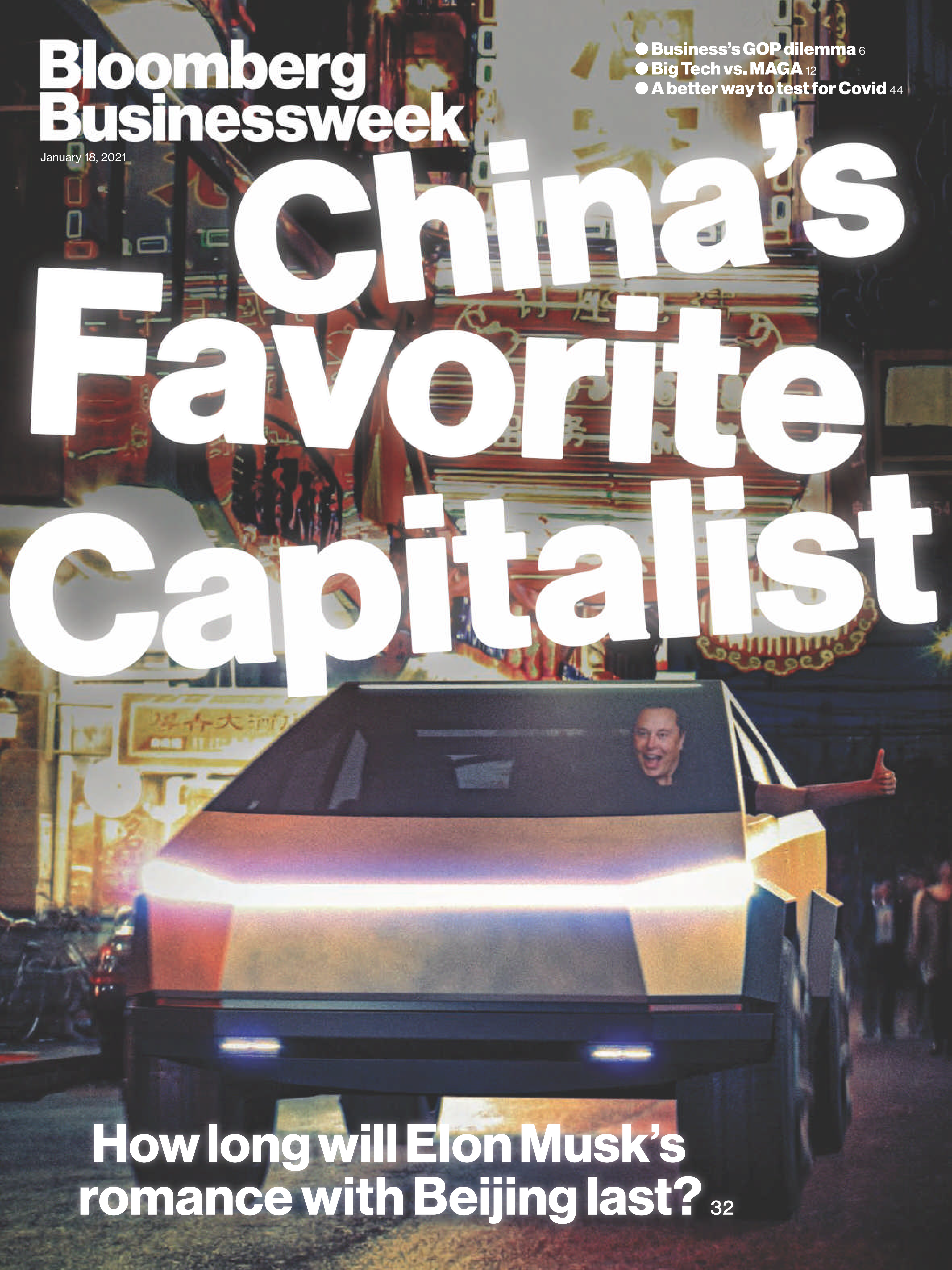
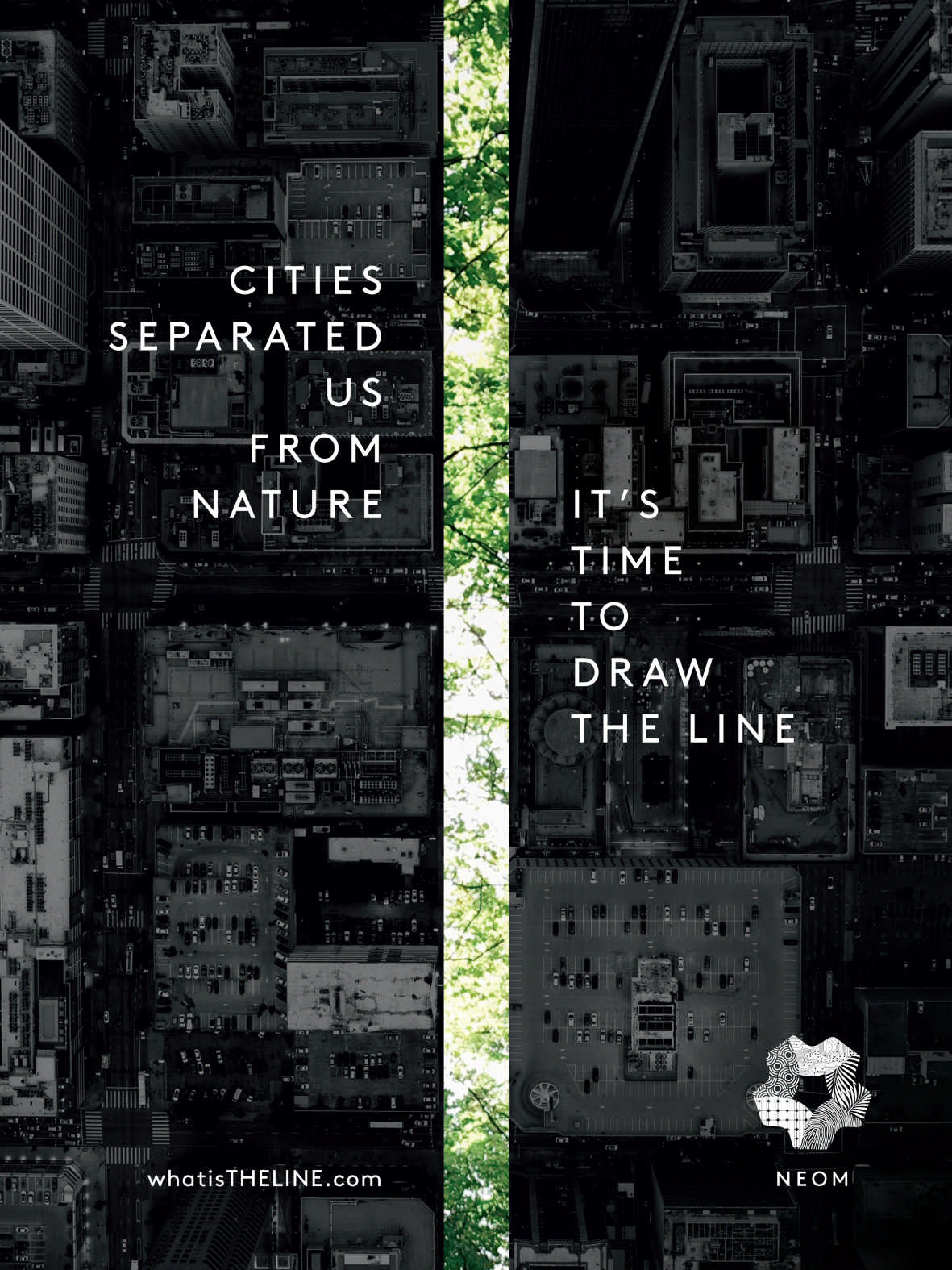
Bloomberg Businessweek
January 18, 2021



China's Favorite Capitalist

How long will Elon Musk's romance with Beijing last? 32


CITIES SEPARATED US FROM NATURE
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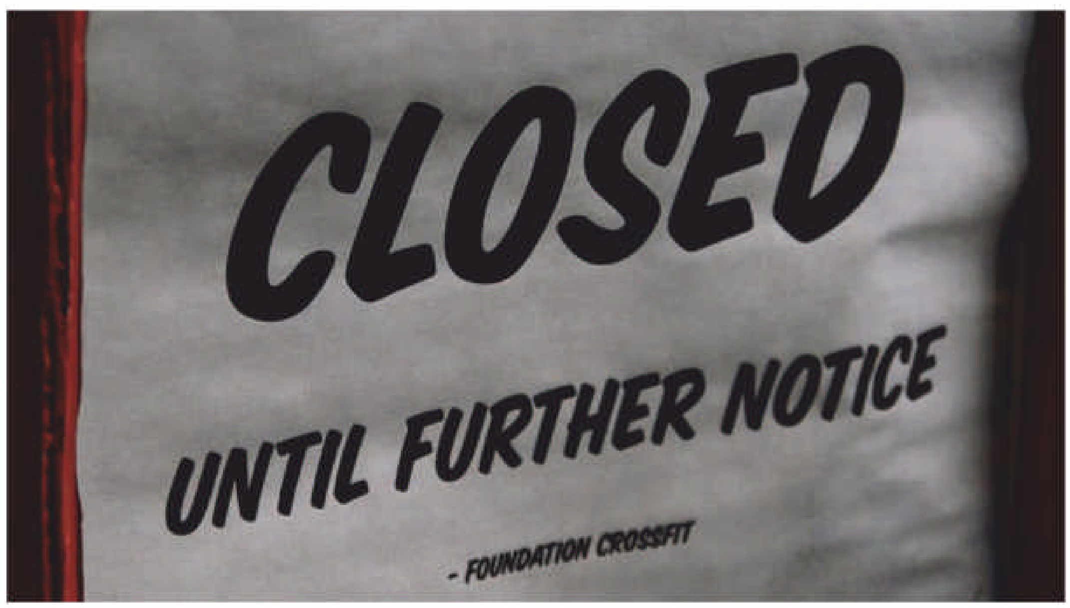
January 18, 2021

◀ The Infinity BiologiX Covid saliva lab in Oakdale, Minn.

PHOTOGRAPH BY ACKERMAN + GRUBER FOR BLOOMBERG BUSINESSWEEK

FEATURES



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■ COVER TRAIL

How the cover gets made

❶

"We're doing a story about Tesla in China. The two have developed something of a mutual affection for each other."

"My good sir, they seem positively besotted!"

"Besotted?"

"Sorry, I binged *Bridgerton* this weekend."

❷

"I do love seeing this sensitive side of you, but maybe something a bit less bromance, a bit more..."

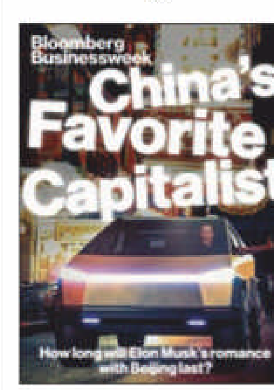
"Cybertruck?"

"Yeah!"

"So keep the bro, lose the 'mance?"

"Right, not so much *Bridgerton* as *Fast & Furious*. And remember: 'It don't matter if you win by an inch or a mile. Winning's winning.'"

"Is that Vin Diesel or Elon Musk?"



Cover: Photo illustration by Justin Metz for *Bloomberg Businessweek*; photos: Bloomberg; Shutterstock

FINANCE: PHOTOGRAPH BY DAVID JAEWON OH FOR BLOOMBERG BUSINESSWEEK. XI AND MUSK: GETTY IMAGES (2)

● Global coronavirus cases have surpassed

92.1m

and almost 2 million have died. Worldwide, only about 30 million people have been vaccinated. Chancellor Angela Merkel warned that Germany's strict lockdown—initiated in late 2020—could continue for 10 more weeks to contain the virus's aggressive resurgence.

● The U.S. House impeached President Trump for his role in the Jan. 6 assault on the Capitol by his supporters.

On Jan. 13, 10 Republicans joined all 222 Democrats in the vote, which made Trump the only U.S. president to be impeached twice. It now moves to the Senate, where more than a dozen Republicans have signaled they might vote to convict.

● "We know that the president of the United States incited this insurrection."

House Speaker Nancy Pelosi before the House impeachment vote

● Bitcoin slid as much as

26%

on Jan. 10-11 in its biggest two-day decline since March. The cryptocurrency had more than quadrupled in value over the past year.

● Twitter permanently suspended about 70,000 accounts dedicated to sharing right-wing conspiracy theories.

The social media company is cracking down to enforce its civic integrity policy—including a permanent ban on President Trump—in the wake of the Capitol riot. ▷ 12

● With the FBI and Washington police investigating further plots to attack the Capitol, the National Guard deployed troops to protect Congress.

● Israeli Prime Minister

Benjamin Netanyahu approved the construction of 800 housing units in Jewish settlements in the West Bank. The expansion in the Israeli-occupied territory threatens to complicate relations with Joe Biden's administration.

● Alimentation Couche-Tard said it's exploring a purchase of Carrefour.

Couche-Tard, a Canadian convenience-store giant that owns the Circle K chain, is looking to expand in Europe. Carrefour has been valued at about $20 billion. The biggest private employer in France, it has about 320,000 workers worldwide.

● Turkish Islamic televangelist Adnan Oktar was sentenced to

1,075

years in prison on Jan. 11. He was found guilty of running a decades-old cult whose members were accused of sexual assault, blackmail, money laundering, espionage, and other crimes.

● Billionaire Sheldon

Adelson, the founder of casino operator Las Vegas Sands, died on Jan. 11. The cause was complications from non-Hodgkin lymphoma. Adelson, one of the most prominent Trump supporters, was 87.

PELOSI: TOM WILLIAMS/GETTY IMAGES. CAPITOL: SARAH SILBIGER/BLOOMBERG. NETANYAHU: FLORIAN GAERTNER/GETTY IMAGES. ADELSON: MANDEL NGAN/GETTY IMAGES

Why This Governor Is a Great Choice for Commerce Secretary

● By Michael R. Bloomberg

Raimondo

President-elect Joe Biden has made a number of excellent selections for his cabinet, including three members who recently led city halls: Marty Walsh for Labor, Marcia Fudge for Housing and Urban Development, and Pete Buttigieg for Transportation. It speaks to how important mayors have become in the work of governing the country—especially as Washington has abdicated its responsibilities for so many years—and also to how effective mayors have been at making progress even without much federal help.

But it's not just mayors. One of Biden's picks, Gina Raimondo for commerce secretary, is especially encouraging. The role doesn't have the highest profile in the cabinet, but it's one of the most important economic jobs in Washington. The Department of Commerce exerts great influence on an array of federal economic policies, with a reach that exceeds even that of Treasury.

The department guides policy and directs federal resources on issues ranging across foreign trade, industrial development, technological innovation, and climate change. A competent and forceful head of the agency has the platform and the money to make a real difference in the country's economic prospects. Raimondo, a pro-business Democrat who has experience in both the public and private sectors, and who sees economic vitality as an instrument of broad-based and shared prosperity, fits the bill perfectly.

As a successful governor of Rhode Island, she set demanding goals and made real progress—based on a three-part strategy of fiscal control, spending on education and infrastructure, and tireless efforts to attract private investment. She led the state through a politically challenging restructuring of its pension system. That didn't always endear her to opponents, but she had the courage to make tough and fair decisions that will benefit workers and taxpayers over the long run.

Under her leadership, Rhode Island brought dozens of large employers to the state and created thousands of high-paying jobs. By picking her, Biden is showing that he recognizes the importance of pursuing economic success while taking steps to broaden opportunity. That's an agenda for the pragmatic pro-enterprise administration that our nation needs, and that Biden—with this and other selections—is positioning himself to lead.

Raimondo makes her own case persuasively. In Rhode Island she put the ideas to work: "We have to find our way to a capitalism where, if you work full time, you're not poor; you have health care and housing; and your kids can go to a public school that's decent. If we can get ourselves to that place, capitalism will be sustained."

Well said—and good for Biden for making a great choice and refusing to bow to pressure from those who are more hostile to the private sector. Raimondo's Commerce Department can be the leading edge of a strategy to put the U.S. back on the right track. Ⓑ *For more commentary, go to bloomberg.com/opinion*

■ AGENDA

► A Lucrative Lockdown

Netflix reports fourth-quarter earnings on Jan. 19. With people staying home worldwide, streaming movies and shows has been a huge business, though Disney has aggressively encroached on Netflix's turf.

► Joe Biden will be inaugurated as the 46th U.S. president on Jan. 20. Security is on high alert after a mob attacked the Capitol seeking to stop the certification of his election.

► The European Central Bank discloses its rate decision at a virtual news conference with President Christine Lagarde on Jan. 21. The deposit rate is likely to remain at –0.5%.

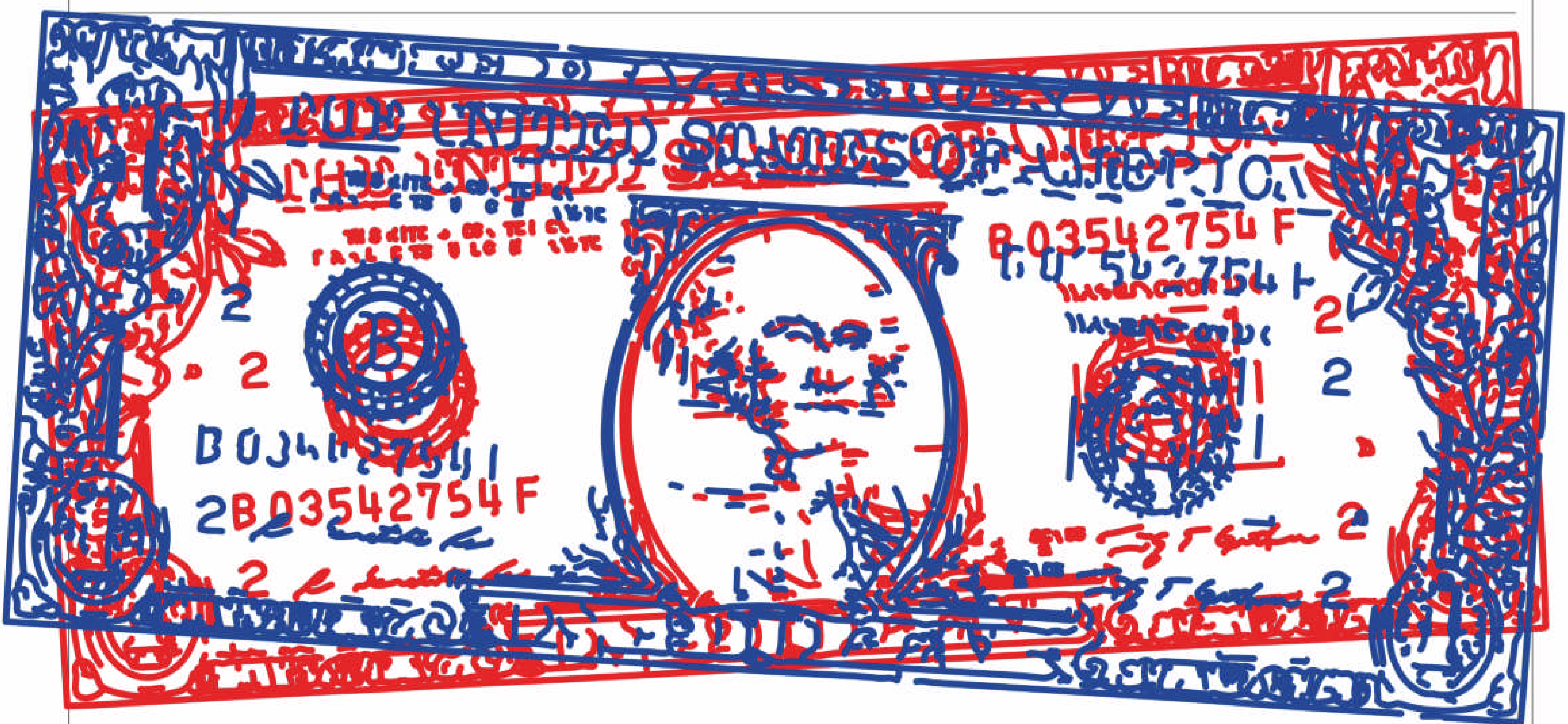
► Bank of America and Goldman Sachs report fourth-quarter earnings on Jan. 19, followed by Morgan Stanley on Jan. 20. Expect strong returns from investment banking and trading.

► China reports fourth-quarter GDP, industrial production, and retail sales on Jan. 18, providing an insight into the rebound of the world's second-largest economy.

► European leaders gather on Jan. 18-19 for a summit to discuss items including the region's vaccination efforts and relations with the U.S. under the Biden administration.

► The U.S. Senate Committee on Armed Services will hold a confirmation hearing on Jan. 19 for Lloyd J. Austin III, Biden's choice to be the next secretary of defense.

ILLUSTRATION BY CRISTINA SPANO. RAIMONDO: KEVIN LAMARQUE/REUTERS



Which Is the Party Of Business Now?

● American companies feel forsaken by a GOP still in Trump's thrall

● By Peter Coy

Big Business is in a tight spot. Rebellious Trump loyalists have amped up their influence over the Republican Party, which business has traditionally leaned on for support. Meanwhile, although President-elect Joe Biden is a moderate, the Democratic Party's platform is the most left-leaning it's been in decades. "From a business standpoint we're concerned about the growing ranks of populist viewpoints in the Republican Party and the growing ranks of progressive and socialist viewpoints in the Democratic Party," says Neil Bradley, executive vice president and chief policy officer of the U.S. Chamber of Commerce.

So big companies and business groups such as the Chamber are playing a delicate game. They're distancing themselves from Trump as fast as they can and hoping that his grip on the party will loosen once he leaves office. They're also searching for ways to work with Democrats, who for the first time since the 2009-10 congressional term will control the White House and both houses of Congress.

The bridge between Big Business and Trump, never solid, is in flaming ruins after the Jan. 6 invasion of the Capitol by his supporters. Jay Timmons, president of the National Association of Manufacturers, said in a written statement that day that the storming of Congress to stop certification of the presidential election was "seditious," adding that Vice President Pence "should seriously consider" working with the Cabinet to invoke the 25th Amendment, which provides for removal of the president in case of incapacitation.

"There is no place for demagogues in our democracy," wrote the U.S. Chamber of Commerce. In a statement, the Business Roundtable called "reprehensible" allegations by Trump and his supporters that the election was stolen.

Individual companies also broke decisively with Trump. Twitter Inc. permanently suspended his account–his favorite channel of communication–and Facebook Inc. blocked him at least until his term ends. Marriott International, Verizon Communications, Dow, Blue Cross Blue Shield Association, Morgan Stanley, and Comcast, among others, announced they'll pause donations to lawmakers who voted against certifying Biden. "Even John F. Kennedy had a better relationship with the business community even though he called them 'a bunch of SOBs,'" says Jeffrey Sonnenfeld, a professor at Yale School of Management, referring to a fight between JFK and U.S. Steel.

The cynical take is that Big Business gathered courage to oppose Trump only when he was heading out the door, but

ILLUSTRATION BY 731

that's not the case. Chief executive officers had challenged Trump before on multiple issues ranging from auto emissions to immigration and race. The first big rupture came when White nationalists and other extremists rallied in Charlottesville, Va., in August 2017. A White supremacist crashed his car into a crowd of counterprotesters, killing a woman and injuring more than a dozen people. Trump was silent for two days before saying, "you had some very bad people in that group, but you also had people that were very fine people, on both sides." The president was forced to dissolve a pair of high-level advisory councils in the following days after big-name CEOs including General Electric's Jeffrey Immelt and JPMorgan Chase's Jamie Dimon dropped out in protest.

That was just the start. Ford Motor Co. was one of five carmakers that infuriated Trump by siding with California in its attempt to go beyond federal standards for reducing auto tailpipe emissions of greenhouse gases. Exxon Mobil, BP, and Shell tried to stop the Trump administration from rolling back Obama administration rules on methane releases from oil and gas projects. General Electric, Microsoft, Verizon and other companies filed court briefs opposing Trump's attempt to end affirmative action in admissions at Harvard.

Big Business fought the Trump administration's restrictions on the issuance of H-1B visas for skilled workers. When the president resisted strengthening controls on gun sales in 2018 after a massacre at a high school in Parkland, Fla., Walmart Inc. and Dick's Sporting Goods Inc. stopped selling guns to customers under 21 and restricted ammunition sales. And numerous business organizations opposed Trump's tariffs on aluminum, steel, and other products, which incited retaliatory duties from China and other trading partners. "Trade works. Tariffs don't," the U.S. Chamber of Commerce said.

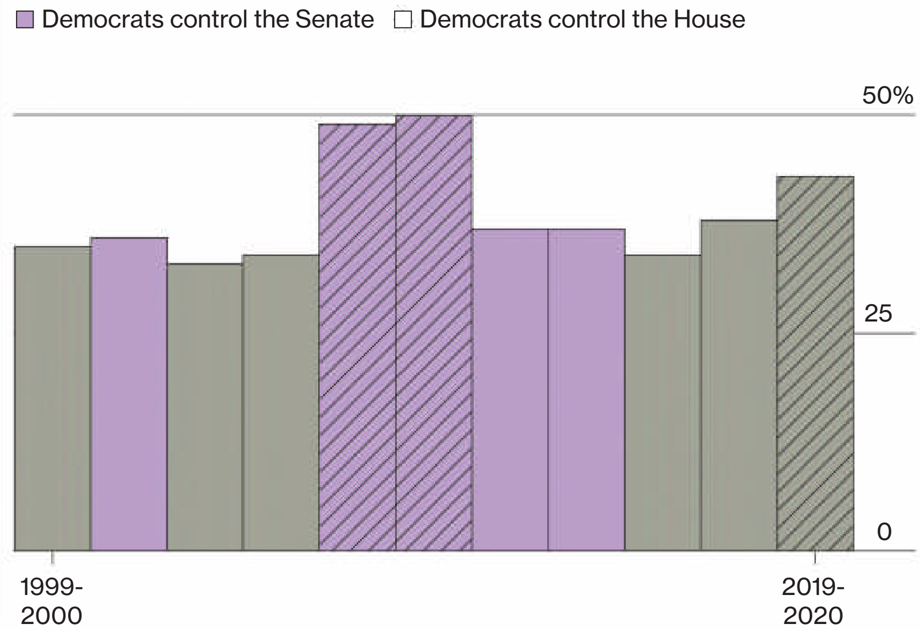
True, business wasn't always oppositional. The Tax Cuts and Jobs Act of 2017, which slashed the corporate income tax rate, was widely popular, as was some of the deregulation. And in 2019 Trump managed to bring some business bigwigs back into his tent, forming an advisory group on workforce policy co-chaired by Ivanka Trump and including CEOs Tim Cook of Apple, Julie Sweet of Accenture, Al Kelly of Visa, and Doug McMillon of Walmart. It remained intact until after the election, probably because Trump mostly left it in his daughter's hands.

On the whole, though, Trump steered the Republican Party in a populist direction, tapping into a disaffected part of America that dislikes business elites almost as much as political, academic, and media elites. And even after the rampage at the Capitol, which he incited, he remains his party's most powerful force. Two days after the violent takeover, the Republican National Committee reelected Trump allies Ronna McDaniel as chairwoman and Tommy Hicks as co-chairman.

Bradley says the Chamber of Commerce is worried that the fringes of both parties are pulling the centrists apart, so two years ago it changed its method for grading lawmakers to take cooperation across the aisle into account—honoring people such as Democratic Representative Josh Gottheimer of New Jersey and Republican Senator Susan Collins of Maine. In the latest election cycle the Chamber gave $152,000 to Democrats, more than it had over the previous 28 years, vs $483,500 to Republicans. It also endorsed 23 embattled House Democrats. Private equity, oil and gas, and real estate companies also tilted toward Democrats more than in past elections. As the chart shows, business PACs tend to give more generously to Democrats when they control Congress, so the coming two years should be good for Dems.

Opportunistic Giving

Share of business PAC donations going to Democrats



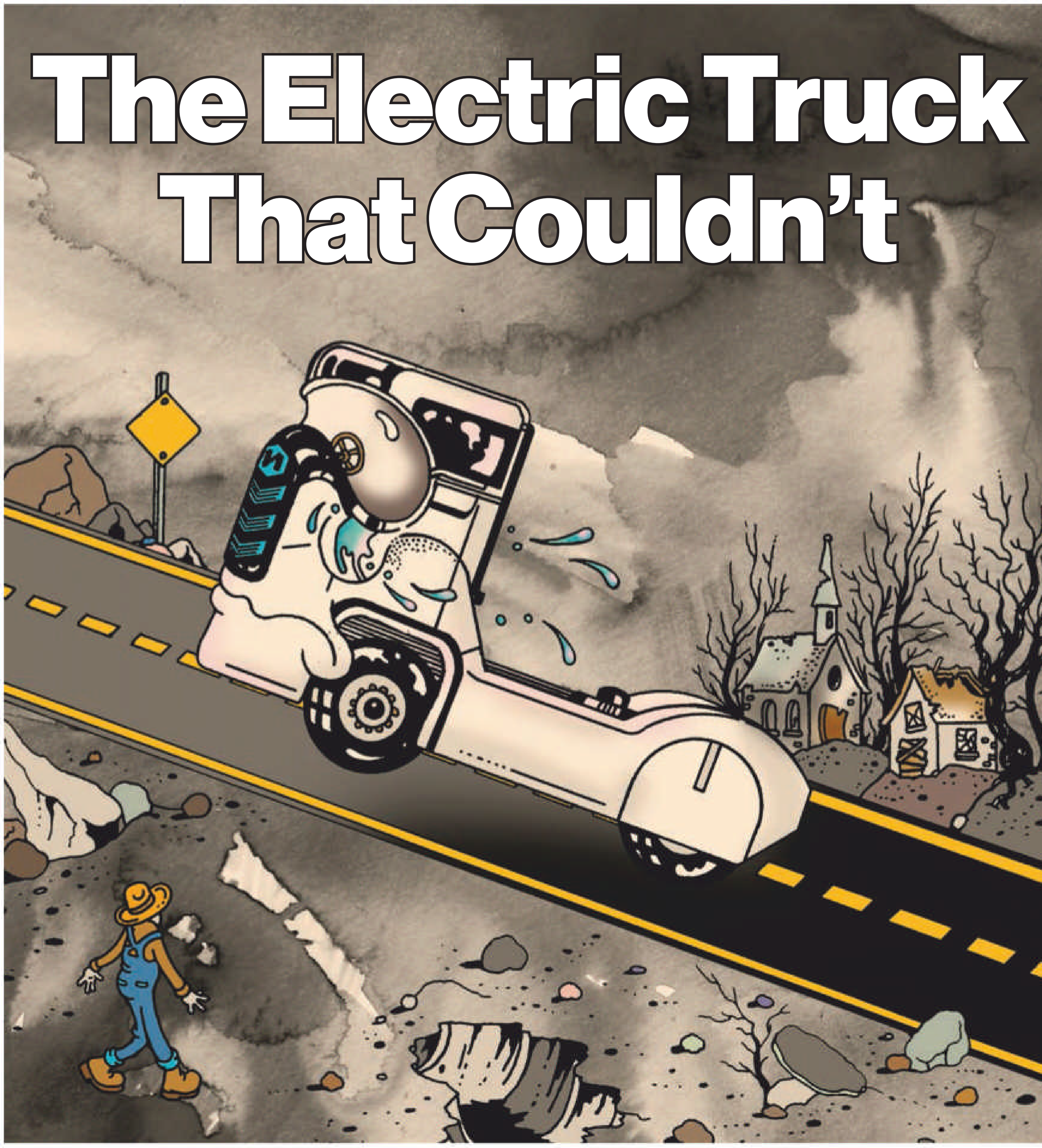
DATA: CENTER FOR RESPONSIVE POLITICS

The upside scenario for Big Business is that Biden will be more effective than Trump in getting the pandemic under control and won't want—or be politically able—to push through big tax increases or other measures inimical to business. Stocks, which are tied to expectations for economic growth and corporate profits, rose on Jan. 6 when it became clear that Democrats won control of the Senate in the Georgia runoff races.

Nevertheless, business is likely to pivot back to the GOP quickly if the party shakes off Trump's influence. Republican energy consultant and former Trump White House adviser Mike McKenna plays down the significance of companies' pledges to pause campaign contributions. "Very few contributions happen in the first few months of an election cycle" and company PACs "are not really that important" anyway, he says.

"If business is thirsty for less regulation and a lower corporate tax burden, I think they'll find ways to overcome any shock and awe they felt on Jan. 6," says Princeton University history professor Julian Zelizer, who's studied the Republican Party. Says Scott Reed, a GOP strategist who used to work for the Chamber: "Once Trump moves on, the Republican leaders have a chance to do a real reset—not to alienate the Trump supporters, but to recreate a new paradigm of the Republican Party being about growth and opportunity." That, anyway, is what Big Business leaders are hoping for. Ⓑ *—With Mark Niquette, Jennifer A. Dlouhy, and Bill Allison*

The Electric Truck That Couldn't



● In the past six months, Nikola has faced an SEC probe, lost partners, and seen its shares tank

Clean-energy startup Nikola Corp. had a tough year even by 2020 standards. The once high-flying alternative-fuel vehicle maker started life as a public company with a short seller levying fraud allegations against founder Trevor Milton, who denied the claims but then resigned after the Securities and Exchange Commission took interest. That collapsed a deal to build trucks with General Motors Co. and resulted in the indefinite postponement of Nikola's much-ballyhooed Badger electric pickup truck.

Believe it or not, the truly hard stuff is still ahead: building a real business selling large fuel cell trucks that turn hydrogen into electricity. Milton may be gone, but the SEC's attention has had a chilling effect on Nikola's efforts to forge partnerships that would help develop its business faster. GM in late November said it wouldn't take a $2 billion equity stake and open its vast purchasing and manufacturing resources to speed the upstart's trucks to market, deciding instead to just sell Nikola its hydrogen fuel cell system. The government probe also played a role in scaring off BP Plc, which would have helped the startup build a network of hydrogen filling stations.

That network is a big piece in Nikola's future ambitions. The company plans to boost its profits selling hydrogen to the fleet customers who'd

Edited by
James E. Ellis

also buy its hydrogen-powered semis. Without the cash and resources of BP or another major energy company—and with its own share price falling more than 75% off its high last June—Nikola faces the daunting task of building that network on its own. The company declined to comment on the status of its relationship with BP, or of the SEC investigation's impact on its ability to attract partners.

Without a partner, Nikola will need to dig deep to fund its hydrogen fueling station expansion. It has $900 million in cash, but a lot of that will be needed for continued development of the electric and hydrogen semitrucks it plans to sell and to finish building factories in Ulm, Germany, and in Phoenix, where the company is based. "A lot of potential partners seem to be getting gun-shy," says Sam Abuelsamid, principal research analyst at tech researcher Guidehouse Insights. "The drop in stock price will make it a challenge to raise capital, which they will need to do."

Delays have already cost the company business. Nikola and sanitation heavyweight Republic Services Inc. had announced last August what they described as a binding contract under which Republic would buy as many as 5,000 battery-electric garbage trucks—worth $3 billion in revenue, Milton said at the time. But the order for an initial 2,500 vehicles was terminated in December because of longer-than-expected development time and unforeseen costs.

Failing to secure a partner for the fueling network isn't the end of Nikola, but it could push back the timeline for Chief Executive Officer Mark Russell, who said in November he wanted a hydrogen fueling station deal signed by the end of 2020. BP was put off by the SEC probe into possible exaggeration of Nikola's claims about its technology, including a video that purported to show one of its trucks driving along a road when the vehicle was actually just rolling down a hill without any help from its own power plant. (The company said in September that while the truck shown did have a gearbox and batteries, Nikola "ultimately decided not to invest additional resources into completing the process to make the Nikola One drive on its own propulsion.") But the energy company also wanted a deal heavily weighted in its favor, with a big cut of the profits, say people familiar with the matter. BP declined to comment.

A partnership could still come with another energy company, and Nikola is getting calls, according to people familiar with the company, but Nikola worries that the SEC's interest will drag on—especially with a change in administration slowing things down—and it can't afford to wait, the people say. "We continue to explore options with partners and will publicly announce when appropriate," says spokeswoman Nicole Rose.

Russell has started building Nikola's in-house expertise in hydrogen and energy distribution. He's hired Erik Mason from BP, where he was managing director for structured products, according to people familiar with the matter. Mason has brought along several other executives from BP's hydrogen power operations, the people say. And in December, Nikola promoted Pablo Koziner to president of its energy and commercial business. He and Mason will start laying the foundation to build their own hydrogen network.

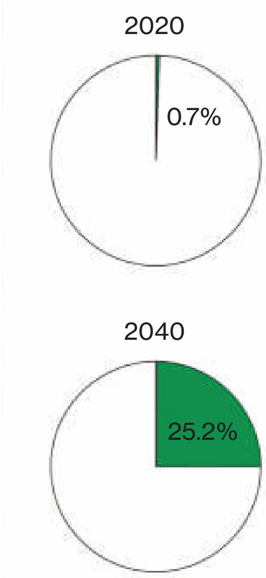
Nikola's goal is to build 700 fueling stations across North America by 2028. The hydrogen would be produced on site at each location. That fuel will then be bundled with sales of the trucks as part of a seven-year or 700,000-mile lease. That would give Nikola recurring revenue and much better margins than it could get just from building trucks. The company also plans to provide its fleet customers with service and maintenance for the trucks, which promise a zero-emission way to ship heavy freight and go farther than EVs currently can.

Nikola says its trucks would have a range of up to 750 miles. But even with that, its sales will be limited by the routes where it can build hydrogen stations. The plan is to build them in places where fleet customers plan to drive and then add locations as it sells more trucks. Since there are only about 120 hydrogen filling stations in the U.S., Nikola may have to build its truck business the same way Tesla grew its charging network—over many years and after raising billions to develop cars and infrastructure.

As the truck business unfolds, Nikola's plan is to raise more equity or borrow money once it hits certain benchmarks in development of the trucks. But it's already missed its late-2020 timetable to announce a hydrogen fueling station deal, and it may have to pick up the pace to get back on ▶

◀ The Badger pickup has been postponed indefinitely

▼ EVs' forecast share of U.S. heavy-duty commercial vehicle sales



● Russell

PHOTOS: COURTESY NIKOLA MOTOR COMPANY (2). DATA: BLOOMBERGNEF

◀ track on plans to break ground on its first commercial hydrogen station in the second quarter of 2021 and start producing its battery-electric Tre semi in Germany by yearend. It also plans to build its fuel cell semis at its Arizona plant by 2023. Management knows it has to prove that Nikola has momentum to get more cash, the people familiar with the matter said.

That's where a bigger partnership with GM would have come in handy. Nikola still has deals in place with GM and Germany's Robert Bosch to buy fuel cells, which create energy by stripping electricity from hydrogen. And the company is working with Iveco, a truck brand owned by Case New Holland NV, to build the big rigs. But its original deal with GM gave the Detroit auto giant an 11% stake and provided for more collaboration both on the fuel cell truck and on the Badger electric pickup, while giving Nikola access to GM's engineering expertise and global supply chain. Now that deal is gone, and the Badger has been put off indefinitely, with the company refunding customers' deposits. How soon Nikola can jump-start its business—and justify its $6.5 billion valuation—is an open question. —*David Welch and Edward Ludlow*

THE BOTTOM LINE Six months ago, Nikola was a highflier among the crush of alternative-fuel vehicle makers. Now its shares have fallen more than 75% and its future is clouded.

Occidental Goes Green to Produce More Oil

● It wants to strip CO_2 from the air, then use some to dislodge crude from underground rock

Deep in the Permian Basin, America's biggest oilfield, Occidental Petroleum Corp. plans to build a facility that it believes could change the way the world thinks about fossil-fuel emissions. The globe's first large-scale direct air capture (DAC) plant will remove carbon dioxide from the atmosphere and pump it deep underground, where it will remain for millions of years. The process would essentially be the reverse of what oil and gas companies do today. The goal is to lower emissions of the primary greenhouse gas responsible for global warming—and one day even produce a carbon-negative barrel of oil.

▲ Artist's rendering of Occidental's DAC plant

COURTESY CARBON ENGINEERING

But to cover the cost of operating the plant, Occidental will initially use much of the CO_2 to push out lucrative oil from underground reservoirs, thereby replacing one pollutant with another. The facility, expected to cost hundreds of millions of dollars, will also need support from tax credits and outside investors to be financially viable.

The climate crisis has increasingly found its way to the boardrooms of the world's largest oil companies, which many environmentalists say are to blame not only for pumping emissions into the air but also for spreading misinformation on the consequences of doing so. Some, such as BP Plc, have responded by plowing money into renewable energy. Others, such as Exxon Mobil Corp., are doubling down on fossil fuels.

Occidental wants to take a different approach and become a "carbon management company," says Chief Executive Officer Vicki Hollub. "We are not afraid of the transition out of oil and gas, because we're a part of that transition. I do believe that in 15 to 20 years, more of our income will be from carbon management than from oil and gas."

Climate scientists have long considered carbon capture as essential in meeting climate goals, but high costs have slowed adoption of the process. Efforts have been limited to siphoning off concentrated streams of CO_2 from industrial facilities and burying them underground at two dozen plants around the world. Occidental's plant, which it aims to have operating by 2023, changes the model because it takes CO_2 directly from the air, allowing the facility to be built anywhere.

The plant will be designed to capture as much as 1 million tons of carbon dioxide a year, equivalent to the emissions from about 215,000 cars, or a quarter of what a coal power plant produces.

DAC works by sifting air through chemicals that can selectively pull out CO_2, like iron filings to a magnet. Since CO_2 makes up only 0.04% of the atmosphere, a huge amount of air has to be filtered to capture it in large quantities. It can cost as much as $600 to capture each ton of CO_2 with some DAC methods.

Occidental is betting the technology will become cheaper as more DAC plants are built, allowing engineers to learn how to optimize the hundreds of tiny steps required to make the complex projects work more efficiently. Such green energy cost reductions previously occurred with solar panels and wind turbines.

The company will license the DAC technology from Carbon Engineering, a Canadian startup that counts Occidental, Chevron Corp., and Bill Gates among its investors. "It's not a technology that's a trial-and-error type of thing; you know it will work," Hollub says. "We need to just get it to scale."

technology more affordable. Advocates for DAC counter that, just as solar and wind power have benefited from credits, other emissions-cutting technologies should.

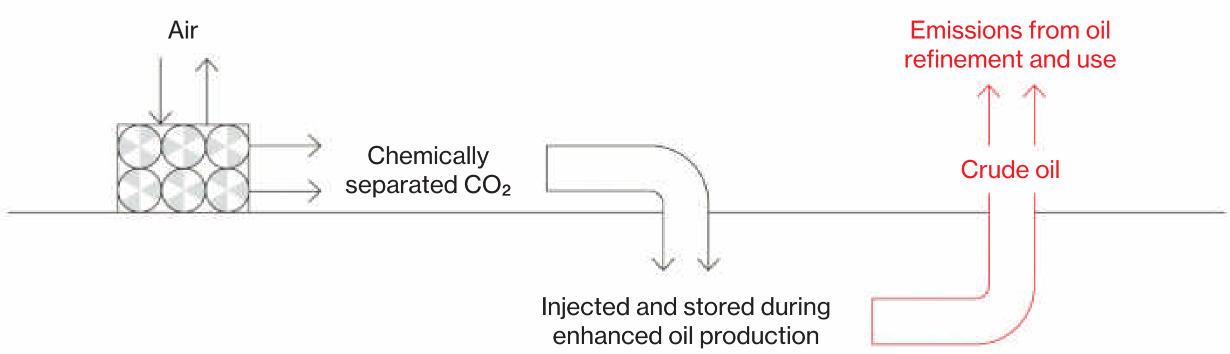
Even with the prospect of extra crude and tax credits, finding the money to build DAC plants will be no easy task. Occidental is one of the most highly indebted U.S. oil producers after buying Anadarko Petroleum Corp. for $37 billion in 2019, before the pandemic crashed the price of crude. The company has been forced to cut its dividend to almost zero, sell billions of dollars of assets, and slash spending to the point that its crude production may fall this year.

That's why Hollub is adamant that Occidental doesn't use all its own money on the green project. Instead, the plant will be funded through 1PointFive, which is owned by the company's venture arm, Oxy Low Carbon Ventures, and

"We are not afraid of the transition out of oil and gas, because we're a part of that transition"

Direct air capture

The process makes oil production potentially carbon-neutral by removing CO_2 from the atmosphere, then using it to free underground oil



DATA: CARBON ENGINEERING

If DAC becomes substantially cheaper than it is now, it could be revolutionary. To drive down costs, Occidental wants to use the CO_2 it captures in its enhanced oil recovery business, where the gas is pumped into older wells to infiltrate rock and acts like soap to release crude. Being able to build an air capture plant close to its extensive Permian operations would eliminate the costly need of transporting CO_2 to its enhanced recovery wells.

The technology is key to helping Occidental achieve its goal of becoming carbon-neutral by 2050. And it will lower the cost of its enhanced oil recovery business and provide returns similar to those at its lucrative Permian operations.

Although the net effect will be cleaner crude, and perhaps even carbon-negative (when more carbon is put in the ground than will be produced when the oil it helped extract is burned), it's still a hard sell to environmentalists, who blame the climate crisis in large part on oil companies that sowed doubt about the science. Some climate activists also question the U.S. government's allowance of tax credits for making the

private equity firm Rusheen Capital Management LLC. The venture plans to attract outside investors, benefiting from the boom in environmental investing and the growing number of companies trying to lower their carbon footprint. It's already gotten a stake from United Airlines Holdings Inc. "Carbon Engineering captures carbon dioxide, Occidental buries it underground, and 1PointFive does project finance," says Steve Oldham, CEO of Carbon Engineering, about how the three organizations will work together to build DAC plants.

If governments around the world take climate targets seriously, models estimate that the world will need to bury as much as 10 billion tons of CO_2 underground annually by 2050. That's about a quarter of current global emissions. And the industry that does that job could by then rake in $1.4 trillion in annual revenue, equal to what the entire global oil and gas industry takes in today. *—Kevin Crowley and Akshat Rathi, with Alix Steel*

THE BOTTOM LINE With reliance on fossil fuels under assault, Occidental Petroleum is betting on tech that could help it get more than half its revenue from carbon management within two decades.

Social Media Hits Mute After the Capitol Riot

● Facebook and Twitter can block the president, but his supporters will move on

The tweet on Jan. 8 that ultimately pushed Twitter Inc. to ban its most high-profile user didn't look much different from thousands of others Donald Trump had sent during his presidency. Two days earlier the social network had removed a video rant in which he repeated baseless claims of election fraud and told armed rioters in the U.S. Capitol that he loved them. Using Twitter to tell the 75 million "American Patriots" who made up his political base that they would "have a GIANT VOICE long into the future" was mild by comparison.

But Twitter had warned Trump that another rule violation would lead to a ban. So after a presidency spent using the network to move markets, promote conspiracy theories, and threaten war, Trump's violation on Jan. 8 of the company's "Glorification of Violence" policy was the final straw. Over a 48-hour stretch he was also blocked or suspended from almost every major social media channel—including Facebook, Instagram, and Snapchat—and kept from using the e-commerce platform Shopify to sell his signature red hats and other merchandise.

The efforts were designed to limit the rhetoric that had inspired a mob to mount a violent attempt to overturn the results of November's presidential election. Twitter said the way Trump's followers interpreted his messages was as important as the wording itself, citing plans percolating online for them to commit more violence in the near future.

There's some evidence that shutting down Trump had an immediate effect on internet life. Media Matters, the liberal-leaning media advocacy group, found that interactions with right-leaning pages dropped in the aftermath of Facebook Inc.'s temporary ban. Right- and left-leaning posts drew roughly equal amounts of engagement after the ban, the group found, reversing a long trend of right-wing content outperforming other political content. "This data shows what the impact of removing him permanently from Facebook could be," Media Matters wrote.

But even if Trump does disappear from the internet—or U.S. political life—his impact on social media is unlikely to dissipate so easily. Experts say his vast network of supporters will be energized by the bans. "It does make him a martyr," says Marc-André Argentino, a researcher and noted observer of QAnon, a pro-Trump conspiracy movement based on the conviction that the president is fighting an international cabal of sex traffickers who dominate world politics. Twitter's ban has confirmed for QAnon followers that tech platforms are part of this conspiracy of elites, Argentino says. Their communities may have relied on mainstream social media services to form, but they're less vulnerable to crackdowns now that they already exist.

The last year of intensifying debate about the parameters of speech on mainstream social media platforms has given rise to new ones for conservative speech. TV networks that provide willing audiences for Trump's surrogates and so-called alt-tech platforms have been falling over themselves to provide a home for the extended "Make America Great Again" community. Trump has "a whole team of demi-media sycophants who are catering to his audience," tweeted Renee DiResta, a research manager at the Stanford Internet Observatory, shortly after the company banned the president.

The social network Parler emerged in 2020 as the prime destination for right-wing users who felt alienated by Facebook and Twitter, and it rode their anger to become the most downloaded app in Apple Inc.'s store immediately after Facebook and Twitter suspended Trump. Then Apple and Google suspended Parler from their app stores, and Amazon Web Services said it would no longer provide technical infrastructure, forcing Parler to shut down at least temporarily. All of the companies cited Parler's inability or unwillingness to remove posts calling for or glorifying violence. Parler has sued AWS, accusing it of acting anti-competitively.

With Parler down, QAnon groups on Gab, another social network that caters to the far right, saw a surge in membership, with the largest group

Edited by Joshua Brustein

ILLUSTRATION BY DANIEL ZENDER. DATA: SHAREABLEE growing by more than 50,000 members, according to Argentino. A channel on Telegram, the messaging app, dedicated to "Parler refugees" had more than 16,000 members as of Jan. 11.

If these sites become durable alternatives to mainstream ones, the migration could aggravate trends that predated Trump, says Genevieve Lakier, a First Amendment law professor at the University of Chicago Law School. "One of the consequences of this might be further fracturing of our public discourse," she says, "so that Twitter becomes the place for certain groups and certain voices, and then other social media sites like Parler or Gab become a site for others."

It's not a sure bet. Facebook and Twitter appeal to political agitators because they draw a large number of less political users who can serve as an audience. Facebook has noted repeatedly that many of its users spend little or no time interacting with political content. The users of alt-tech sites, by contrast, are relatively like-minded, so agitators have few people to argue with or recruit.

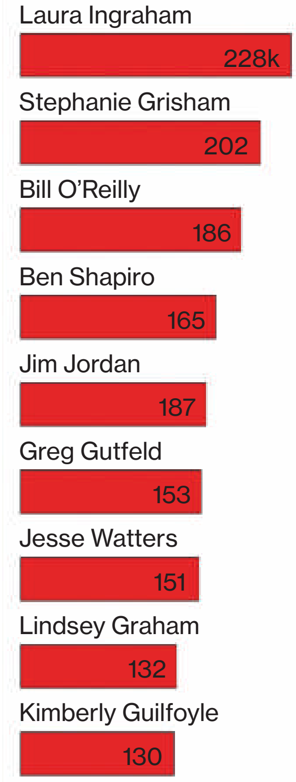
So far, alt-tech sites don't have the scale they'd need to threaten mainstream social media. But the eleventh-hour crackdown on Trump may weaken the internet giants in another way. The demonstration of their power has raised concerns even from the president's critics, such as the American Civil Liberties Union and leaders in Germany and France.

In the U.S. the insurrection at the Capitol has given Democrats who want Facebook and Twitter to more actively police their networks a real-world example of what happens when that policing fails. Republicans who think tech companies wield too much power have watched Silicon Valley deprive a sitting U.S. president of his preferred method of communicating with the public.

Trump's recklessness online may be what finally creates regulations for an entire industry, Lakier says. "Trump has played this really amazing lightning rod role in focusing attention on those questions," she adds. "The timeline has been sped up."
—*Daniel Zuidijk and Kurt Wagner*

THE BOTTOM LINE New social networks, if they can survive as right-wing alternatives to Facebook and Twitter, could further increase political polarization online.

▼ Politicians and journalists with the largest loss of Twitter followers, Jan. 5-12



Speak Softly and Run a Big Cloud

● Amazon's decision to cut ties with Parler showed the often-overlooked power its cloud computing division has over the internet

When Amazon.com Inc. cut off Parler, a social media service popular among far-right supporters of President Trump, it highlighted the power that comes with providing cloud computing to much of the internet.

Parler went offline early on Jan. 11 after Amazon Web Services suspended its account. In a letter to Parler viewed by Bloomberg, Amazon said it was taking the action because the social network was unable to effectively keep calls for violence off its site.

Parler quickly sued, claiming Amazon's decision posed an existential threat, saying in a federal antitrust lawsuit filed later that day in Seattle that the action was "the equivalent of pulling the plug on a hospital patient on life support." It's seeking an order forcing Amazon Web Services to maintain its account. Parler was still offline as of Jan. 13.

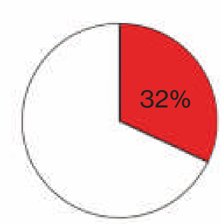
Amazon was acting out of political animus, according to Parler, whose suit claims the company made its move not solely on its own behalf, but also to benefit Twitter Inc., the microblogging platform that Parler sees as its primary competitor. Parler said AWS had recently reached a deal to provide Twitter with infrastructural services. Two days before AWS's action, Twitter banned Trump for violating its policy against glorifying violence, creating an opportunity for an alternative social network to offer a more friendly environment for his supporters. Being booted from AWS "will kill Parler's business—at the very time it is set to skyrocket," according to the suit.

The complaint provides no evidence to back up its allegation that AWS favored Twitter. But it does echo a common theme in a growing body of antitrust litigation against tech companies: Secretive deals among a few large entities are allowing them to consolidate power at the expense of competitors. A federal antitrust lawsuit against Alphabet Inc.'s Google centers on its agreements to pay Apple Inc. to be the default search engine on its mobile devices, and a separate suit brought by a group of states accuses Google and Facebook Inc. of working together to rig auctions for digital advertising space.

▲ CEO Jassy speaks at an AWS Summit in San Francisco

Twitter declined to comment. Amazon said in a court filing that it had not communicated with Twitter about Parler, adding that it has no incentive to stop doing business with paying customers that comply with its agreements. The company also said in an emailed statement: "It is clear that there is significant content on Parler that encourages and incites violence against others, and that Parler is unable or unwilling to promptly identify and remove this content, which is a violation of our terms of service."

▼ AWS share of cloud infrastructure market



But Amazon's move to cut off Parler is a reminder that the company wields huge influence over what's seen on the internet. AWS, the largest provider of on-demand software services and cloud computing power, provides the digital backbone for millions of customers including Netflix Inc. and U.S. government agencies, but it doesn't generally police content that its customers help create.

In cases such as evidence of child pornography, AWS's response can be swift and almost automatic, according to a person familiar with AWS's actions with previous controversial customers. Legal and security teams get involved in more complicated issues, and the decision to cut off Parler or other customers always involves AWS Chief Executive Officer Andy Jassy, the person says, adding: "It doesn't happen very often."

The cloud unit relies primarily on customers and the public to report abuse of its services. It maintains a public email address for such issues, and the sales, social media, and security teams have wide leeway to flag reports of illegal or inappropriate content among AWS users. When Amazon suspends a customer, it makes its case using public-facing content, not proprietary data stored on AWS servers.

Cloud computing services present themselves primarily as neutral providers of technical infrastructure. Close observers of AWS say it seems reluctant to take action against customers over political or social debates or questions of taste, as part of an effort to serve as a neutral host for all who want to buy its services. "Amazon is not in the business of policing its customers; it doesn't want to be in the business of policing its customers," says Corey Quinn, who advises businesses that use Amazon's cloud at the Duckbill Group, a consulting firm.

But the move against Parler is not unprecedented. AWS has cut off WikiLeaks and Gab, another social networking site popular with the far right. It also encouraged an AWS customer that worked with 8chan, the online billboard and hub for conspiracy theorists, to drop its support. Employee-activists and others have pushed cloud computing companies to exert even more control over how their technology is used, especially in the case of potentially controversial government contracts. In June, Amazon announced a one-year moratorium on the use of Rekognition, its facial recognition system, by law enforcement, a move that followed calls from civil liberties groups for a ban on such sales.

Allowing one client to dictate its approach to another client would be a different matter altogether, though. Alan Sykes, a professor at Stanford Law School, says if it turns out that Amazon banned Parler at the behest of Twitter, Parler's complaint could amount to a legitimate antitrust claim.

Amazon's decision to remove Parler for its potential to foment violence is defensible, says Sykes. "This concern for violence might justify taking Parler off for a while, but it's not clear that it could justify a permanent ban," he says. *—Matt Day and Joel Rosenblatt, with Chris Dolmetsch*

THE BOTTOM LINE Amazon Web Services says it doesn't want to police its users, but it made an exception in the wake of the violence in Washington.

Q&A Rita Katz

The founder of SITE Intelligence, which tracks extremism online, says the growth in right-wing radicalization in the U.S. stems from President Trump's behavior and the dynamics of social media.
—Joshua Brustein

● Born in Iraq, educated in Tel Aviv ● Founded SITE after Sept. 11 ● Documented planning of violence in online forums in the weeks before the Capitol riot ● Writing a book about the online tactics of jihadis and the far right

What are the parallels between the right-wing radicalization efforts online and those of other extremist groups like ISIS?

ISIS and this new far right have had remarkably similar trajectories. Both were formed out of rejection of their movements' establishments, both were adept at leveraging social media for recruitment and setting up vast online infrastructures, and both have prioritized action over a coherent ideology. At times the far right was following in lockstep with ISIS's playbook online, down to the very platforms they used.

Have tech companies and the U.S. government used similar strategies to combat the two threats?

Yes, but not to any comparable level of coordination. The entire globe gradually united behind fighting ISIS online. With the far right it's been a far thornier path, and it's been harder for different companies to get on the same page. Is QAnon in the far right? What are the implications on free speech? When does conservative commentary become dangerous conspiracy theory propagation? Censorship protocols are a lot more straightforward when you're talking about a designated terrorist entity.

What will be the impact of Donald Trump's effective disappearance from social media?

It was the right thing to do because it shields mainstream audiences from toxic rhetoric. However, there is another side of the coin: Now, as his supporters migrate to lesser-regulated and fringe platforms, they will only become more radicalized and dangerous. When you throw similarly frustrated people together, they feed off each other and become more radicalized.

Are you optimistic that the attack on the U.S. Capitol will spark a turnaround?

No. Sorry to be a doomsayer, but I believe we may be in for a generation of strife similar to the civil rights era. Only this time, unlike the 1960s, social media could play a devastating role in spreading conspiracies that induce further division and violence.

JASSY: DAVID PAUL MORRIS/BLOOMBERG. KATZ: NIKKI KAHN/THE WASHINGTON POST/GETTY IMAGES. DATA: CANALYS

Florida braces for a gold-plated makeover as finance rethinks its attachment to New York

Construction cranes pirouette above the skyline in Miami. Porsches are selling briskly in Coral Gables. Over in Palm Beach, along Worth and Hibiscus avenues, the Gucci set is counting new neighbors. The scent of fresh money hangs over Florida these days like the sweet smell of orange blossoms. In the midst of a deadly pandemic–and in truth, largely because of it–an optimism has taken hold among the state's boosters.

Locals are buzzing again that the Miami area might finally realize a long elusive dream of becoming Wall Street South. Several prominent financial companies, including the mighty Goldman Sachs Group Inc., are considering moving some business there, or are relocating outright. And in these days of working from home, Florida's low taxes, year-round warm weather, and emerald golf links are already luring some Wall Street people down from New York.

To David Greenberg, a former board member of the New York Mercantile Exchange who helps run a family investment office in Boca Raton, news that Goldman may move its asset-management division here was a watershed moment. "There's no way to put that genie back in the bottle," says Greenberg.

Maybe. This sultry home of tourism, cruise ships, and retirees has been trying to diversify its economy for generations, with mixed success. Even as Miami's Brickell neighborhood transformed into Florida's version of Manhattan a decade ago, the state has attracted only a smattering of mostly small to medium-size hedge funds, family offices, and banks looking for a convenient hub for Latin American wealth management. In research firm Z/Yen's Global Financial Centres Index, the Miami area doesn't even make a cameo.

But Covid-19 may just be the catalyst for a shift. For months, New York stock traders, portfolio managers, and investment bankers scattered across the U.S. Many headed south to spacious homes with private pools. Now, as the vaccine rollout begins and

Edited by Pat Regnier

firms look toward a post-pandemic world, some are realizing that their employees don't want to return to their old lives in Manhattan high-rises. And there are plenty of rich clients milling around: South Florida is one of the most ostentatiously wealthy places on the planet, home to two of America's three richest ZIP codes.

The 2017 tax overhaul, which capped the federal deduction on state and local taxes at $10,000, only increased Florida's tax advantage over areas such as New York and New Jersey. And while Miami isn't cheap—in fact, rents are far out of proportion with service-sector-driven median income—the price per square foot of a condo in the Brickell district is about a quarter of the cost in Manhattan, according to appraiser Miller Samuel Inc.

Doug Cifu, chief executive officer of electronic market-maker Virtu Financial Inc., says his company's decision to open a new office in suburban Palm Beach Gardens is simply "rational." He expects employees to save an average 10% to 11% on taxes, and much more on housing. "In terms of the quality of life, from my perspective, it is far superior in Florida now than it is in New York, and I don't see that changing in the near to medium term," he says.

There have been a series of pushes over the years to expand Florida's footprint in industries beyond tourism. Its airports and seaports have transformed it into a major force in global trade; it's become a hub for Spanish-language media and entertainment; and there's a booming health-care industry that caters to one of America's oldest populations. But the lack of critical mass for finance firms may have been a deterrent for companies coming to the area, says Sean Snaith, an economist with the University of Central Florida, who now sees it likely that more moves will be announced.

In a matter of months, firms including Paul Singer's Elliott Management Corp. and Tom Barrack's Colony Capital Inc. have put in motion relocations to Florida, while Blackstone Group Inc. and Citadel are setting up offices there. Other workers who flocked to the state as a Covid haven are simply choosing to stay, a move investment banking honcho Ken Moelis has already blessed for employees at his firm, Moelis & Co.

Kevin Couper, a senior vice president at Wealthspire Advisors, arrived from California in July after being asked to help open and manage the company's new office in Boca Raton. "I was very used to a higher cost of living, higher income tax," says Couper, 34, who has also lived in New Jersey. "Here, both went down, cost of living is less—at least where I am—and rent, too. Everything has been better."

Still, workers hoping they can move to paradise and keep their Manhattan paycheck may be disappointed. The average salesperson peddling securities, commodities, and financial services makes $149,880 in wages in the New York metro area, compared with $88,220 in metro Miami, which includes Fort Lauderdale and West Palm Beach, according to data from the Bureau of Labor Statistics. Financial and investment analysts make about 43% less in Miami than in New York.

There are also challenges to living in the Sunshine State, as the pandemic has made clear, including the crash of its unemployment website and a chaotic vaccine rollout. It's also one of the parts of the world that stands to be most affected by sea-level rise, a deterrent for risk-averse corporations.

Those issues haven't stopped a boom in the parts of the economy most affected by the wealthy. Ken Gorin, CEO of luxury-car purveyor the Collection, says his Miami-area dealerships notched their best month ever in December. He attributes about 10% of the sales to migration. Just recently, he recalls, a finance-industry transplant had come in for a Porsche Macan for his daughter. By the time the transaction was over, the customer had also made off with an Aston Martin sport utility vehicle for his wife and a McLaren 720S Spider for himself. "This is now people moving from California, people moving from New York—and it's new," he says.

Private schools are sensing a shift, too. At Pine Crest, an elite school with campuses in Boca Raton and Fort Lauderdale, interest has increased notably since March, says Christine Dardet, a spokeswoman. A 2019 analysis by Webster Pacific showed tuition at top schools in the New York metro area averages $54,000, vs. $39,000 in the Miami metro.

Among locals, there's also wariness. Couper of Wealthspire laments the possibility of transplants driving up house prices and increasing traffic. Lorenzo Canizares, a 73-year-old retired labor organizer in West Kendall, is concerned about more serious consequences: the prospect that wealthy financiers will take advantage of the state's tax structure to the detriment of long-term residents. "When people like that arrive here, everything seems to go up, and it makes it very difficult for people here," says Canizares.

"There's no way to put that genie back in the bottle"

For all the excitement, it's unclear whether small outposts for financial companies will spur a dramatic transformation. Goldman Sachs is looking for at least 50,000 square feet of office space, according to the *Palm Beach Post*, a fraction of the 2.1 million square feet at its headquarters on Lower Manhattan's West Street. The Florida Department of Economic Opportunity's own projections are modest in their assumptions about finance job growth. Wall Street-type employment—involving securities, commodities contracts, and other financial investments—is ▶

PHOTO ILLUSTRATION BY 731. PHOTOS: SHUTTERSTOCK (7)

◀ expected to climb 12.8% by 2028, to 56,227 positions. But that's about the same growth rate expected for Florida jobs overall.

There's also the question of whether multitudes of finance workers are willing to uproot their lives. Throughout recent history, U.S. millionaires have been less likely to move than the general public, and many ultra-wealthy people remain based in the region where they built their business, according to *The Myth of Millionaire Tax Flight*, a 2017 book by Cornell University sociologist Cristobal Young. Many careers are built upon social networks in a place, and few midcareer professionals are willing to give up their home-field advantage, he wrote.

South Florida saw some of its most astounding growth in the immediate aftermath of the 1918 flu pandemic, according to Paul George, resident historian at HistoryMiami Museum. The population of the City of Miami roughly quintupled to about 150,000 in the half-decade through 1925, aided by post-World War I relief. "We turned around after that pandemic was over and began to really look ahead, and this place boomed," George says. "It was like we were being discovered for the first time in a mass way in South Florida." *—Jonathan Levin and Amanda Gordon, with Lananh Nguyen, Sridhar Natarajan, and Alex Tanzi*

THE BOTTOM LINE Lockdowns showed many wealthy finance workers they didn't need to be in the main office. But Florida doesn't have a critical mass of top companies and jobs just yet.

How the Block Pulled Through

● A landlord and her small-business tenants are surviving lockdown but need more help soon

◀Dunn

Liz Dunn spent years transforming a handful of adjacent properties in Seattle into an acclaimed urban development, with apartments, offices, and a lot of retail space. Among her tenants were restaurants, a salon, a home-goods boutique, a bicycle shop, a hardware store, and a CrossFit gym. Many were in trouble after the government passed sweeping restrictions in March to control the spread of the novel coronavirus in the U.S.'s first Covid-19 hot spot.

For 10 months, Dunn has managed to stay afloat by cutting deals with the three banks that hold mortgages on her properties. Getting through the next 10 won't be easy without another lifeline. "I'm going to need more help," Dunn says. "My runway is over."

One of the surprising aspects of the pandemic is that it hasn't yet led to a real estate meltdown on Main Street. As businesses faced lockdown and employees were sent home, every link in a chain of financial obligations—from tenant to landlord to investor to lender—was suddenly under stress. Yet, somehow, many small businesses have stayed alive and commercial landlords have avoided mass foreclosures. The story of how Dunn and her tenants made it to 2021 shows how a mix of government programs, bank forbearance, and a lot of scrappy improvisation kept the chain from snapping—at least, so far.

The strain is still building: U.S. retail landlords count more than $50 billion in missed rent payments last year, according to estimates from CoStar, some of which may never be paid. Even as vaccinations begin, Covid cases are spiking, workers are staying away from offices, and the winter weather has curtailed outdoor dining in much of the country. Smaller landlords such as Dunn—and their tenants—are entering what may be the hardest stretch of the pandemic. "They were in a tough spot back in March," says Zachary Streit, senior vice president at George Smith Partners, a real estate debt and equity capital adviser. "Now, they're in a really tough spot again."

Despite having a bunch of hard-hit small businesses as tenants, Dunn had a few things going in her favor. For starters, her buildings aren't downtown. They're on a block in the Pike-Pine corridor of Capitol Hill, one of Seattle's best going-out neighborhoods (at least, pre-Covid). About a mile from Amazon.com Inc.'s urban headquarters, it's

PHOTOGRAPHS BY DAVID JAEWON OH FOR BLOOMBERG BUSINESSWEEK an area where a lot of people live. While demand for apartments in the neighborhood has softened, it hasn't emptied out the way central business districts across the country have.

Also helpful: Many of her 20 or so retail tenants quickly pivoted. The restaurants offered takeout and rejiggered their spaces to comply with new restrictions. The bike shop launched a business delivering boxes of local food to people's doorsteps. Within a week of the shutdown in March, the CrossFit gym began offering virtual classes, renting out its dumbbells and other equipment to members. "There were a few that put a rower on their back and rolled it home," says Tony Lau, one of the gym's owners.

In late spring, some relief came in the form of federal stimulus. Dunn helped her tenants access the funds, giving them information and connecting them with banks that were doling out the money. Businesses that list her properties as their address received almost $1.4 million in loans from the Paycheck Protection Program and an additional $705,600 in grants and loans from the Small Business Administration's Economic Injury Disaster Loan program. Some of this debt could ultimately be forgiven.

Still, the pandemic put big holes in everyone's businesses. Lau, the gym owner, says his revenue declined 65% last year. Yukiko Sodos, who with her sister owns Cafe Pettirosso in one of Dunn's buildings, says they've taken on more than $500,000 additional debt to keep that business and others they run afloat. "How many pastries and lattes can I sell to pay off half a million dollars?" she asks.

Dunn gave her tenants who were affected by the pandemic some form of rent abatement last year. But there were other things she couldn't help with. Years of gentrification and soaring real estate values in Capitol Hill have steeply increased the cost of renting a commercial space in the neighborhood, since tenants typically shoulder their share of property taxes as a part of their lease. Along with building insurance and maintenance—which they also pay—these additional costs often account for a quarter or more of a tenant's total rent bill, says Dunn. "We can't pay for these expenses on behalf of the tenants," she says. "We'd literally go broke doing it."

As it was, Dunn was already treading water. The investors backing her were willing to stop taking distributions to conserve cash. Still, "equipment wears out, elevators go on the fritz," she says. "None of that stuff comes to a standstill because of Covid." The cost for security also spiked as Capitol Hill became the local epicenter for racial justice protests in June. A Thai restaurant in one of her buildings, as well as the hardware store, had windows smashed. Dunn paid for the businesses to put up plywood boards for a time. Her security team went through six fire extinguishers one night putting out fires in the street outside her buildings.

Dunn was still getting most of the rent from her tenants in the apartments at her properties. But overall, her collections were running at about 80% at one building, 65% at another, and just above 50% at a third, "which, as most landlords will tell you, isn't typically enough to cover the mortgage," she says. Worse yet, several of her office leases were expiring, and many of those tenants weren't renewing as more people decided that they could work from home long term. ▶

▼ Dunn's Chophouse Row development and some of her small business tenants, including Sodos, second from right, and Lau, right

◀ Before the pandemic, Dunn had more than $25 million in debt on her properties. Her leverage was conservative, averaging at about 60% of loan-to-value, she says. There were no vacancies at her properties. After having a hard time during the Great Recession with a big, national lender, Dunn had switched to keeping her banking relationships local. That meant she had someone to call and plead her case with when things got difficult—which is exactly what she did as things spiraled downward last spring.

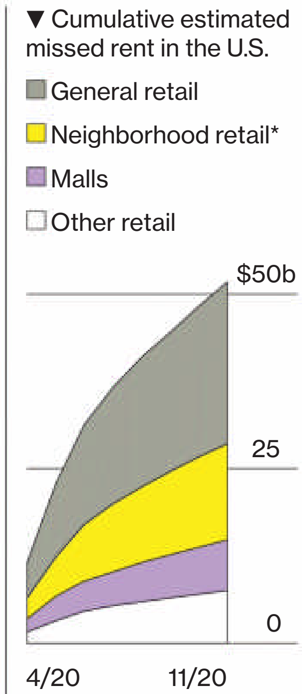
All three of her banks came through with some sort of relief, which she parlayed into rent abatement for her tenants. But by the end of the year, the deals with her lenders had expired. “We thought in April that by August or September, we would be back to, if not normal, near normal,” says Mark Mason, chief executive officer of HomeStreet Inc., a Seattle-based bank that issued a $15 million loan on one of her properties. “That just didn’t happen.”

Now, Dunn says, she’s “basically back at square one”—guessing, along with everyone else, how quickly the country will emerge from the pandemic. Without more help from her banks, she can’t offer the additional rent abatement that many of her tenants sorely need and are frustrated they aren’t getting from her right now.

There’s reason to believe that more assistance could be on its way. President-elect Joe Biden has said he’ll push for trillions of dollars in additional stimulus, some of which could aid small business. The Federal Reserve is likely to keep the spigots open for the foreseeable future. And while some lenders will get aggressive with property owners who’ve fallen behind, many creditors are choosing to work with borrowers, especially now that it’s possible to envision an end to the pandemic. “If you look far enough ahead, you can see land on the other side,” says Michael Knott, a managing director at real estate research firm Green Street. “It’s just going to be a bit choppy getting there.”

Mason, who helped turn HomeStreet around after the 2008 financial crisis, says the challenges facing today’s real estate market are far different from those a decade ago. Back then, prices plunged so much that building owners were underwater. In many cases. lenders had no option but to foreclose. “This is not like that at all,” Mason says. Lots of commercial real estate has held its value through the pandemic. And while retail space has been among the most challenging, a development like Dunn’s is a good asset in the long run, says Mason. “Time is really all she needs here.” —*Noah Buhayar*

THE BOTTOM LINE Rent abatements, help from banks, federal programs, and a lot of individual improvisation have staved off a commercial real estate meltdown.



It’s Harder to Invest in China. More Confusing, Too

● The New York Stock Exchange reverses course—again—to cut three companies

From its historic trading floor to the $126 billion worth of shares exchanged daily to the bell that marks the open and close of the trading day, the New York Stock Exchange is a symbol of both the might and the reliability of U.S. financial markets.

Yet over the course of a week, the exchange made a series of embarrassing U-turns on whether it would continue to list three large Chinese companies. The incident underscored the tensions with China that President-elect Joe Biden is set to inherit. Along the way, the NYSE was rebuked by Treasury Secretary Steven Mnuchin, was criticized by officials in both countries, and sowed confusion among investors.

In November, President Trump issued an executive order banning trades in companies tied to the Chinese military starting on Jan. 11 and requiring any remaining holdings in those companies to be divested by this November. Six weeks passed before investors, exchanges, and index providers received more details about which securities would be affected. On New Year’s Eve, the exchange announced it would delist the shares of China Mobile, China Telecom, and China Unicom Hong Kong. All three companies are largely owned by the Chinese state.

Four days later, the NYSE scrapped the plan.

ILLUSTRATION BY YANN BASTARD. *SELLS CONVENIENCE GOODS AND PERSONAL SERVICES FOR DAY-TO-DAY LIVING NEEDS OF THE IMMEDIATE NEIGHBORHOOD, INCLUDING SUPERMARKETS. DATA: COSTAR

The about-face prompted a disapproving phone call from Mnuchin to NYSE President Stacey Cunningham. The exchange reversed course again, saying it would delist the Chinese securities after all. Trading was halted in the U.S. on Jan. 11. The companies still have shares trading in Hong Kong.

"It's odd for the NYSE to get this so wrong," says Bloomberg Intelligence analyst Larry Tabb. "It's bad enough to do a 180 on this within a week, but to go 360 degrees on such a major move so quickly means that they either got this terribly wrong, or there was significant outside pressure driving these decisions." Representatives of the NYSE and Treasury declined to comment.

Market participants are still scratching their heads. Some people familiar with the situation say the NYSE, which is seen as politically savvy, got mixed messages from an administration whose policy was vaguely worded in the first place. Others speculated that the NYSE bowed to pressure from the business community to avoid antagonizing China when it first backtracked. Some of the biggest names on Wall Street have been courting business from China, the world's second-largest economy, as it invites in more foreign financial firms. They don't want to be locked out. Shares of the telecom companies have been held in emerging markets mutual funds and were parts of stock indexes.

The NYSE move ultimately to delist, along with belated guidance on restrictions from the Treasury's Office of Foreign Assets Control, set off a cascade of actions across the financial industry. S&P Dow Jones Indices, MSCI, and FTSE Russell have removed the securities from indexes. U.S. managers of mutual funds and exchange-traded funds such as BlackRock and Vanguard have been selling their stakes. Goldman Sachs Group, Morgan Stanley, and JPMorgan Chase said they will stop offering about 500 so-called structured products traded in Hong Kong. Such products allow investors to make bets linked to the performance of indexes or stocks, and some were pegged to Hong Kong indexes that include companies banned by the U.S. The trio of telecom companies lost more than $30 billion in market value following Trump's order.

Republican Senator Marco Rubio praised the NYSE's ultimate decision after blasting its earlier reversal as "outrageous," and serving the "interests of Wall Street and the Chinese Communist Party at the expense of the United States." Chinese officials dismissed the impact of the restrictions and said it would ultimately hurt U.S. interests, but they also struck a critical note. "Some politicians in the U.S. have been oppressing foreign companies listed in the U.S.," Foreign Ministry spokeswoman Hua Chunying said in a briefing in Beijing.

Federal authorities had been considering adding tech giants Alibaba Group Holding Ltd. and Tencent Holdings Ltd. to the blacklist, but Dow Jones reported on Jan. 13 that the U.S. no longer planned to do so. Other companies were expected to be added, the news service reported. It remains to be seen if the incoming Biden administration will enforce the trading bans. Adding to the uncertainty is the chaos surrounding the outgoing administration in the aftermath of the assault on the Capitol by Trump supporters.

The Securities and Exchange Commission has been pressing Chinese companies with stock trading in the U.S. to make sure investors are aware of the potential risks they face. SEC lawyers cited concerns about company disclosures and accounting, as well as Beijing's refusal to allow outside inspectors to review audits of Chinese securities issuers.

Biden will seek to reset U.S.-China relations, but he'll face pressure from lawmakers to take a tough stance. "The developments drive home an unfortunate fact for China—it is by far the weaker party in the financial relationship," wrote Chang Shu, chief Asia economist for Bloomberg Economics, in an analysis. "For the U.S., it underlines the painful balance in trying to contain China's rise while allowing the U.S. financial sector to capitalize on the massive growth opportunity China's opening offers." *—Lananh Nguyen*

THE BOTTOM LINE Chinese companies are already intertwined with U.S. markets, and efforts to blacklist some have sent financial companies scrambling.

America's Missing Workers

● Near-record levels of absenteeism could be hampering the recovery

Hundreds of workers at a Smithfield Foods Inc. meatpacking plant in Crete, Neb., contracted Covid-19 at the height of the pandemic last spring. For about 50 of the facility's 2,300 employees, a fear of getting sick because of preexisting conditions has kept them from working ever since.

"We work so close together," says a Smithfield worker in pork production who's been on leave from the plant throughout the pandemic and asked not to be identified for fear of retaliation. "It's like pulling teeth to find out if the person next to you tested positive."

While the surge in the number of unemployed Americans has been a focus of economists throughout the pandemic, another problem in the labor market has been mostly overlooked: The people that do have jobs are calling out sick in record numbers or taking leaves of absence.

Unlike the jobless rate, which has declined markedly from the peak in April, the rate of absenteeism has remained stubbornly high. More than 1.9 million people missed work in December because of illness, according to Labor Department data, almost matching the 2 million record set in April and underscoring the impact of a third wave of coronavirus infections.

These lost days of work are sapping an economic recovery that's been progressing in fits and starts for the past several months. Some indicators have improved significantly, but others such as retail sales and personal income have weakened as the pandemic rages and local governments impose fresh restrictions on businesses and travel.

Michael Gapen, chief U.S. economist at Barclays Plc, says vaccinations could start driving down absenteeism by the second quarter. Until then, the missed work is causing supply chain disruptions that may eventually show up in economic data. Absenteeism "could lead to shortages, it could lead to higher prices and more restrained output," he says.

The problem is so acute that companies in industries ranging from meatpacking to consumer packaged goods are lobbying to get their workers near the front of the line for vaccinations. The Consumer Brands Association, which represents

ILLUSTRATION BY SAMANTHA SLINN. DATA: U.S. BUREAU OF LABOR STATISTICS

Edited by Cristina Lindblad

Clorox, Procter & Gamble, Kellogg, and others, says the absenteeism rate has been averaging 10% over the last two months, with some members reporting rates at high as 25%. "The challenge in keeping lines up and running, the challenge in continuing to meet the extraordinary demand that's out there is absolutely enormous–and our companies are feeling it," says Geoff Freeman, chief executive officer of the CBA. "There are instances of having to shut down lines at various points in time in order to manage the absenteeism."

While U.S. Department of Labor data tracks people currently in the labor force who are out sick, a separate survey by the U.S. Census Bureau captures an even wider view. Its latest Household Pulse Survey–based on responses in December–estimates that more than 18 million people weren't working because of the virus. The figure includes people who were sick as well as those who stayed home because they were worried about getting or spreading the virus, those caring for someone with symptoms, and those looking after children not in school.

The effects are especially concentrated in manufacturing. General Motors Co. put white-collar employees on the production floor in August to cope with labor shortages amid strong demand for cars and trucks. While safety protocols have prevented Covid-19 spread within GM plants in recent months, there's no way to stop workers from getting infected outside the workplace, which presents an "ongoing challenge," according to spokesperson Dan Flores.

The Institute for Supply Management's gauge of factory activity increased in December, with the employment component returning to a level that indicates growth. Even so, survey respondents noted that Covid is affecting them "more strongly now than back in March." One running complaint among survey respondents is that vendors are grappling with their own employee shortages, which is causing supply constraints. "The quantity of infections and the quantity of people who are having to self-quarantine or be sick is just so overwhelming that everybody has to be affected by it," Timothy Fiore, chair of ISM's Manufacturing Business Survey Committee, said on a Jan. 5 call with reporters.

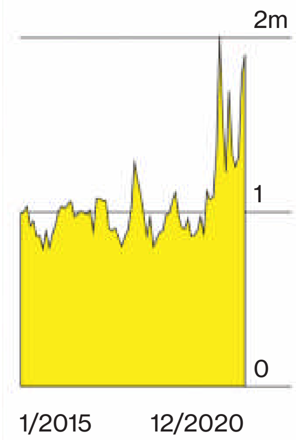
For office workers, 90% of professionals said before the pandemic they'd sometimes go to work sick, according to a 2019 study by staffing firm Accountemps. Covid changed the conversation, and more employees are staying home to protect themselves and others.

The Families First Coronavirus Response Act that Congress enacted in March made the decision to stay home easier for some by allowing two weeks of paid sick leave for certain employees. The law also allows leave for those unable to work because they must care for a child.

The latest stimulus bill, signed by President Trump on Dec. 27, includes an extension of the act through March 31 but makes paid leave voluntary for employers rather than mandatory as it was in the first iteration. The act also excludes essential workers, meaning those employed at facilities such as meatpacking plants can't take advantage of the policy. That in turn may lead to workplace outbreaks and further disrupt production this year.

"We know when the absenteeism will end, and that's when we get the vaccine in people's arms," says Freeman of the CBA. But a patchwork of state-run vaccine rollouts and a lack of federal leadership means "this is the Wild West right now, and we see the results of that." *—Olivia Rockeman, with Michael Hirtzer and Julia Fanzeres*

▼ U.S. workers absent because of illness



THE BOTTOM LINE More than 1.9 million workers called out sick in December. Absenteeism is snarling up supply chains and could lead to lost production and inflation-inducing bottlenecks.

How China Won The Trade War

● A by-the-numbers refutation of Trump's claim that there's been a reset in commercial relations

"Trade wars are good, and easy to win," President Trump famously tweeted in 2018 as he began to layer tariffs on about $360 billion of imports from China. Turns out he was wrong on both counts.

Even before the novel coronavirus infected millions of Americans and sparked the steepest economic downturn since the Great Depression, China was withstanding Trump's tariff salvos, according to the very metrics he used to justify them. Once China got the virus under control, demand for medical equipment and work-from-home gear such as computers expanded its trade surplus with the U.S. despite the duties.

While trade tensions between the world's two biggest economies predate Trump, he broadened ▶

◀ the fight with punitive tariffs and sanctions on tech companies. But China turned out to be a tougher adversary than he bargained for. Nevertheless, he's leaving his successor, Joe Biden, a blueprint for what worked and what didn't.

"China is too big and too important to the world economy to think that you can cut it out like a paper doll," says Mary Lovely, an economics professor at Syracuse University. "The Trump administration had a wake-up call."

On the stump in 2016, Trump vowed to very quickly "start reversing" the U.S. goods trade deficit with China, ignoring mainstream economists who downplay the importance of bilateral trade imbalances. The deficit has increased over the time Trump has been president, hitting $287 billion in the first 11 months of 2020, higher than the $254 billion shortfall for the whole of 2016.

As part of the phase-one trade deal the countries signed a year ago, China made an ambitious pledge to import an additional $172 billion in U.S. goods in specific categories in 2020. But through the end of November it had achieved just 51% of that goal. A slump in energy prices and problems with Boeing Co.'s planes played a part in that failure.

The persistent trade deficit is a reflection of how reliant U.S. companies have become on China's vast manufacturing capacity, a reality that's been underscored by the pandemic. China was the only country capable of increasing output enough to meet surging demand for goods including medical equipment and work-from-home gear.

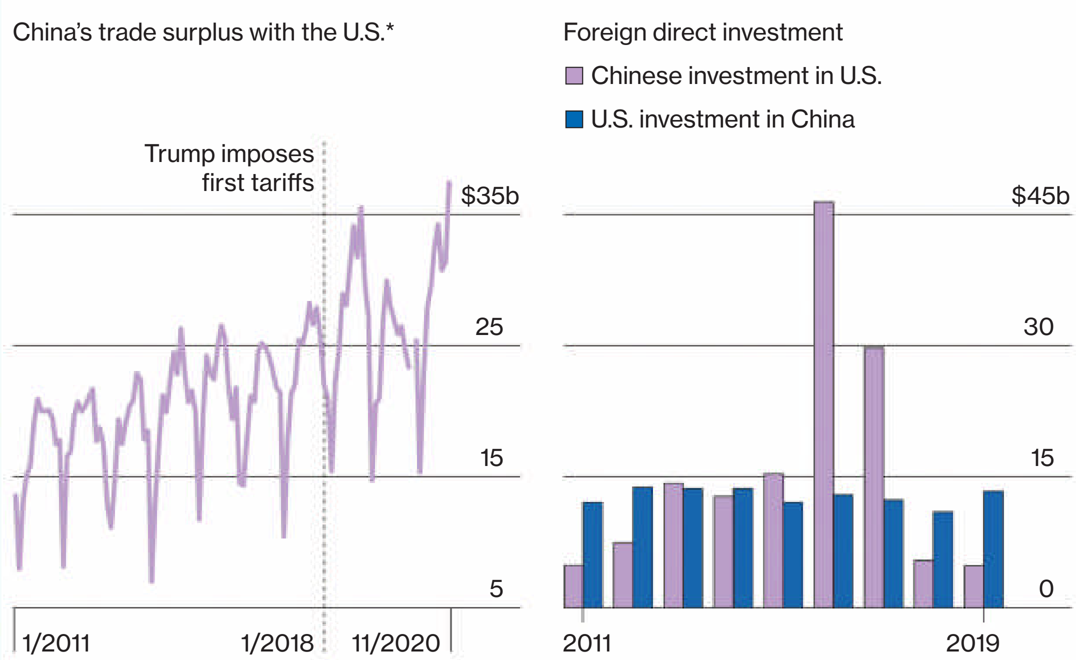
Trump repeatedly said China's accession to the World Trade Organization in 2001 caused its economy to take off like a "rocket ship," a result he viewed as unfair. As it turned out, his trade war coincided with another expansion in Chinese exports. After shrinking for two straight years in 2015 and 2016, China's overall shipments grew each year after Trump took office, including in 2019 when exports to the U.S. fell.

The Asean group of 10 Southeast Asian nations replaced the U.S. as China's second-largest trading partner in 2019, after the European Union. The shift to Asia is likely to continue because Southeast Asian economies are projected to grow faster than developed countries over the next decade. Those trade links will be further cemented by the Regional Comprehensive Economic Partnership pact signed in late 2020, which commits 15 countries in the region to gradually drop some tariffs on one another's goods.

Trump said tariffs would encourage U.S. manufacturers to move production back home, and in a 2019 tweet he "ordered" them to "immediately start looking for an alternative to China." But there's little evidence of any such shift taking place. In fact, U.S. direct investment in China increased slightly, from $12.9 billion in 2016 to $13.3 billion in 2019, according to data compiled by Rhodium Group, a consulting firm. In September the American Chamber of Commerce in Shanghai surveyed 200 U.S. manufacturers with operations in or around China's largest metropolis and learned that more than three-quarters had no plans to move production. "No matter how high the Trump administration raised any tariffs, it was going to be very difficult to dissuade U.S. companies from investing," says Ker Gibbs, president of AmCham Shanghai.

Trump claimed that tariffs had boosted the U.S. economy while causing China's economy to have its "worst year in over 50" in 2019. Yet the impact of tariffs on both countries wasn't very great, because the value of trade between them is tiny relative to the size of their economies. China's economy grew at or above 6% in both 2018 and 2019, with

No Shift in the Balance of Power



*JANUARY-FEBRUARY 2020 IS COMBINED BY SOURCE. DATA: CHINA'S GENERAL ADMINISTRATION OF CUSTOMS, RHODIUM GROUP

U.S. tariffs costing it about 0.3% of gross domestic product those years, according to Yang Zhou, an economist at the University of Minnesota. By her estimate, the trade war cost the U.S. 0.08% of GDP over the same period. The clearest winner was Vietnam, where the tariffs boosted GDP by almost 0.2% as companies seeking to escape the volleys and countervolleys of a tariff war piled in.

Trump repeatedly asserted that China was paying for the tariffs. But economists who crunched the numbers were surprised to find that Chinese exporters generally didn't lower prices to make up for duties, meaning it was largely U.S. companies ▶

◀ A Chinese shipment of personal protective equipment being unloaded at Los Angeles International Airport

◀ and consumers who wound up footing the bill. The researchers estimated that tariffs reduced total inflation-adjusted incomes in the U.S. by about $1.4 billion per month in 2018, according to their paper, which was published by the National Bureau of Economic Research.

Another own goal: Tariffs on imports of Chinese components eroded the competitiveness of U.S. exports. According to an analysis of confidential company data by researchers at the NBER, the U.S. Census Bureau, and the Federal Reserve, companies that together account for 80% of U.S. exports had to pay higher prices for Chinese imports, reducing export growth.

Trump campaigned hard in 2016 on a pledge to revive the Rust Belt by taking on China and bringing plants and jobs back home. It didn't happen. Growth in U.S. manufacturing employment flatlined in 2019, partly because of falling exports. Even regions home to industries such as steel that received explicit protection from Trump's tariffs experienced declines, according to research by Michael Waugh, an economist at New York University Stern School of Business, suggesting the trade war didn't significantly alter the trajectory of U.S. manufacturing. "There's no evidence that the tariffs benefited workers," he says.

The Trump administration argued that the levies provided leverage over China's leadership, compelling Beijing to enact reforms that would benefit U.S. companies. "I love properly put-on tariffs, because they bring unfair competitors from foreign countries to do whatever you want them to do," Trump said during an August visit to a Whirlpool Corp.-owned plant in Ohio.

The biggest victory claimed by the administration as part of its trade deal was vows from Beijing to enhance intellectual property protections. But that was probably in China's interests anyway. Mark Cohen, an expert on Chinese law at the University of California at Berkeley, says that while Beijing has made "tremendous legislative changes" in the past two years to strengthen IP protection, its desire to spur innovation at home may have been a more important factor than U.S. pressure. The agreement didn't "push the structural reforms in China that would make its system more systemically compatible with most of the world," he says.

Chinese companies spent a record $7.9 billion in 2019 on royalties and fees for the use of U.S. intellectual property. But the increase tracks a broad upward trend in their intellectual property payments to the whole world.

It's now up to Biden to decide whether to carry on with the trade war. In a recent interview with the *New York Times*, he said he wouldn't remove the import duties immediately and would instead review the phase-one deal.

Compared with tariffs, an escalating conflict over technology is of more concern to China. Sanctions and export restrictions imposed by Washington over national security concerns have threatened the viability of leading Chinese tech companies such as Huawei Technologies Co. and Semiconductor Manufacturing International Corp. The Trump administration's multipronged campaign to freeze out Chinese tech giants from lucrative markets in the U.S. and elsewhere represents an existential threat to Beijing's efforts at engineering new drivers of economic growth.

"There's no evidence that the tariffs benefited workers"

The impact of U.S. actions has been to accelerate China's drive for technological self-sufficiency. The issue has rocketed up the Chinese Communist Party's agenda, symbolized by a statement last month that increasing "strategic scientific and technological strength" is the most important economic task. —*Tom Hancock and James Mayger*

THE BOTTOM LINE China's trade surplus with the U.S. is at a record as Trump's term winds down. The Biden presidency will likely bring change in tactics if not goals.

RICHARD VOGEL/AP PHOTO

Why the U.S. Senate Is Broken

● Adam Jentleson argues that toxic partisanship rose when the filibuster became a cudgel

"This is not a particularly uplifting history," Adam Jentleson warns at the beginning of *Kill Switch: The Rise of the Modern Senate*, his new book about partisan dysfunction in the Senate and how to fix it. The violent Jan. 6 attack on the Capitol illustrates his point. Senate Democrats began the week exultant that twin victories in Georgia would give them control of the chamber under President Joe Biden. They ended it in an outraged clamor to expel two Republicans, Josh Hawley of Missouri and Ted Cruz of Texas, and likely headed for a second impeachment trial of Donald Trump.

Jentleson wasn't surprised. "What we're seeing today is really the culmination of centuries-long historical trends," he said the day after the attack, as images of the pro-Trump mob blanketed cable television. For seven years, Jentleson, 39, had an up-close view of growing Senate dysfunction as a top aide to former Democratic Majority Leader Harry Reid of Nevada. He left with a healthy contempt for how both parties operate and a clear diagnosis of the institution's primary ailment. The success of Biden's presidency, he believes, will hinge on whether Democrats recognize it and commit to reform.

Kill Switch traces the rise of toxic partisanship—and the ebb of productive legislation—to the emergence of the filibuster in the middle of the 19th century. In Jentleson's telling, it's a long, sordid tale. The filibuster wasn't envisioned by the framers. It isn't in the Constitution. "It arose as the need to maintain slavery led Southerners to search for new ways to defy the majority," he says. Throughout most of the 20th century it was used almost exclusively by segregationists to stop civil rights legislation.

But in the 1970s it began to be deployed on other issues and shed its racist taint. Over the years, canny insiders like Senator Richard Russell of Georgia, the Democratic segregationist, quietly tweaked Senate rules to change the filibuster from a measure that guaranteed the minority an opportunity to debate bills (a delaying mechanism) to one that obligated the majority to amass 60 votes to end that debate and proceed to a vote—a requirement that could be used to kill all but the most popular legislation.

By the time Jentleson arrived in the Senate in 2010, the Republican leader, Mitch McConnell of Kentucky, was aggressively undermining President Barack Obama's promise to unite the country by deploying the filibuster to block or limit almost every piece of major legislation. For his part, McConnell was happy to cop to what he was doing. "When you hang the bipartisan tag on something," he said in 2011, "the perception is that differences have been worked out and there's a broad agreement that that's the way forward."

Jentleson's formative experience in the Senate was watching McConnell wield the filibuster with impunity to kill much of Obama's agenda, while also blocking him from filling an open Supreme Court seat in 2016. Because most people pay no attention to Senate procedure, what was seen as a failure by Obama to fulfill his campaign promises ultimately caused many people to sour on him and his party.

Since leaving the Senate in 2017, Jentleson has assumed a role as an outspoken critic not only of Senate dysfunction but also of his own party's guilelessness and gullibility when dealing with McConnell and Republicans. Too often, he says, Democrats have fallen prey to a collective amnesia and allowed themselves to be swayed by McConnell's claims that a 60-vote threshold is a sacred American principle rather than an expediency crafted by a determined, obstructive minority.

"It's remarkable how, despite everything we've

Edited by
Amanda Kolson Hurley
and David Rocks

18+

WHAT IS AVAXHOME?

seen over the last 10 years, Democrats will still engage with McConnell in the very next negotiation as if he's a good-faith negotiating partner," Jentleson says. "It's like Lucy and the football. McConnell's single most effective skill is getting inside the heads of Democratic leaders and making them think that beneath the surface he really is an institutionalist who really does want to cut bipartisan deals."

Jentleson's frustration is increasingly common among Democrats of his generation. So is his proposed solution. "Any path to a functional Senate," he says, "entails eliminating or reforming the filibuster to restore the framers' vision of a place where votes are decided on a majority-rule basis."

Biden in particular worries reformers because he hails from the older generation of Democrats who, they contend, prize bipartisanship above all else, hold a benign and outdated view of the filibuster, and refuse to see McConnell for the savvy, cold-blooded realist they believe he is. True to form, Biden has insisted that his negotiating prowess and long relationship with McConnell and other Republican Senate veterans will allow him to forge deals that eluded Obama and avoid having to blow up the Senate rule that's supplied so much of McConnell's power.

Jentleson says this view is typical among Democrats of Biden's generation who first came to power in the 1970s. "The '70s and '80s were a unique period," he says, "because you had two conditions prevailing simultaneously that are unlikely to ever prevail together again: the filibuster coming into common use and relatively low levels of partisan polarization. It's easy to forget now, but when Biden arrived in Washington, many of the most conservative members of the Senate were Democrats and some of the most liberal were Republicans."

In that environment, neither party gained a clear advantage by using the filibuster, so the rule wasn't abused. It was simply one negotiating tactic among many. "It always had the potential to become the tool that the minority wields to block everything the majority wants to do, but it didn't yet operate in that way," Jentleson says. Not until decades later, when the parties had sorted themselves, did the temptation to routinely block the majority prove irresistible.

Despite all of Biden's backslapping, old-school Senate know-how, his gamble that he can achieve bipartisan comity is a risky one with the parties now so bitterly divided. It's the same bet Obama made, and lost. Even aside from Trump's likely impeachment trial, Biden's stated priorities—major climate legislation, new voting rights, deficit-funded stimulus to the tune of trillions of dollars—run directly counter to Republican goals and are sure to meet firm resistance. What then?

Witnessing Republicans obstruct Obama's agenda gradually convinced some Democratic traditionalists that reform was necessary. In 2013, ▶

"It always had the potential to become the tool that the minority wields to block everything the majority wants to do"

◀ Jentleson

PHOTOGRAPH BY SUSANA RAAB FOR BLOOMBERG BUSINESSWEEK

◀ Jentleson's boss, Reid, triggered the "nuclear option," changing Senate rules by a majority vote to eliminate the filibustering of presidential nominees, excluding Supreme Court nominees (by that point, Jentleson writes, half the filibusters against nominees in U.S. history had been waged by Republicans against Obama's). McConnell and Republicans extended the rule to include Supreme Court nominees in 2017 to confirm Neil Gorsuch. Doing away with the legislative filibuster is a step many senators still prefer to avoid, although previous Democratic skeptics, such as Biden's ally and fellow Delaware senator, Chris Coons, hinted over the summer that reform may finally be necessary.

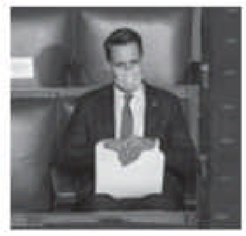
Jentleson, a habitual cynic, is uncharacteristically optimistic about the potential for reform in the not-too-distant future. The next few months, he says, will reveal whether Biden's throwback approach is a viable one or whether he's just the latest Democratic president to be gulled by McConnell's slow-walking and continual promises that a deal is just out of reach. Jentleson has little doubt about how that will unfold.

This time, he believes, Democrats will have no choice but to force a resolution. "The issue will become very acute until you either have to reform the filibuster," he says, "or give up and accept nothing is going to happen." —*Joshua Green*

THE BOTTOM LINE A former Senate aide contends that the filibuster, once a protection for the voice of the minority party, now gives it too much obstructionist power and must be reformed.

Persona Non Grata

● Josh Hawley is a political pariah following the Capitol riot



If Jan. 6 was one of the grimmest days in modern American history, Jan. 7 was a personal nadir for Josh Hawley, the Republican junior senator from Missouri. In the space of 24 hours, a key donor and a former mentor turned on him, newspapers in his home state and colleagues in Congress called for his resignation, and Simon & Schuster canceled the publication of his book *The Tyranny of Big Tech*.

● WHY HE'S BEING VILIFIED
The cause of the pile-on was his role in contesting President-elect Joe Biden's victory over President Donald Trump. Hawley was the first in the Senate to say he'd object to certifying the Electoral College votes, later joined by Republican Senator Ted Cruz of Texas and others. Hawley still voted to object after a pro-Trump mob stormed the U.S. Capitol, claiming the lives of five people, and he was photographed giving a fist pump to Trump supporters that day.

● WHAT CRITICS ARE SAYING
Before the siege, the 41-year-old senator appeared to be positioning himself for a 2024 presidential run. The editorial board of the *St. Louis Post-Dispatch* wrote that his "presidential aspirations have been flushed down the toilet because of his role in instigating [an] assault on democracy."

Likely more damaging were comments from David Humphreys, chief executive officer of Missouri-based Tamko Building Products, who gave almost $350,000 to Republican causes in the 2020 election cycle. "Hawley's irresponsible, inflammatory, and dangerous tactics have incited violence and further discord across America," Humphreys said in a statement.

"I thought he was special," said 84-year-old John Danforth, who served three terms as a Republican senator from Missouri, in an interview with the *Kansas City Star*. "And I did my best to encourage people to support him both for [Missouri] attorney general and later the U.S. Senate, and it was the biggest mistake I've ever made in my life."

● WHY HE MAY OUTLAST IT
Hawley doubled down, saying he would never apologize for challenging the election result and (incorrectly) calling the book cancellation an "assault on the First Amendment." He may not pay much of a political cost for fueling conspiracies that boiled over into violence. Doug Heye, a former Republican House aide who also worked in the George W. Bush administration, says even a censure by the Senate might not hurt his ambitions. "We're in a different political environment," Heye says. "This is part of Trump's success—he would smash norms."
—*Nancy Ognanovich is a reporter for Bloomberg Government*

Inoculating Against a Loss At the Polls

● After Israel's vaccine rollout slowed, Netanyahu scrambled to beef up supplies—and his campaign

As most places struggle to vaccinate even 1% of their population, in Israel 21% of residents—1.9 million people—have gotten shots since the Health Ministry began offering the vaccine from Pfizer Inc. and BioNTech SE on Dec. 20. Prime Minister Benjamin Netanyahu says almost everyone in the country (though not Palestinians in the adjacent West Bank) will be vaccinated by early spring. "We're moving very fast in all directions," says Arnon Shahar, a doctor running the virus task force for Maccabi Healthcare Services, Israel's second-largest medical network. "There's a lot of pressure."

Centralized government, limited territory, and a relatively small population—9.3 million—have all helped Israel reach a level of coverage that's almost double that of the No. 2 country, the United Arab Emirates, and seven times that of the U.S. Israel's advantages have been amplified by its universal health insurance and a digitized medical system with extensive records that allow providers to target at-risk populations and track progress. And with Netanyahu desperate to win an upcoming election, he's made the vaccination effort a top priority.

But Israel also offers a cautionary tale about the continuing risks of the coronavirus: Despite the vaccinations, infections have surged to one of the world's highest rates per capita. The country in late December imposed a third lockdown that shuttered schools, restaurants, and most stores and set draconian restrictions on movement. And with the rapid inoculation campaign depleting supplies, new vaccinations have slowed because Israel is reserving half its doses as boosters to be administered a few weeks after the initial treatment–in accordance with the manufacturer's recommendations–rather than giving initial shots to more people and delaying follow-ups.

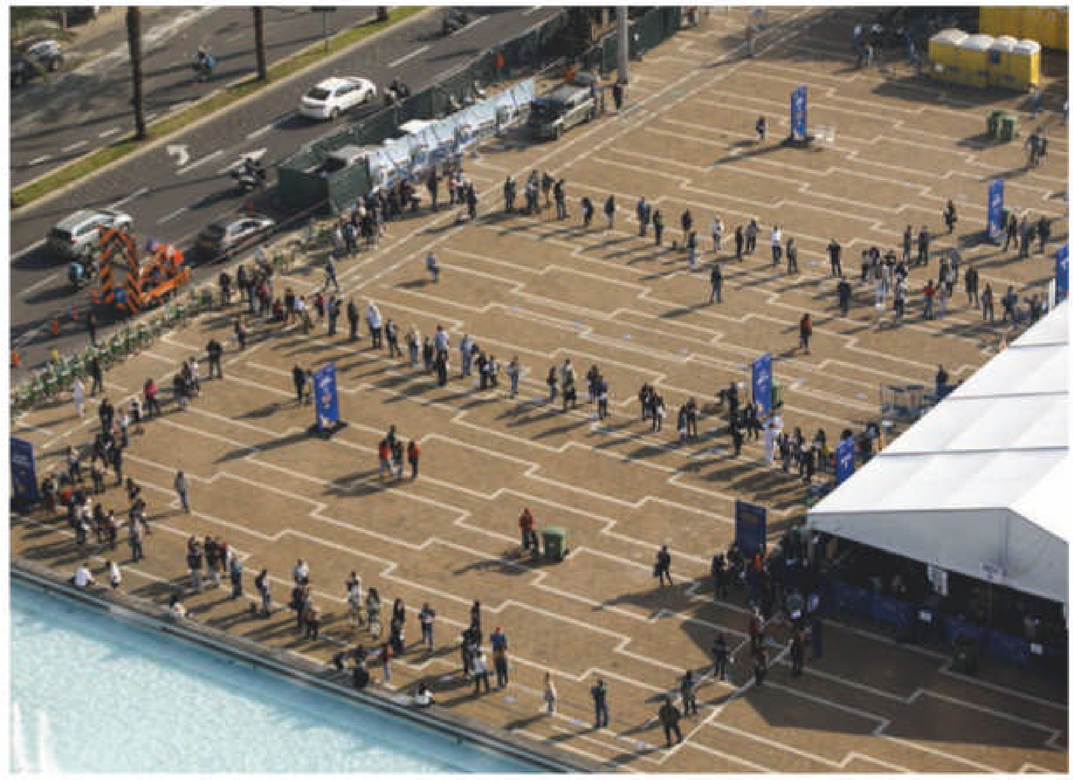
Netanyahu is betting a successful rollout can rekindle economic growth before Israelis head to the polls on March 23 for the fourth national election in two years. Upbeat economic news is vital for the prime minister, who faces a bribery and fraud trial that will soon require him to appear in court frequently. Opinion polls show him struggling to win sufficient backing to form a new government as he faces a strong field of challengers such as Gideon Sa'ar, a high-profile defector from his Likud party. "If the country is first to get vaccinated and first to get the economy back on track, of course it will be a major boost," says Srulik Einhorn, a Netanyahu campaign adviser.

To keep supplies flowing, Netanyahu repeatedly called Pfizer Chief Executive Officer Albert Bourla–17 times in recent weeks, the government says. The effort paid off, and Netanyahu on Jan. 7 said Israel can expect enough doses for all citizens to get vaccinated by late March. "We will be the first country in the world to emerge from the coronavirus," Netanyahu told reporters. In return for expedited supplies, he promised to provide Pfizer with data on outcomes to help the company better understand the vaccine's performance and spot any unexpected side effects. Vaccine shipments from Moderna Inc. started arriving in early January, and AstraZeneca Plc will begin sending its version this spring.

Israel won plaudits for a strict early clampdown that largely contained the outbreak, but in May the government let down its guard, with schools reopening and Netanyahu urging citizens to go out and "have fun." New infections spiked, taking the air out of any economic recovery, and unemployment now tops 12%, triple the pre-pandemic level. The Bank of Israel forecasts that output will expand 6.3% this year with rapid vaccinations, but only 3.5% if the pace slows. "If Netanyahu is responsible for the vaccine, OK, he can take responsibility," says Yoaz Hendel, a former Netanyahu aide who's now a candidate for Sa'ar's New Hope party. "At the same time, he has responsibility for the unemployment and political instability."

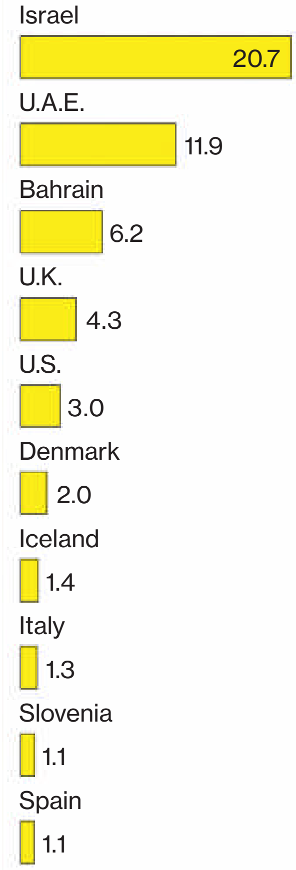
The rapid rollout starkly contrasts with the situation for the millions of Palestinians living under Israeli control. Even as crowds jam public vaccination sites in Tel Aviv, West Bank areas such as Bethlehem, Nablus, and Gaza haven't set a start date for shots. The Palestinians are awaiting doses from international donors after West Bank officials say they rejected a shipment from Israel as laughably small. "We are connected in this pandemic," says Khaled Shiha, a senior official in the Palestinian Health Ministry. "They can't consider themselves vaccinated without doing the same thing with the Palestinian population."

Back in Israel, health-care providers have set up clinics and dispatched mobile vaccination units to every corner of the country. While the activity isn't as frantic as it was in late December, the pace is likely to pick up again soon. Gili Regev, director of the infection prevention unit at Sheba Medical Center near Tel Aviv, says health-care workers who got the vaccine early in the campaign have shown increased levels of antibodies, and those who've fallen ill have typically had a milder case of Covid-19. "Within a week or two we're going to really see the effects, probably in all of Israel," Regev says. "It looks very promising and gives us a lot of optimism." —*Ivan Levingston*



▲ Israelis have thronged mass immunization sites

▼ Vaccinations per 100 people reported as of Jan. 13



THE BOTTOM LINE Israel's success with vaccinations offers a cautionary tale about the continuing risks of the virus, as infections surge amid a third lockdown and Palestinian areas wait for shots.

HAWLEY: TOM WILLIAMS/CQ-ROLL CALL/GETTY IMAGES; ISRAEL: KOBI WOLF/BLOOMBERG. DATA: BLOOMBERG REPORTING

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Last Feb. 10, as authorities in China ended work stoppages intended to halt the novel coronavirus, much of the country remained quiet. Transportation was still disrupted, and many workers were stuck in their home provinces. Others had been told to avoid their factories and offices until managers formulated plans to reopen safely.

But on a marshy plain on the outskirts of China's largest city, Tesla Inc.'s Giga Shanghai was bustling. Thousands of laborers were back on the assembly line, many of them brought in on government-provided buses from dormitories secured by officials to keep them from mingling with the community. The workers had plenty of N95 masks: Unlike many businesses, Tesla had been allocated ample shipments by the bureaucrats who'd assumed control of protective gear supplies. The factory was being cleaned with a disinfectant that required a regulator's license to purchase, too.

In its first week after resuming production, with Toyota Motor Corp., Volkswagen AG, and other foreign carmakers still unable to fully reopen, Tesla Shanghai made about 1,000 cars. By March it was up to 3,000 a week, a higher rate than before the shutdown. Around that time, according to people familiar with the conversation, an executive remarked in an internal discussion that Tesla didn't just have a green light from the government to get back to work—it had a flashing-sirens police escort. (In an email, a company representative said that "no Tesla executive has ever made such a statement.")

Tesla's rapid return to normal was consistent with the relationship the electric vehicle maker has enjoyed with the Chinese state since 2018, when it announced plans to build the Shanghai plant. Again and again, it has extracted perks other international companies have struggled to obtain, including tax breaks, cheap loans, permission to wholly own its domestic operations, and assistance constructing a vast facility at astonishing speed. Support from the government has helped Tesla turn China into its most important market outside the U.S. The Model 3 is now among the bestselling EVs in the world's most populous country, and in Tesla's most recent earnings report, China accounted for about a fifth of revenue—a performance that helped make Elon Musk the world's richest man this month. Perhaps most crucially, the company is moving closer to the heart of the frenetic Chinese technology sector than almost any foreign rival. Tesla China is more than a branch plant; it's intended to do original research and development work, allowing it to hire some of the country's brightest technical minds and keep them away from potential competitors.

In turn, Tesla and its chief executive officer have done all the right things as far as Beijing is concerned. Musk, who didn't respond to requests to be interviewed for this story, has effusively endorsed China's talent pool and its ambitious plans for EVs, remarks that go a long way in a country whose leaders are intensely sensitive to foreign judgments. Tesla's local unit has also aligned itself explicitly with President Xi Jinping's economic policy goals and forced China's vast array of EV manufacturers to up their game, a crucial step in the government's efforts to dominate the age of electric mobility.

As Tesla's presence has grown, it's been fair to wonder if Musk has become Xi's favorite foreign capitalist. But though Musk's is a privileged position, it's also an awkward one. U.S.-China relations are at their lowest point since at least the early 1990s, a trend intensified by President Trump but almost certain to continue beyond his term, with President-elect Joe Biden increasingly skeptical of China and hawkish attitudes commonplace among legislators from both parties. Stung by years of protectionism and intellectual-property theft, and mindful that China has been accused of large-scale human rights abuses in Xinjiang and Hong Kong, few American CEOs are willing to publicly praise it anymore. Even fewer would say, as Musk did on a podcast over the summer, that "China rocks."

So far, Musk's dealings there have done little to undermine his position at home. Beloved by many liberals for his environmental credentials, hailed by Trump-aligned conservatives for his efforts to restore U.S. manufacturing, and—through SpaceX—trusted by the Pentagon to launch spy satellites, he seems as popular in Washington as he is in Beijing. But as relations between the two capitals deteriorate and an increasingly authoritarian China seeks to seize global leadership in key technologies such as EVs and artificial intelligence, it's not clear how long Musk will be able to straddle this geopolitical fault line. U.S. politicians could decide they don't want one of the country's flagship industrial companies sharing knowledge with a strategic rival; Chinese leaders could adopt a less indulgent view of Tesla once it has served their purposes.

Under Xi's economic strategy, "foreign companies are going to have pretty good opportunities, but they have to be aware that the ultimate plan is for all the advanced technologies to be Chinese," says James McGregor, the chairman for Greater China at government relations firm Apco Worldwide. "I hope that Elon is going in there with both eyes open."

China is the world's largest market for EVs by a huge margin, with about 1.2 million sold in 2020, more than 40% of the global total. To a large extent, their popularity is driven by government policy. For a decade, central and local administrations have offered a complex mix of subsidies and incentives for buying plug-in hybrid or fully electric cars. Some big cities have also implemented systems that penalize owners of conventional vehicles. In Shanghai, for example, license plates for new gasoline-powered cars have to be purchased in an auction, at prices that are currently around $14,000, whereas plates for EVs are free.

Yet even in the most plugged-in cities, Teslas were rare until fairly recently. In 2015 the company sold about 3,700 cars in China, compared with almost 33,000 by then-leader Zhidou Auto, a maker of golf-cart-size electric hatchbacks. There were some costly early mistakes. When Tesla began selling its first sedan, the Model S, in China in 2014, its designers hadn't grasped that Chinese buyers wealthy enough to afford one tended to have chauffeurs and so wanted fancier backseats. Its software suite was also missing some popular Chinese apps, and its cars' charging ports were compatible only with

An event to celebrate the shipment of China-built Model 3s to Europe in October

Tesla's proprietary chargers, not China's national standard.

The bigger problem was that every Tesla sold in Beijing or Shanghai was made in the U.S. Like many Chinese government initiatives, EV subsidies had been designed to expand the country's industrial base and support state companies, so they generally didn't apply to imported vehicles. Chinese manufacturers such as BYD Auto Co. and BAIC Group, by contrast, benefited enormously from the aid, which allowed them to sell midrange EVs for the equivalent of $20,000 or less after purchase subsidies.

Within Tesla, discussions about China proceeded warily. Three former senior managers, who asked not to be identified describing internal deliberations, recall intense scrutiny of dealings with Chinese suppliers or partners, in part over concerns about protecting intellectual property. The integrity of supply chains was another worry. Tesla executives, two of the managers say, often didn't feel they knew enough about the environmental records of some Chinese vendors—for example when it came to graphite, a critical battery component whose mining can cause severe pollution.

In 2017 the company's orientation to China began to change. That March, Tencent Holdings Ltd., a flagship tech business with close connections to the state, bought a 5% stake in Tesla, prompting Musk to declare on Twitter that it would be "an investor and advisor." He didn't specify on what Tencent would advise, but the deal seemed to presage a serious push into China. Tesla was also working to correct some of its earlier issues, by adding, for example, Chinese-standard charging ports.

Out of public view, Tesla was exploring how it could build a more robust presence there, with executives canvassing mainland cities in search of potential factory sites. Shanghai, traditionally China's most outward-looking metropolis and the hometown of Robin Ren, the Stanford-trained engineer who headed Tesla's Asia-Pacific operations, was an obvious frontrunner. But Chinese cities have a long history of competing to attract big-name foreign investors, and in the U.S., Musk had proved adept at making governments vie for his affections, securing generous incentives and tax breaks for a factory near Reno, Nev., and a rocket launch site in South Texas. In its discussions with potential Chinese hosts, according to people familiar with the search, Tesla had a nonnegotiable condition: 100% control of its local operations, to protect its IP and arguably the world's hottest automotive brand. No other entity, Chinese or otherwise, could take even a small financial stake.

This was a very big ask. Since the 1990s, China had barred foreign car companies from setting up wholly owned units. Instead they had to enter 50-50 joint ventures with Chinese entities, sharing revenue, technology, and expertise with companies that might use those assets to develop competing products. Changing the rules would require both local and national government support. By late 2017, Tesla had settled on Shanghai as the likely choice for a factory, but people familiar with the matter told Bloomberg News early the next year that negotiations were stalled over the ownership question, with central government officials insisting on a JV.

Musk's timing proved fortuitous, though. The U.S.-China trade war was intensifying, with Trump threatening wide-ranging tariffs and American companies encountering a more hostile environment in the People's Republic, including calls on social media to boycott their products. In a survey of member businesses published in 2018, the American Chamber of Commerce in China reported that 75% felt "less welcome than before," reflecting "perceptions among foreign-invested companies that they are not treated equally." For the first time since China's economic opening in the 1980s, it seemed possible that the inward flow of foreign money and expertise would reverse course, jeopardizing growth. "China was looking for headlines to say that U.S. companies still want to come here," says Kenneth Jarrett, a former U.S. consul general in Shanghai and now a senior adviser at the Albright Stonebridge Group. "And Tesla realized that and realized that they could bargain harder and win."

Musk held out for full control, and in April 2018 he got it. That month the powerful National Development and Reform Commission announced that the 50% foreign ownership cap for automotive businesses would disappear by 2022, with operations devoted entirely to EVs exempted almost immediately. Three months later Tesla sealed an agreement with the Shanghai government for a factory capable of producing 500,000 vehicles a year.

Early in 2019, Musk and a host of dignitaries gathered by a muddy field in the Lingang New Area, a development zone an hour and a half's drive from the center of Shanghai. Taking the stage behind a white, Tesla-branded lectern, he marked the occasion with characteristic hyperbole. The factory the company was breaking ground on, he said, would be "perhaps the most advanced" on the planet. What was more, "we think, with the resources here, that we can build the Shanghai Gigafactory in record time." ▶

◀ He then went to Beijing, his every move tracked on social media by Chinese fans, many of whom were charmed by his decision to dine at one of the city's better-known hot pot restaurants. The highlight of the trip was an audience with Premier Li Keqiang. "I love China," Musk said as they met, providing a soundbite that would be distributed enthusiastically by state media. It quickly became clear that China loved him back, and not only because Li replied that Musk might be granted permanent residence.

In March of that year, several state-backed banks finalized a deal with Tesla for as much as $521 million in construction financing. They agreed to lend the money at a subsidized rate and on a nonrecourse basis, meaning that in the event of default, the banks would have no legal claim on Tesla beyond its collateral. The factory was already going up at an astonishing pace, with the Shanghai government prodding it on any way it could. Tesla had been allowed to begin work before securing all its permits, and local officials were stationed on site to process paperwork. Connecting the facility to the water network took only four days, and State Grid, the national electricity distributor, said it had completed Tesla's power hookup faster than for any project of comparable size.

Tesla seemed as popular in Beijing, where Musk returned in August 2019 for a schedule of meetings that included a sitdown with the minister of transport, Li Xiaopeng. The same day, the government announced that all Teslas, no matter where they were made, would henceforth be exempt from a 10% purchase tax on new vehicles. The carve-out brought the number of carmakers receiving the exemption, intended to encourage the adoption of EVs, to 33. The other 32 were foreign-domestic joint ventures or wholly Chinese.

Then again, Tesla's local operation was beginning to look like a domestic entity. In mid-2019 the company had begun an overhaul of its Chinese business, previously part of an operating unit for the Asia-Pacific region. Now, Tesla China would be an independent division reporting directly to the U.S. headquarters. Tom Zhu, a Chinese-born executive who'd been overseeing construction in Shanghai, was put in charge, and he set about making the unit more autonomous and distinct from the rest of Tesla.

Soon after he took over, according to current and former employees who asked not to be identified discussing internal matters, Zhu told staff to start writing emails in Chinese whenever possible. Most departments were directed to report only to him, the employees say, and direct contact with the U.S. was sharply limited—so much so that sending a direct message without Zhu's approval to Musk, who's long invited even low-level staff to bring problems straight to him, could draw a reprimand. (The Tesla representative said there are "no measures blocking connections" between China and headquarters.)

The reorganization also increased the power of Grace Tao, a former correspondent for state-controlled China Central Television who leads communications and government affairs. Tao made little secret, the employees say, that her priority was to ensure Tesla retained support from the top echelon of the Chinese state. She hung a large organizational chart depicting the upper reaches of the central government and senior officials in key provinces—critical Kremlinology in modern China. According to the employees, she's said that if she wants to get a message to Xi, she need only go through one intermediary, which would be an astronomical level of access in China. (The Tesla representative denied that Tao has ever made this claim.)

As Tesla's plans for production in Shanghai advanced, the help kept coming. In early December 2019, China-made Model 3s were approved for purchase subsidies of just under 25,000 yuan ($3,900) per vehicle, despite a broad government effort to curtail such giveaways as EVs became more competitive with conventional cars. Shortly afterward, Tesla secured another financing deal from state-controlled banks, this time worth more than $1 billion.

Musk's claim that the Shanghai factory would be up and running with unprecedented speed proved correct. Its cars began rolling off the line right before the end of 2019, less than a year after groundbreaking. In keeping with company practice, the first vehicles were reserved for employees, one of whom, as the launch event unfolded, proposed to his girlfriend with the car as an engagement gift. She said yes.

So far, Chinese consumers—who, because of the near-elimination of the coronavirus within their borders, are closer to economic normalcy than the citizens of virtually any other major country—have reacted enthusiastically to Tesla's expanded presence. The Model 3 was China's most popular EV for much of 2020, and the Shanghai plant has also begun producing the Model Y sport utility vehicle. In October the city's government delivered yet another blow to traditional cars, declaring that vehicles with out-of-town registrations would be barred from key downtown roads during the daytime, an effort to tame resurgent traffic snarls. That prompted more demand for EVs among commuters seeking to capitalize on the vehicles' exemption from the auction system for new Shanghai plates. Potential buyers were particularly interested in Teslas, thronging local dealerships in maskless, undistanced crowds.

Already, the Chinese market has become crucial to Tesla's overall business. The company recently changed how it reports financial figures to make China the only country, aside from the U.S., for which it breaks out quarterly revenue. It rose there from $669 million in the third quarter of 2019 to $1.74 billion in the same period of 2020. Musk's bet, in other words, is paying off.

The question of what China is gaining is more complicated. For many automotive experts, the government's prime motive is clear: to upgrade the capabilities of the Chinese electric car industry by forcing Tesla's competitors and suppliers to improve their game. Beijing in recent years has been gradually withdrawing support for EV companies, seeking to consolidate an industry that at one point had almost 500 domestic players. Tesla, the theory goes, will be the stick against

It's long been all but impossible to make money in China without official cooperation, and that's become even more the case as Xi has expanded the state's power over every sector of the economy

which the remaining players measure themselves. It will also provide a major boost to companies such as Contemporary Amperex Technology Co., the Chinese battery giant providing power packs for some of Tesla's Shanghai-made cars. Thanks in part to its relationship with Tesla, its shares tripled in 2020, and it currently has a market value of about $140 billion; other suppliers hope for similar windfalls.

"Tesla's presence is meant to help develop the entire supply chain," says Scott Kennedy, a senior adviser at the Center for Strategic & International Studies who researches the Chinese economy. There's a precedent for this in the smartphone industry. Most iPhones are assembled in China, to the benefit of a vast array of domestic suppliers. But though Apple Inc. generates considerable profits in the Chinese smartphone market, the sector is dominated by local companies such as Huawei, Oppo, and Vivo, which have prospered in their U.S. rival's wake. "On the one hand you have access to this extremely efficient manufacturing supply chain and a huge market," Kennedy says. "On the other you're standing inches from competitors who could put you out of business."

At this point, going out of business is almost as remote a possibility for Tesla as it is for Apple, but there's already evidence that, despite its early success, the carmaker may fall short of its most transformative expectations for China. It has repeatedly cut the price of its Shanghai-made Model 3s to align them more closely with their domestic competition, and in a recent investor presentation it boasted that the vehicle is now "the lowest-price premium midsized sedan in China." It's also exporting Model 3s from the Shanghai factory to Europe, a possible sign that the Chinese market isn't soaking up all its production. Meanwhile, local EV manufacturers are investing heavily in better-looking products and more sophisticated technology. One of the most prominent, XPeng Inc., raised $1.5 billion in an initial public offering in New York last year, and another, NIO Inc., is now worth considerably more than General Motors Co.

The more immediate challenge to Tesla's business in China could come from Washington, even with Trump out of the White House. For most of his career, Biden was one of a number of senior Democrats who advocated closer ties with Beijing, arguing that the best way to push it toward democratic values was by embracing it within the international system. He's sharply changed his tune in recent months, calling Xi a "thug" and pledging to force him to "play by the rules"—an attitude the incoming Senate majority leader, Chuck Schumer, is likely to emulate. Many of the contenders to lead the post-Trump Republican party, including senators Tom Cotton and Ben Sasse, are also at least as hawkish on China as Trump.

At the moment, controls on what U.S. companies can do and sell on the mainland tend to focus on technologies such as semiconductors, rather than automobiles. As cars evolve to become rolling platforms for advanced sensors and artificial intelligence, though, it's not hard to imagine a time when U.S. authorities might take a more restrictive view—or when, at the very least, it will be politically controversial for an American automaker, particularly one led by a CEO who also runs SpaceX, with its close ties to the U.S. military, to engage as intimately with China as Tesla has.

If that evolution occurs, the closeness of Tesla's Chinese operations to the state won't help the company. In late September a Chinese blogger broke the news of an upcoming Model 3 price cut. He was soon visited by police who instructed him to delete the post. Tesla demanded that the blogger reveal his source, then announced not long after that a logistics manager had been fired for leaking confidential information and was being investigated by law enforcement. (Tesla's representative said the company reported the leak to police as a "breach of business confidence" and had no involvement in the subsequent investigation.) Meanwhile, a recent Chinese-language company news release emphasized that Tesla's plans to export Shanghai-made Model 3s to Europe would "contribute to the new development structure of China's 'dual circulation' "—a direct reference to Xi's blueprint for making the country more self-reliant and therefore resistant to Western pressure.

To achieve the Chinese presence that Musk seems to want, this kind of alignment is probably essential. It's long been all but impossible to make money in China without official cooperation, and that's become even more the case as Xi has expanded the state's power over every sector of the economy. Highlighting Tesla's utility to the government is also a good way to ensure that, once domestic competitors have grown strong enough to challenge it head-on, the company still has friends in Beijing. As the sudden disappearance of Alibaba Group co-founder Jack Ma demonstrates—the government halted the IPO of his financial conglomerate, Ant Group, after he criticized regulators in a speech in October, and he hasn't been seen publicly in months—it's unwise to take anything for granted.

Veterans of the Chinese car industry, who've watched world-leading companies such as Volkswagen and Toyota struggle for decades to achieve what Musk has managed in only a few years, are impressed with how skillfully he's navigated the mainland system. Their praise is qualified by a key caveat, though. "Elon's played the game very well," says Bill Russo, a former Chrysler executive who's now the CEO of Automobility Ltd., a Shanghai-based consultant. "But Tesla got this because it was in China's interest for Tesla to have it." Ⓑ *—With Dana Hull*

Editor's Note: Haze Fan, a member of Bloomberg News's Beijing bureau, contributed to this article before being detained by Chinese authorities in December.

SPOTIFY'S PODCAST POWER PLAY

The company is staking its future on converting music listeners to podcast fans and has become the favorite to own the industry—for better or worse

By Lucas Shaw Illustration by Maria Chimishkyan

When Spotify went public in April 2018, Daniel Ek had been struggling with this question for more than a decade: How would the company make money? The Swedish entrepreneur had saved the music business from 15 years of declining sales with an app that can stream millions of songs on demand. But in exchange for that bottomless buffet, he agreed to return more than 70% of every dollar Spotify earned to rights holders. So despite building the most popular paid music service in the world—it would take in $6.1 billion in sales in 2018—Spotify Technology SA hadn't turned a profit since Ek co-founded it in 2006. Wall Street is obviously capable of forgiving years of a company's losses (see Amazon, Netflix, Tesla, etc.). But investors have never made sense of Spotify's business model. For every $5 that comes in, about $3.75 goes right back out.

Ek had long argued that the answer would come from changing how the music business operated. Three record label groups control the majority of new music releases, giving them power over Spotify in negotiations. But Ek thought streaming would begin an era when artists didn't need labels. Musicians could use social media to promote their work and Spotify to distribute it. "The old model favored certain gatekeepers," he wrote in a letter to prospective investors in February 2018. "Today, artists can produce and release their own music."

Shortly after going public, Spotify unveiled a feature that let artists upload music directly to its app. Without intermediaries, performers got a larger share of royalties, and Spotify kept more money. The company tested the feature with a handful of artists—Chicago rapper Noname was an early adopter—and expanded the trial to a few hundred participants that September. But most artists weren't ready to forgo the help they get from labels to promote their work, especially since millions of people use services other than Spotify, and the labels didn't like being circumvented. By December its stock had slipped to a low of $106.84, a drop of more than 20% from April, and doubts about the company's long-term viability grew. In July 2019, Spotify ended the program.

Ek wanted to build a business the labels couldn't touch, and there was another massive audience up for grabs. The number of people in the U.S. listening to podcasts monthly had grown from 32 million in 2010 to 73 million in 2018. Although the vast majority of them used the iPhone's podcast app, Apple Inc. had never converted it into a revenue stream: Podcasts get money from ads, which Apple doesn't sell. Outside the U.S., where most of Spotify's users reside, there was no dominant player. Spotify had already dethroned Apple as the king of online music. Maybe it could do the same in podcasting.

In the past two years, Spotify has spent close to $900 million acquiring podcast production and technology companies. And it's spent millions more on exclusive rights to shows from celebrities such as Kim Kardashian and TikTok star Addison Rae. Two of its most popular programs are comedian Joe Rogan's *The Joe Rogan Experience* and *The Michelle Obama Podcast*, and Spotify expects new shows from Prince Harry and his wife, Meghan Markle, to put up big numbers, too. Spotify now hosts almost 2 million podcasts, up from 2,500 three years ago, and has more than 600 exclusives. Apple still has the most listeners in the U.S., but Spotify has narrowed the gap. And it's No. 1 in many overseas markets.

The company has already converted more than 20% of its 320 million total users—about 70 million people globally—into podcast listeners. The larger the audience gets, the easier it is to pry ad dollars from radio and TV; Spotify's ultimate goal is dual revenue streams from ads and subscriber fees. "If you look at the amount of people listening, how young the demographic is, anyone would look at that and say this is going to be the next big medium," says Dawn Ostroff, the company's chief content officer.

Many of Spotify's biggest partners and competitors, including record labels, advertisers, and talent agents, question if it's wasting money on a niche business. In 2019 the podcasting industry generated less than $1 billion in U.S. ad sales, a fraction of the $14 billion captured by radio. Apps such as Luminary, which charge customers for original shows, haven't worked. "The audience for podcasts has grown, and Spotify's share is growing," says Michael Morris, an analyst at Guggenheim Partners LLC. "It's still not clear what that will mean in terms of money."

Courtney Holt thought short-form video would solve Spotify's money problems. He joined the company in 2017 after a stint at Maker Studios Inc. (now Disney Digital Network), which sold ads and provided tools, services, and data for thousands of YouTube channels. He'd seen up close the growing audience for video and thought Spotify could create a product like Snapchat's Discover page, where original series sit alongside videos from *TMZ* and the *Daily Mail*. Spotify had already licensed clips from ESPN and Comedy Central and produced original series from Russell Simmons, Tim Robbins, and other celebrities; shows were as much as 15 minutes long and included dance competitions and documentaries. But they were parked in a video tab on the app and got little promotion. Holt realized he couldn't compete with YouTube and Facebook Inc. People didn't come to Spotify for video, and it was expensive to produce, anyway.

Podcasting was accounting for a growing share of overall activity on Spotify. In Germany the app was the most popular way people listened to podcasts thanks to a 2016 partnership with comedy talk show *Fest & Flauschig*. Its success convinced Spotify that the format deserved a closer look. "We saw that the people consuming podcasts were more highly engaged," Holt says. "Why not take advantage of the millions of Spotify users we could convert into podcast listeners?"

At the time, Spotify's library had only a few thousand shows, mostly about music. There were no executives dedicated to licensing or talking to people in the industry. Holt's team started securing licenses from thousands of creators, convincing them Spotify could expose their shows to a younger

▲ **Dawn Ostroff**

▲ **Lydia Polgreen**

audience than listened elsewhere. Engineers built out a home in the app for podcasting, creating a landing page and copying features from the music service, such as customized playlists. Spotify also started buying exclusive rights, starting with comedian Amy Schumer and talk show host Joe Budden.

Hosting exclusives, the thinking went, would persuade people to commit to Spotify as their main podcasting service. Budden's show was popular prior to the company's involvement, and it amassed a large following on the app. Schumer's podcast didn't catch on right away; Spotify lacked the infrastructure at the time to advise her on production or content, and there wasn't much of a promotion strategy outside the app. (The show still airs.) Executives realized they needed help.

In February 2019, Spotify announced it would acquire Gimlet Media Inc., a podcast studio, and Anchor, a tech company, for about $340 million. Founded by radio journalist Alex Blumberg and media executive Matthew Lieber, Gimlet had a reputation as the HBO of podcasting—the home for premium storytelling. Anchor made Spotify the podcasting equivalent of YouTube, enabling people to upload shows to the service. The next month, Spotify announced a deal for another studio, Parcast. Ek declared it was a new era for his company. "We believe that over time more than 20% of all listening on Spotify will be nonmusic content," he said on a call with analysts. The number of podcasts on the service climbed from 185,000 at the end of 2018 to 700,000 at the end of 2019, and more than 40 million users were listening to them.

The experience with Budden and Schumer taught Spotify execs that it's easier to buy an audience than build one. Rogan, the industry's biggest and most controversial star, has attracted a massive following by creating a forum for stand-ups, mixed martial artists, moguls, scientists, assorted galaxy-brain free-speech absolutists, and people such as Gavin McInnes, founder of the neofascist Proud Boys. Rogan had never offered his podcast on Spotify, but in May 2020 the company agreed to pay him as much as $100 million for his show and, eventually, the exclusive rights. As part of the arrangement, Spotify committed to stay out of Rogan's way.

Since the deal, he's interviewed the author of *Irreversible Damage: The Transgender Craze Seducing Our Daughters*, whose concerns about people transitioning at young ages are widely criticized as anti-trans. For the third time, he hosted conspiracy theorist Alex Jones, who's promoted the false claim that the mass shooting at Sandy Hook Elementary School in Connecticut never happened. (Jones was sued for defamation by eight families of victims, though not for comments he made in conversation with Rogan. In a deposition, he acknowledged that the shooting happened and blamed "psychosis" for his statements.) Apple, Facebook, ▶

PHOTOGRAPHS BY MARK ELZEY FOR BLOOMBERG BUSINESSWEEK

“We were the ones to say we’re going to go make this a real thing. If we are great, that’s great for Spotify. If others see greatness and want to copy, cool”

◀ YouTube—as well as Spotify—had banned Jones’s show *Infowars* for violating their terms of service. Employees petitioned Spotify to punish Rogan for hosting guests that spread misinformation and hate. Ek heard their concerns at multiple internal meetings, but he declined to discipline Rogan. While Ostroff, the chief content officer, says Rogan’s show must meet corporate standards, she doesn’t tell him whom to book. “We are very happy with the deal,” she says.

The Joe Rogan Experience is Spotify’s most popular podcast globally, topping the charts in more than 15 markets, according to the company. Spotify shares rose more than 10%, to $175.01, the day it announced the deal. Wall Street sees Rogan benefiting Spotify much as *House of Cards* did Netflix Inc. When it began airing in 2013, the political thriller starring Kevin Spacey and Robin Wright attracted millions of new subscribers—and reduced Netflix’s dependence on rival studios, much as podcasts lessen Spotify’s reliance on Sony Music, Universal Music Group, and Warner Music Group.

Throughout 2020, Ostroff and Holt pursued podcasts from life coach Brené Brown and Kardashian; commissioned shows based on DC Comics characters (the first is *Batman Unburied*); and struck a multiyear deal with the Duke and Duchess of Sussex, who’ll start producing and hosting programs this year. From Gimlet, Spotify gets reported series such as *Reply All*, which investigates internet culture, and *Resistance*, which explores recent civil rights movements. Parcast churns out addictive titles like *Serial Killers* and *Political Scandals* that are cheap to produce and sound like someone’s reading a Wikipedia entry. The Ringer, a sports media company founded by popular podcaster Bill Simmons, provides many of Spotify’s sports and pop culture shows. Podcasts that don’t fit in those buckets—including those from Obama, Kardashian, and other tentpoles—fall under what’s known internally as Studio Four. (Employees at Gimlet, Parcast, and the Ringer are negotiating with management for better pay and more control over how their shows get turned into movies, TV shows, and books. Spotify has said little publicly about the talks.)

With its huge user base, Spotify often dictates what’s a hit. *The Michelle Obama Podcast*, in which the former first lady talks to friends, family, and celebrities, surged up the charts with constant promotion on the app. The same goes for *The Journal*, a daily podcast about the *Wall Street Journal*’s newsroom. Even so, marketers have been reluctant to commit to ads, because it’s hard to know if people hear their promotions. Most podcast services can tell advertisers that a show was downloaded but not if anyone listened. No one company sells ads at the scale YouTube does with video, and the vast majority of podcasts have no advertising, says Jay Richman, a vice president in charge of Spotify’s ad business.

Richman says he’s solved the problem with a technology called streaming ad insertion. It lets Spotify serve an ad when a listener gets to a certain point in an episode, so marketers pay only for an ad that’s heard (or played, at least). The feature is available on select shows, with a wider rollout in progress. Since Spotify sells the ad, it can provide data about when and how someone is listening—on a phone, say, or a tablet.

This helped persuade Catherine Sullivan to commit $20 million to Spotify in July. Before an internal promotion, she was chief investment officer for North American operations at Omnicom Media Group, which buys ads for companies including Disney, Google, and McDonald’s. She started looking to invest in podcasting in late 2019 and talked to other major participants, including Pandora Media LLC and IHeartMedia Inc., but she ultimately decided against investing with them. “If it continues to grow at a 15-to-20% clip when everything else is declining, it will continue to siphon money away,” Sullivan says.

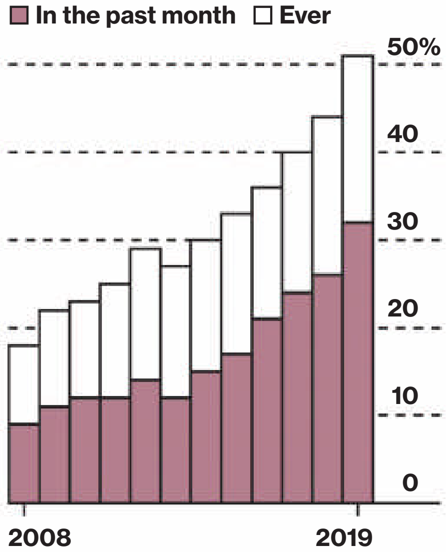
In the ad world, $20 million is minuscule—TV networks make more during one quarter of the Super Bowl. But a commitment of that size was a first for podcasting and possibly a sign of more to come. Sullivan compares it to early ad deals with Snapchat and Twitter Inc., which, she says, “started small, and then they start scaling.”

Spotify’s outsize investment in podcasting almost guarantees that it will supplant Apple as the world’s No. 1 distributor. But is the company creating a business or a bubble? It’s spent millions of dollars buying shows it gives away for free and will continue to lose money on podcasts for at least a few years. It’s had little success reducing payments to the record labels.

Spotify’s competitors are making investments of their own. Apple, which has the second-most-popular streaming service with Apple Music, is funding original series and plans a larger overhaul of its podcasting business. Amazon.com Inc. is Spotify’s biggest rival for programming, buying shows for its music app and its audiobook service, Audible. In December, Amazon announced it is acquiring Wondery, a major podcast producer, for its music service. (Bloomberg LP, which owns *Bloomberg Businessweek*, has partnered with Wondery on the podcast *The Shrink Next Door*.) Holt says that more big players validate Spotify’s investment: “We were the ones to say we’re going to go make this a real thing. If we are great, that’s great for Spotify. If others see greatness and want to copy, cool."

Spotify executives speak with some certainty about how podcasting will solve the company's profitability problem. If it happens, it'll take some time. Ek has sold investors on a future in which shows from Rogan and the royals reduce Spotify's reliance on record labels and lift it to profitability. His dealmaking has bought him time to deliver on that promise: The company's stock price more than doubled in 2020, boosting its valuation from about $27 billion to more than $60 billion. But ad sales stayed largely unchanged, and estimates put losses at more than $300 million.

Share of Americans Who Listen to Podcasts



DATA: EDISON RESEARCH

Still, listeners are loyal to their favorite hosts, attending live tapings in the pre-Covid era and buying merchandise. This could let Spotify charge customers added fees for podcasts without ads, or open up additional lines of business, such as TV adaptations. Podcasts could turn Spotify from a technology platform with bad margins into a media business with decent ones.

To make this work, the company needs to find the next Joe Rogan. It's also targeting new audiences by making shows in multiple languages and experimenting with formats. Currently, Spotify operates studios in 17 countries, where it's adapting popular shows from the U.S. into local languages and developing regional hits. *Fausto*, a true-crime series about a 1991 murder in the city of Ecatepec, topped Spotify's charts in Mexico in 2019, and the second season started in November. The top news podcast in Brazil is *Café da Manhã* (*Breakfast*, in Portuguese), a collaboration with the newspaper *Folha de São Paulo*; Spotify now produces versions of it in Argentina, Chile, and Colombia. One of its most popular podcasts in Indonesia is a talk show hosted by four former radio personalities that replicates conversations in neighborhood shops, or *warungs*.

In 2020, Spotify introduced a feature that lets creators combine songs and talk into one program. Early tests in this genre include *60 Songs That Explain the '90s*, hosted by music journalist Rob Harvilla, and *Rock This With Allison Hagendorf*, featuring interviews with Foo Fighters and Smashing Pumpkins lead singer Billy Corgan.

The most popular new podcast on Spotify is *The Get Up*. The daily morning show opens with headlines and then intersperses songs with pretaped talk segments on subjects such as self-care, pickup lines, and music. It's hosted by Kat Lazo, a YouTube creator turned video producer; Xavier "X" Jernigan, a podcaster and Spotify exec; and Speedy Morman, who anchors video series for the media company Complex.

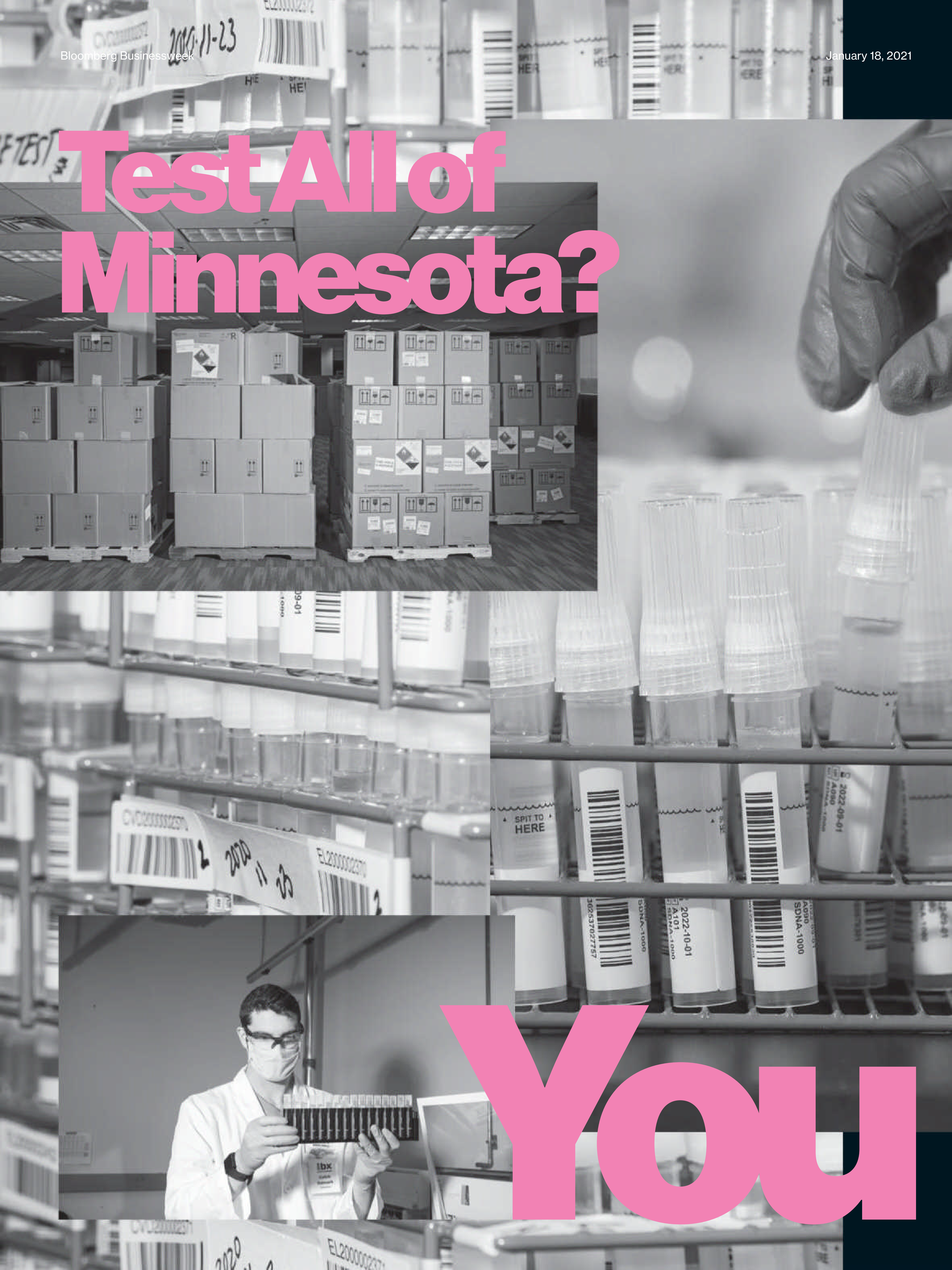
▲ **Kat Lazo**

Morning shows have long been a staple of FM radio, where the most popular stations marry well-known hosts with hit songs, such as on *The Breakfast Club* in New York or *Big Boy's Neighborhood* in Los Angeles. But unlike radio, which offers everyone the same music, *The Get Up* serves up tailored playlists based on what Spotify's algorithm thinks a person wants to hear. The show has had more than 1 million listeners since it started in October, according to Lydia Polgreen, Gimlet's head of content. "We're really, really excited about how well it's going," says Polgreen, who was previously editor-in-chief of *Huffington Post*. That's because *The Get Up* has already delivered in a key way, by getting people who use Spotify solely for music to consider something else.

In a November episode, the hosts talked about how the pandemic had been make-or-break for many relationships. They shared their own dating history, too: "My family asks me what feels like every other day why I'm still single," Morman said. Although the hosts hadn't met before they started taping, they've developed a rapport. Jernigan and Morman tease Lazo about her frugality, while Jernigan is often mocked for his knowledge of arcane facts. They've turned the latter into a segment called "Stump X," in which Jernigan answers trivia questions. "It's an ever-changing show," Morman says after taping. "I just wanna put emphasis on the fact that it's growing and evolving." Ⓑ

PHOTOGRAPH BY MARK ELZEY FOR BLOOMBERG BUSINESSWEEK

Test All of Minnesota? You



Saliva samples from across Minnesota are processed at the Infinity BiologiX facility in Oakdale

Minnesota is setting an example for other states and the federal government. If anyone is interested

By Susan Berfield and Michelle Fay Cortez

Photographs by Ackerman + Gruber

Betcha

The deliveries arrive at the lab four times a day, most in UPS trucks, some by courier, the last usually just before midnight. Each brown bag contains a sealed vial filled with saliva turned bright blue from a fluid that deactivates the coronavirus, if there is any, but preserves the nucleic acid so it can be detected. The lab is on the fourth floor of a building in what will eventually be a biotech hub. It has light sculptures in the lobby, is surrounded by farmland and construction, and is just 10 miles from downtown St. Paul, which is convenient but not nearly as important as its proximity to a United Parcel Service Inc. depot. When the lab opened in Oakdale in late October, the staff used to pile the bags onto standard rolling carts. By early November those were no longer sufficient. They began using bins, but those required them to lean in deep, again and again. By Thanksgiving they'd switched to Gaylord boxes, with sides that easily pull down, which allowed them to more quickly unload the 900 or so samples each one holds.

That was a small adjustment among many as the velocity of the virus's spread increased. Positivity rates, hospitalization rates, intensive care capacity, R-naught, lives lost: There are so many ways to describe the contours of the Covid-19 pandemic and measure its devastation. Every one of them was moving in the wrong direction by late autumn, first in the states around Minnesota—the Dakotas, Iowa, Wisconsin—then in Minnesota itself. That's when the state government began an ambitious effort to encourage every resident to be tested—easily, quickly, and for free.

Minnesota isn't the biggest state or the wealthiest. But it has a progressive governor, a budget surplus that's allowed it to supplement federal funding and spend about $150 million on testing so far, and a well-functioning pandemic task force. It's home to the Mayo Clinic and the University of Minnesota, one of the nation's best public research institutions. All those advantages may explain why it's one of the few states to implement a testing strategy that the federal government should have adopted, one that helped Hong Kong, South Korea, and Taiwan avoid the worst of the pandemic's ruin, and that doesn't require dramatic scientific advances or carry any potential health risks. "I love what Minnesota is doing," says Ashish Jha, dean of the Brown University School of Public Health. "We need a lot more of that."

Instead, every U.S. state has been on its own, says Minnesota Governor Tim Walz: "It was a catastrophic failure on the federal level." Vaccines are coming, slowly, and limited at-home self-testing is now available. But restrictions could be lifted too soon, again, or continue to be dismissed. New, more transmissible variants of the virus will mean increased exposure and infections, and testing may have to be refined to detect these genetic changes. It's still people vs. the virus. The virus is opportunistic—and people continue to provide it many opportunities. For much of this year, if not longer, testing will be essential. The incoming Biden administration has promised to make it a priority. And even when the pandemic subsides, the coronavirus will remain.

Not all of the tests offered in Minnesota in the last months of 2020 relied on saliva samples. But almost every one that did, no matter where in the state it was collected, arrived at this lab in Oakdale. It's a joint venture of sorts between Minnesota and Infinity BiologiX LLC, which developed the first saliva test authorized for emergency use and runs the facility, and its partner, Vault Health Inc., which oversees the collection of the saliva.

One pallet of reagents, with 16 boxes of product—enough for 10,000 tests—seemed like a lot to Jennie Ward, the lab manager, in October. A month later, Minnesota's positivity rate was 14% and at least 25 pallets were lined up. The lab was going through one pallet a day, then two. If it reached three it would be at its limit, which meant it would be operating every hour of every day and processing 210,000 tests weekly. Just before Thanksgiving the lab had 80 people on staff, a couple of freezers full of positive samples, and new lab coats, tags still on, hanging on a rack in a hall. By year's end, Ward had plugged in the backup freezers, hired 20 more employees, and ordered extra lab coats. About 400,000 of the state's 5.6 million residents had tested positive, and the Oakdale lab had processed more than 800,000 tests. "It's worse than what I expected it to be," Ward says of the autumn and early winter. "I expected it to be bad. But I didn't know what bad looked like."

Meredith Vadis had been in charge of the Twin Cities' wastewater operations, mass transportation, and land use planning. In March she became the state's chief operating officer for Covid testing, a role she remained in for the rest of the year. Initially, Minnesota's focus was on testing people with symptoms of the disease and those at high risk, such as employees at food manufacturing plants with outbreaks, hospital workers, and residents and staff at long-term-care facilities. In those early times, Vadis says, the state processed fewer than 2,000 nasal swab samples a day.

On May 25, Memorial Day, a Minneapolis police officer killed George Floyd. In the weeks that followed, tens of thousands of people in Minnesota alone protested against racial injustice. The state, like others, encouraged those who'd marched and chanted to get tested. Minnesota pushed

past 10,000 tests a day. But the protests didn't accelerate the spread of the virus; the positivity rate among the demonstrators was never higher than 1.8%.

By late summer, after some restrictions were loosened and others ignored, 1,800 people had died and 6,500 were hospitalized. Vadis and the task force adopted a new strategy. The Harvard Global Health Institute had calculated that the state would need to complete 17,500 tests a day to mitigate the spread of the coronavirus in the unyielding Minnesota winter, and 63,500 to suppress it. Health officials had collaborated with the University of Minnesota and the Mayo Clinic in the early months of the pandemic to create the capacity to test as many as 45,000 people a day with nasal swabs. Now it needed the ability to process almost 20,000 more.

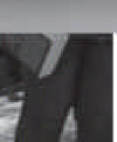
That's when Minnesota found Vault, or maybe it was the other way around. Jason Feldman, a former Amazon.com Inc. executive, and Claire Cochrane, a former Blue Apron executive, had started Vault in 2019 as a men's medical concierge service offering visits at home and online. He's the chief executive officer; she's the chief operating officer. After raising $30 million in early 2020, Feldman told *TechCrunch*, "You tell a guy to go see the doctor about his heart health and he likely won't, but you tell him you'll bring him a doctor to help his penis and it's a different story." Vault specialized in prescription testosterone therapy and treatments to help reduce anxiety and improve hairlines. It offered its own "sex kit." It was also working with the genomics lab at Rutgers University to develop a fertility test that would determine the effective age of someone's sperm. That connection would prove fortuitous: The lab was developing a saliva-based PCR test for the novel coronavirus. The U.S. Food and Drug Administration authorized the test for emergency use at home in May. Vault turned its telemedicine service to focus on Covid, and in August the Rutgers lab became a private company, Infinity BiologiX, backed by private equity. "Everything good that's happened with Covid is serendipitous," says Dr. Andrew Brooks, the company's chief executive and scientific officer. The sperm project, he notes, is ongoing. Vault still sells the sex kit, too.


Scenes from a pre-Thanksgiving Covid testing event at Gustavus Adolphus College in St. Peter

Vadis and the Minnesota task force wanted to make testing so convenient, timely, and accurate that everyone would be able to determine if they were infected, whether they had Covid symptoms or not. Antigen tests, which detect a specific protein in the virus, are inexpensive and quick to process, which is why many public-health officials recommend their widespread use. But antigen tests are also less sensitive than PCR tests, which pick up infections when only a tiny amount of the virus is present. Antigen tests work best when people are at the peak of their infection. Minnesota's task force didn't think that would be good enough.

Vault's saliva tests are as sensitive and as accurate as the nasal PCR tests, according to data posted by the FDA. The kits can be sent to people's homes, and even when administered at testing sites, collecting saliva samples requires fewer medical professionals and less personal protective equipment than using nasal or throat swabs. Spitting into a tube is more comfortable than being swabbed. And the virus is deactivated with a shake of the tube, which takes the worry out of transporting them.

The state leased the space for the lab and paid for the equipment—$4.7 million in total. Infinity BiologiX set it up in eight weeks. When the day comes that Minnesota no ▶



◀ longer needs it, Infinity BiologiX will keep the equipment–the Chemagic 360 machines named Shelly, Randy, Timmy, and Jimmy, after characters from *South Park*; and the QuantStudio 5s named Morticia and Gomez, after *The Addams Family*. In the meantime, Minnesota receives discounted prices on the tests themselves and a promise from the companies to process as many as 30,000 a day and make results available within 48 hours after the samples arrive at the lab. Minnesota has set aside at least $30 million for the program. Feldman says Michigan, New Mexico, and Wyoming also want Infinity BiologiX labs, but this winter, with federal funding uncertain, they haven't had the budget.

Minnesotans swarmed the 10 community testing sites as soon as they began saliva collection in late October, "tailgating for testing in the parking lot before we opened," says Vadis. Vault brought in people from Walt Disney Co. with experience in line management. It trained members of the National Guard to oversee the collection process. Many of them are medical practitioners of some sort, says Feldman, though they don't have to be. It takes about 30 minutes to learn how to supervise the spitting and package the specimen. There's also cultural training. "We're teaching the guards to be super approachable, so no one is intimidated," Feldman says. Minnesota is home to sizable populations of Somalis and Hmong, and finding enough staff who can translate medical terms in their languages has proved challenging.

Vadis, who's been regularly tested, has advice for first-timers: Get some pickles. "You can't eat them until you're done, but if you smell them it helps produce saliva." The tests require a lot of saliva. She sometimes picks up pickles at an Arby's drive-thru. In a pinch, lemons will help, too.

By early November the positivity rate in Minnesota was more than 15%, and in places such as St. Cloud it was reaching 30%. Doctors and nurses in the Twin Cities reported shortages of beds in intensive care units and long waits for patients in emergency rooms. Vault opened its online registration for home testing kits on Nov. 12, and 30,000 people signed up. UPS and Vault itself were overwhelmed, Vadis says. That Sunday, the obituaries in the *Star Tribune* filled more than 10 pages. Over the next week, people ordered 153,000 tests.

The kits didn't come back at the expected rates. It turned out people were hoarding them. "We know that Minnesotans are really into free stuff," Vadis says. "They'll order the tests because they're free, but they won't use them." She'd prefer people not do that. "It's not a great idea to have one in your medicine cabinet like a box of Band-Aids." So far almost 400,000 kits have been requested, and fewer than 150,000 have been returned to the lab.

Ward, manager of the Infinity BiologiX lab

Minnesotans overwhelmed Vault's online customer service, too, in the nicest possible ways. Spit supervisors used to begin the Zoom call: "Have you had any recent exposure to anyone with the virus?" Minnesotans would often take the opportunity to share all sorts of details from the past two weeks of their lives. Some asked questions about the pandemic. Others had ideas about how to fight it. Many just wanted to chat. Vault had to change the script. Now the supervisors are explicit: "I'm going to ask you a series of yes-or-no questions."

In January, Minnesota announced that because saliva tests are easier to administer, and the Oakdale lab can handle more samples, that will be the only kind of test it offers at its 20 community sites.

"Our strategy was effective. But its effectiveness was blunted by th

magnitude of

A few days after the Vault lab opened, Dr. Deborah Birx, the coordinator of the White House response to the pandemic, visited the state and said: "We have deep concern about Minnesota at this moment." She recommended that every person from age 18 to 35, more than a million in all, be tested before Thanksgiving and again before the end of the year. Young adults were reporting the highest case rates, seemed most likely to be asymptomatic if infected, were still social, and were headed home for the holidays.

One of the state's epidemiologists asked all the higher education institutions to test their students, with help from Vault in some cases, community health clinics in others. "They said, 'You betcha.' It's Minnesota," says Dan Huff, assistant commissioner for the Health Protection Bureau. The administration at Gustavus Adolphus College in St. Peter sent emails and texts to tell everyone on campus about the one-day program. They asked coaches to prod their players, teachers to remind their students. They offered thousand-piece jigsaw puzzles to the first 250 people who showed up and AirPod Pros and a JBL speaker as prizes.

About a hundred people stood in line outside the gymnasium on a bright and cold Friday, Nov. 13, waiting for the testing to begin. More wore masks than hats. By day's end about 60% of the school's 1,800 eligible students had been tested, along with almost 200 faculty and staff. Only 20 came back positive.

But throughout the state the situation had gotten worse faster than most people expected. On Nov. 19, a week before Thanksgiving, the governor issued a statement. It had taken 29 weeks to reach 100,000 infections in Minnesota and only an additional six to reach 200,000. He expected that in just three more, the total would be close to 300,000. He ordered bars and restaurants to stop serving indoors, and gyms and theaters to close. That rendered the effort to test young adults specifically less crucial just as it was getting under way. In all, about 380,000 people were tested in Minnesota the week before Thanksgiving. Vadis says it's hard to know for sure how many were 18 to 35 years old.

After the governor's executive order, the task force set a new winter priority: to make sure all those who held critical jobs could be tested. "How?" asks Huff. "I don't know. We're going to figure that out." He and Vadis are pragmatic. They know all their efforts make up just one slice of what epidemiologists call the Swiss cheese approach to disease protection. "We know you can't test your way out of this pandemic," says Michael Osterholm, an epidemiologist at the University of Minnesota and an adviser to the incoming Biden administration. But in Minnesota, he says, "it absolutely would have been worse without the testing." Governor Walz notes that when North Dakota and South Dakota had the highest positivity rates in the nation, Minnesota was ranked 21st. "Our strategy was effective," he says. "But its effectiveness was blunted by the sheer magnitude of cases."

he sheer cases"

At the lab, the only thing that isn't changing is the process itself. That's not allowed. It has 12 steps and takes four to six hours. On this November day, the morning batch has already arrived. As samples come in, the outside of each collection tube is decontaminated with an ethanol solution. Employees log the tubes into the computer, then uncap them and slot them into racks, which are placed on a Janus machine. The Janus transfers a bit of saliva from each tube into its own small vial, placing 96 samples on a plastic plate that looks like a honeycomb. It's put in a Chemagic 360 machine, which uses magnetic rods and beads to protect the viral RNA and a buffer solution to remove everything else.

What remains is a purified genetic sample. The plate is combined with three others to produce a single new plate, the size of two mobile phones stacked together, that holds a tiny portion of the spit sent in by 384 people. Then comes the PCR testing. The plate runs through a thermocycler, which heats and cools it in a preset pattern. Attached fluorescent markers grow with each cycle, eventually signaling if the virus is present. At the end of the day, the vials containing samples determined to be negative are disposed of. The positive ones are stored in the deep freezers for future research—including tracking genetic changes in the virus. Vault notifies people of their results within 24 hours of completing the test.

The lab processes so many samples that certain supplies can be hard to come by, Ward, the manager, says as she walks from room to room. Some supplies, such as reagents, are crucial—if the lab doesn't have the specific ones it needs, it can't operate. (That's never happened.) Other items can be replaced. Pipettes and tips are used to siphon the saliva from each sample. At one point they were unavailable in the quantities required, and the lab had to find a new vendor and invest in equipment to ensure a steady supply. The staff prefers screw caps on the test tubes, which are easier to use, but for a while had to make do with push caps instead. Because the lab's supplier had temporarily run out of the labels needed to create bar codes, Ward had stopped at a Staples on her way into work that morning to pick up some.

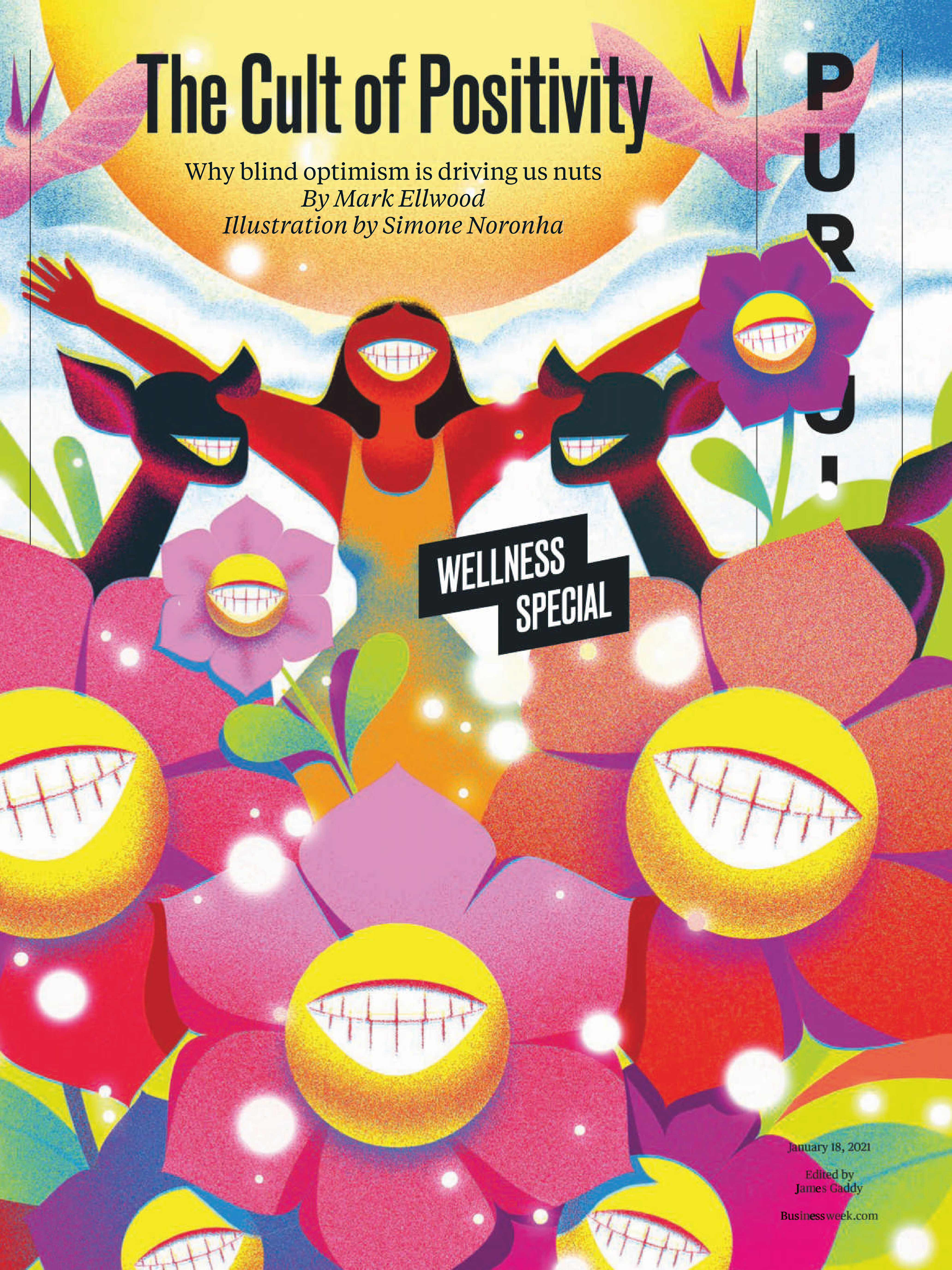
Test kits for the staff are stacked along a wall of Ward's office; snacks—apples and oranges, nuts and protein bars—are piled on top of her desk. Around noon, she gets a call. The lunch she ordered for everyone has arrived. She gets another call. Samples from some of Minnesota's first responders are on the way. Those get expedited. "Call me when you're at the curb," she tells the driver. "I'll run down." Ⓑ

The Cult of Positivity

Why blind optimism is driving us nuts

By Mark Ellwood

Illustration by Simone Noronha



January 18, 2021

Edited by
James Gaddy

Businessweek.com

When her patient started talking about sick notes, neuropsychologist Judy Ho decided to intervene. Her client, a wildly successful entrepreneur, was rich, happily married, and well-regarded by his peers.

The problem was the days when he felt depressed and run-down but unable to admit it. The only way to address it, he felt, was to regress, like a schoolboy, and look for permission from a doctor to regroup. "He knew he wasn't sick, but he'd go in and make something up," she says, "just so he could take a day off and be OK with himself."

She recognized he was suffering from a surging contemporary malaise. "He always had to demonstrate his worth to people," she continues. "He was thinking, 'I must exude this image of success and a happy life that everybody has come to know about me, and I don't want to ever change that image.' That's toxic positivity."

Call it FONO, or fear of a negative outlook. Also known as "dismissive positivity," it's expressed as an overbearing cheerfulness no matter how bad things are, a pep that denies emotional oxygen to anything but a rictus grin. You see it on Instagram, where the affective filter is always upbeat, usually followed by the hashtag #blessed. You hear it from the SoulCycle instructor exhorting every rider to swaggeringly sweat through the pain. It's available from the newly anointed chief creative officer for Vital Proteins, actress Jennifer Aniston, who claims that renewal isn't only a result of its powders: Instead, "it's within us." You might even recognize it in the boss who insists that colleagues start every Zoom meeting by sharing a piece of good news to help keep moods buoyant amid the gloom.

Think of this mindset as one that responds to all human anxiety, or sadness, with uncompromising optimism. It can be found in sentences that start with those negating words "At least," which are followed by a suggestion that however bad you're feeling, at least you've got plenty else that should offset and outweigh it. Even the oppressive insistence that we should love our body, no matter what, can tip into upbeat intolerance by implying that it's not OK to want to work on tummy folds or laugh lines.

FONO can power any delusional self-belief, whether it's politicians trying to spin their way out of Covid-19 failures with platitudes about strength or hucksters selling a chance to get ahead. The Federal Trade Commission has reported an uptick in Ponzi schemes during the pandemic—70% higher in the second quarter of 2020 than the year before. Ordinary Americans, casting around for inspiration and reassurance, became prime targets for these peddlers of perkiness. Such magical thinking has paralleled the rise of professionals hired to be a personal cheerleader. Membership of the International Coach Federation, the life coaching body, has soared from almost 4,700 worldwide in 2001 to more than 41,000 today.

790%

Increase in part-time and full-time life coaches worldwide since 2001

Successful people are the most likely to fall prey to this way of thinking, says Naomi Torres-Mackie. As head of research at the Mental Health Coalition and a practicing psychologist at New York's Lenox Hill Hospital, she works extensively with patients trapped on what she calls "the achievement treadmill." That's where self-doubt and reflection are elbowed aside in favor of a gung-ho, can-do spirit.

Take the recently married financier she treated. At the pinnacle of his career, his sole identifiable problem was sleeplessness. As he worked with Torres-Mackie, the Wall Streeter recognized the cause was his singular fixation during waking hours on how he compared with others.

"The only questions he asked himself were 'How much success am I having, and what is my boss thinking?' " she says. "He was so focused on putting out a picture-perfect happy and positive image, it left him no room at all to process and digest the tough stuff." Only after lying down at night would those concerns come to the fore and keep him awake. His treatment afterward centered on breaking the connection he'd forged between seeming happy and being successful.

For the current generation, the origins of this emotional cure-all lie in the 1990s, when then-president of the American Psychological Association, Martin Seligman, posited that pessimism is a learned behavior. Therefore it both could and should be avoided.

That observation snowballed into bestsellers such as *The Secret*, first published in 2006 by Australian TV executive-turned-author Rhonda Byrne. It was popularized after Oprah Winfrey championed its ethos. That breakout

"Some of the best moments in life...are full of mixed emotions"

How Toxic Is Your Positive Outlook?

We've compiled a 10-question test to see how you score on the FONO scale: Give yourself one point for every question you answer with a yes

1
Have you started a sentence with "At least ..." in the last week?

2
Would your friends describe you as the motivator of the group?

3
Have you liked an uplifting meme on social media recently? (Add a point if you posted one.)

4
Do you own a well-thumbed copy of *The Secret*?

5
Have you ever worked in one of the following professions: life coach, spin instructor, cheerleader, or Tough Mudder franchisee? (Add a half-point for each additional gig checked.)

6
Have you considered keeping a gratitude journal? (Add another point if you already do.)

7
Have you used the phrase "Smile" or "Cheer up" or "It's not all bad" in the last month?

8
Do you have a ringtone set to *Happy* by Pharrell Williams?

9
Would you prefer to be a blissful idiot rather than a tortured genius?

10
Did you read this story without acknowledging any downsides?

YOUR SCORE

0-2 POINTS
Ouch. You're more of a sad sack than a Pollyanna. Keep it up, and no one will invite you to parties (once it's safe to do so).

3-5 POINTS
A happy medium. You're no more cheerful than you ought to be, like a person who's finished the last Zoom of the week.

6-8 POINTS
It might be time for you to watch *Inside Out* again—at least until you get to the parts that make you cry.

9+ POINTS
You are suffering from acute FONO. Unless your name is Mary Poppins, please seek treatment immediately.

bunkum bible was essentially built on claims that the power of positive thinking would provide whatever you want, be it a baby or a Mercedes-Benz. This past summer it was turned into a straight-to-video movie starring Katie Holmes.

Contemporary corporate culture exacerbates these tendencies. Pre-pandemic, employees were urged to be happy because they worked in an office, perhaps, with pingpong tables and free lunches. Now, in a work-from-home world, they're urged to be grateful simply to have a job.

Whitney Goodman, a psychotherapist in Miami, explains that such workplaces create a Catch-22 where employees aren't able to raise concerns for fear they won't be seen as a team player or worthy of a promotion; stuck with unexpressed concerns, they're more likely to fail in the end. (Her new book, *Toxic Positivity*, will be released under an imprint of Penguin Random House later this year.)

Clinical reports underscore her thesis. A 2018 study published in the *Journal of Personality and Social Psychology* echoed previous research when it found that people felt more sad when they were expected to conceal such emotions. Brett Ford, a psychology professor at the University of Toronto and one of the study's authors, says tackling toxic positivity requires staring down, rather than past, uncomfortable feelings. "Notice them, let them be, try not to push them away," she says, "and they will pass. Emotions are supposed to be relatively short-lived experiences."

Ho, the neuropsychologist, has an unexpected suggestion to help calibrate a Pollyanna perspective: a session watching Disney-Pixar's *Inside Out*, which animates and dramatizes human emotions. "One of the best antidotes to toxic positivity is reexamining your value system and understanding that some of the best moments in life, when you truly feel good, are full of mixed emotions," she says. "And that's what we should be embracing as human beings."

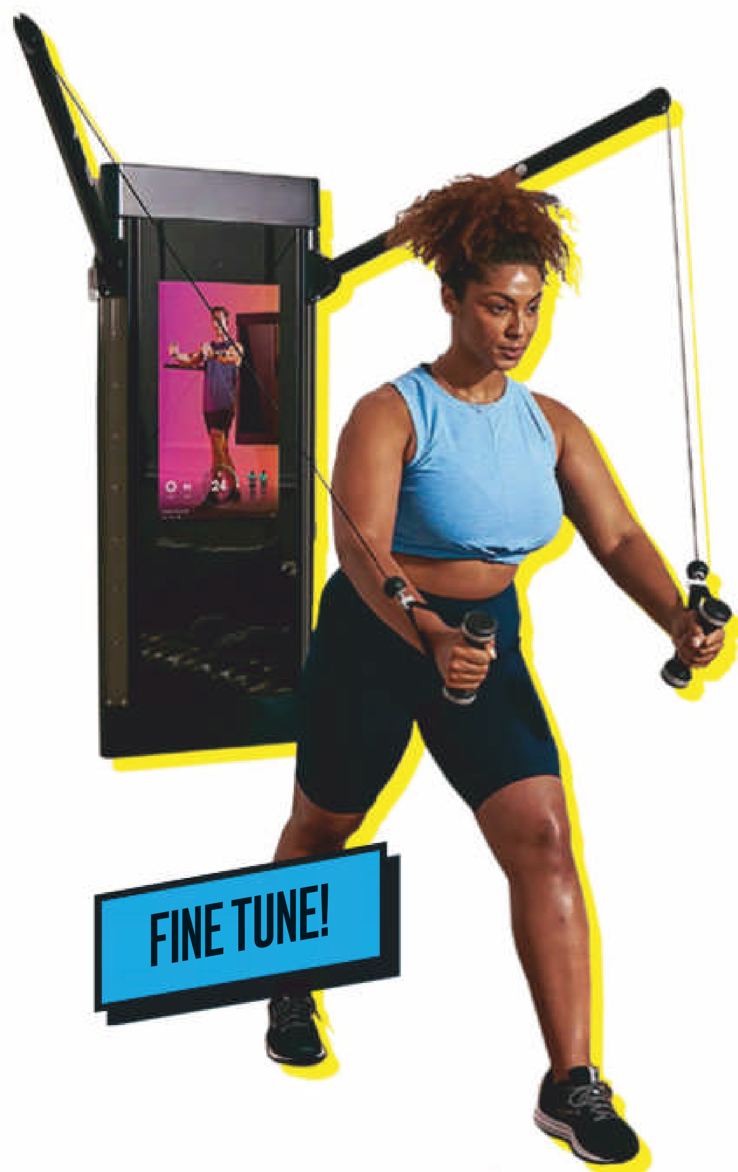
Along with yourself, allowing others to express negativity is vital, too. Banish the words "at least" from your emotional vocabulary, Ho recommends, and instead focus on reflective listening. "Repeat back what you think you heard, without adding anything to it. You don't always have to Band-Aid something, or ask, 'What can I do?' "

It's no surprise that Byrne would also return now. Her sequel, *The Greatest Secret*, came out in November. Read it, the blurbs tout, and you can remove all negativity–as if doing so should be a central goal in life. (More than 80% of Amazon.com Inc.'s user reviews gave it five stars. It would be too negative to be negative, it seems.)

"This year, with crisis on top of crisis, we've gone back to the instinctive ways of coping pounded into us from a young age–that we need to be positive to get through this," Goodman says. "It's true that we need to have some awareness this isn't going to last forever, but we also have to attend to the fact that, well, this isn't normal." Ⓑ

The Mix-and-Match Fitness Plan

Working out is hard. Working out from home is even harder. Let us do the heavy lifting and show how to make it work for you. *By Britt Smith*



FOR THE UNMOTIVATED

Community builds accountability. With the new **Peloton Bike+** ($2,495), you can ride with others who will champion your success, send virtual high-fives on the interactive leaderboard, and celebrate streaks and milestones (like 100 rides)—all of which may encourage you to make it a daily habit. “Find a favorite instructor [out of 23] who will uplift you,” says Ash Wilking, a Nike trainer and founder of Ash Fit. “Chances are you’ll go longer than expected and feel like a new person after.”

LEVEL UP with a **Hyperice Hypervolt Plus Bluetooth** ($399) massage gun. Automated sessions adjust the speed for you, and the app generates a score to indicate how you’re recovering from workouts. Compete with yourself to get the highest number possible.

DOWNLOAD personalized coaching at **Ladder Teams** (from $59 a month). The experts there devise super-motivating workout plans, says Chase Weber, a certified personal trainer.

FOR LAPSED ATHLETES

Replace a cable machine, barbell, and in-person trainer with **Tonal** (from $2,995; $49 per month membership), a digital system in which opposing electromagnetic fields—not actual weights—create resistance all within a 7-by-7-foot space. Internal sensors gauge your form to deliver guidance and keep you safe by dropping weight if they sense fatigue or failure, while dynamic modes increase resistance at the bottom of, say, a biceps curl to give you a better burn.

LEVEL UP with a **Whoop Strap 3.0** (from $180). It measures strain from workouts and everyday stress against sleep and recovery to help identify burnout and overtraining.

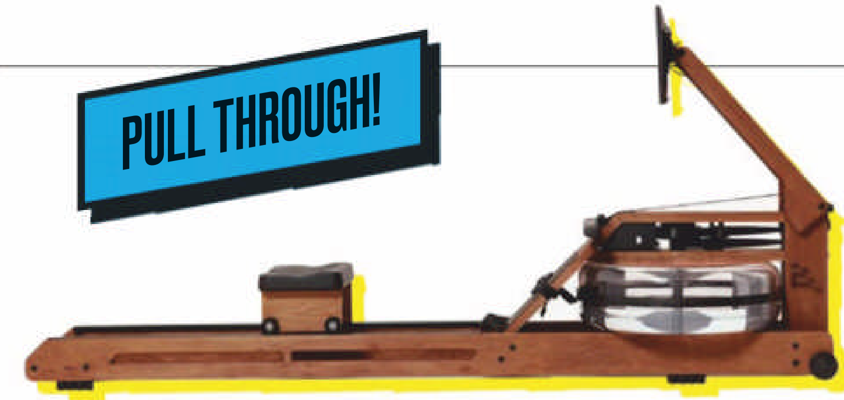
DOWNLOAD TrainingPeaks ($20 a month for a premium subscription) for one-on-one access to elite coaches who can share specific notes for marathon, triathlon, and lifting programs. Don’t have a coach? A detailed questionnaire will help find a perfect match.

FOR THE WHOLE FAMILY

Don the **Oculus Quest 2** ($300) to gamify your workouts. Its *FitXR* video game ($30) gives you access to an on-demand trainer or to group workouts. Challenge friends or family in multiplayer mode, though everyone will need their own device. Kids will love diving past obstacles and mimicking poses in *OhShape* ($20), or breaking a sweat following the choreography set to 32 songs in *Dance Central* ($30). Miss your boxing gym? Enter a virtual ring with *The Thrill of the Fight* ($10). The authentic simulation prioritizes technique and timing over power.

PRO TIP Get silicone headset covers to mitigate the buildup of sweat and bacteria.

DOWNLOAD thorough, science-backed workouts with **Sworkit** ($10 per month). Its myriad options cross disciplines and age groups, varying skill levels and time, including quick-burst energy release programs for kids and flexibility sessions for older adults.



FOR QUICK RECOVERY

If your knees can't handle pounding the pavement anymore, try the well-designed, water-filled **Ergatta Rower** ($2,199), a low-impact option for creaky joints. Hone your endurance with its Push Programs, sequential workouts calibrated to your skill level that end in a challenge such as rowing for 30 straight minutes. You can also race against eight other rowers in your competitive subset on a virtual course. Relaxing open rows let you go for a set distance or time—or just go.

LEVEL UP by putting physical therapy in the palm of your hand. **PowerDot** (from $199) has wireless electrodes that relax postworkout muscle aches or accelerate injury recovery, and the connected app tells exactly where to place them.

GO STREAMING with **Sky Ting TV** ($20 per month) to correct posture and relieve tightness. Its library of yoga flows accommodates different levels—"Yoga for Dads" has all of the sun salutations and none of the chaturangas.

FOR CARDIO FIENDS

High-intensity cardio coupled with resistance training makes vertical climbing machines one of the most grueling pieces of equipment; the push-pull movement lights up your entire body. At more than 7 feet tall, **CLMBR** ($5,000) features a sizable touch display that connects you to on-demand, instructor-led classes and tutorials—but you can also go rogue and do all-out, two-minute finishers to empty your tank and test your cardiovascular fitness.

LEVEL UP with a **Garmin Forerunner 945** ($600), which sends expert training plans right to your wrist. Superior metrics such as ground contact time, balance, and cadence help optimize your form, which may reduce injury risk. The watch can recommend workouts based on your daily training load and recovery status as well.

DOWNLOAD the premium workouts on **Nike Training Club** and **Nike Run Club** and take the guesswork out of the equation. Favorites include "Full Body Cardio Crush" and the audio-guided "Don't Wanna Run Run."

FOR ABSOLUTE BEGINNERS

Think of the **Bowflex SelectTech 552 Dumbbells** ($349) as a Russian nesting doll of adjustable free weights housing 15 sets in one. A simple turn of the dial scales them up from 5 to 52.5 pounds, making them "easy to adjust between sets, which I love," says Ash Fit's Wilking. The first 25 pounds go up in 2.5-pound increments, so they're a stellar option for steady progressions as you grow stronger. Go lighter for lateral raises and heavier for front squats.

LEVEL UP with a **Manduka Pro Yoga Mat** ($120). It's densely cushioned to protect joints during floor-based moves like a bird dog, kneeling overhead press, or plank. Also great for yoga, of course.

GO STREAMING with the beginner workouts on **Apple Fitness+** ($10 per month), available on Apple devices. They cover basic movements like a bodyweight bent-over row, so you learn proper technique before putting those dumbbells to good use.

PHOTOGRAPHS COURTESY COMPANIES

Check In On Your Skin

Whether it's dehydrated or stressed, your body's first line of defense could use some love
By Aja Mangum
Illustrations by Simone Noronha

A tumultuous 2020 affected more than our mental health. The barrage of bad news followed by worse news compromised complexions as well.

"To the professional eye, it's noticeable–we can literally see the stress on your face," says medical aesthetician Candace Marino, who's also known as "The L.A. Facialist" in Hollywood circles. "Since resuming practice, I've noticed clients who normally have flawless skin deal with new concerns like acne, hyperpigmentation, dryness, and sensitivity resulting from stress."

The correlation between skin health and overall wellness isn't a new concept, but the strain of our new normal is sending droves of patients to dermatologists. "Although there are many factors that can impact someone's complexion, stress happens to be the leading cause for dull skin," says Mona Gohara, of Dermatology Physicians of Connecticut and an associate clinical professor at Yale. "When stressed, the body produces high amounts of cortisol, the main hormone that breaks down the skin's collagen and elastin, which leads to causing inflammation, aging, and accelerated production of wrinkles."

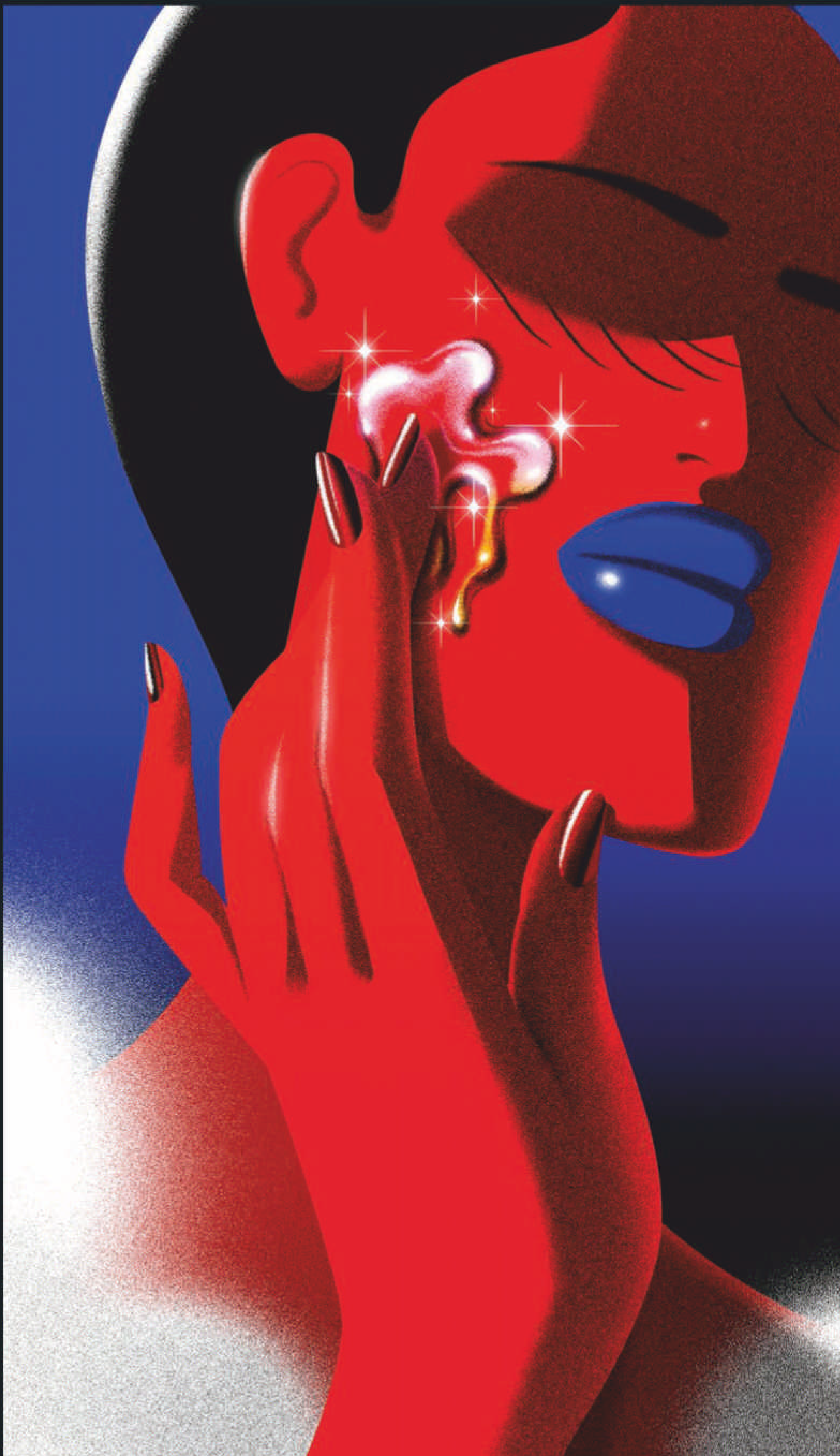
Add in extra booze or too many double espressos, plus the annual scourge of winter weather, and dehydration presents another set of issues: Nails become brittle, heels crack, and skin can become scaly. As daily Covid-19 updates, remote learning issues, wearing a mask, and missing loved ones take an emotional toll, here's a guide to keep those parts of the body that are most visible in fine form.

LEGS

While the face gets most of the attention, the overpumping of cortisol can affect the laxity and radiance of other parts of the body as well. "Outside of the face, dry brushing is a great way to self-care as it helps to drain the lymph in our body, increase blood circulation, and exfoliate the skin," says Nicole Rouzan, an esthetician at Effacé Aesthetics in Santa Monica, Calif. Made with sturdy sisal fibers, the **Goop G. Tox Ultimate Dry Brush** ($20) scrapes off dead skin cells and preps skin for a hydrator—ingredients should include humectants, emollients, and occlusives to attract water, soften, and seal in moisture. The **Alastin TransFORM Body Treatment With TriHex Technology** ($195), designed to smooth skin after a surgical cosmetic procedure, is a glycerin-rich silky cream with squalane for high-tech body nourishment.

FEET

Self-care may conjure spritzes of lavender, a fluffy robe, and spa slippers for some, but for others a luxurious portion of **Fico D'India Bath Salts** ($41) with notes of fig and cedar helps soften stresses (and skin) in a very master-of-the-universe way. For more serious cases, slather feet in **CeraVe Healing Ointment** ($20), throw on a pair of thick socks, and let the hyaluronic acid and ceramides restore the epidermal barrier. "Once the moisture levels drop, heels start to produce thick, hard areas of skin cells that build up," says Ava Shamban, owner and director of a full-service dermatology clinic in Beverly Hills. "This can cause increased pressure on the pad on the heel" and result in cracking and bleeding fissures that not only are incredibly painful but also can leave feet vulnerable to infections and further damage.



SCALP

Stress-related hair loss shouldn't be cause for alarm—it was going to shed anyway. "It's just those traumatic events push you to the edge where a bunch of it happens at one time," says Corey Hartman, founder and medical director of Skin Wellness Dermatology in Birmingham, Ala. **Nutrafol supplements** ($88) contain Sensoril Ashwagandha to balance stress hormones and tocotrienol complex to help detox. Pop four a day and use in conjunction with the brand's antioxidant-packed **serum** ($59), and your mane should thicken back up in three to six months.

EYES

The skin around the eyes is thin and often shows the most visible signs of aging and stress. "Bags are more related to lymphatic fluid, which is the body's response to stress," says Joshua Ross, founder of SkinLab in Los Angeles. Use the **Joanna Vargas Magic Glow Wand** ($285) to stimulate blood flow and reduce puffiness. Not to be confused with dryness, which means the skin lacks oil, dehydration refers to moisture loss. The jellylike **Schwanen Garten antioxidant cream** ($50) tackles that to help melt away fine lines.

LIPS

Mask-wearing wreaks havoc on the mouth, says Shamban: "Lips are suffering from dehydration exacerbated by trapped heat, humidity, sweat, bacteria, and repetitive friction." Augustinus Bader's **The Lip Balm** ($38) protects without a glossy shine. Under stress, chronic conditions such as cold sores tend to flare up. Eos's **The Fixer Medicated Lip Ointment** ($5) tastes like candy and contains peppermint and menthol to reduce the sting.

FACE

If lifestyle changes—less caffeine and alcohol, more fresh veggies—are too daunting, Kate Somerville's **KX Concentrates Squalane + Hyaluronic Serum** ($98) can assist. The milky combo absorbs instantly. Stress is a different beast: Sebaceous glands go into overdrive, collagen and elastin break down, and breakouts increase. "Stress doesn't make anything better," Hartman says. **Heraux Molecular Anti-Inflammaging Serum** ($250) uses HX-1, a molecule that shields stem cells from stressors, along with peptides, vitamins C and E, and hyaluronic acid to reduce hyperpigmentation and smooth wrinkles.

Knock Yourself Out

A new piece of home boxing equipment is more video game than sweet science—and that's the point
By Brin-Jonathan Butler

The morning after the coal-black, 6-foot-tall Liteboxer was delivered, I walked into the living room and found my cat, at a cautious distance, staring up in wonder at this strange intruder. It reminded me of the scene in *2001: A Space Odyssey* when the apes encounter the black monolith.

I, too, had reason to be wary. The $1,495 Liteboxer advertises itself as "Peloton for boxing," a reimagining of the traditional punching bag. Yet in my living room, I couldn't decide if the enormous free-standing device looked more like a high striker that a carnival strongman might pound with a sledgehammer or a personalized teleporter standing ready to beam me up to the USS *Enterprise*.

Co-founded by Jeff Morin, an MIT-educated engineer and certified personal trainer, and Todd Dagres, general partner at Spark Capital, Liteboxer raised $6 million in an attempt to replicate the experience of a sparring workout at home. I've been intimately involved in boxing around the world for the past 26 years—as an amateur fighter, trainer, and journalist covering the sport—and I found myself bracing for something like Hasbro's Simon game, Whac-a-Mole, and *Dance Dance Revolution* all rolled into one for my fists.

The cat and I watched the "feature tour" video, which sounded as if it was scored by Hans Zimmer for a Christopher Nolan white-knuckler. Green LED lights indicate where and when you're supposed to strike, and force sensors track your power and accuracy. An interactive display broadcasts trainer-led workouts or quick challenges, while the software's patented Rhythm Technology syncs punching combinations to dance and pop music.

You can compete against friends and family members on the same workout and compare results. Or download the Liteboxer app ($29 a month after a three-month free trial) and choose from expert-led lessons and other options, including 15-minute "quick hitters" as well as endurance-focused 45-minute sessions built around various tempos and rhythms of punch combinations.

The app holds a decent selection of songs to accompany a round, but my first three choices crashed it. To my dismay, only *Gold Digger*, from former third-party presidential candidate Kanye West, allowed my fitness journey to continue.

I found the equipment to be highly effective in offering a stimulating workout to burn calories and break a sweat, but any background in actual boxing tends to hinder rather than reward its use. The Liteboxer is a stationary platform with targets that in no way replicate the anatomy of a human being, let alone one with any mobility. Even the swaying of a humble punching bag requires rhythm, balance, movement, and constant adjustments to maintain an optimal range for striking.

Likewise, footwork is the foundation for boxing, but once you settle on an effective strike stance with the Liteboxer, it doesn't allow your feet to move anywhere so you can reset your balance and deliver more punches. Remaining stationary is antithetical to almost all the training I provide for my students. The lighting system telling you where to punch and the sensors measuring force, accuracy, and timing took me out of a boxing gym and into a retro arcade.

For many users this will very likely add to its appeal. Case in point: When I tested it out with two of my students (one intermediate, one beginner), they had a great time syncing the flow of their punches with the beat of the music. When I asked my intermediate student how our one-on-one workouts involving focus mitts and light sparring compared with using the Liteboxer, he said, "It's basically the difference between seeing a lion on safari in the Serengeti vs. at the Bronx Zoo."

That sounds about right to me. For anyone understandably intimidated by the prospect of entering a boxing gym—much less an actual ring—the Liteboxer offers a narrow version of what the sweet science has to offer. It'll be a perfect fit for those who love the thrill of throwing punches to relieve stress and get a good burn without all the drawbacks of, you know, getting punched in the face. B

COURTESY LITEBOXER

The Froth Maker

More than a fancy milk foamer, Nespresso's Barista brings a full coffee menu to home kitchens
Photograph by Heami Lee

Sometimes taking care of yourself is as simple as rethinking a routine. The $169 Nespresso Barista certainly adds a level of indulgence to your morning ritual. More compact appliance than mere frother, it's capable of preparing 20 coffee-based recipes at almost-cafe quality. Choose from flat whites or iced frappés using a touch-sensitive surface that turns into an LED screen to control the heating element and whisk power inside the stainless-steel jug. You can also personalize recipes—turmeric latte, anyone?—or select more complicated options from a Bluetooth-linked app. Either way, all you have to do is add ingredients and push a button.

THE COMPETITION

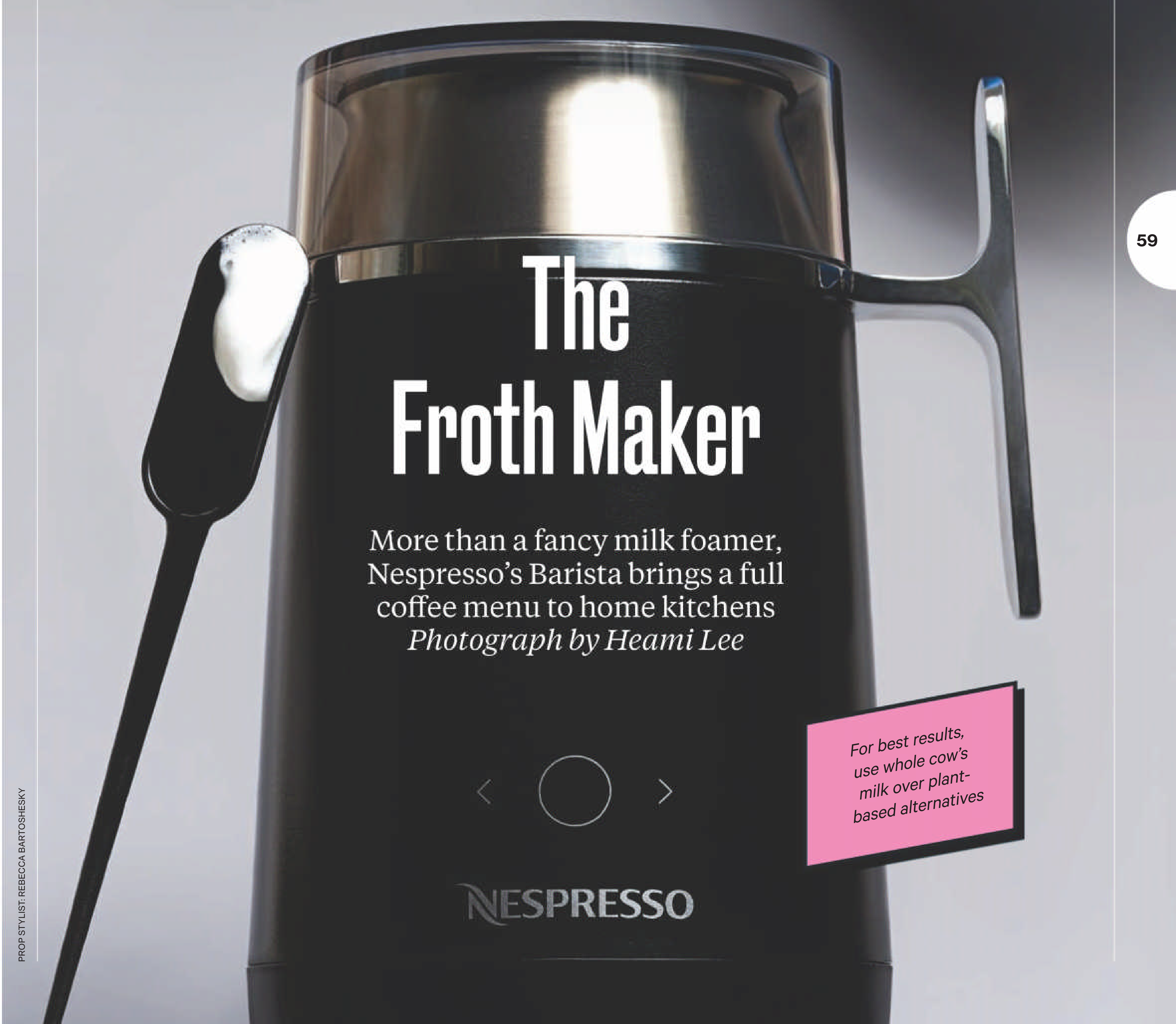
• Breville's $130 Milk Cafe features two types of whisk and variable temperature selection to make extremely precise—and very hot—pours from its carafe.

• A longtime standard for at-home frothing, the $20 handheld Aerolatte is a battery-powered wire whisk that produces foamy milk with larger bubbles. It just doesn't heat or cool.

• The $200 milk frother from Smeg uses two different whisks and has a simple knob interface to select between hot and cold and thick and light settings. It comes in seven colors that correspond with the brand's other retro-style appliances.

THE CASE

Outside of a steam wand on a professional-grade espresso machine—and the skills to match, naturally—no frother rivals the Barista. It uses 600 watts of power, 100 more than any other. Its innovative whisk, a wavy disk that attaches to a flat magnetic base, permits a wide range of specific milk textures and gives more modest concoctions such as cappuccinos a superior mouthfeel. The countertop device excels at more than milk-specific drinks, too. Add chocolate to the jug to easily make a rich mocha, or toss in espresso and ice for a satisfyingly thick iced nitro. *$169; nespresso.com*



For best results, use whole cow's milk over plant-based alternatives

PROP STYLIST: REBECCA BARTOSHESKY

China's Gen Z Learns to Goof Off

By Shuli Ren

China is known for its diligent worker bees. The so-called 996 office schedule—9 a.m. to 9 p.m., six days a week—has become standard, especially in the tech industry. In the first week of the year, a 22-year-old collapsed and died while walking home at 1:30 a.m. with colleagues from Pinduoduo Inc., an e-commerce company.

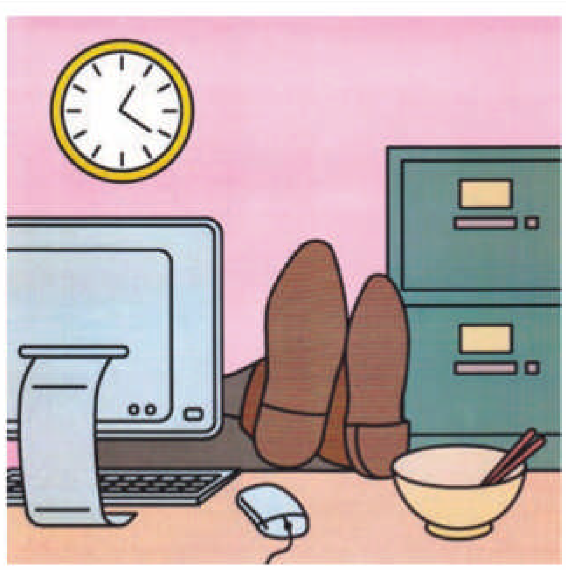


ILLUSTRATION BY GEORGE WYLESOL

But Generation Z is starting to rebel against the workaholic culture. A new philosophy has taken hold during the pandemic, called "touching fish." The term comes from an idiom saying the best time to catch a fish is when the water is muddy. With bosses distracted by the challenges of operating amid public health restrictions, young people lounge around at work, deliver the bare minimum, go for frequent bathroom breaks, and refuse to do overtime.

It's a reflection of Gen Z's disappointment with pay. Last year, China churned out 8.7 million university graduates, a record high. More than 80% surveyed were hoping to earn at least 5,000 yuan ($770) a month in their first job, according to a recent study conducted by HRTechChina, a recruiting site. Fewer than 30% ended up getting that much. What's the point of working hard for so little money? State-owned enterprises, which pay less but offer cozy, easy gigs, became graduates' second-most-desired destination, after internet companies.

That's only part of the story. Labor economists like to think of leisure as a consumption good, just like clothes, restaurant meals, or cars. People will work less if the prevailing wages in labor markets are too low, or if the cost of leisure activities gets cheaper.

Technology is making that happen. Watching Netflix shows or TikTok videos is a cheap, entertaining way to kill time. And with Covid still out there and young people spending more time at home than ever, there's less urge to go shopping. That means they don't need to earn as much to pay for trips to the mall.

Even before the pandemic, this demographic trend had emerged in the U.S. Men age 21 to 30 are working less, because of a shift toward video gaming and "recreational computing," according to a recent paper published in the *Journal of Political Economy*. From 2014 to 2017, young men spent 2.3 more hours a week on leisure activities than they did a decade earlier and worked 1.8 fewer hours. Men age 31 to 55 also consumed more leisure, but instead of working less, they just did fewer house chores.

China, which has a vibrant online scene, can't be far behind. It boasts the world's most valuable video game publisher, Tencent Holdings Ltd. Another popular video site, Bilibili Inc., had 1.3 billion daily views in the third quarter, up 77% from a year earlier. Beijing has been worried about young people's online addiction for a while, going as far as imposing gaming curfews in 2019. But stagnant wage growth and cheap online content will only encourage it. Ⓑ

—Ren is a columnist for Bloomberg Opinion

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