the relationship between the two companies worsened. On June 30, Sweeney wrote to top Apple executives demanding the ability to use non-Apple payment methods on iOS devices, to avoid the company's fees. When Apple didn't comply, Epic responded by activating its own payment system, and Apple removed *Fortnite* from the store.

"The two parties just had developing business objectives that over time conflicted with each other," says Paul Swanson, partner and antitrust attorney at Holland & Hart, which is not representing either company. "At some point they could make more money by playing nice together, and then it changed." —*Olga Kharif and Mark Gurman*

THE BOTTOM LINE Epic and Apple once saw mutual benefit in a close relationship, but their bond weakened as priorities for both companies shifted.

Facebook Won't Apologize for Instagram Youth

● It's making a kid-focused version of its photo-sharing app, regardless of what critics say

When Lauren Mull Anglin heard last spring that Facebook Inc. had a version of its Messenger app for children, her mind immediately went to the social network's patchy record on data security and privacy issues. On the other hand, Anglin's 7-year-old daughter was often using her mom's account for video calls, and the app put Anglin in charge of her kids' interactions. So the 31-year-old health-care administrator from Georgia and a friend used it themselves until they were satisfied it was safe enough to give to the kids. "I don't want to sound naive," says Anglin, before cataloging the myriad ways the app allows her to police her children's activity, features she says work better than similar ones on other apps for that age set. "I mean, it's great," she concludes.

Facebook will have to convince many more skeptical parents as it plans a children's version of Instagram, its flagship photo-sharing app. The standard version requires users to be 13, but Facebook says the new app will give preteens access to most of the same features, which probably means the ability to post photos and videos, like and follow accounts, and use filters. Instagram Youth, as the service is called internally, will have similar parental controls to the kids version of Messenger. The company acknowledges that many preteens already use Instagram, and executives say Instagram Youth gives them an alternative to lying about their age.

Facebook doesn't plan to make money directly from either of its kid-focused apps, but Instagram Youth is already sparking controversy. During a congressional hearing in March, lawmakers pressed Chief Executive Officer Mark Zuckerberg on whether his company was doing enough to protect children who use Facebook's services. Child welfare advocates are concerned it will harm young users by subjecting them to Instagram's high-pressure culture, which centers on users presenting idealized versions of themselves to their peers. There's research to suggest that adolescents who use social media heavily are more likely to suffer from depression, have suicidal ideations, and attempt suicide, though some experts say the results remain inconclusive.

"Here is the entire world saying, 'We are so concerned about Facebook and Instagram and social media,'" says Josh Golin, executive director at Campaign for a Commercial-Free Childhood. "And their response is, 'You know what, we're going to go after little kids.'" Facebook insists safeguards will be in place for Instagram Youth. Eventually it plans to create a single dashboard that allows parents to monitor activity and set time limits for both Messenger Kids and Instagram Youth from one place, according to Adam Mosseri, the head of Instagram.

Stacey Steinberg, a children's privacy expert who has written a book about families and social media, praises the idea of a more limited social media environment to help young users navigate the online world. "Unlike so many other aspects of family life, there [are] no training wheels when it comes to social media," she says. "I don't think the answer is shutting the internet off completely for them."

For their part, Facebook executives say kids are using social media either way and they don't think the company has to apologize for making dedicated apps for young users. "I have no doubt in my mind that this is a safer and better and more sustainable outcome for everyone involved," Mosseri says. "It's our responsibility to do the right thing, even if we get slapped around a little bit."
—Kurt Wagner and Naomi Nix

THE BOTTOM LINE Facebook's creation of apps for kids who are younger than 13 is designed to help it shape the habits of people who will move on to use its main products.

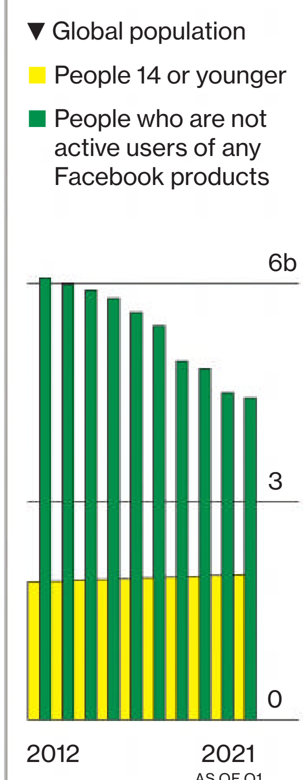
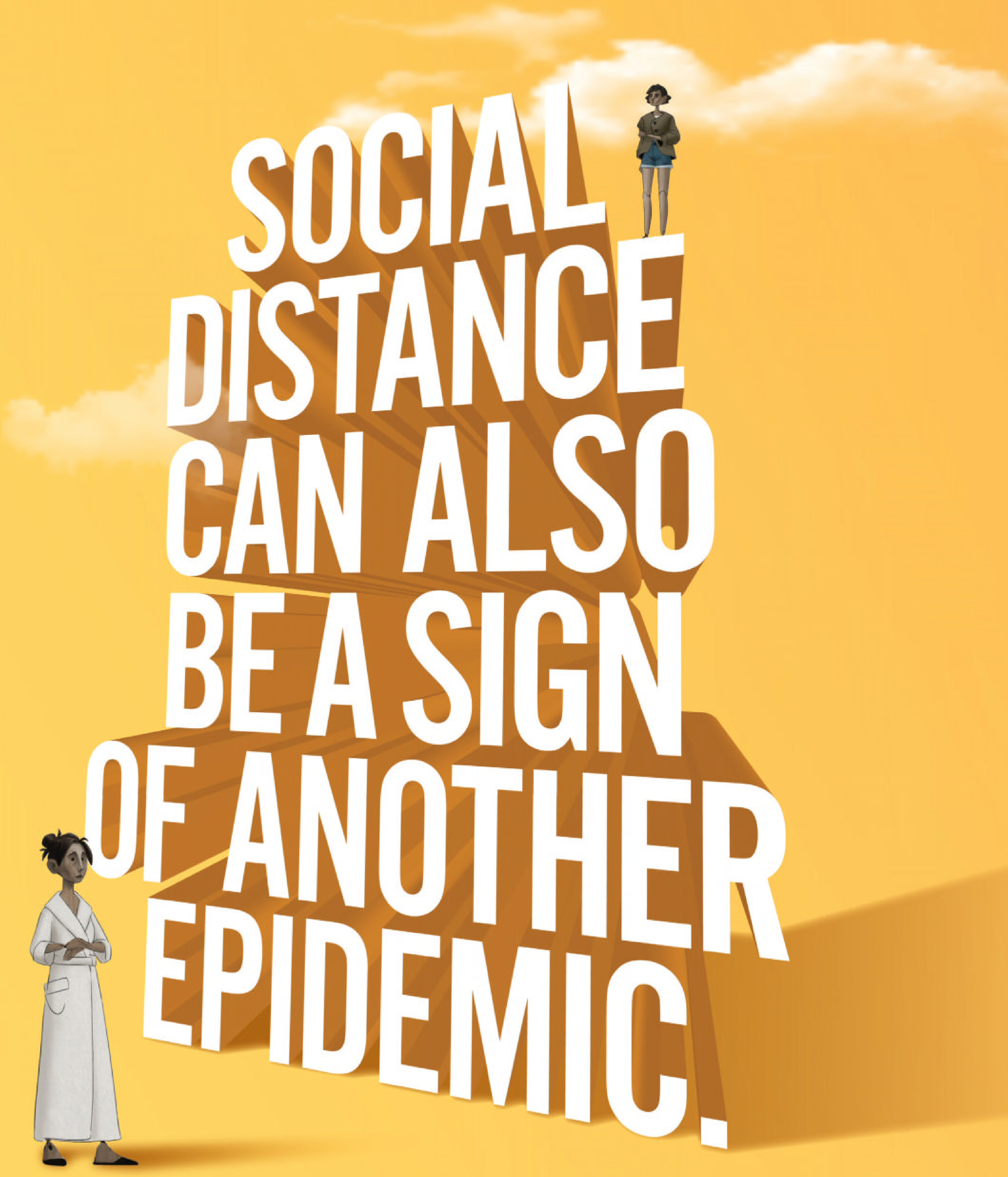


ILLUSTRATION BY PATRIK MOLLWING. DATA: FACEBOOK, UNITED NATIONS WORLD POPULATION PROSPECTS. 2012-2017 NUMBERS ARE OF PEOPLE NOT USING FACEBOOK OR FACEBOOK MESSENGER



Physical distance can keep you safe and healthy. But if an emotional distance forms between you and those closest to you, it may be due to drug or alcohol use. Partnership to End Addiction works with you to establish the connections that can help save lives and end addiction.

Get support to help your child at DrugFree.org

Partnership
to End Addiction

Why Don't More Women Run Money?

The gender imbalance in portfolio management persists even as some women take top fund jobs

Linda Zhang started managing money in 2003. At the time, a little more than 1 in 10 portfolio managers were women. Almost two decades later, that number has barely changed.

Women made up about 14% of the 25,000 portfolio managers globally who run fixed income, equity, and asset allocation mutual and exchange-traded funds as of Dec. 31, unchanged from 2000, according to Morningstar Inc. In the U.S. about 11% are female, a share that has held constant over the past decade and is down from 14% in 2000.

"Our industry hasn't changed that much," says Zhang, who thought the numbers were low back in 2003. "I was managing a multi-asset mutual fund at one point, and I had over $2 billion under my management. I just saw there were very few women analysts and even fewer portfolio managers." Today, after a career at asset managers including the giant BlackRock Inc. and MFS Investment Management, she's the founder and chief executive officer of New York-based Purview Investments.

The statistics haven't budged despite years of initiatives to advance women across industries. In recent years, more women have taken jobs in investment research—a path that typically leads to fund management—and some have even climbed to the top executive ranks of their business. Mixed-gender management teams are now common, accounting for almost 40% of assets under management, Morningstar data show.

But portfolio manager is one of Wall Street's marquee jobs, and the people who hold it are key decision-makers in how capital gets allocated across the economy. The persistent imbalance in that role is glaring.

"You would have hoped that maybe all the initiatives put in place five or six or so years ago would have started to be having some effect," says Madison Sargis, associate director of Morningstar's quantitative research team. "We're working to get more information on the career path—from analyst to fund manager—to see where it all is falling out."

Companies' efforts to increase diversity often end up recycling and further stretching the few women who make it into the industry. The same female managers are continually being tapped to manage multiple funds, in a way that mirrors the tactics of corporations trying to diversify boards through a limited pool of familiar executives. (That practice has come to be known as overboarding.)

Lower down the ranks, women still face some well-known obstacles. It typically takes years to climb the career ladder to fund manager, and setbacks are more common for women, who may take breaks to have children. There's also plenty of straightforward bias in the industry, Zhang says. "Women analysts are trusted to make suggestions but not trusted enough to pull the trigger for the portfolio," she says.

Women have often made initial strides by getting into newer parts of the industry. Yet those gains may not hold up when a product or sector becomes hotter. In index funds, the share of female managers globally has fallen from 15.8% in 2000 to about 14.7%.

One of the best-known success stories, Ark Investment Management's Cathie Wood, not only founded the company herself but also started by carving out a niche within a niche. Her funds are ETFs, or funds that trade like stocks, and though U.S. ETF assets currently clock in at $6 trillion, the industry didn't hit $1 trillion until about 2011. What's more, the Ark funds are unusual among ETFs because Wood actively picks stocks for most of them, rather than tracking indexes. But Ark is not so niche anymore: Wood's flagship fund, Ark Innovation ETF, gained 149% last year. It ballooned from about $1.5 billion in assets in March 2020 to a peak of $28 billion in February.

The biggest female-led fund is Vanguard Health Care Fund, with $49 billion in assets as of Dec. 31. It's run by Jean Hynes at Wellington ▶

Edited by Pat Regnier and Jenny Paris

ZHANG: LILA BARTH FOR BLOOMBERG BUSINESSWEEK. HYNES: RACHEL HULIN FOR BLOOMBERG BUSINESSWEEK

Zhang

Hynes

◀ Management Co., a Boston-based asset manager that oversees more than $1 trillion. Hynes was hired after college in 1991 by Wellington as an administrative assistant and rose through the research and portfolio manager ranks over three decades. She takes over as CEO of the company on July 1.

Hynes sees things steadily improving. “For the first 20 years, I’d be in meetings and most of the people were men, from company management to sell-side analysts to buy-side analysts,” she says. “That began to change only about 15 years ago, when we saw more women in research roles. So I would expect to see more female portfolio managers in the future, even if it’s not showing in the data yet.”

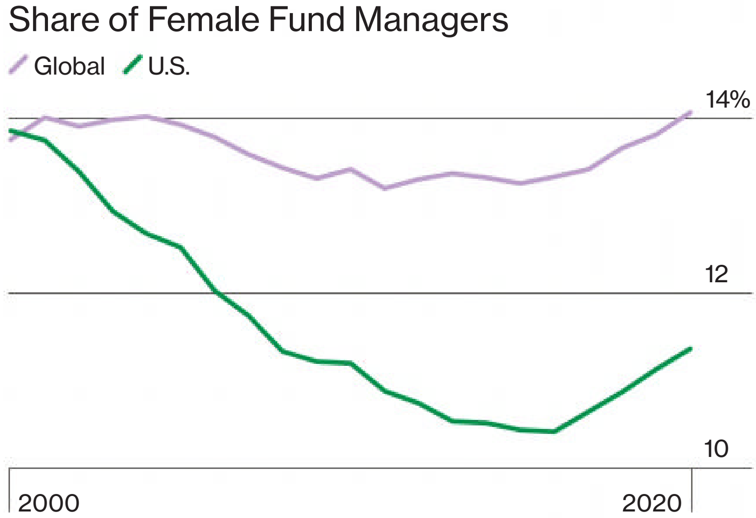
Hynes says the mentoring she received from Wellington’s veteran health-care fund manager Edward Owens, with whom she worked for 20 years, contributed to her success. From Day 1 she was able to work on research and learn financial modeling and other skills. In 1999 she got the opportunity to run a biotech portfolio, all while she was pregnant with twins. Taking a chance on a pregnant 30-year-old woman “was very unusual at the time,” Hynes says. That progression—from research to portfolio management—often seems to be the missing link for women in the industry.

There may also be a problem at the start of the career pipeline: a widespread perception that asset management requires a mostly quantitative background. Among college entrants, men are more likely than women to earn degrees in science, technology, engineering, or math. Yet men and women alike with liberal arts degrees have long succeeded in asset management. Tracy Chen, a portfolio manager at Brandywine Global Investment Management, says the necessary skills go way beyond STEM. “Investing is getting different cycles right and understanding human nature,” says Chen, who has an MBA as well as a master’s of arts in American studies. “The geopolitical picture is always very complex, so you also need a strong understanding of history.”

To help more women make the leap into portfolio management, Hynes says, the industry needs more female role models. And there has to be a well-planned, deliberate effort to bring in women. “I have had a successful career, thanks to a great firm and mentor,” she says. “But it was not deliberate.” *—Liz Capo McCormick and Katie Greifeld*

THE BOTTOM LINE There are plenty of women in research jobs at fund companies, but their share of portfolio management jobs hasn’t budged since 2000.

Share of Female Fund Managers



DATA: MORNINGSTAR INC.

Hard Times Aren’t Helping Payday Lenders

● Federal relief money enables people to avoid high-interest loans while bolstering community-based banks

For payday lenders, the pandemic could have been a once-in-a-century event for generating new customers. A bad economy can force people to turn to high-cost lenders for quick cash. But the story turned out differently this time. Trillions of dollars of federal relief, including direct cash payments and enhanced unemployment benefits, have had the opposite effect: reduced demand.

The federal efforts could upend an industry that’s preyed on low-income Americans, making small-dollar loans payable upon the receipt of a next paycheck, Social Security check, or unemployment benefit. With interest rates as high as 400% annualized, the loans rake in more than $9 billion a year in fees and interest, according to Pew Charitable Trusts, a nonprofit research group. Payday loan shops are as common as fast-food joints in struggling towns across the U.S. But demand fell 67% in the midst of lockdowns last spring and early summer, according to the Online Lenders Alliance trade group, and has yet to recover to pre-Covid levels.

At the same time, community banks are making plans to expand on turf they once abandoned—areas such as West 12th Street in Little Rock, an historically Black neighborhood near the interstate. Storefronts here include a coin-operated laundry and a dollar store, but no banks. Local lender Southern Bancorp plans to open the area’s first branch later this year, in a building that also houses a police station.

ILLUSTRATION BY HALEIGH MUN

As part of a pandemic relief bill passed late last year, the U.S. Treasury is injecting $12 billion into community development financial institutions, or CDFIs, like Southern Bancorp. That's more than triple what they received in the entire quarter century since the government first extended support. Payday lenders have long said that the rates they charge are commensurate with the risks of default, and that cutting access to cash would be worse for borrowers. The expansion planned by Southern Bancorp will be a real-life experiment in whether a bank can make a profit doing business with poor customers.

"We did not have access to the type of equity capital to allow us to grow," says Chief Executive Officer Darrin Williams, who plans to double Southern's assets to $4 billion and expand to underserved areas in cities such as Memphis, Nashville, and St. Louis in the next few years. "That's changed. It's an unprecedented amount of funding now available to us. I hope that will be a real counter to the payday lending space."

CDFIs target minority, rural, and impoverished communities. They've attracted hundreds of millions of dollars from big finance and technology companies, spurred by national attention to issues of racial equity. Bank of America Corp. last year purchased 5% of Southern Bancorp's shares, and MacKenzie Scott, the ex-wife of Amazon.com Inc. founder Jeff Bezos, donated $2 million.

Another community lender, Hope Credit Union of Jackson, Miss., got a $10 million deposit from Netflix Inc., which is investing 2% of its cash holdings in banks that serve Black communities. Hope, which provides 83% of its mortgages to people of color, expects to apply for about $100 million in capital from the Treasury, says CEO Bill Bynum. That support can be "game-changing," he adds, if it addresses an historic disparity that's left Black-owned CDFIs with less capital than their counterparts. "We've seen some of the poorest communities have to work the hardest to get their access to federal resources," he says. The credit union offers loans of $500 to $1,000, capped at an annual interest rate of 18%, which compete directly with payday lenders.

Another threat to payday demand: the Biden administration's April 28 proposal to extend a child tax credit that gives parents as much as $300 a month per child. Most of the 12 million low-income Americans who rely on payday loans are age 25 to 44, and a disproportionate number are parents, according to Pew. They spend $360 on average to borrow $400 for about three months.

Large banks have started offering small-dollar loans, partly at the urging of regulators. A Bank of America product for customers who've had checking accounts for more than a year lets them apply to borrow as much as $500 for a flat $5 fee. "It would save borrowers billions of dollars in fees if more banks got into this space," says Alex Horowitz, Pew's senior research officer for consumer finance. The challenge is making loans as convenient as the ubiquitous payday loan—and available even to those with low credit. That will require investment in underwriting technology. "Small-dollar loans aren't going to take off unless they're automated," Horowitz says.

"Low-income people need wealth advisers, too"

The new branch Southern Bancorp plans in Little Rock will offer the kinds of services usually reserved for higher-income customers, CEO Williams says. These include credit counseling, wealth planning, and small-business technical

assistance. "Low-income people need wealth advisers, too," he says. About half of the bank's loans last year were for less than $10,000.

The Biden administration is also likely to impose restrictions on payday loans through an emboldened Consumer Financial Protection Bureau. Through its trade group, the Online Lenders Association, the industry argues these efforts will cut off credit to poor people. Meanwhile, some companies are pivoting to new products, such as income share agreements that offer loans to students in exchange for a percentage of their future income.

David Fisher, CEO of subprime lender Enova International Inc., expects to find opportunities as small businesses reopen. "Many of these businesses have used up their savings trying to survive the pandemic," he told investors on a conference call in April. "This can lead to a large surge in demand that we're ready to fill." —*Peter Robison*

THE BOTTOM LINE Community development banks could save consumers billions of dollars on small loans, but they aren't as ubiquitous and fast as payday lenders.

A Matter Of Trust

● Liu He has friends in high places and a remit to reshape China's financial landscape

The future of Huarong Asset Management Co., a troubled Chinese financial conglomerate, may be determined by a man who believes that allowing more state-owned companies to default is just what the country needs: Vice Premier Liu He.

While Huarong insists it's healthy enough to repay its debts, markets have been pricing in the risk of default since the company missed a March 31 deadline to report 2020 earnings. Another portent: In January, Huarong's former chairman, Lai Xiaomin, was executed on charges that he'd accumulated a fortune in bribes during his years at the helm. Under Lai, the company moved beyond its original mandate of helping banks dispose of bad debt, raising billions of dollars from offshore bondholders and expanding into everything from trust companies to securities trading and illiquid investments. At last count, its balance sheet listed 1.73 trillion yuan ($267 billion) in assets.

With a range of scenarios still possible—including a state-backed cash injection or a lengthy restructuring that involves losses for bondholders—analysts, economists, and investors see President Xi Jinping's

Edited by Cristina Lindblad

PHOTO ILLUSTRATION BY 731; PHOTOS: GETTY IMAGES, ORIENTAL IMAGE, U.S. DEPARTMENT OF STATE
DATA: FITCH RATINGS. FOR SECURITIES LISTED ON A MAINLAND CHINESE EXCHANGE

economy czar as playing a critical role. “In the end, Liu He will be the person to make the final decision,” says Chen Long, an economist at Beijing-based consulting firm Plenum. “He doesn’t want to bail out everybody, he doesn’t like moral hazard. And on the other hand, he doesn’t want to trigger a financial crisis.”

As he’s amassed power in recent years, Liu has laid out his vision for reshaping China’s more than $50 trillion financial sector by shifting credit away from state-owned enterprises toward nimbler private companies and strategic sectors key to spurring continued economic growth. While he’s yet to speak publicly about Huarong’s fate, Liu’s past comments suggest he believes allowing SOEs to default is a necessary step to force lenders to price risk based on a borrower’s business prospects rather than its Communist Party links. Last summer, while China was still struggling with fallout from the coronavirus pandemic and politicians in the U.S. and Europe were supporting their economies at almost any cost, Liu announced that the task of eliminating weak companies “must be handed over to the market.”

In a speech at the end of August, he called for efforts to “resolutely prevent moral hazard”—the idea that government bailouts encourage investors to take excessive risks. Whether that applies to Huarong, which is majority-owned by the Ministry of Finance, remains to be seen. Permitting a default of an enterprise that large and closely linked to the central government would go a step beyond what the party has so far been willing to accept.

Removing implicit state guarantees is seen by Liu as a pivotal part of “an overhauling of capital markets so they can be made fit for purpose,” says Dinny McMahon, author of *China’s Great Wall of Debt*. “They don’t properly price risk, they don’t efficiently allocate resources. If China wants to foster growth and innovation, capital markets have to change.”

Liu, 69, has known Xi since childhood. Both men are the sons of veteran Communist Party leaders, and they were among the masses of young people dispatched to work in impoverished rural areas during the Cultural Revolution. After studying economics in the U.S., including a graduate stint at Harvard, Liu spearheaded a forum of Chinese economists known for favoring market reforms. He drafted the Xi administration’s signature economic policy document in 2013 that promised a “decisive role” for markets and was the mastermind of a campaign against excessive corporate leverage launched in 2016. He’s widely assumed to be the author of an influential article that appeared in the party’s flagship newspaper the same year warning that a buildup of debt in the economy could “trigger a systemic financial crisis.”

“Whether to allow a default for large SOEs is still a political decision,” says Bert Hofman, World Bank director for China until 2019, who now leads the National University of Singapore’s East Asian Institute. Hofman says Beijing’s drive to curb the market power of fintech companies such as Alibaba Group Holding Ltd. and Tencent Holdings Ltd.—a policy push that’s rocked equity markets over the past 12 months—was also in line with the 2013 economic policy blueprint.

Shortly after ascending to the party’s elite 25-member Politburo in 2017, Liu was appointed chairman of the recently created Financial Stability and Development Committee, which oversees the entire financial sector. There he outranks Guo Shuqing, the top banking regulator, and Yi Gang, the central bank governor. Outside China, Liu is better known as the chief negotiator in trade talks with the Trump administration and the lead in discussions with the European Union that produced an investment agreement.

“He’s incredibly sharp,” says Jamieson Greer, who was the chief of staff at the Office of the U.S. Trade Representative during the trade talks. While prioritizing the party’s interests, Liu shows greater faith in market forces than other Chinese officials, Greer adds.

With the coronavirus largely under control within China, Liu has been able to focus on eliminating weaker state-owned companies or forcing them to concentrate on core businesses. Signs of a shake-up came with a wave of defaults by state-linked companies last year. In 2020, SOEs reneged on a record 79.5 billion yuan in local bonds, making up more than half of defaults by Chinese corporations.

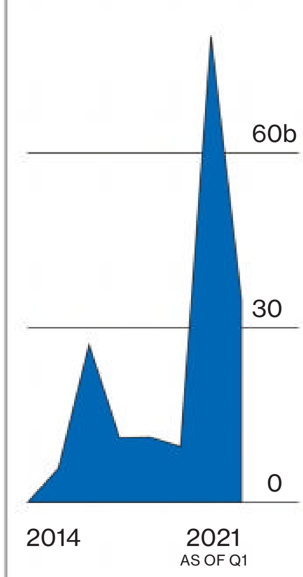
If Liu does end up being the key decision-maker on Huarong, the restructuring of three local banks in 2019 gives clues on how it could be handled. The highest profile of those was Baoshang Bank Co., which received a cash injection to avoid a liquidity crunch even as 6.5 billion yuan of its onshore Tier 2 bonds were written down in full.

Huarong has the equivalent of $41.3 billion in bonds outstanding. A state bank recently stepped in to help it pay maturing debt, suggesting officials may be concerned about systemic risk. Bloomberg News also has reported that the central bank is considering a plan for a cash infusion.

Such a move wouldn’t mean Liu’s broader campaign is over, though. “Huarong is a special case,” says Wei He, an economist at Gavekal Dragonomics, a China-focused consulting firm. “There will be more defaults in the near future.”

He says the next test of Liu’s resolve could be a public default by one of the financing vehicles used by local governments to circumvent ▶

▼ Bond defaults by China’s state-owned enterprises, in yuan



◀ Beijing's mandated limits on borrowing to fund infrastructure projects. "There are tensions between local government interests and central government interests," Wei says. "No local government wants to be the first to default."

Liu will reach the conventional retirement age for senior party officials before an ordained leadership reshuffle next year, and it's unclear if he'll stay on. With Xi looking to remain in power after scrapping term limits for the presidency, Liu could continue to wield influence. Until then, and likely beyond, he appears set to keep pushing his reforms as long as he's confident he can without sparking the crisis he's maneuvering to forestall. "I think of it as kind of like a sculptor slowly chiseling away to introduce more accountability into the system," says Trey McCarver, co-founder of Trivium, a China-focused consulting firm. "That's the way to read the rise in bond defaults." —*Tom Hancock*

THE BOTTOM LINE Liu He may be willing to tolerate China's largest-ever default by a state-owned company to winnow out money-losing entities and cut down on moral hazard.

The Pandemic's Productivity Dividend

● Gains from WFH and accelerated adoption of new technologies could add up to an economic lift

The Covid-19 crisis is accelerating a technology boom that has the potential to boost productivity around much of the world, spurring growth even in mature economies such as those of Europe and the U.S.

Whether in restaurant kitchens, on the factory floor, or at e-commerce fulfillment centers, the pandemic has sped up the adoption of robots, artificial intelligence, and other technologies that, in theory, free workers from manual or repetitive tasks to focus on higher-value output. At the same time, cloud computing and videoconferencing software have enabled the shift to working from home at countless companies around the globe. That's liberated employees from the time-suck involved in the office commute and is yielding dividends for businesses.

Research published by the McKinsey Global Institute at the end of March found that the combination of these trends could raise labor productivity growth in the U.S. and Western Europe by about 1 percentage point each year until 2024, more than doubling the pre-pandemic rate of growth. This could translate into increases in gross domestic product per capita, ranging from about $1,500 in Spain to about $3,500 in the U.S. "This acceleration in technology is something that feels real and lasting," says Jan Mischke, a partner at the McKinsey Global Institute.

Goldman Sachs Group Inc. economists are also bullish. They estimate in an April 25 report that three channels of tech disruption—the shift to e-commerce, digitization of the workplace, and the reallocation of human and investment capital as unprofitable companies shrink or close—will lift U.S. productivity by at least 2% cumulatively by 2022 relative to trend and potentially by as much as 7%.

These predictions run counter to what's been observed historically. Previous epidemics, such as Ebola and severe acute respiratory syndrome (SARS), left lasting negative legacies on productivity growth, according to Gene Kindberg-Hanlon, an economist at the World Bank. That's largely because they depressed capital spending, meaning businesses weren't investing in equipment or information technology that might help workers do their jobs more efficiently.

The opposite appears to be happening during the Covid-19 pandemic. Three-quarters of the almost 1,400 executives surveyed by McKinsey in December expected investment in new technologies to pick up in 2020-24, compared with 55% who increased outlays in 2014-19.

A survey by Swiss engineering giant ABB Ltd. of more than 1,600 businesses globally found that 8 out of 10 workplaces will introduce or increase the use of robotics and automation in the next decade, with 85% saying Covid had been a game changer for their business. In North America, purchases of robots jumped 64% in the fourth quarter of 2020 from the same period a year earlier, according to the Robotic Industries Association. Even more notable: Industries including food

▼ Estimated pandemic-related potential productivity acceleration in the U.S. and Europe, 2019-24*

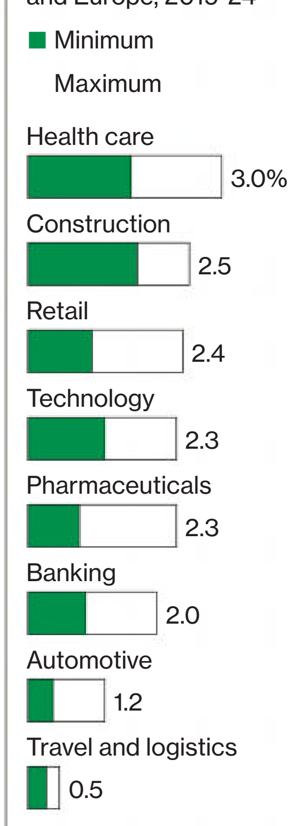


ILLUSTRATION BY JACK TAYLOR. *COMPOUND ANNUAL GROWTH RATE; DATA: MCKINSEY processing, consumer-goods manufacturing, and life sciences logged bigger increases in orders for all of 2020 than did automakers, which have traditionally been the biggest buyers of robots.

If this pace is sustained, researchers at Oxford Economics say, their 2019 forecast that robotization would add $5 trillion to global GDP by the end of the current decade may need to be revised upward.

John Ha, founder and chief executive officer of Redwood City, Calif.-based Bear Robotics, says his company's autonomous Servi bot can ferry food and dirty dishes between a restaurant kitchen and the dining area, allowing human waitstaff to interact more with customers. "Robots free up the server's time," he says. "They can truly focus on hospitality." Bear's bot is in use at Denny's restaurants in Japan and at food concessions at Houston's Toyota Center arena that are managed by Levy Restaurants.

When WFH restrictions made it tough for employees at a government agency in Hong Kong to create the maps and drawings of the city's buildings that they need for maintenance and planning, Insight Robotics Ltd. adapted its AI-powered analytics technology—usually used for wildfire detection—to automate the process. "They don't need to do something that treats them as human robots, and they can utilize their brain to do something more creative and valuable," says Rex Sham, co-founder of the Hong Kong-based company.

On the remote-work front, a study published last month by Jose Maria Barrero of the Instituto Tecnológico Autónomo de México, Nicholas Bloom of Stanford, and Steven Davis of the University of Chicago Booth School of Business and the Hoover Institution found that WFH has the potential to lift productivity in the post-pandemic U.S. economy by 5%, mostly because of the reduction in commuting. The authors polled more than 30,000 U.S. workers and found that a better-than-expected experience, technological innovations and investments, and lingering fears of contagion will bolster the new working arrangements—though they also noted that those gains will mostly accrue to higher-income earners.

One point on which there's broad consensus among economists is that not all industries or workers will benefit from these technologies equally—and some may actually lose out. The differentiated impact means productivity gains realized at the company or industry level may not add up to increases visible in national gauges.

"The real potential for a revolution is working from home," says Robert Gordon, a professor at Northwestern University. Gordon, whose 2016

book *The Rise and Fall of American Growth* argues that present-day technologies such as the iPhone and the internet have been far less transformative than previous innovations like refrigeration or indoor plumbing, is quick to add a caveat: "But it's going to take a long time for the economy to adjust in the areas that are being severely damaged by working from home, like public transit and downtown office buildings."

Similarly, some nations may be more advantaged than others. In the U.S., the pace of increase in total factor productivity—a measure that explicitly accounts for the effects of technological innovation—climbed from an average of 0.6% from 1990 to 1995, to almost 2% on average from 1996 to 2004, powered largely by computerization and the internet, says the World Bank's Kindberg-Hanlon. Yet productivity growth in Europe trended down in the same period for reasons that included a slower adoption of new information technology and more restrictive labor markets. "While many advanced economies are well-placed to see productivity improve in some sectors, many emerging and developing economies may struggle to reap these benefits due to skill shortages, lack of infrastructure such as high-speed internet and other facilitators of digital connectivity, and poor access to finance," he says.

Optimism about a productivity boost may be tempered once we have a better understanding of the scale of economic wreckage left by the pandemic, says John Van Reenen, the Ronald Coase chair in economics at the London School of Economics. "There will be some productivity benefits," he says. "Will that be big enough to outweigh all the costs? The jury is still out." *—Enda Curran, with Grace Huang and Coco Liu*

THE BOTTOM LINE In contrast to what's been observed in previous pandemics, Covid-19 is spurring investment in IT and processes that could boost productivity in a lasting way.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Chained To Trump

● A civil war has broken out in the Georgia GOP, and die-hard Trumpists are winning

On a brisk Saturday morning in mid-April, grassroots Republicans gathered in county conventions across Georgia to begin deciding their party's future. The day ended with Donald Trump firmly in control of the state Republican Party, in a microcosm of the national struggle for the GOP's soul following the November election and the Jan. 6 attack on the U.S. Capitol.

In the state's biggest Republican strongholds, conventions that were supposed to last a few hours dragged into the evening as insurgent delegates—many of whom had never participated in party politics before—booted longtime leaders in favor of Trump-embracing newcomers. They attacked the party's top officeholders, passing resolutions condemning them for not supporting Trump's false claims of a stolen election. They dissed former GOP officeholders, too, flouting a tradition of giving them votes at a coming state convention. They denounced the state's voting machines and buzzed with debunked conspiracy theories.

Battles erupted over even relatively mild issues. In a Fraternal Order of Eagles lodge off I-85 near Atlanta, DeKalb County delegates spent almost an hour on a bland resolution that said the GOP stands for liberty and prosperity because one clause mentioned "compassionate conservatism." Delegates stripped the offending language, calling it an anachronism out of touch with the post-Trump party.

The April conventions left little doubt about the GOP's direction in Georgia. Ardent pro-Trump newcomers are trying to oust establishment Republicans, and they're succeeding. That could spell danger for the party in 2022, when the state's top elected jobs are on the ballot, according to Charles Bullock, a political scientist and election expert at the University of Georgia. "It's really counterproductive," he says. It's a lesson that should have been learned in January, he says, when Republican Senators David Perdue and Kelly Loeffler embraced Trump's voter fraud campaign and lost crucial suburban voters—and their seats.

The civil war within Georgia's GOP might mean little if the state hadn't played such an ▶

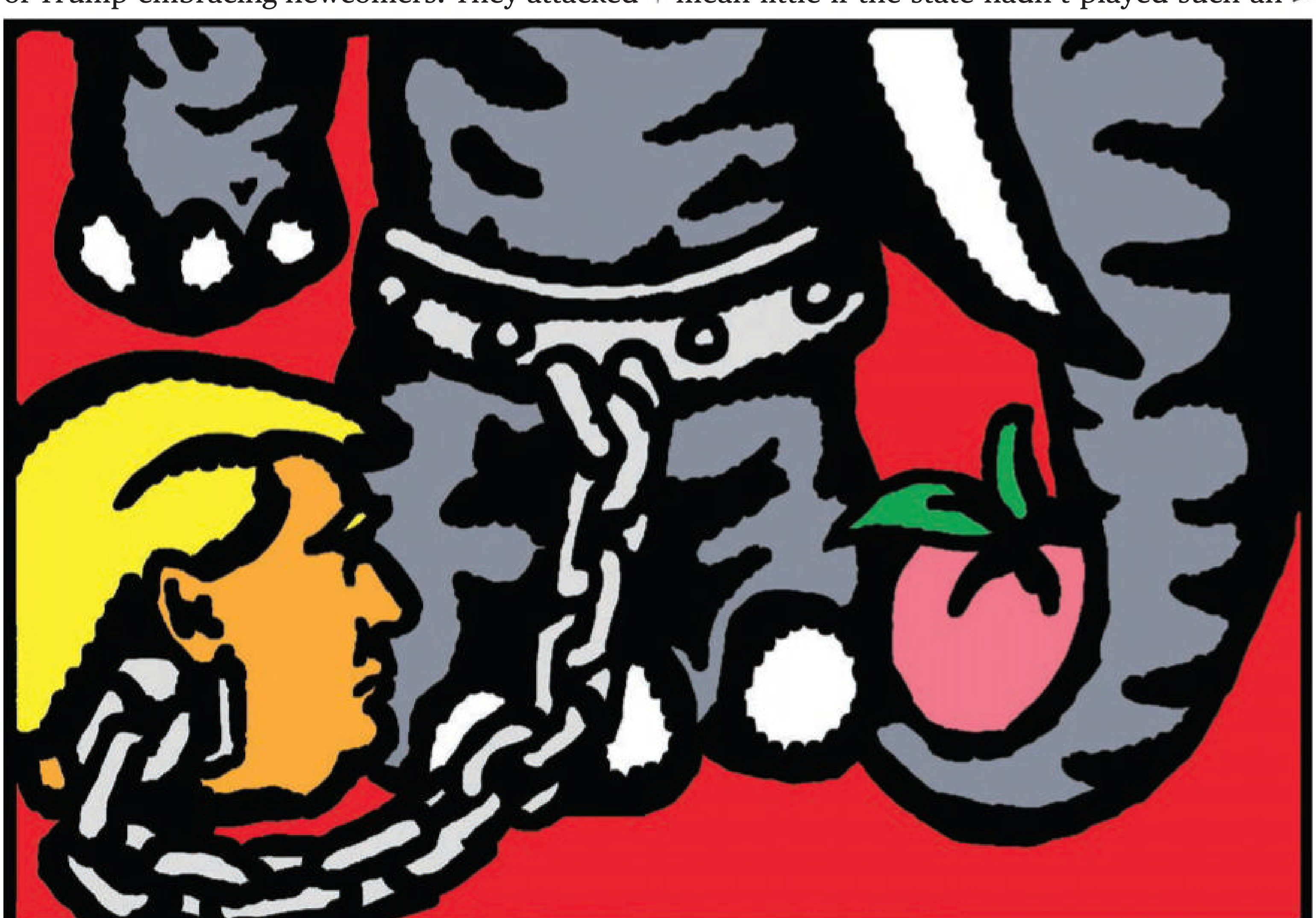


ILLUSTRATION BY FELIX DECOMBAT

Edited by Amanda Kolson Hurley

◀ outsize role in handing control of Washington to Democrats—and if that legacy were not on the ballot again next year. The state has become a de facto laboratory for national politics, with Democratic powerhouse Stacey Abrams mobilizing new minority voters, Trump continuing to hold sway with White voters in rural Georgia, and the purpling of once-Republican Atlanta suburbs that contributed to Trump's loss.

Georgia delivered the state's 16 Electoral College votes to Joe Biden by a margin of less than 12,000 votes in November, and then sent two Democrats, Jon Ossoff and Raphael Warnock, to the U.S. Senate in January, giving the party its single-vote margin there. One of the senators, Warnock, has to defend his seat next year.

The Georgia Republican Party gatherings were part of a time-intensive, small-d democratic process that starts with precinct-level caucuses and culminates with the state convention and the selection of leadership in June. So far that process has only exacerbated the divide in the state party. The inflamed rank and file of the party are working to entrench an apparatus fiercely loyal to Trump and his claims of election fraud. Chairman David Shafer, who aggressively promoted the Stop the Steal campaign to overturn Biden's victory, is widely considered a lock to win back his chairmanship in June, despite presiding over the party's recent losses.

One of the new leaders is Marci McCarthy, who won the chairmanship of the DeKalb County GOP after her predecessor decided not to run. "What I am seeing is a new guard that is anti-establishment and anti-RINO and very, very pro-Trump," McCarthy says. (RINO is an acronym for "Republican in Name Only.")

It's already a problem for Republican Governor Brian Kemp and Secretary of State Brad Raffensperger, who are both up for reelection next year. Trump attacked the men mercilessly after they refused to do his bidding in trying to overturn the election results. GOP conventions in at least 15 counties so far have passed resolutions censuring Kemp and Raffensperger, along with Lieutenant Governor Geoff Duncan, who recently decided against running for reelection in the current climate.

By far the most vulnerable is Raffensperger, who drew praise from voting advocates and scorn from his party for working to make voting easier in the pandemic and for opposing Trump's voter fraud claims. (Trump called Raffensperger "really, really an enemy of the people" and pressured him in a leaked phone call to find him "11,780 votes, which is one more than we have because we won the state"; a local district attorney is investigating potential election law violations.) The Georgia GOP has targeted Raffensperger's office directly, and he now has two primary challengers, one of whom, Representative Jody Hice, Trump has endorsed.

Kemp has a primary challenger, too, which would have been hard to imagine before Nov. 6. The primary should have been a cakewalk for the incumbent governor, who could point to a strong economy, low unemployment, and, for the conservative base, his status as the first governor to reopen his state during the pandemic.

Whatever the results next year, the party is headed in the wrong direction, according to Duncan, the lieutenant governor who was the third state officeholder to be censured. At 46, Duncan has been a rising star in GOP politics, and he says he and Kemp have a strong record. He also spoke out loudly and often against the Trump campaign's and the state party's Stop the Steal efforts. "Right now the Republican Party is being used to fan the flames of 10 weeks of misinformation and the post-election debacle that played out," he says. "If we don't turn the page, if we think the strategy is to double down on relitigating the election and the great hoax, then we had better get used to losing."

Duncan has formed a PAC to support a reset for Republicans that would emphasize policy ideas, not Trump. "The best starting place is for as many Republicans to walk into as many rooms as they can and say, 'Let me start this discussion by saying former President Donald J. Trump lost the election fair and square. Now, what can we do to help you?' " —*Margaret Newkirk*

THE BOTTOM LINE Within the Georgia Republican Party, Trump is perhaps more powerful than ever before—but an even Trumpier GOP may be a losing strategy in purple Georgia.

"What I am seeing is a new guard that is anti-establishment and anti-RINO and very, very pro-Trump"

● Duncan

Bracing for Life After Coal

● As West Virginia begins to move away from fossil fuels, the state's senators hold unusual sway over Biden's green jobs plans

Gerald Lucas, 69, is a former coal miner and federal mine inspector who now gives public tours underground at the Beckley, W.Va., Exhibition Coal Mine, which ceased operations in 1953. He describes it as a fun job that allows him to share his decades of experience with visitors. A career change such as his is becoming more common among West Virginians as the rural state of

DUNCAN: JOHN BAZEMORE/AP PHOTO; WVA: PHOTOGRAPH BY KRISTIAN THACKER FOR BLOOMBERG BUSINESSWEEK; DATA: BUREAU OF ECONOMIC ANALYSIS

◀ New River Gorge National Park and Preserve

1.8 million moves toward a new economy in which coal is no longer king.

West Virginia lawmakers also occupy key perches on Capitol Hill as President Joe Biden introduces a sweeping infrastructure and climate package—the $2.25 trillion American Jobs Plan—and pledges to revitalize coal country.

Senator Joe Manchin, a conservative Democrat, is a crucial swing vote in the 50-50 Senate and chairs the Committee on Energy and Natural Resources. Senator Shelley Moore Capito is the top Republican on the Committee on Environment and Public Works and an architect of the GOP's own infrastructure proposal, a $568 billion counteroffer to Biden's plan. In the House, members from the Mountain State sit on the Ways and Means and the Energy and Commerce committees.

West Virginia is the second-largest producer of coal in the U.S., behind Wyoming, but historically it's employed more industry workers. Although the number of coal miners nationwide has dwindled to the tens of thousands, in West Virginia they can earn as much as $90,000 a year, money that's helped drive local economies. Even as coal production has shrunk and natural gas use has accelerated (page 63), the industry in the state is still potent.

"For the last century we've done all the heavy jobs, the dirty jobs," Manchin says. "We've helped build this country by the energy we've produced."

Acknowledging the shift from fossil fuels, the United Mine Workers of America recently rolled out a road map to "enhance opportunities for miners, their families, and their communities." It calls for support for coal-fired carbon capture and storage to keep existing jobs, tax incentives for renewable- energy manufacturing to create new ones, and other measures. But there's skepticism that the transition can benefit coal country.

"We believe that the Second Coming of the Lord is gonna get here before a just transition makes it our way," United Mine Workers of America President Cecil Roberts Jr. said in April during a virtual press event he led with Manchin.

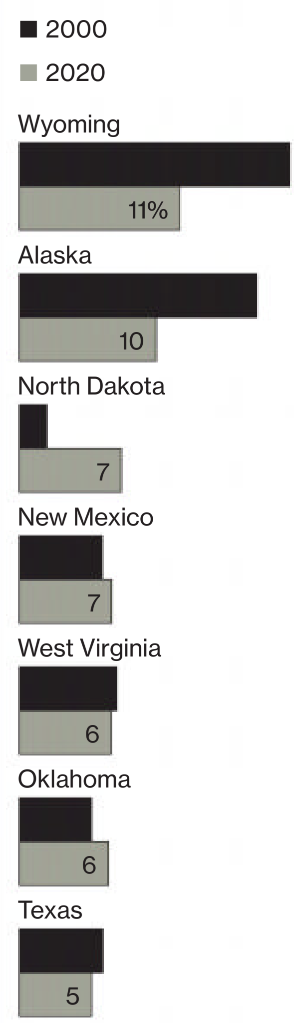
Capito worries Biden's program will be a repeat of President Barack Obama's Clean Power Plan, which would have led to "basically just an abrupt closure" of fossil fuel activities "with a pretty callous regard as to what's happened to people."

Although Biden won only 30% of votes in deep-red West Virginia, his jobs plan holds the potential for investment in infrastructure and manufacturing, especially now that the Senate has lifted its ban on earmarks. The state has a notable history in that respect: The name of late Senator Robert Byrd, the long-serving Democrat and Appropriations Committee chairman, is affixed to numerous bridges, roads, and buildings across the state.

"When he took office, we had 4 miles of interstate. Then we had one of the best systems in the nation because of him," says Bill Bissett, president and chief executive officer of the Huntington Regional Chamber of Commerce. "The reaction to federal aid with infrastructure is not always disliked here."

Beckley (population 16,000) is the largest city in southern West Virginia and exemplifies the transition the state is trying to make by boosting manufacturing, tourism, and other industries. Near the Exhibition Coal Mine is Tamarack Marketplace, a light-filled Appalachian arts center and cafe that attracts half a million visitors a year. This part of southern West Virginia is also an area of uncommon natural beauty. New River Gorge, designated as a national park last year, offers rock climbing, whitewater rafting, and miles of hiking trails. ▶

▼ States with the highest share of GDP from mining, quarrying, and oil and gas extraction in 2020



◀ "Absolutely, tourism has taken off," says Representative Carol Miller, a Republican, whose district includes the park. "And with that, people are building cabins, they're expanding restaurants. They are beginning to understand how beautiful our countryside is."

◀ Coalfield Development's wood shop in Huntington, W.Va.

"West Virginia gets a bad rap. They think we are closed off," says Bonny Copenhaver, president of New River Community and Technical College. A Tennessee native, Copenhaver says when she first arrived two years ago, she didn't hear much talk about a future after coal. A new message "has sunk in drastically," she says.

Still, "the stakes are high," Copenhaver says of the risks facing students who decide to learn a new trade. "What if the green technology never materializes?" Although renewables account for a small fraction of the state's coal-dominated electricity generation, wind and solar projects are in development.

The New River Gorge Regional Development Authority recently announced an $8.3 million investment–$3.5 million of it from a federal grant–in the redevelopment of more than 100 acres outside the Raleigh County Memorial Airport to house aerospace manufacturing and mechanics companies that leaders hope to lure to West Virginia. Those jobs require skills similar to the technical know-how required in the coal industry.

Brandon Dennison is the CEO of Coalfield Development, a West Virginia-based nonprofit that aims to rebuild the Appalachian economy and help fossil fuel workers shift to different industries. Dennison acknowledges there's a big pay gap between the old jobs and the positions replacing them. "We're honest about it," he says. "We agree that with the new jobs that are coming with the new economy, we need to push on industry to pay better, and I think unions are going to become really relevant again to make sure that happens."

Lucas, the coal miner turned tour guide, was born in Burnwell, originally a coal camp, about 30 minutes northwest of Beckley. After 45 years in mining, he's had two shoulder surgeries and a knee operation, and recently he received the good news that he doesn't have black lung disease. He enjoys his current job. Of the old ones, he says, "I don't remember any of it being easy." *—Kellie Lunney is a reporter for Bloomberg Government*

THE BOTTOM LINE West Virginians worry they'll lose out from Biden's clean energy plans, but federal investment could help homegrown efforts diversify the state economy.

The Right to Repair Gains Momentum

● New bills could broaden consumers' power to fix devices, from ventilators to iPhones

A recall of an electrosurgical device wouldn't normally cause panic for Ilir Kullolli. As the director of clinical technology and biomedical engineering at a hospital in California, his job is to calmly orchestrate service and repairs so doctors–and patients–never notice when a piece of technology is down.

But a lot of medical equipment is sold with the requirement that only the manufacturer can make repairs. In April 2020, during the first surge of Covid-19 hospitalizations, Kullolli's hospital faced the grim possibility of reverting to hand-and-scalpel surgeries while it awaited a critical device update by a manufacturer, even though in-house staff were capable of fixing the problem. Ultimately the company allowed it, but only after hours of calls and meetings.

"My technicians can fix anything, from blood pressure devices to patient monitors to ultrasound machines, as long as they get the training and parts needed to fix them," says Kullolli, who's also president of the American College of Clinical Engineering. "But in this case, we couldn't get the training or the parts. So we couldn't do it."

That wasted time and expense could have been avoided if hospitals had been allowed to mend more equipment from the get-go, he says. A bill advancing in the California legislature would make that possible: Sponsored by the California Public Interest Research Group and supported by the California Hospital Association, among other groups, it would require medical manufacturers to publish manuals and make parts and training accessible to hospitals and third-party repair providers. If it passes, it would be the first law passed by a state legislature in almost a decade to promote what's known as the "right to repair"—a broader consumer protection issue that touches many of the increasingly complicated devices that power 21st century life.

This year at least 27 state legislatures have considered bills tackling who gets to fix everything from tractors to powered wheelchairs to iPhones. While the issue has gained attention in recent years through consumer tech battles involving such companies as Apple, John Deere, and Tesla, the pandemic's spotlight on ventilator shortages gave a boost to the biomedical side of the story. In addition to California, lawmakers in Arkansas, Hawaii, and Texas, a group of 10 state treasurers and auditors, and members of Congress have taken aim at cutting costs and delays in the health-care system that advocates say stem from proprietary repair requirements.

"It's been an issue since before the pandemic, but the pandemic highlighted any hole we had in healthcare infrastructure," says Jodiane Tritt, executive vice president of the Arkansas Hospital Association. Her organization came out in support of a right-to-repair bill that passed the state senate in March but died in the house. (An ag repair bill is still active.)

Scott Whitaker, president and chief executive officer of Advamed, an industry group that represents Johnson & Johnson, Medtronic, Philips, and dozens of other device makers, says manufacturers' authorized technicians are specially trained to fix machines and comply with federal rules, but those performing in-house and third-party repairs may not be. "Patients deserve to know that the machines literally keeping them alive have been repaired by experts who are accountable to and following FDA regulation," he said in a statement.

Advamed is against the bill in California, where it's joined by heavyweight industry groups including the Consumer Technology Association, the Air-Conditioning, Heating, & Refrigeration Institute, and the Association of Home Appliance Manufacturers. They point to intellectual-property risks. TechNet, a tech executive trade group, is also opposed, citing security concerns.

So far only one right-to-repair bill involving any industry has become law, in 2012, when Massachusetts forced automakers to create public access to repair parts and manuals. After that, auto industry groups agreed to create the same access nationwide. (That debate isn't over: Massachusetts voters expanded the law in a November ballot initiative that gives owners access to the data on vehicle computers, prompting a lawsuit by automakers.) Gay Gordon-Byrne, executive director of the Repair Association, an advocacy group that supports repair legislation, says if one of the medical bills passed, it would create a national precedent similar to the automotive one.

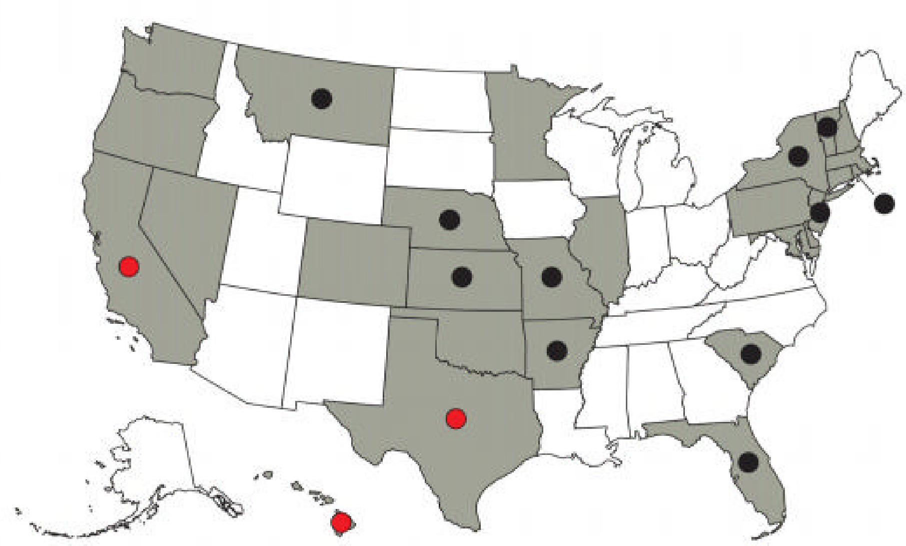
As Europe draws up its own right-to-repair rules around consumer technology, supporters say it's only a matter of time before changes come in the U.S. Jarone Lee, an intensive care unit medical director at Massachusetts General Hospital and associate professor at Harvard Medical School, published a letter in the *Lancet* in March in favor of recent legislation. He says he became aware of the problem during a surge in Covid cases that left ventilators in short supply. Although Mass General was able to bring in more from other hospitals, the experience left a mark, Lee says: "Normally we don't see what happens when they have to fix a ventilator that stops working." —*Laura Bliss*

THE BOTTOM LINE There's growing support for loosening restrictions on who can repair medical and other equipment. Opponents say it puts safety and security at risk.

Fix-It-Yourself Legislation Takes Off

States that are considering right-to-repair bills, covering various product categories, in 2021

● Agriculture-specific legislation ● Medical-specific legislation



AS OF APRIL 22. DATA: U.S. PIRG

COME

When a gossip rag went after Jeff Bezos, he retaliated with the brutal, brilliant efficiency he used to build his business empire. From the new book Amazon Unbound*, an untold story of money, sex, and power*

By Brad Stone

AT ME

PHOTO ILLUSTRATION BY 731; PHOTO: LINDSEY WASSON/REUTERS

"RAISE YOUR HAND IF YOU THINK YOU'VE HAD A HARDER week than I've had."

It was Feb. 14, 2019, in the early afternoon, and for perhaps the first time in the 25-year history of Amazon.com Inc., Jeff Bezos was prepared to explain himself to his employees.

Bezos was a master compartmentalizer; his ability to keep the intricate threads of his personal and professional lives separate was unrivaled. This talent had allowed him to build Amazon while also running a space company, Blue Origin LLC, and reviving the *Washington Post*—all while keeping his family life private. But those threads had gotten tangled. Bezos, a father of four, was the subject of tabloid stories in the *National Enquirer* about his relationship with a married former television host.

Rather than doing what most billionaires do under such scrutiny—keep quiet and wait for the storm to pass—Bezos had gone public. He'd written a salacious blog post that included descriptions of photos the *Enquirer* claimed it had acquired—among them: a "below the belt selfie." He'd suggested that the paper was doing this as political retribution for the *Post*'s reporting on the *Enquirer*'s connections to the Trump administration.

Now, facing Amazon's leadership group, the S-team, Bezos addressed the elephant in the room. "The story is completely wrong and out of order," he said. "MacKenzie and I have had good, healthy, adult conversations about it. She is fine. The kids are fine. The media is having a field day." Then he tried to refocus the conversation on the matter at hand: personnel projections for the current year. "All of this is very distracting, so thank you for being focused on the business," he said.

The affair came as a shock to most senior executives, though recently some had noticed changes in their boss's behavior. Meetings for Op1, Amazon's term for its annual late-summer planning cycle, had been delayed or postponed; longtime deputies were finding it difficult to get time on his calendar. There were also those helipads that Amazon had requested for its planned outposts in New York City and Arlington, Va. These had enraged local officials, already skeptical about giving billions of dollars in tax breaks to a company with a trillion-dollar market value, and had contributed to the scrapping of a planned second headquarters in Queens.

As some in the meeting were now well aware, the boss's new girlfriend, Lauren Sanchez, was a helicopter pilot. Bezos had taken flying lessons himself. And then there was the curious matter of the stock. On Jan. 9, Jeff and MacKenzie Bezos had announced their divorce via Twitter. But a few weeks before that, Amazon's legal and finance departments had begun asking the company's largest institutional shareholders whether they would support the creation of a new class of stock with reduced voting rights. Dual-class stock structures had been used at Facebook, Google, and Snap to concentrate voting power among company founders, giving them ultimate sway over matters of corporate governance. Amazon had gone public a decade before those structures were in vogue, so Bezos hadn't had such power. Now he apparently wanted it.

Amazon vigorously disputed that Bezos' personal life had anything to do with these moves. Public-relations representatives claimed that having helipads in New York City would have been "useful for certain events, like receiving dignitaries." The official story about the share classes was that Amazon was exploring ways to keep giving stock to fulfillment center workers and that it could use the second class of stock to pursue acquisitions. Those explanations had always seemed a little thin. But after Bezos tweeted news of his divorce, some who'd heard about the stock plan came to assume that it was all about Bezos remaining firmly in control of the company in the face of a costly divorce settlement that would end up reducing his stake from 18% to 12%.

It was the first time some senior executives could remember seeing Bezos cornered by adversaries, who now included, improbably, a Hollywood manager looking to peddle explicit selfies. On the other hand, the episode was the culmination of Bezos' decade-long transformation from a single-minded tech geek to the master of a trillion-dollar empire. His enemies now included Donald Trump, who despised the *Post*, and Mohammed bin Salman, the crown prince of Saudi Arabia, who was embittered by the paper's coverage of the murder of dissident reporter Jamal Khashoggi and would later be implicated in a supposed plot to put spyware onto Bezos' smartphone. Bezos was navigating all of this as he always had: by thinking unconventionally and manipulating the levers of media. Somehow, his way usually worked.

"If anyone cautioned Bezos that an affair with a married minor celebrity might prompt an unpleasant public reaction, he ignored those warnings"

Back at Amazon's headquarters complex in Seattle, on the sixth floor of Day 1 tower, the planning meeting stretched into the early evening. Harried finance executives scurried in and out of the room distributing spreadsheets. Bezos might not be able to control the scrum of tabloid press gleefully chronicling his sybaritic escapades with Sanchez, but he could control head count growth across all of Amazon's divisions.

As the sun set over the Olympic Mountains, casting a golden glow into the conference room, executives started furtively glancing at their phones and responding to texts from their significant others. Finally, at 7:30, Senior Vice President Jeff Blackburn spoke up and said what everyone else was thinking: "Hey Jeff, how long do you think this meeting is going to go? A lot of us have plans." It was, after all, Valentine's Day.

"Oh, that's right," said Bezos, laughing. "I forgot about that."

FOR YEARS, BEZOS WOVE THE STORY OF HIS COURTSHIP and marriage to MacKenzie Bezos (now MacKenzie Scott) into his public persona. In speeches, he joked about his bachelorhood quest to find a woman resourceful enough to "get me out of a Third World prison," as if the bookish MacKenzie, a novelist with an English degree from Princeton, might one day rappel down from the roof of some godforsaken jail with a lock pick in her teeth.

But while Bezos and his handlers crafted the image of a doting husband and family man, he and his wife developed diverging appetites for public attention. After Amazon opened a Hollywood outpost and began producing movies, Bezos attended the Golden Globes and Academy Awards, showed up at premieres, and hosted an annual gathering at a palatial property in Beverly Hills, high above the Sunset Strip. At one such party in December 2016, for *Manchester by the Sea*, Amazon Studios' first Oscar winner, he was photographed with Sanchez and her then-husband, Patrick Whitesell, the powerful chairman of the Endeavor talent agency.

MacKenzie accompanied her husband to some Hollywood events but, by her own admission, wasn't a social person. "Cocktail parties for me can be nerve-racking," she told *Vogue*. "The brevity of conversations, the number of them—it's not my sweet spot." Friends said both parents were committed to their four children and to keeping them as far away as possible from the corrosive impact of celebrity and garish wealth.

By 2018, Bezos was seeing Sanchez, legal documents later showed, while keeping up the appearance of an intact marriage. His new girlfriend, then 48, was ebullient and sociable and, in many ways, the opposite of his wife. Like Bezos, Sanchez had been born in Albuquerque, and though their families didn't know one another, the couple would later chart all the coincidental overlap among their relatives at places such as the Bank of New Mexico, where Bezos' parents, Jackie and Mike, first met, and where Sanchez's cousin had once worked. Sanchez's father, Ray, ran a local flight school, Golden Airways, and her mother, Eleanor, had a pilot's license and had survived a plane crash when Lauren was 9 years old.

In the late '90s, after starting a broadcast news career at a local TV station in Phoenix, Sanchez became a correspondent for the syndicated gossip program *Extra* and then a morning anchor on Fox's *Good Day LA*. She hosted the first season of the reality show *So You Think You Can Dance* and had some small movie roles—that's her playing a news reporter 91 minutes into *Fight Club*. She had a son with NFL Hall of Famer and broadcaster Tony Gonzalez before marrying Whitesell and having another son and a daughter.

By the beginning of 2018, her helicopter company, Black Ops Aviation, was filming documentary videos for Blue Origin and posting them on YouTube. A few weeks later, Sanchez told her older brother, Michael, that she wanted to introduce him to her new beau. In April they had dinner at the Hearth & Hound, a hip West Hollywood restaurant, accompanied by Michael's husband and two other friends. Michael sat across from Jeff, and the two hit it off. Later, Michael expressed alarm about how his sister and the Amazon chief executive officer openly expressed their affections, potentially within sight of the local paparazzi, while both were still married.

If anyone cautioned Bezos that an affair with a married minor celebrity might prompt an unpleasant public reaction, he ignored those warnings. He brought Sanchez to Seattle with her mother and brother, where they got a VIP tour of the Spheres, the three interlinked glass conservatories at Amazon headquarters, and to Washington, D.C., where he showed her the *Post*'s printing presses. She attended a Blue Origin rocket launch that summer and helped produce an inspirational 2-minute video for Bezos' rocket company featuring aerial shots and a rare voiceover by the CEO himself, as *Your Blue Room* by U2 and Brian Eno played in the background. "The human need to explore is deep within all of us," Bezos intoned at the start of the video.

Like many modern couples, Bezos and Sanchez's relationship played out digitally as well. The richest man in the world was, to put it bluntly, sexting. Sanchez shared many of these texts and photographs with her brother, a talent manager who represented a variety of cable news pundits and reality-TV contestants. But all of that was happening well outside Bezos' line of sight. He was enthralled by the adventurous Sanchez, and by nature he wasn't predisposed to be paranoid or immediately skeptical of anyone—especially not the brother of his new paramour. His philosophy, according to a friend, was essentially: ▶

MACKENZIE
The wife

LAUREN
The girlfriend

MICHAEL
The girlfriend's brother

FROM LEFT: JEROD HARRIS/GETTY IMAGES. KEVIN MAZUR/GETTY IMAGES. JOHN SCIULLI/GETTY IMAGES

◀ "It's better to assume trust and find out that you are wrong than to always assume people are trying to screw you over."

OVER THE SUMMER OF 2018, AS THE ROMANCE BETWEEN Bezos and Sanchez intensified, the *Enquirer* was coming off a catastrophic few years. Newsstand sales were slipping, and the paper's publisher, David Pecker, had been accused of buying the rights to stories about his friend Donald Trump's marital infidelities and then declining to publish them, a practice known as "catch and kill." This had brought the *Enquirer*'s parent company, American Media Inc., or AMI, to the attention of federal prosecutors in the Southern District of New York, who were investigating potential violations of campaign finance laws.

Pecker's top editor, Chief Content Officer Dylan Howard, was a short and stout 36-year-old Australian and an acid-penned chronicler of the hypocrisies and indiscretions of American celebrities. The journalistic force behind such tabloid supernovas as Mel Gibson's antisemitic rants and Arnold Schwarzenegger's love child, Howard was protective of his work and combative toward rivals. When the *Post* aggressively covered AMI's catch-and-kill problems, Howard told reporters to look into its wealthy owner's personal life.

One possible line of inquiry, according to an email that went out to AMI staff in late summer, was to examine Bezos' relationship with the family of his biological father, Ted Jorgensen, and why the CEO hadn't contacted them when Jorgensen was dying in 2015.

The next day, Monday, Sept. 10, Michael Sanchez wrote an email to Andrea Simpson, an L.A.-based reporter for AMI. Sanchez and Simpson were close friends. He regularly sent her news about his clients, and they had once gotten tattoos together on a whim. (His, on his forearm, read *Je suis la tempête*: "I am the storm.") In the email, Sanchez said he had a hot tip for Simpson. A friend, he wrote, worked for a "Bill Gates type" who was married and having an affair with "a B-list married actress." The friend, Sanchez wrote, had compromising photos of the couple but wanted a six-figure payout for the scoop. Sanchez claimed to be working as the middleman.

Simpson and her editors in New York could only guess at the identities of the mystery lovers, speculating in emails about such figures as Evan Spiegel and Mark Zuckerberg. For weeks, Sanchez kept them guessing and tried to bump up his asking price by hinting that the story could end up with a British tabloid. In early October, he met with Simpson and showed her text messages and photos with the faces obscured. "Just doing a look around and by the body, I think it may be Jeff Bezos," Simpson wrote to her bosses.

Finally, on Oct. 18, Sanchez called up Howard and revealed that the "Bill Gates type" was in fact Amazon's CEO. Sanchez and AMI then signed a contract, entitling him to a payout of about $200,000—among the most the *Enquirer* had ever spent on a story. The contract stipulated that the paper would make every effort to safeguard Sanchez's anonymity and withhold his identity as the source of the scoop.

Sanchez hadn't yet revealed the name of the "B-list married actress," but it didn't take long for *Enquirer* editors, who dispatched photographers to track Bezos' jet, to figure it out. Howard was at an entertainment industry trade show in Cannes, France, when he received photos of Amazon's CEO and Lauren disembarking from his Gulfstream G650ER.

On Oct. 23, Michael Sanchez flew to New York, dined with Howard and James Robertson, another *Enquirer* editor, and corroborated what they now knew. He also showed them a flash drive containing a collection of texts to his sister from Bezos, as well as a handful of personal photographs that the couple had exchanged, and he intimated that at a later date he could show them a more explicit photo that Bezos had sent of his manhood to Lauren.

There would later be an abundance of speculation about how the *Enquirer* got the Bezos-Sanchez story—including unproven allegations that Sanchez's ex-husband, Patrick Whitesell, was involved, as well as international intrigue involving Saudi Arabia. But Howard, Robertson, and Simpson would all later submit in federal court that Michael Sanchez was the sole source of all the information and compromising material they received during the investigation.

Inside AMI's drab offices at the southern tip of Manhattan, the Bezos story was met with both excitement and anxiety.

"Everything I did protected Jeff, Lauren, and

The company had filed for bankruptcy protection in 2010 and was loaded with debt from acquiring magazines such as *In Touch* and *Life & Style*. An effort to secure an investment from Saudi Arabia to finance a bid to buy *Time* wasn't panning out, and Anthony Melchiorre, the seldom-photographed managing partner of the company's majority owner, New Jersey hedge fund Chatham Asset Management, was anxious about anything that might land AMI in fresh legal peril.

That September, AMI had signed a nonprosecution agreement with the U.S. Department of Justice over allegations that it had tried to bury negative stories about Trump. The deal required its executives to cooperate with the federal investigation of Trump lawyer Michael Cohen and to operate in the future with unimpeachable honesty. It ensured the company would remain under prosecutors' watchful eyes for years. Breaking the agreement could mean financial ruin for AMI.

Pecker, a temperamental boss who conducted much of his work from his cellphone while driving between his homes and offices in Connecticut and New York City, called one draft of the Bezos article "the best piece of journalism the *Enquirer* has ever done" and bragged in an email to editors that "each page of a story should be another death blow for Bezos," according to a person with knowledge of the criminal investigations. But Pecker was also terrified of getting sued by the man with the deepest pockets in the world. He demanded the story be "100% bulletproof" and vacillated about when, and even whether, they should publish.

For the rest of that fall, the *Enquirer* worked on the story with Michael Sanchez's help. He emailed the paper more photographs and text messages and tipped off editors to the couple's travel plans. When he had dinner with Bezos and his sister at the Felix Trattoria restaurant in Venice, Calif., on Nov. 30, two reporters were stationed at tables nearby as photographers clicked away surreptitiously. On the promised explicit selfie, though, Sanchez seemed to equivocate. He arranged to share it with Howard in L.A. in early November, then canceled the meeting. A few weeks later, on Nov. 21, after *Enquirer* editors kept hounding him, he finally agreed to show it to Simpson while Howard and Robertson watched via FaceTime from New York.

None of this, Sanchez claims, was a betrayal of his sister. She and Bezos were conducting their relationship out in the open, and it was only a matter of time before their families and the larger world discovered it. "Everything I did protected Jeff, Lauren, and my family," Sanchez later said in an email. "I would never sell out anyone." He also believed, naively, that his source agreement with AMI precluded the media company from using the most embarrassing material he had provided them.

On one issue, at least, it appears that Sanchez didn't betray his sister. He later told FBI investigators that he never actually

my family. I would never sell out anyone"

had an explicit photograph of Bezos in his possession. In the FaceTime meeting on Nov. 21, Sanchez didn't show a picture of Bezos at all. It was a random photograph of male genitalia that he'd captured from an escort website called Rent.Men.

ON JAN. 7, 2019, *ENQUIRER* EDITORS SENT TEXTS TO BEZOS and Lauren that started with a single, incendiary sentence: "I write to request an interview with you about your love affair." The couple moved swiftly in response. Lauren turned to the person closest to her who best knew the brazen byways of the tabloid industry: her brother. Michael innocently offered to exploit his relationships with *Enquirer* editors to find out what they had. After signing a $25,000-a-month contract with his sister, he called Howard to announce that he was acting as her representative and suggested that he come to New York to review the paper's reporting (which, of course, he had provided). Confident in the promise of confidentiality from AMI, Michael was now playing both sides.

Bezos, meanwhile, involved his longtime security consultant, Gavin de Becker, as well as de Becker's L.A.-based entertainment attorney, Marty Singer. And, early on Jan. 9, he instructed Amazon's PR department to release the news of his marital breakup from his official Twitter account. "We want to make people aware of a development in our lives," the statement began. "After a long period of loving exploration and trial separation, we have decided to divorce and continue our shared lives as friends."

The *Enquirer* published on Mondays, but Howard, reacting quickly, persuaded Pecker to authorize a special 11-page print run and posted the paper's first story online that evening, a Wednesday. "Married Amazon Boss Jeff Bezos Getting Divorced Over Fling With Movie Mogul's Wife," screamed the headline. During the next five days, the *Enquirer* published additional stories with more details about Bezos and Sanchez and their private text exchanges.

A few days later, Michael brokered a temporary cease-fire: AMI would stop publishing articles in exchange for exclusive paparazzi access to Lauren while she walked with two friends at the Santa Monica airport. The article ran on Jan. 14 in AMI's *Us Weekly*, along with canned quotes and the gentle headline, "First Photos Show Jeff Bezos' Girlfriend Lauren Sanchez Carefree After Scandal."

After the story ran, Michael texted Howard to thank him. "The level of cooperation that you and I have built in 14 days will be written about in textbooks," he wrote. The next week, Howard emailed Michael and reassured him that his anonymity as the original leaker was secure. "The untold story—if you will—has not been told," he wrote. "I'm saving it for my tombstone."

But Bezos wasn't satisfied. He wondered if the *Enquirer*'s story had been political retribution for articles published by the *Washington Post* and gave de Becker "whatever budget he needed to pursue the facts" of how the paper obtained his private messages. De Becker had served on two presidential advisory boards, written four books about the psychology of violence, and consulted for a litany of high-profile political and entertainment figures. Bezos had selected his 1997 book, *The Gift of Fear: Survival Signals That Protect Us From Violence*, as one of the first topics of discussion for the S-team reading club and had personally ensured that it was featured in the Amazon Books stores.

After a series of phone calls and text messages with Michael, de Becker sensed something was amiss. To publicize his suspicions, de Becker turned to Daily Beast Co., the media company run by Barry Diller, a friend of Bezos'. In an article on Jan. 31, the *Daily Beast* revealed that de Becker had identified Michael as a possible culprit. But he also floated an alternative scenario—one that cast Bezos as a patron of truth-telling journalism and the adversary to the fact-challenged U.S. president. He claimed the *Enquirer*'s investigation was tied to Trump's campaign against the *Post*, opining in the article that "strong leads point to political motives."

There was no evidence behind this insinuation, but it shifted the advantage to Bezos. AMI's boss, Pecker, fretted that even a rumor about the paper's involvement in a political plot against a renowned billionaire might undermine its nonprosecution agreement. He implored Howard to settle the feud with Bezos' camp and to secure an acknowledgment that the investigation wasn't politically motivated and that the *Enquirer* hadn't used illegal means in scoring the story.

Over the first week in February, Howard asked Singer, de Becker's attorney, to get Bezos and de Becker to accept ▶

◀ that the *Enquirer* articles weren't a political hit job and promised that he would cease publication of damaging stories. Singer wanted to know exactly what unpublished text messages and photos the paper possessed. Howard was uncertain; he suspected the lawyer was hunting for confirmation of the identity of his anonymous source. And he was nervous about an upcoming story in the *Post* that threatened to again assign political motives to the *Enquirer*'s investigation.

In an email he sent to Singer on the afternoon of Feb. 5, AMI's chief content officer wrote, "with the *Washington Post* poised to publish unsubstantiated rumors of the *National Enquirer*'s initial report, I wanted to describe to you the photos obtained during our newsgathering." Howard then listed the nine personal photos that Bezos and Lauren had exchanged. These were the pictures she'd shared with her brother and which her brother had passed to the *Enquirer*.

With an abundance of misplaced swagger, Howard also referenced the "below-the-belt selfie" that he'd captured via FaceTime from the meeting between Michael and Simpson. Unbeknownst to Howard, he was bragging about the anonymous image that Michael had lifted from Rent.Men. "It would give no editor pleasure to send this email," Howard concluded. "I hope common sense can prevail—and quickly."

But Bezos' team instead pressed their advantage. In a *Washington Post* article published that night, de Becker once again identified Michael as a possible culprit and charged that the leak was "politically motivated." After the article was published, Pecker called Howard to say that Melchiorre, the hedge fund manager, was "ballistic" and again pressured Howard to stop the madness. Howard then started negotiating directly over the phone with de Becker. Suspicious and wary, both recorded the phone calls.

In the call transcripts, Howard appears to try to avoid making explicit threats but continues to reserve the paper's rights to publish the materials. "This is not in any way to be construed as some form of blackmail or anything like that!" he tells the veteran investigator at one point. "It's in both parties' interest to come to terms, given the specter of legal claims that are flying around."

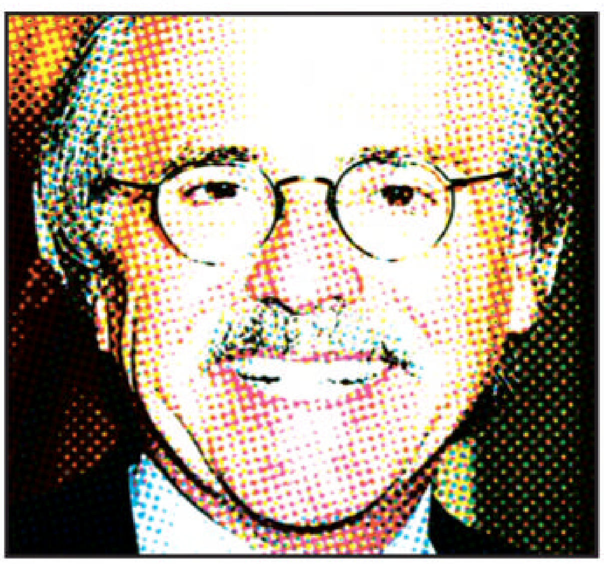
Howard and de Becker appeared to make progress. On Feb. 6, AMI's deputy general counsel sent the proposed terms of an agreement via email to Bezos' team. AMI would agree not to publish or share any of the unpublished photos or texts if Bezos and his reps joined the company in publicly rejecting the notion that the *Enquirer*'s reporting was politically motivated.

Bezos viewed the email as blatantly extortive. On Feb. 7 he told his advisers that he knew exactly what he was going to do. He wrote a 1,000-word-plus essay titled "No Thank You, Mr. Pecker" and handed it off to Amazon's senior vice president of global corporate affairs, Jay Carney, whose brow furrowed in surprise as he read it for the first time while on a videoconference with colleagues. Then Bezos had it uploaded to the publishing site Medium.

The post was stunning. In it, Bezos included the emails from AMI's attorney and top editor in their humiliating entirety. But, however embarrassing it was to have his sexts described in detail, Bezos knew they were also damning for AMI. "Something unusual happened to me yesterday," he wrote in the swaggering tone of someone supremely confident in his position. "I was made an offer I couldn't refuse. Or at least that's what the top people at the *National Enquirer* thought. I'm glad they thought that, because it emboldened them to put it all in writing." He neglected to mention that they had only done so after being pressed by a lawyer working on his behalf. Bezos, it seemed, had manipulated his adversaries into creating an incriminating paper trail.

Bezos then made explicit what de Becker had only implied: He suggested AMI was attacking him on behalf of the Trump administration and the government of Saudi Arabia. His ownership of the *Washington Post*, Bezos wrote, "is a complexifier for me. It's unavoidable that certain powerful people who experience *Washington Post* news coverage will wrongly conclude I am their enemy." He also added that he didn't regret owning the paper. It was, he wrote, "something I will be most proud of when I'm 90 and reviewing my life, if I'm lucky enough to live that long."

This noble sentiment, of course, had little to do with his extramarital relationship, or the scheming of his girlfriend's



PECKER
The publisher

DE BECKER
Bezos' detective

MOHAMMED BIN SALMAN
The crown prince

FROM LEFT: FRANCOIS DURAND/GETTY IMAGES. WILLY SANJUAN/INVISION/AP PHOTO. MANDEL/NGAN/AFP/GETTY IMAGES brother, or the desperate attempts of AMI to escape a cloud of political suspicion. It was, in other words, a public-relations masterstroke. Bezos cast himself as a sympathetic defender of the press and an opponent of "AMI's long-earned reputation for weaponizing journalistic privileges, hiding behind important protections, and ignoring the tenets and purpose of true journalism."

To interested readers, Bezos was taking a brave stand against the devious tactics of Trump's allies while vulnerably offering his own embarrassing photographs as collateral. "Bezos Exposes Pecker," declared the *New York Post* memorably, as public sympathies shifted to his side.

De Becker followed up those assertions in March by writing an article for the *Daily Beast*. He pointed to AMI's frantic attempts to defend itself from the charge of engaging in a political conspiracy and suggested that there must be another layer of hidden truth in the whole ordeal. "Our investigators and several experts concluded with high confidence that the Saudis had access to Bezos' phone and gained private information," he wrote. "As of today, it is unclear to what degree, if any, AMI was aware of the details." AMI denied the allegation, disclosing that Michael Sanchez, not any kind of international or cyber espionage, had been its source.

But none of that helped AMI. An unfavorable media narrative crystallized almost immediately in which Mohammed bin Salman's regime had learned of Bezos' relationship with Lauren and alerted the *Enquirer* or even supplemented the information it received from her brother. Considering Pecker's unsuccessful courtship of the Saudi kingdom for financing, that possibility might make certain logical sense if you squinted hard enough. But there was no hard evidence to support the hypothesis—only a fog of overlapping events, weak ties among disparate figures, and more strange coincidences.

"I was made an offer I couldn't refuse. Or at least that's what the top people at the National Enquirer *thought"*

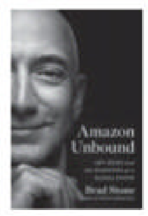
ONCE AGAIN, BEZOS HAD COME OUT ON TOP. HIS navigation of the crisis had been typical of his idiosyncratic approach to building Amazon. He'd bypassed a largely skeptical media to appeal directly to regular people, only slightly bruising the facts in the process. Just as he'd outmaneuvered countless rivals, he intuitively sensed what AMI's vulnerabilities were—and surgically attacked them. The entrepreneur who'd already commandeered the business of selling books, then much of retail, plus cloud computing, Hollywood, home speakers, and so on now asserted dominance over that unlikeliest of sectors—the celebrity media game.

Pecker blamed Howard for the disaster and removed him from his editorial role at AMI; Howard left the company in April 2020 when his contract expired. In two separate defamation lawsuits in L.A. district court, Michael sued AMI as well as Bezos and de Becker. He lost almost every subsequent legal decision as the facts dribbled out. And in the Southern District of New York, federal prosecutors investigated Bezos' allegation, leveled in the Medium essay, that he was extorted by AMI after it published the *Enquirer* article. The evidence must have been lacking, though, because prosecutors quietly dropped the matter without ever bringing a case.

Undeterred, Bezos and Lauren started appearing together in public. Before the pandemic, they attended the Allen & Co. investor conference in Sun Valley, Idaho, mingling with Warren Buffett, Tim Cook, and Mark Zuckerberg. A few days later, they watched the Wimbledon men's finals from the royal box, three rows behind Prince William and Kate Middleton. In August 2019, they were on David Geffen's superyacht. And in October, Bezos turned up outside the former Saudi consulate in Istanbul to commemorate the one-year anniversary of the murder of Khashoggi. De Becker handled the intricate security arrangements. Bezos sat next to Hatice Cengiz, Khashoggi's fiancee, and embraced her during the ceremony.

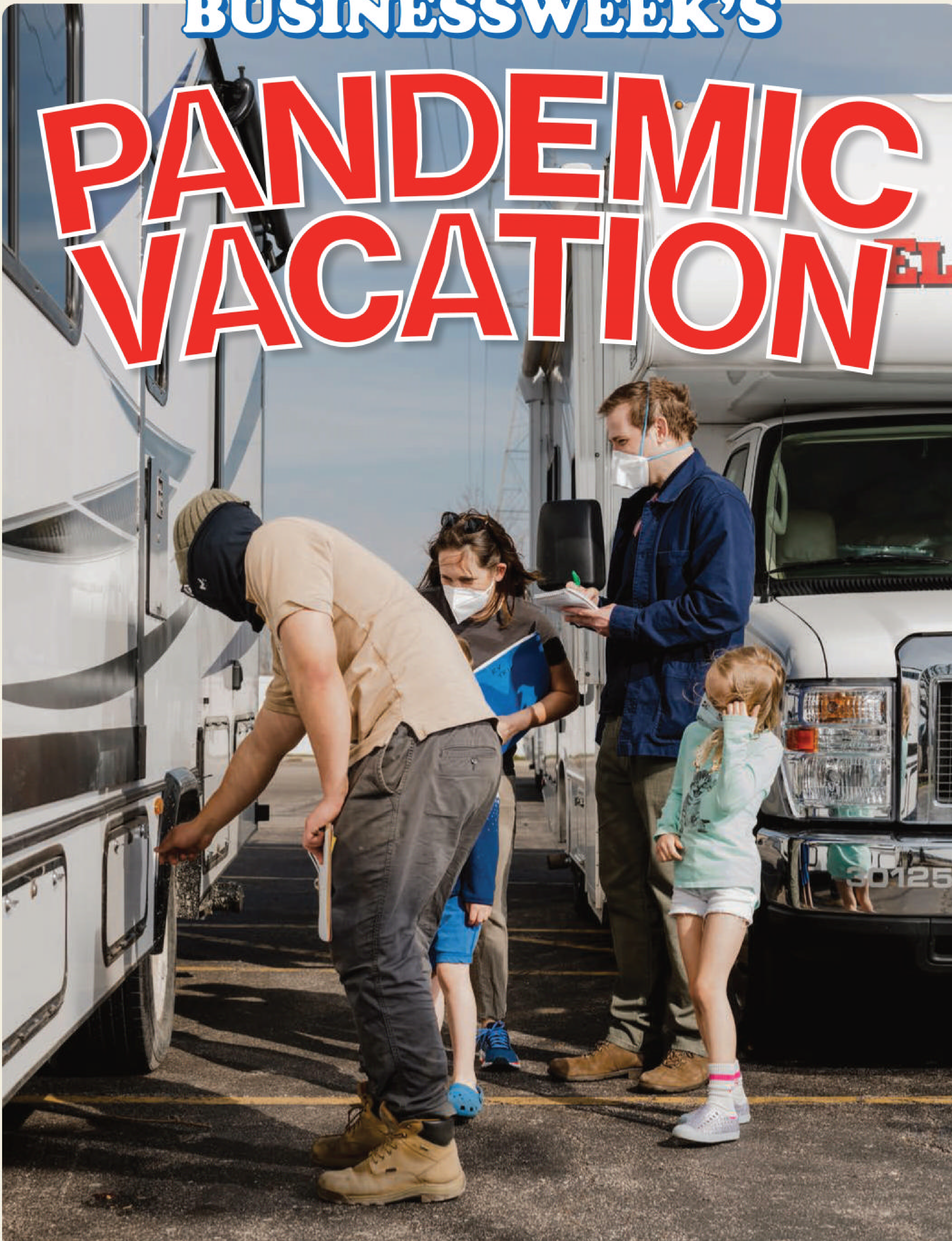
As such dramatic gestures replaced the scandal in the collective memory, Amazon employees could only watch and wonder: Did their CEO still belong to them or to some alternate dimension of wealth, glamour, and intrigue? Bezos seemed to show up just as frequently in the press as in the office, buying historic works of art and snapping up Geffen's 9-acre Beverly Hills estate for $165 million, a California record. Bezos now had personal and professional ambitions beyond Amazon. That turning point became evident in February, when the company announced that its founder would become executive chairman and hand over the CEO reins to Andy Jassy, a longtime deputy who'd overseen the profitable rise of Amazon Web Services. Before the transition, Bezos recorded yet another triumph, over the union trying to organize workers at an Amazon fulfillment center in Bessemer, Ala.

Employees now had even more reasons to wonder. What did the future hold for their founder? At least part of the answer to that could be found in the shipyards of the Dutch custom yacht builder Oceanco. There, outside Rotterdam, a new creation was secretly taking shape: a 127-meter-long, three-mast schooner about which practically nothing was known, even in the whispering confines of luxury boat builders—except that upon completion, it will be one of the finest sailing yachts in existence. Oceanco was also building Bezos an accompanying support yacht, which had been expressly commissioned and designed to include—you guessed it—a helipad. Ⓑ



Adapted from the book *Amazon Unbound: Jeff Bezos and the Invention of a Global Empire*, by Brad Stone.

BLOOMBERG BUSINESSWEEK'S PANDEMIC VACATION



▲ The Clark family gets a pre-trip briefing in Elkhart, Ind.

The RV business is booming and shows no sign of slowing down. To find out why, our correspondent dragged his reluctant family to the RV capital of the world—the cutest city in north central Indiana!—and hit the road

By Patrick Clark
Photographs by Lyndon French

Forest River's Sunseeker Classic motor home is built on a Ford E-450 chassis, framed with vacuum-bonded laminate, and crammed with features the armchair outdoorsman would never consider. On the 31-foot model I piloted recently, those included a propane furnace to keep the cabin toasty in freezing temperatures, two refrigerators (one for the indoor kitchen and one for the outdoor one), three sleeping areas, and dozens of cabinets, drawers, and compartments to conceal disorder.

All that engineering was pretty satisfying at the campsite. On the road it was noisy, adding clatter and a little bit of mystery—*honey, did you hear that?*—to the task of keeping a 14,500-pound motor home upright going over winding mountain roads and through crowded interchanges. At least that's how I saw it. Like a real RV dad, I was doing my best to ignore the complaints of the unhappy campers with whom I was sharing the cabin. My kids had been slugging each other periodically, and when the iPad ran out of juice they tossed markers in my direction. My wife, Eleanor, had a premonition somewhere in the Allegheny Mountains and was now certain our brakes were about to give out. And that was before I opened an artery in my hand with a hatchet and wound up riding an ambulance from an obscure state park to an emergency room, asking myself how, exactly, I'd come to believe this would be a relaxing vacation.

It had started some months earlier, when I'd convinced the editors of *Bloomberg Businessweek* that we should visit Elkhart, Ind., where the world's largest RV companies are based. Elkhart, which is about halfway between Ohio and Illinois and just south of the Michigan state line, may not be known as a tourist destination. But, as I'd insisted to Eleanor, it's a surprisingly bucolic place, where Amish farms mix with factories.

The vaccine was just starting to become widely available when we arrived at the end of March, and RVs remained compelling to travelers understandably turned off by the idea of sharing an airport waiting room or hotel lounge with a nose-masking stranger. Meanwhile, large portions of the American workforce were continuing to log in to the office virtually, creating an opportunity for the younger and more adventurous to work from the road, integrating their jobs into the #vanlife. Even the Oscar-winning film *Nomadland* romanticized this lifestyle in its own way.

The pandemic has been good for owners of vacation rental properties and shareholders of Airbnb Inc. It's also been great for the RV industry. After all, a motor home (or travel trailer, which is an RV you drag behind your car or truck) is like a halfway house to nature, perfect for indoorsy types who still enjoy national parks and retirees looking for a safe way to drive across the country to see their grandchildren. And ▶

The future of travel, as documented by an extremely competent RV dad, who totally knew what he was doing, and his family

▲ Meeting a fellow camper and her pet goat in Jonestown, Pa.

▲ The author, grooming at Jellystone Park

◀ Dinner in Kentucky

PATRICK CLARK

◀ so, starting last spring, people began canceling European honeymoons and going to RV dealerships instead. The motor-home-curious flocked to rental offices and Airbnb-style sharing websites. This drove so much demand for new RVs that by the time we got to Elkhart, help wanted signs were calling out from factory gates and roadside billboards.

Conventional wisdom says that workers and vacationers are on the road back to pre-pandemic norms. But it's also possible that the sudden embrace of RVs signals the beginning of a longer-term trend—a future in which tech executives and second-grade teachers finish their last Zoom of the day, emerge from their respective travel trailers to gather around a campfire, and unwind over cold beers and hot s'mores. Let's hope they'll all be trained to chop kindling safely.

There was really only one way to find out how realistic that vision was. When the kids' school headed into spring break, I took the family to Elkhart, picked up the Sunseeker, and hit the road.

The vacation, such as it was, started at the Thor Motor Coach Class B plant in Bristol, Ind., right outside Elkhart. It was, to the extent such a thing is possible, ground zero for the RV boom—the place where the biggest company makes its hottest models. Although a cold front was threatening ominously, it was sunny. Inside, workers wearing T-shirts ducked in and out of a procession of Ram ProMasters that snaked around the factory floor. Plumbers, carpenters, and electricians did their thing. A horn would honk, and a van shell would roll down the line to the next station.

Indiana, where more than 80% of North America's RVs are made, came to play an outsize role in the industry more or less by accident. In one version of the story, the son of a prominent Elkhart merchant was captivated by the travel trailers he'd encountered at the 1933 World's Fair in Chicago and begged his parents for startup capital. His success inspired other entrepreneurs, and a network of companies sprung up to manufacture motor homes and supply the nascent industry with specialized suspension systems, gas ranges, and refrigerators. Over the decades, the ranks of once independent RV companies consolidated into a small group of conglomerates, the biggest of which are in Elkhart.

Thor Industries Inc., which accounted for roughly 40% of all RV sales last year, is one of them. The company was founded in 1980 by a descendant of the brewer Adolphus Busch and spent the ensuing four decades acquiring manufacturers, including Airstream Inc., Jayco Inc., and a dozen other makes you've probably gawked at on the highway. Thor's lineage and its thirst for acquisitions make it a little like the Anheuser-Busch of motor homes. Forest River Inc., which is owned by Warren Buffett's Berkshire Hathaway Inc., and which owns Coachmen RV, Shasta RV, and other manufacturers, is the second-biggest: the industry's Heineken, as it were. Forest River is based in Elkhart, too.

Thor, like the rest of the industry, had been focused on building travel trailers and larger motorized coaches, which

A Renegade RV is assembled in Bristol

might have a washer-dryer and theater seating. But in recent years Class B motor homes—what the rest of us call camper vans—have been the fastest-growing segment. Class B vehicles are easier to drive without sacrificing too many amenities. Thor's TMC Tellaro, for instance, is a 20-footer that can sleep up to four semicomfortably. Depending on the model, it can also cram in two propane burners, a microwave, a kitchen sink, a full (if tiny) bath, and an innovation called a cassette toilet—a commode that empties into a tank that works like a rollaway suitcase. That feature, I was told, is big in Europe.

Factories in Elkhart County shut down in March 2020 ▶

and reopened in May. But despite having been offline for two months, manufacturers delivered more RVs last year than they did the year before. More than 530,000 vehicles will be shipped to North American RV dealers this year, a record, according to estimates from the RV Industry Association.

"Our products were kind of built for something like this," said Thor Chief Executive Officer Bob Martin, a former offensive lineman at Purdue University who spoke to me across the length of a conference table overlooking the scenic St. Joseph River. RVs had normally been the domain of snowbirds, motor sports enthusiasts, mountain climbers, pet owners, pro golfers, touring rock bands, and all manner of germophobes. The pandemic has added to those ranks, created new ones, and, of course, proved the germophobes right. "Our customers think about those kinds of things," he said. "They know who cleaned their RV, because they cleaned it. They know who has been allowed in the unit, because it's their unit."

The earliest RVs were basically tents on wheels, covered wagons that hitched to cars instead of horses. But it didn't take long for a group of entrepreneurs to realize they could make more money by complicating things. By the late 1930s, Elkhart was already delivering extravagant travel trailers that anticipated the bigger-is-better "fifth wheels" (a technical term for a trailer that hangs over the bed of a pickup

A Renegade RV, ready to roll

truck). Some innovations, like the slide-out sections that make an RV wider at the campsite, were widely adopted. Others were not. Long before it was acquired by Thor, Jayco made a pontoon-camper hybrid called the Camp-n-Cruise. It sold poorly. Winnebago Industries Inc., based in Iowa, briefly sold a flying RV called the Heli-Home. "It was a neat idea," said Al Hesselbart, the retired staff historian at Elkhart's RV/MH Hall of Fame Museum & Library, a facility dedicated to the glories of recreational vehicles and manufactured housing. "But it was one of those giant steps that was way too big for the customers."

These days RV companies are still cramming their products full of products. Higher-end motor homes include gas fireplaces and heated tile floors. The plant manager at Rev Group Inc.'s Renegade RV factory bragged about the Amish-built cabinetry his employees were installing. An executive at Gulf Stream Coach Inc. boasted of his company's "cradle of strength" system for lowering the vehicle's center of gravity and making it easier to drive. At Nexus RV, co-founder Claude Donati showed off 4x4 drivetrains aimed at improving towing capacity, perfect for hauling a $200,000 sports car behind a $200,000 RV.

Their enthusiasm was only slightly diminished by rising production costs. Skilled workers in need of employment are hard to find in northern Indiana right now, and good ones are commanding higher wages, said Donati. Finding parts is an even bigger problem. When Nexus' normal supplier of wheel well liners ran out of inventory this spring, the company found them on Amazon. It bought mattresses online at Wayfair and generators off the shelf at a Menards hardware store. "It's like, do we ship it without a generator?" Donati asked. "You might be putting someone in a position not to have as much fun."

I'd rented our Sunseeker from an outfit called Road Bear RV, which, as it turned out, was facing a similar predicament. A week before we arrived—we drove a normal rental car to get there—I got an email from the reservation desk alerting me to a pitfall of renting an RV in March: I could hook up the RV to a water supply, but I'd have to take responsibility if the pipes burst. This didn't seem like a big deal at the time, but then the cold front swept in, promising overnight temperatures in the 20s. The safe plan, a Road Bear representative said, would be to camp without running water.

If Road Bear was worried I'd get an incomplete experience, they didn't show it. RV rental companies, much like the rest of the industry, have spent the past year riding the Covid-19 roller coaster. Road Bear and its sister company, El Monte RV, had traditionally done most of their business with tourists from Europe, who were shut out of the U.S. by travel bans. But domestic demand was more than picking up the slack. Road Bear's parent, a company in Auckland that had started out running helicopter tours in New Zealand, increased U.S. rental revenue 30% in the second half of 2020, compared with the year before.

◀ Breakfast at the outdoor kitchen

▶ A post-injury indulgence

PATRICK CLARK

The Road Bear rental office was situated in the back corner of an empty lot on Forest River's Elkhart campus, in a corrugated metal building that would have looked to the uninitiated like a good place to do something illegal. Inside, a counter was mounted in front of the broadside of a motor home called a Coachmen Leprechaun. Would our RV lead us to a pot of gold or a pot of something else? A clerk took my credit card and handed over a packet of toilet chemicals.

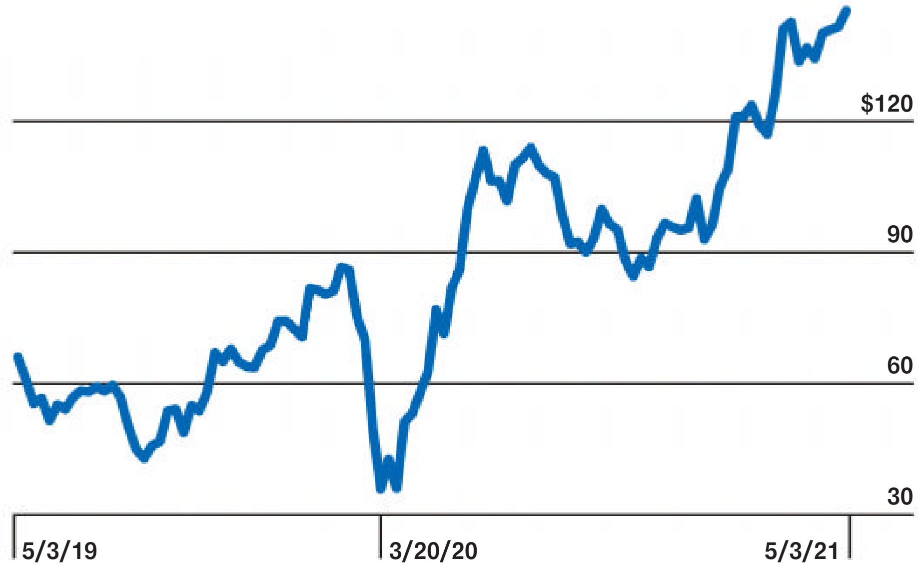
We had rented the RV through Road Bear's factory direct program, an offering it developed to help solve a key logistical problem. The company manufactures its RVs in Indiana, but its offices are near major cities. So Road Bear offers renters their choice of the company's RVs for $9 a day to pick up a motor home in Elkhart and drive it to a rental location. After insurance, campsite fees, and gas, our trip worked out to about $170 a day.

At first glance, the Sunseeker compared well to the types of hotel rooms we could get for the money. For one thing, there was a semblance of privacy: My 7-year-old daughter claimed the loft over the cab, and my 5-year-old son slept on the pull-out sofa in the living area. My wife and I had the master bedroom at the back, with wardrobes and a television.

On the other hand, the Sunseeker was a lot more complicated to operate than a two-queen room at the Hilton. When we took possession of the motor home, a Road Bear employee spent 15 minutes walking us around the vehicle while delivering a series of commandments. Start the engine and engage

Thor's Martin

Thor Industries Share Price



DATA: COMPILED BY BLOOMBERG

the emergency brake before you extend the slide-outs. Turn off the propane before you fill the gas tank. If you must use the toilet, flush with windshield wiper fluid, because it has a lower freezing point than water.

We camped in Elkhart that evening, celebrating Eleanor's birthday with McDonald's and cheesecake, and soon realized that the Road Bear tutorial had been somewhat inadequate. The RV beeped and buzzed for reasons we couldn't account for. The internet told us to make sure we flipped the breaker before plugging an RV into a power source, but there was no breaker in the electrical box at our first parking slot. I took a breath, imagined offing my family in an electrical explosion, and plugged in. Nothing bad happened, but a couple of hours later we had to spend 10 minutes looking for an elusive light switch. I woke up cold in the middle of the night, dialed up the thermostat, and then smelled something burning. A bit of Googling indicated that the smell was probably just construction debris left in the furnace. To be safe, I turned off the heat and went back to sleep.

I'd been warned that a new RV takes a little while to get used to, and moreover that RVing was a lifestyle for people with a certain capacity for self-reliance. RVers had to be comfortable driving a big rig and making minor repairs. Yes, they appreciated modern conveniences such as dishwashers and satellite television, but they also didn't mind cramming themselves into tiny showers or acquiring a basic understanding of electrical system design.

Even before we left Elkhart, it was clear my family might not quite meet this description. I had bought the hatchet as a joke—it was on one of the checklists we'd found on the internet covering what to pack on an RV trip—and I figured I'd buy wood and fire-starters like any basic urbanite. But there's something about having driven a rickety house-car up a windy Appalachian hillside that makes you feel vastly more capable than you actually are. And so I found myself making kindling at Little Beaver State Park near Beckley, W.Va. A light snow was falling, and my children pulled up their camp chairs to watch me nurse the fire while Eleanor cooked burgers on the electric stove that folded down from the motor home's outdoor kitchen. Then my hatchet blade slipped. I didn't feel pain, at least not at first.

Getting to the emergency room in rural West Virginia seemed like it would be an order of magnitude harder than plugging in a motor home. My first instinct was to wrap my wound in a towel and hope. Eleanor didn't think that was a solution and called 911. By 2 a.m.—after a 30-minute ambulance ride to Raleigh General Hospital, where the staff sewed me up and called me a cab back to the campsite—I faced a new set of questions.

Could I drive the Sunseeker with nine stitches in my hand? (I thought so.) Did Eleanor want to drive? (No. She didn't.) Were our collective nerves too fried to face another drive through the mountains? (Yes.) Did we have enough propane in the tank to last another day of freezing temperatures? (Maybe?) In the end, we spent a rest day in Little Beaver, ordered Domino's, and shut the doors against the cold.

The Sunseeker in action

The guy dressed like Ranger Smith at the camp store in Luray, Va., heard me say my name and made a crack about Clark Griswold, the everyman played by Chevy Chase who dragged his family through hilarious misadventures in the *Vacation* movies. I didn't mind. Jellystone Park resort, the Yogi Bear-themed chain of RV campgrounds, felt like a party, and, after the ER visit, a relatively safe one. Kids jumped on bouncy pillows and waved at a bear who was riding around on the back of a golf cart. Adults played classic rock at respectful volumes and tended their fires.

A strange thing about RVing is that you can theoretically go anywhere, but many people take their vehicles to glorified parking lots so they can make camp 20 feet away from the next group. This is not universally true: Some stay for free at Walmart parking lots and national forests. But RVers—like motorcyclists and Jeep people—like being around their own kind. That often means in diagonal rows of RV-size spaces, each one with an electrical box, a water spigot, and a hole in the ground to connect the tube that empties waste. Usually there's a picnic table. Sometimes there's a way to hook up to cable TV.

The Luray Jellystone was a little bit like that, but its RV sites were built into a hillside and along a grassy quad, making it feel less like a parking lot and more like a summer camp, where we could enjoy the kinship of a hundred or so families who also recognized the pleasures and pains of vacationing in a house-car. The temperature had started climbing, and so we were able to plug the Sunseeker into the municipal water supply. I flipped the switch on the electric water heater (having learned to conserve propane) and took a hot shower. More important, I was finally able to complete an important rite of passage: I got to empty the wastewater tank.

Our campsite at Jellystone didn't have a sewage hookup, and it took two laps around the park before I managed to pull up on the correct side of the communal dumping station. I affixed one end of an accordion tube to the Sunseeker's undercarriage, screwed the other end to a concrete basin, and pulled a gray handle to empty water from the sinks and shower.

It was easier than I expected, but there was a catch. Everything on the Sunseeker was new, but the tube that Road Bear had supplied me with was not, and when I pulled the plunger, water poured through slits in its midsection. I should have realized what would happen next, but then I pulled the handle to release the toilet tank. Wastewater came pouring through the slits and onto the gravel road next to the basin. In a flash, I understood the appeal of Thor's poop suitcase.

On the drive north from Virginia, we assessed the vacation. I had liked driving the RV, clatter and all, and loved pressing the button that made it expand, though the size of the vehicle made it inconvenient for side trips and excursions. Eleanor agreed that the Sunseeker was big enough to provide a bit of privacy, but small enough to be an intimate space for a family of four. That was nice. It had probably been a worthwhile adventure, and she would never do it again.

Which was fine. I got my first vaccine shot shortly after we returned the Sunseeker to the Road Bear office in industrial New Jersey. A few days later we booked airplane tickets to visit family in Florida. The kids went back to school full time, a triumphant moment that signaled the end of what for me had been the most difficult and best parts of the pandemic. Trying to maintain Zoom-school discipline and tending to the emotions of kids who'd been separated from their friends was terrible. On the other hand, I'll probably never spend as much time with them again.

I didn't know it, but when I stepped out of the puddle of wastewater at Jellystone Park, the worst of the pandemic was probably behind us in the U.S. (Fingers crossed.) There had been a water hose nearby, but I couldn't figure out how to get it to work, so I gave up on cleaning up after myself and approached the driver behind me to apologize. It's our first time doing this, I told him. We rented this thing. I kind of made a mess.

"That's OK," he said. "I hope you had a good time." B

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Get the latest information about COVID-19 vaccines at **GetVaccineAnswers.org**

NOT YOUR KID'S HOT WHEELS

Little Car founder Ben Hedley sits in the $48,500, two-thirds-size Aston Martin DB5 Junior

The Little Car Co. will make you a precise replica of a classic Aston Martin or Bugatti, for a fraction of the cost of an original. And at a fraction of the size. *By Hannah Elliott*
Photographs by Emli Bendixen

May 10, 2021

Edited by
Chris Rovzar

Businessweek.com

Erwin Beerens bought his first Bugatti in 1983. Everything about the car intoxicated him, from the hue of the enamel and solid silver in the oval macaron badge to the roar of the inline eight-cylinder engine. On a recent phone call from his home in Belgium, the 60-year-old described it as a sickness: "I am a Bugatti addict."

The chief executive officer of the Beerens Group, a company that specializes in automotive sales and maintenance, Beerens has owned 11 cars from the 112-year-old French brand, including a 1,200-horsepower, $1.1 million Veyron from 2007 and an original Bugatti Type 52.

His latest acquisition is less powerful than the others and…a bit smaller. To be exact, it's three-quarters the size of the open-top Type 35 racer.

The "Bugatti Baby II" is a diminutive replica, handmade by the Little Car Co. in Oxfordshire, England. The Baby II is based on a precise digital scan of the original car—the classic Type 35 built for the 1924 French Grand Prix in Lyon. Victor of such glamorous events as Sicily's Targa Florio and Grand Prix World Championships, the Type 35 bore an overhead-cam straight-eight engine, a two-seat cockpit surrounded by round gauges, and novel alloy wheels. Fewer than 400 were made, and the best ones are now worth $3 million. Naturally, Beerens also has one of those, from 1926, in his garage.

The Bugatti Type 35 (left) and the Aston Martin DB5 are the only small-scale, electric-powered replicas that Little Car makes so far

Founded in 2019, Little Car specializes in building exact-but-shrunk re-creations of iconic cars. Shrunk, that is, including the price: Stickers can run from $37,000 to almost $80,000 depending on the level of customization. The cars share many of the same mechanical details—such as leaf springs and rotary-style shock absorbers—but are powered by lithium-ion batteries and electric motors. The Little Car fabrication shop counts 25 employees who build the novelties in an old Royal Air Force hangar 70 miles outside London. More than 90% of the debut run of 500 Baby IIs have sold, and 30 have been delivered so far.

In addition to the elements collectors loved in the original car, such as the four-spoke steering wheel and leather seating, the 13-horsepower whimsy contains modern upgrades found in conventionally sized modern cars—things like adjustable dampers, multiple power modes, and LED headlights, plus that electric motor. Regenerative braking on Brembo brakes prolongs battery life as you drive around your home track or estate grounds. (No, it's not street legal.) A special "Speed Key" unlocks the full 10-kilowatt battery power and lifts the 30-mph top-speed limiter that's otherwise engaged under lower power modes, just as a special key unlocks extra power and speed in the modern Bugatti Chiron. "This is not for babies," Beerens says. "This is for big boys."

Miniature cars for kids abound on today's market, whether a $600 working Tesla for children under 10 or the $350 Bugatti Chiron Lego kit that feels as if it requires a college degree to complete. Some call to mind the goofy go-karts that Shriners drive in local parades to the delight of young onlookers. But Little Car founder Ben Hedley, a former British Olympic team skier turned mechanical engineer, embraces more mature reasons for his new riff on the theme. "We want a new generation to want those cars," the 44-year-old says.

Plus, he adds, for the 40% of his clients who already own a vintage or modern Bugatti (or both), the car acts as a stop-gap between the anxiety that goes with driving the real thing—an irreplaceable collectible among the most expensive cars in history—and never having any fun with it at all.

"It was important to be bringing people cars they can actually enjoy and not worry about," Hedley says, noting that they're intended for people age 14 and up. "Many beautiful cars from the past have become too valuable to drive every day. If you've got an Aston Martin DB5 and take it out for a 1,000-mile round trip, you've just knocked $50,000 off from the value."

The DB5, James Bond's coach of choice in *Goldfinger*, is worth more than $1 million on average, which is why it's the inspiration for the second downsized classic Hedley's company will introduce. Fifty-eight years after the original car, the "DB5 Junior" will come in 66% scale, with rear-wheel drive, an electric powertrain, and multiple driving modes with a top speed of 50 mph. Production begins in late 2021; 1,059 will be made, starting at £35,000 ($48,600).

Most of the components that replicate the originals, from dashboard dials and door handles to leather trim and lightweight wheels, are made and sourced in England

In fact the company will bring at least six little cars to market over the next few years, with two more announcements about partnerships with luxury automotive brands scheduled for this year, Hedley says. Each car is made in collaboration with the original equipment manufacturer (OEM, or carmaker) that bears its name; Bugatti first approached Hedley about making the Baby II back in 2018, when he was running a similar business building "junior" cars on an ad hoc basis.

Other brands, he says, have requested a little car of their own. For the automakers it's a chance to establish an early association among well-heeled drivers between the brand and having fun, even if the driver herself isn't old enough to have a license. Once OEMs see the high quality of the product, Hedley says, they're sold. "With Aston Martin, they had seen what we had done with the Bugatti Baby, and they were convinced about what we could do with the level of quality," he says.

The Bugatti Baby II will go 31 miles on one charge of its 2.8-kilowatt-hour battery pack—or, as a recent test drive at Willow Springs International Raceway in the desert near Los Angeles proved, for two hours quietly ripping around one of America's oldest racetracks. It's easy to jump in, turn the key, press the accelerator, and go; it's not as easy to leave. After I'd initially scoffed to myself that joyrides in glorified go-karts were rather beneath me, the Bugatti Baby II surprised and delighted with its nimble handling and responsive brakes. I found myself crouching over the steering wheel, leaning into turns like an adrenaline-crazy loon as I barreled down the track trying to beat my last lap time. Top speeds by my count neared 40 mph—not as fast as the record-setting Bugatti Chiron, the first production car to exceed 300 mph, but with its open cockpit and a ride height just inches off the ground, more than fast enough to leave even the most stoic driver grinning for the rest of the week. Myself included.

The clientele for such charming objects isn't vast. More than 90% of sales go to collectors and driving enthusiasts in England, France, Germany, and the U.S., according to the company. For some, the fun is about carefree frivolity. One owner confided to Hedley, "I just want to drive it around and pick up chicks."

For others it's familial pleasure. Back in Belgium, Beerens can hardly wait to share his new Bugatti Baby II with his first grandchild, calling it "a perfect combination" between generations. The timing couldn't be better, he says: His son will become a first-time father later this year.

"For me this is part of the history of the brand," Beerens says. He'd received his Bugatti Baby II in French Racing Blue only a week prior, among the first five of the small-scale replicas to be delivered. "You have a combination of the old, pure thing—it's quick, it's beautiful, but it's combined with new technology."

Beerens says he plans to race his Baby II around the grounds of his home and garden against two friends who also have one on order. Just don't call it a toy. The Bugatti Baby II is way too grown-up for that. Ⓑ

A Moment In the Sun

Aged and then filtered, cristalino is the hottest style of tequila right now

By Mark Ellwood
Photographs by Joyce Lee

About a decade ago, tequila makers Maestro Dobel and Don Julio were faced with rising agave prices and a dwindling demand for reposados and añejos. To create a more accessible expression, they each began charcoal-filtering their barrel-aged overstock into what is known as cristalino. The richer, sweeter spirit, stripped of its color and heavy wood notes, is now Mexico's fastest-growing tequila category, particularly among young women seeking a premium product. "You expect the flavor to be bright and green, but it's a surprise shock to your palate," says booze expert Sean Kenyon of Denver's Occidental bar. Cristalinos are versatile, too, adding interest to a margarita or served neat, chilled with a slice of orange.

VOLCAN DE MI TIERRA CRISTALINO
Grover Sanschagrin of the Tequila Matchmaker app recommends LVMH's añejo because it doesn't undergo the same aggressive purification as lesser rivals. "Hold it up to the light, and you'll see a tiny bit of color left in the liquid," he says. "Some of the natural barrel notes are still present." The result: rounder, more natural flavors of tobacco and chocolate against a dry, peppery agave spine. *$70*

TUYO NO. 3
Get past the packaging—nobody needs a Swarovski charm on a 14k gold necklace—and Tuyo's quartet of cristalinos are "flavor bombs, but in a good way," Kenyon says. The 16-month añejo is the standout: crisp and smooth, all caramel custard and tropical fruit. *$100 for 375ml*

TEQUILA KOMOS AÑEJO CRISTALINO
How Sombra Mezcal's Richard Betts crafts his "Mediterranean" tequila is likely to rankle purists already irked by cristalinos, but let them rage: French oak white wine barrel aging and a post-purification rest in Greek clay amphorae produce a sublime salty-sweet, floral sip. *$120*

PARTIDA AÑEJO CRISTALINO
This smaller producer entered the cristalino market last fall with two savory-sweet expressions, one based on a sherry cask reposado and the other on its añejo. The latter is a favorite of agave aficionados, because it retains a vanilla-forward silkiness from an 18-month rest in bourbon casks instead of acquiring taste from the now common fix-it of dosing the spirit with flavorings after filtration. *$60*

TEQUILA DAHLIA
A rare bargain in a premium category, this reposado-based cristalino is made by the same team as El Silencio mezcal. Roman Romaya of Old Town Tequila, a specialty store in San Diego, notes its "robust, roasted agave" flavors. The Occidental bar's Kenyon is another fan. "I was amazed by the creaminess of it when I tasted it blind," he says. "There's a florality to it that really shocked me." *$40*

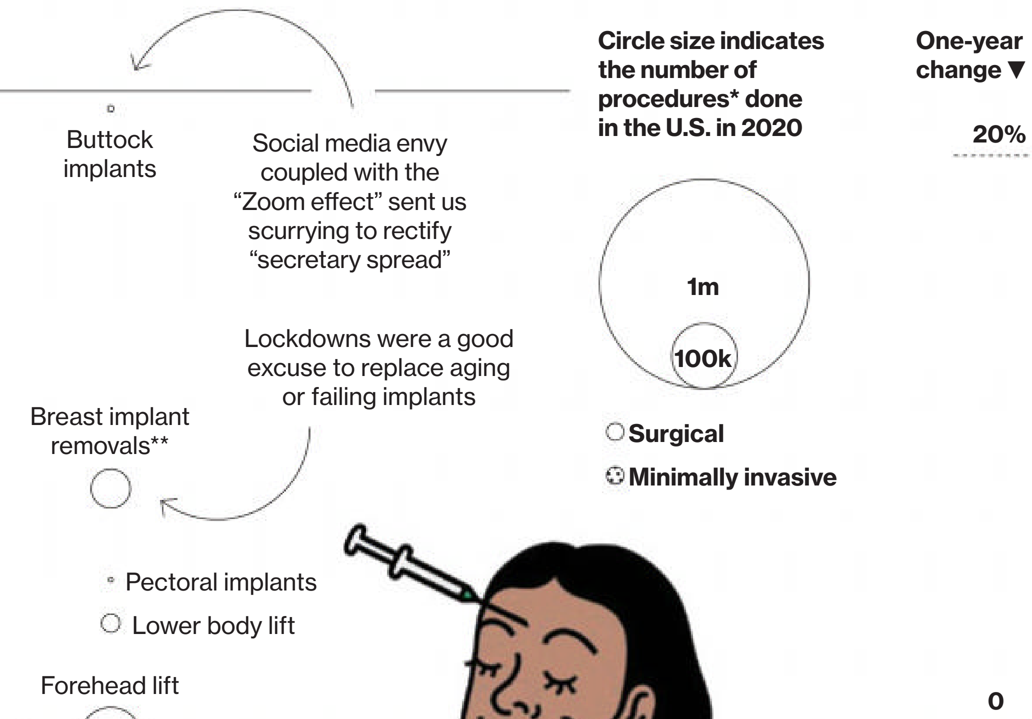
EL TEQUILEÑO CRISTALINO
Sanschagrin likes the deft filtration here, which lets the agave funk sing against a baked spice background picked up from four months in giant American oak pipón barrels. Its long, fruity finish is characteristic of highland tequilas. *$70*

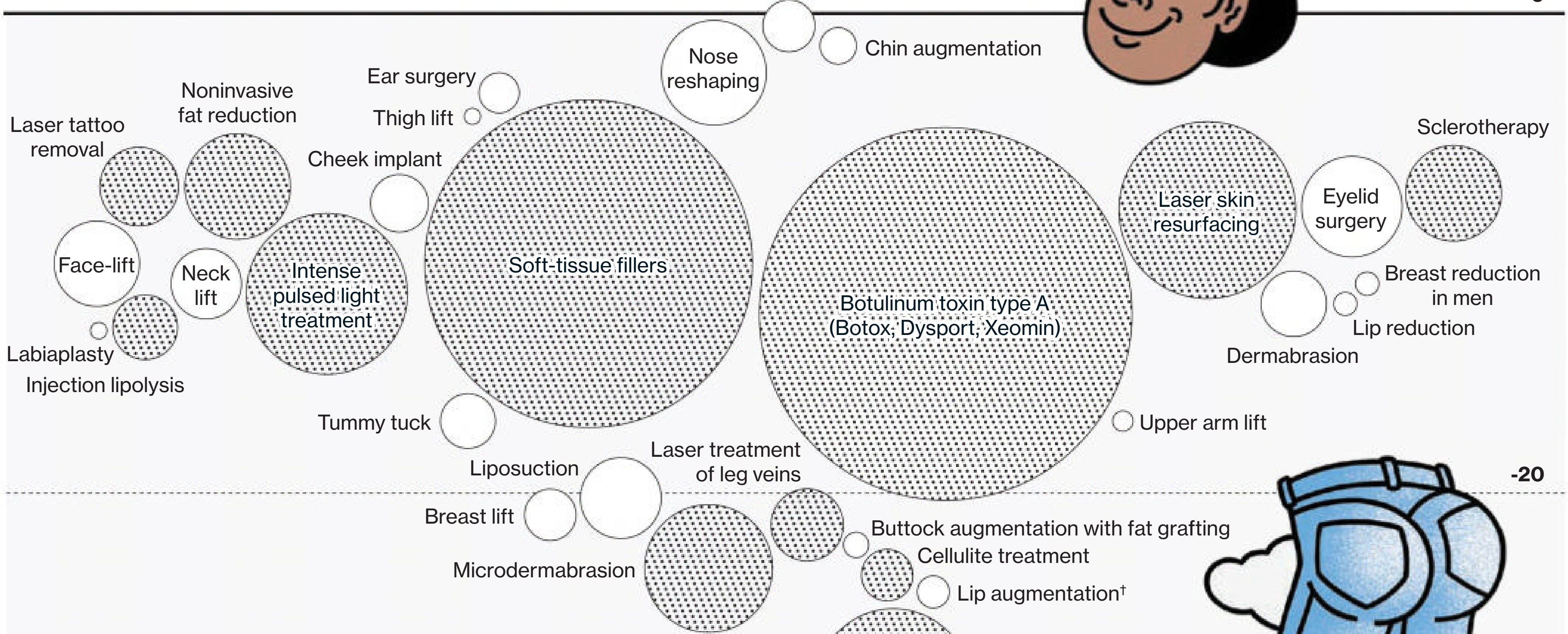
TIERRA NOBLE CRISTALINO
Master distiller Octavio Herrera avoids the artificial-tasting trap that snares many cristalinos by using nonactivated charcoal. The result is a wholly unusual pour, says Romaya: "eucalyptus, minty flavors of a blanco" with the honeyed, cocoa lushness of time in a cask. *$45*

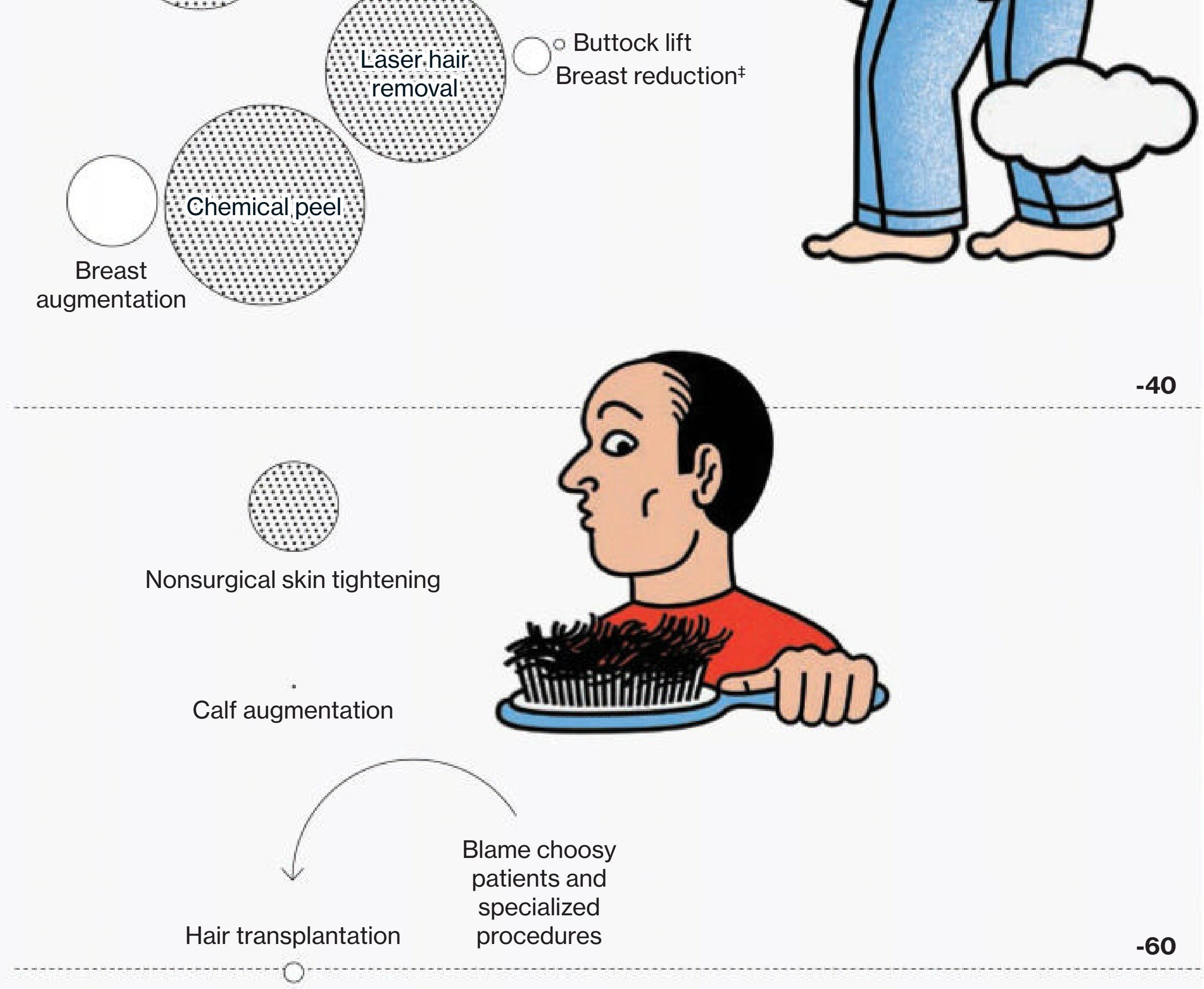
The Work We Had Done

Most cosmetic procedures declined in 2020. Butt not all

By Mark Glassman







The American Society of Plastic Surgeons released data that show broad declines in both minimally invasive and surgical cosmetic procedures as a result of pandemic closures in 2020, though differences in how long offices were closed and regional restrictions may have influenced some changes. The biggest drop was in hair transplants, which declined 60% since 2019, from more than 24,000 to less than 10,000. Dr. Gary Linkov, a facial and hair plastic surgeon in New York, attributes it, in part, to regulatory measures that led to "the decline of 'turnkey operations' such as SmartGraft or NeoGraft, where plastic surgeons buy a machine that comes with technicians on demand." The biggest riser was butt implants, up 22%, from 970 to 1,179. (Implants are what provide volume; a butt lift merely turns a droopy pancake butt into a toned pancake butt.) Dermatologist Ava Shamban points to homebound stagnation—"modern-day 'secretary spread,' or a general flattening of the buttocks." Botox and soft-tissue fillers remained the most popular overall.
—*Aja Mangum*

ILLUSTRATIONS BY TOMI UM
*FIGURES ARE ESTIMATES BASED ON AN ANNUAL SURVEY OF ASPS MEMBERS AND OTHER DOCTORS. **AUGMENTATION PATIENTS ONLY. †OTHER THAN INJECTABLE MATERIALS. ‡AESTHETIC PATIENTS ONLY. DATA: AMERICAN SOCIETY OF PLASTIC SURGEONS

Back to the Grind

A hand-cranked way to earn that morning cup

Photograph by Frank Frances

When it comes to coffee-making tools, a high-quality grinder is at least as important as the brewing apparatus itself. The HG-2, which Weber Workshops released this month, mills beans to a perfectly uniform grind, but you have to work for it: The $1,495 machine (as shown) is powered only by hand. It's 23 pounds and 18 inches tall, and fabricated from 20-millimeter-thick plates of aluminum that have been heat-treated for maximum strength. HG-2's size and weight are necessary to support the massive 83mm grinding burr. (A two-speed transmission gearbox between the 8.5-inch flywheel crank and the stainless steel drive shaft lets you downshift for tough beans.) All this heavy metal avoids friction heat, which, as coffee devotees will tell you, is important because high-speed electric grinders can diminish the taste of the final product.

THE COMPETITION

- Peugeot has been making coffee mills since 1840. The $125 Brésil model looks and works much like the original: Pour beans into the steel hopper on top of a walnut-stained beechwood box and turn the crank.
- Hario Co.'s Skerton Pro ($58) is the muscle-powered favorite of many coffee geeks. The plastic-and-glass compartment can hold a full day's worth of grounds.
- The compact $84 Mini Grinder II from Porlex has a precise, adjustable ceramic conical burr safely sheathed in a stainless steel body. It weighs less than 10 ounces, ideal for elevating your campsite brew.

THE CASE

Before co-founding Weber Workshops, Douglas Weber was a 13-year veteran of Apple Inc.'s product design team. Unsurprisingly, a Jobsian obsession with detail and ergonomics informs the HG-2. To keep grounds from accumulating and growing stale—which can make a mess and change the flavor of your pour—the inside of the exit funnel and tumbler are anodized and then polished, a process Weber says he learned at Apple. Should an occasional speck stick around, a walnut-handled boar-bristle brush will take care of it. There's even a switch on the front that lets you "shift" when you grind lighter-roast beans, which are less brittle than darker ones. It's all enough to get your heart racing faster than a perfectly pulled triple espresso. *$1,495; weber workshops.com*

POSTURE
After he used wire to suspend tulips in midair for a 2014 project, Swedish photographer Carl Kleiner was inspired to design the Posture series in collaboration with Italy's Bloc Studios. This one is made from white onyx.
$350; mattermatters.com

BLUE PIPE
The Yves Klein blue of this bud vase pairs easily with graphic blooms like this pink one, or bold purple daisies or orange poppies.
$40; kennifield.com

PINK SATSUMA
In her new collection, Los Angeles ceramicist Raina Lee riffs on Californian midcentury pottery with pastel colors and a proprietary crackled glaze on the bottom half.
$90; rainajlee.com

These Buds Are for You

Tiny vases for a single flower can have an outsize effect on your room—and your mood

By Monica Khemsurov
Photograph by Joanna McClure

EROS
This four-sided ceramic vase can hold a few blooms or just one that's as, um, unbending as the one here. The stem blends in with the container's deep green color so the flower can really pop. *$89; capradesigns.com*

SOLO
It's not magic, just clever engineering. A hidden steel pin can help hold up a single flower, at least until its firm stem begins to droop. The extra-shallow pool of water keeps it bacteria-free, too. *$40; solovase.com*

WOOD BUD
Flowers sip from a small glass vial tucked inside this hand-turned maple container. Made in Oakland, Calif., from scraps left over from other projects, each vase is finished with mineral oil to highlight the wood's grain. *$60; melanieabrantes.shop*

VERSA
Picking which colored resin block faces the room can change the vibe of this vase, designed in Adelaide, Australia. Or match it with whatever you've chosen to put inside. *A$120 ($93); deantoepfer.com*

Coal Gets Closer To the End of the Line

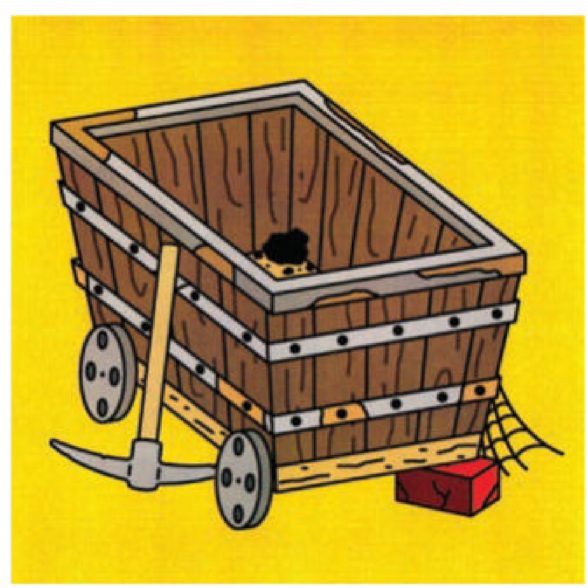
By Justin Fox

In 2020, Americans used 447 million short tons (to distinguish from metric tons) of coal. That's enough to fill 4 million railroad cars, which sounds like a lot. But it's also the country's lowest annual coal consumption since 1965, and even that barely hints at the historical territory coal may soon explore. A few more years at the downward pace of the past decade, and U.S. coal use will reach levels last seen in the 19th century.

This year coal is getting a respite as a roaring economic recovery boosts electricity demand after last year's pandemic-induced drop. The U.S. Energy Information Administration is forecasting a 12% increase in coal consumption for the year and a slight increase in 2022. After that, though, it's hard to see what could stand in the way of a resumption of the decline, which averaged 5% a year in the decade before the pandemic.

Most of the market-share loss so far has been to fracked natural gas, but the combination of cheap wind and solar power plus better batteries will likely push coal's continued decline. Donald Trump's pro-coal policies failed to slow its downward spiral; President Joe Biden's climate policies will aim to accelerate it. By 2030, BloombergNEF forecasts, electricity generation from coal will have fallen to about half of 2020's depressed level.

Coal became the country's primary energy source in the late 1880s, displacing the forest-destroying practice of burning wood. It ceded the top spot to petroleum in 1950 but enjoyed a late-20th-century renaissance as the primary fuel for power plants. Now its long and useful–if environmentally costly–run in the U.S. would seem to be nearing an end. Ⓑ *—Fox is a columnist for Bloomberg Opinion*



● WORKING IN THE COAL MINE
Employment in U.S. coal mining peaked long before coal consumption did, hitting a high of 863,000 workers in 1923. In 2007, when coal use peaked, it was 77,000. In March it was 43,600.

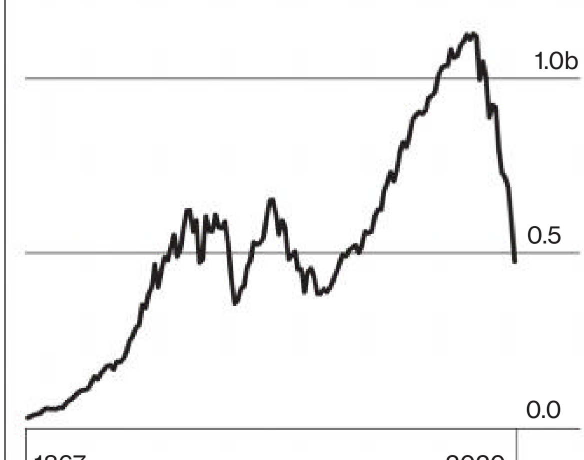
● WHOSE WAR ON COAL?
U.S. coal use fell at a 5.2% annual pace during Barack Obama's presidency and at a

10.1%

pace during Trump's.

● KEEPING THE LIGHTS ON
Of the coal consumed in the U.S. in 2020, 91% was burned to generate electricity, with almost all the rest used for steelmaking and other industrial purposes.

● U.S. coal consumption, in short tons



● NO COALS IN NEWCASTLE
In the U.K., where the coal-fueled Industrial Revolution began, annual consumption has fallen below the 10 million metric tons it's estimated to have first reached in the 1790s.

ILLUSTRATION BY GEORGE WYLESOL. DATA: HISTORICAL STATISTICS OF THE U.S., COLONIAL TIMES TO 1970 (1867-1948); U.S. ENERGY INFORMATION ADMINISTRATION (1949-2020)

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