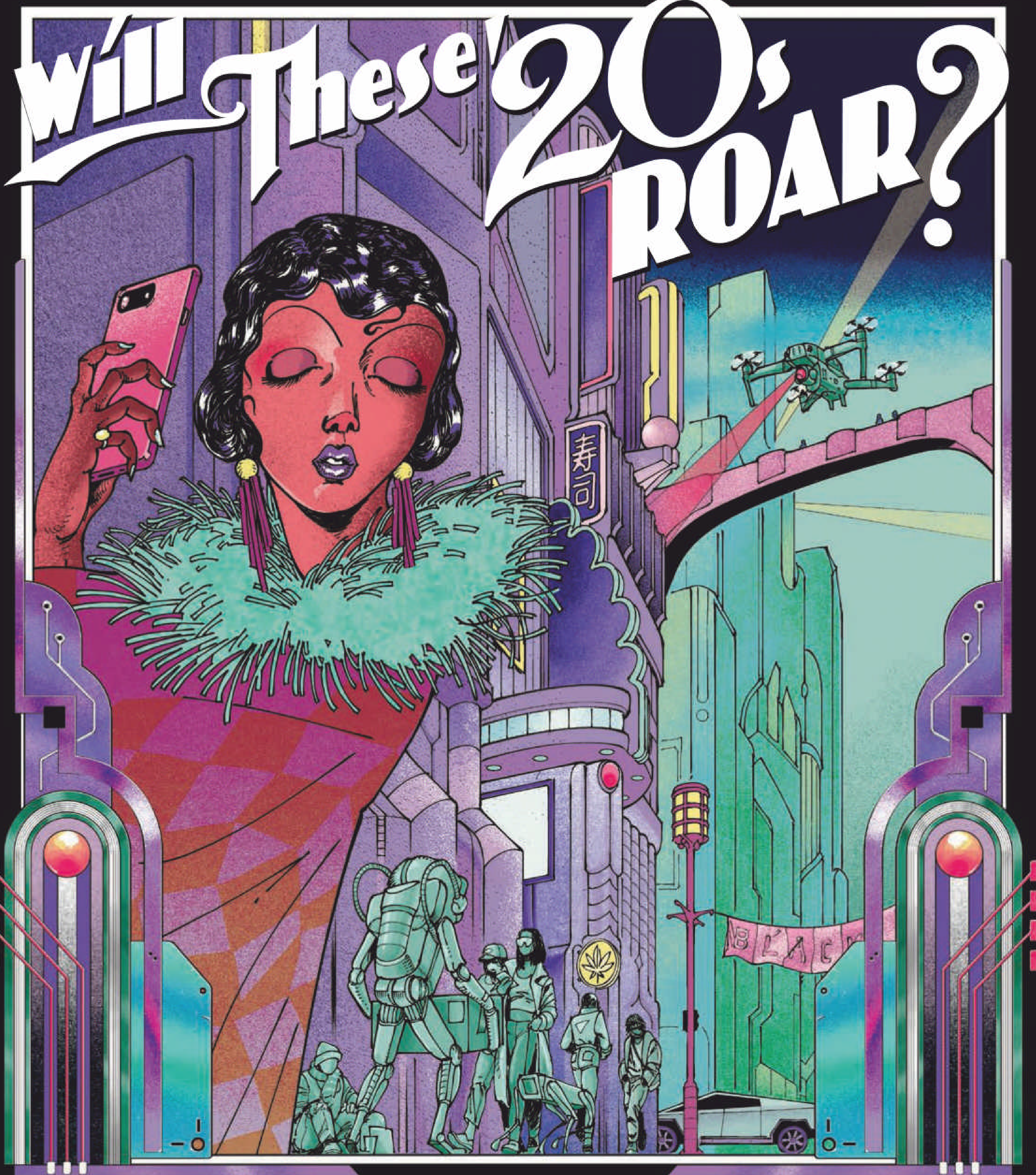
Bloomberg Businessweek

February 1, 2021



There's a lot to learn from the post-pandemic boom a century ago 30

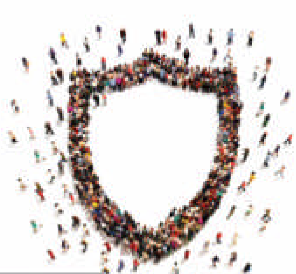
The Pulse of Digitalization _

The era of digitalization is at hand. As businesses digitalize their operations, Alibaba Cloud has become the go-to provider for cloud solutions in Asia Pacific, with widespread data center coverage, advanced technology and a strong ecosystem.

WIDESPREAD COVERAGE

Ranked
First in Asia Pacific

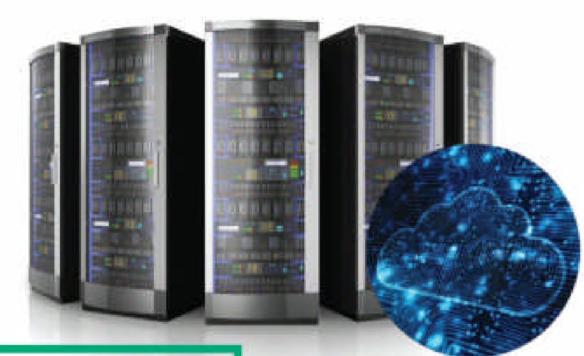
Gartner named Alibaba Cloud the Third Biggest Global Provider for Infrastructure as a Service (IaaS) and First in Asia Pacific*1. Most data centers and CDN nodes in APAC (17 Regions, 58 Availability Zones).



COMPREHENSIVE SECURITY & COMPLIANCE

Received more than 70 security and compliance accreditations worldwide.

*1 Source: Gartner, Inc., Market Share: IT Services, Worldwide 2019, Dean Blackmore et al., 13 April 2020.



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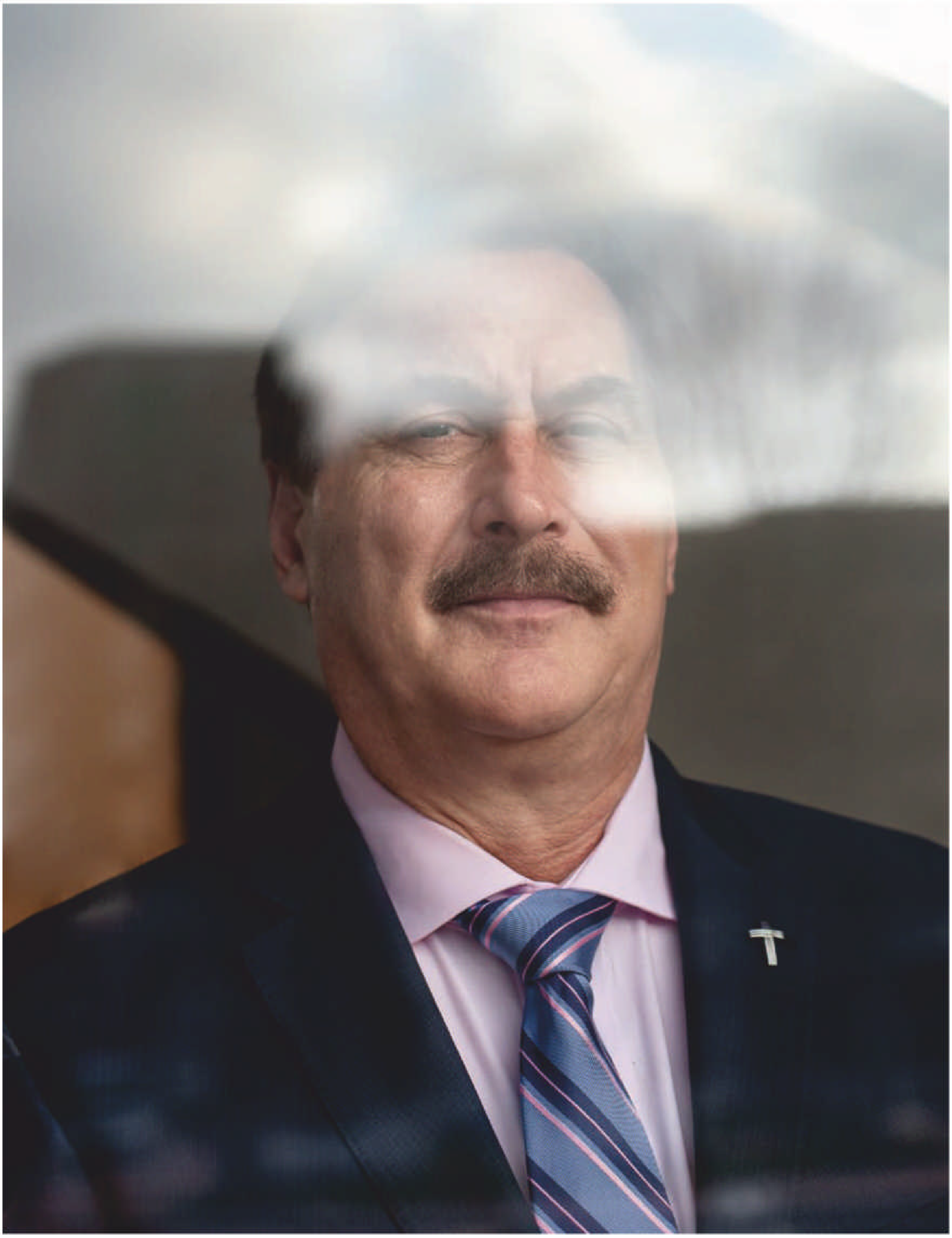

◀ The feathers are flying between major retailers and the pillow king

PHOTOGRAPH BY ANTONIO CHICAIA FOR BLOOMBERG BUSINESSWEEK

FEATURES

CORRECTION

"The Cult of Positivity" (Pursuits, Jan. 18) described the International Coach Federation as a life-coaching body. Now known as the International Coaching Federation, it's an accrediting body for training programs.

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■ COVER TRAIL

How the cover gets made

1

"Remember, like, a few weeks ago—I think it was, like, Jan. 6, and we were talking about the 1920s and how the 2020s might compare and getting very excited about a new decade and toasting to the future, and then a mob of White-nationalist, Trump-supporting insurrectionists stormed the Capitol, and we made a cover about that instead?"

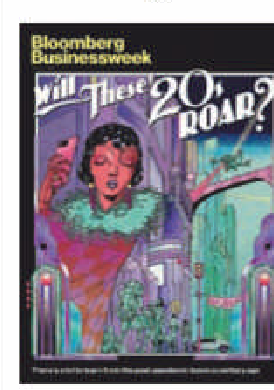
"I prefer not to, but yes, I remember."

"Well, we're gonna finally run that cover you made about the 2020s!"

"Really? My God, I'm so excited! Maybe this decade won't be so bad, after all."

"Well, about that. We didn't really get to this part last time, but the '20s weren't exactly perfect. There was rampant inequality and racial violence. And, of course, we know what happened after the Roaring Twenties ..."

"It's like you can't even just let me enjoy this moment."



Cover: Illustration by Viktor Hachmang

POLITICS: PHOTOGRAPH BY LYNSEY WEATHERSPOON FOR BLOOMBERG BUSINESSWEEK

● Coronavirus cases globally have surpassed

100m

and almost 2.2 million people have died. In Europe, delivery delays have led some lawmakers to demand vaccine export limitations. That proposal drew a sharp rebuke from the U.K., which warned the EU against "vaccine nationalism."

● Merck is discontinuing development of its two experimental Covid-19 vaccines after early trial data showed they failed to generate an immune response.

● Russian security forces cracked down on protests in support of jailed opposition leader Alexei Navalny, with tens of thousands of people taking to the streets in cities nationwide since Jan. 23.

● On Jan. 26, 45 Republican senators voted to dismiss Trump's second impeachment trial.

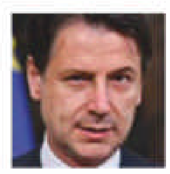
Kentucky's Rand Paul brought up the procedural vote, saying the Constitution rules out convictions of officials who are no longer in office. (Most legal scholars strongly disagree with his interpretation.) The vote suggests that very few GOP senators will ultimately join the Democrats to convict Trump for inciting the Jan. 6 Capitol riot. In the words of Maine Republican Susan Collins: "Just do the math."

● An early February IPO of Dr. Martens will seek to raise as much as

£1.3b

($1.8 billion), betting on the enduring popularity of the cult leather boots cherished by teens, rock stars, and police alike.

● Italian Prime



Minister Giuseppe Conte resigned on Jan. 26 after losing his Senate majority.

He's already angling for a new mandate, though, to form what would be his third government in four years. He'd like to forge a broader alliance including pro-European centrists and unaffiliated lawmakers.

● Day traders in chat rooms have driven huge year-to-date gains, as of Jan. 27, in once-sleepy stocks. ▷ 26

Nokia
39.6%

Tootsie Roll
44.3%

IRobot
100.7%

Bed Bath & Beyond
197.8%

BlackBerry
278.6%

AMC Entertainment
838.7%

Express
949.5%

GameStop
1,744.5%

● "Today is climate day at the White House, which means that today is jobs day at the White House."

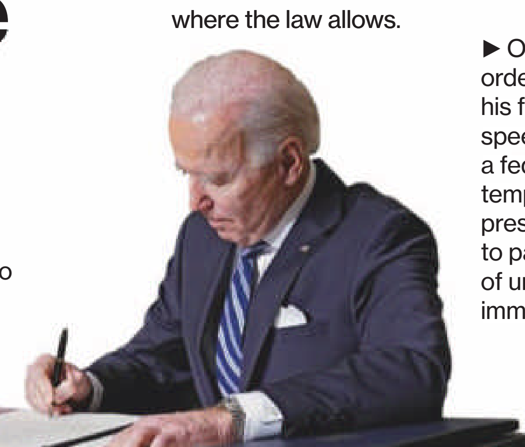
President Biden signed a flurry of executive orders on Jan. 27 focused on protecting the environment, adding to a list of directives issued since his inauguration to undo the policies of his predecessor.

Biden's Jan. 27 orders called for:

► Temporarily blocking new leases for oil drilling on federal lands.

► Replacing the government's fleet of cars and trucks with electric vehicles assembled in the U.S.

► The elimination of fossil fuel subsidies where the law allows.



He's been busy on other fronts as well:

► On Jan. 25, Biden lifted a Trump order that prohibited transgender troops from serving in the military.

► On Jan. 26, the president instructed the attorney general not to renew contracts with privately operated detention facilities.

► One of the executive orders Biden signed on his first day in office hit a speed bump: On Jan. 26, a federal judge in Texas temporarily blocked the president's instruction to pause deportations of undocumented immigrants for 100 days.

RUSSIA: MAXIM SHEMETOV/REUTERS. CONTE: ALBERTA PIZZOLI/GETTY IMAGES. DOCS: COURTESY DOC MARTENS. BIDEN: MANDEL NGAN/GETTY IMAGES

U.S. Leadership in Technology Is in Danger. Government Can Help

From the cotton gin to the mobile phone, the U.S. has produced some of the most useful inventions of the past three centuries. Yet by several measures, its traditional leadership in science and technology is under threat. As President Joe Biden's administration begins, reviving American ingenuity should be among his top priorities.

Biden should, as a start, push to raise government investment in research and development. Federally funded research has been a crucial component of U.S. scientific success, helping to produce everything from GPS technology to search engines to the internet itself. In recent years, almost one-third of patents granted have relied on such research. Yet annual federal R&D spending as a share of gross domestic product has stagnated at about 0.7% over the past three years, down from an historical average of 1.1%.

Reversing this worrying trend will cost a lot—about $240 billion annually, up from $164 billion last year. But few steps are more essential for boosting innovation, productivity, and the country's competitiveness. Innovation also has a vital role to play in shifting the economy to clean energy, which Biden has rightly emphasized. His plan for a cross-agency research team to investigate far-out energy technologies, dubbed ARPA-C, for Advanced Research Projects Agency for Climate, is on the right track. Pairing such investment with better incentives for private-sector R&D using subsidies or more generous tax credits would help boost jobs, incomes, and economic growth. Prioritizing breakthrough technologies such as artificial intelligence and quantum computing, meanwhile, would go a long way toward sustaining U.S. leadership in industries of the future.

Another priority should be improving digital literacy across the government. Successful programs such as the 18F office and the U.S. Digital Service, which act as in-house tech consultancies for federal agencies, can be expanded. Biden should also consider adding an office within the White House to evaluate how proposed regulations would affect innovation. Such efforts would do much to rationalize government tech policy, lure more talented workers into public service, and ensure that promising businesses aren't burdened by misguided rules.

Finally, a critical ingredient in Silicon Valley's success has been its openness to immigration. The country is squandering its traditional advantages in this regard. Although foreign-born students now make up half or more of U.S. doctoral graduates in critical fields such as engineering, math, and computer science, the government offers no permanent visa for them, and the previous administration spent four years devising ways to antagonize them.

Promisingly, Biden has pledged an immigration overhaul. The details—and his commitment to them—will prove decisive. To boost U.S. competitiveness, he should increase visas for skilled workers and prioritize applicants with STEM skills that are in demand; exempt international graduates of U.S. schools with advanced science degrees from the cap on green card allotments; and offer a startup visa for entrepreneurs who create jobs. Taken together, such steps would help the U.S. remain a beacon for the world's best scientists, engineers, and technologists.

Innovation has powered the U.S. economy for decades, but it doesn't occur by magic. As Thomas Edison, inventor extraordinaire, famously held, inventiveness is mostly hard work. Biden's administration should keep that in mind, and get to it. *For more commentary, go to bloomberg.com/opinion*

■ AGENDA

► Log In, We're Open

Amazon.com and Alibaba both report quarterly earnings on Feb. 2. The e-commerce giants have thrived during the pandemic as people avoid stores and shop online, stocking up on goods from electronics to groceries.

► Finance Minister Nirmala Sitharaman presents India's annual budget on Feb. 1. Among the challenges facing the country is reviving lackluster domestic consumption.

► Oil giant BP reports earnings on Feb. 2. The pandemic-induced crash in energy markets has forced companies to lower price forecasts, write down assets, and scale back drilling plans.

► The Reserve Bank of Australia sets interest rates on Feb. 2. Economists see the cash rate remaining at 0.1% into this year, as the country's economy begins to recover.

► South Africa hosts the virtual Mining Indaba natural-resources conference on Feb. 2-3. Guest speakers include Mark Cutifani, CEO of mining company Anglo American.

► Nintendo's earnings on Feb. 1 will most likely show it got a boost from a development that's troubling many parents: Kids stuck at home are spending a lot more time gaming.

► Groundhog Day on Feb. 2, when prognosticators meet in Punxsutawney, Pa., to predict the arrival of spring, will be celebrated virtually this year for the first time.

ILLUSTRATION BY CRISTINA SPANÒ

Egypt's Africa Connection

AFTER DECADES OF NEGLECT, EGYPT IS REVIVING ITS IDENTITY AS AN AFRICAN NATION AND PIVOTING TOWARD THE CONTINENT.

In partnership with

THE BANK TO TRUST

بنك القاهرة
Banque du Caire

ORASCOM CONSTRUCTION

Egypt's assumption of the presidency of the 55-member African Union in February 2019 marked a turning point in the country's relationship with Africa. At a time when the continent has been attracting attention on all fronts—from former colonial powers leveraging their historical ties to new investments by the Middle East's oil-rich monarchies, amid an influx of Chinese contractors—Egypt is mobilizing from within.

The country last held the annually rotating presidency to raise its profile as an African nation more than half a century ago. Then-leader Gamal Abdel Nasser played a central role in influencing Africa's nationalist movements in their fight for independence from European colonial rule. Egypt was a founding member of the pan-African Organization of

At a Glance: Egypt

$8bn

FDI investment in 2019.

10% of the world's trade

Passes through the Egypt's Suez Canal.

300,000

Egyptians graduate from University every year.

African Unity in 1963, relaunched in 2002 as the African Union to refocus attention from decolonization toward increased cooperation and integration to drive growth.

Since then, however, Egypt has made only sporadic commitments to the continent. On paper, it is a member of the Common Market for Eastern and Southern Africa (COMESA), one of a number of African trade agreements. It is also one of more than 40 countries that have ratified the African Continental Free Trade Area (AfCFTA)—created by the African Free Trade Agreement—which would see COMESA merge with other African trade blocs to create the world's largest free trade area. According to an IMF report in May[1], once fully implemented, the agreement would cover all 55 African countries, with a combined GDP of $2.2 trillion and a market of more than 1.2 billion people.

In practice, such agreements are yet to bear fruit. Data from the U.N. Conference on Trade and Development show that intra-African trade, defined as the average of intra-African exports and imports, stood at just 2% of total African trade during the period 2015–2017, compared with 47% for America, 61% for Asia and 67% for Europe.[2] As a result, the continent has missed out on the economic booms that other trade blocs have experienced in recent decades.

What this means is that access to a vast economic bloc—indeed, to the world's youngest continent[3]—with limited trade barriers offers a plethora of opportunities for Egypt's new policy of rapprochement.

Egyptian involvement in Africa is already expanding. Tanzania's $3 billion dam on the ▶

1 www.imf.org

2 unctad.org

3 www.weforum.org

Q&A
Hussein Majid Abaza

CEO OF COMMERCIAL INTERNATIONAL BANK

Commercial International Bank, Egypt's biggest private lender, is leading digital transformation in Egypt's banking sector. Since the pandemic, the bank has introduced a comprehensive suite of digital payment solutions that reduce the need to use cash and visit branches.

How has the pandemic accelerated innovation?
Our early adoption of digital banking has been invaluable in ensuring business continuity and has served as a crucial advantage as we responded to the restrictions and changes caused by the pandemic. We have been at the forefront of Egypt's financial inclusion efforts with the national Meeza prepaid and debit cards, which allow customers to withdraw cash from ATMs, conduct purchases and perform e-commerce transactions.

Tell us some key initiatives
We enhanced our existing platforms to accommodate the influx of new users. We created offline requests to allow clients to perform more transactions through online and mobile banking services, significantly reducing the number of trips customers have to take to our branches.

CIB is also constantly developing payment services through its mobile application, CIB Smart Wallet, for both banked and unbanked segments of the population, allowing them to pay bills, buy from merchants using QR codes, shop online and send money to other wallet holders in Egypt with relatively low fees.

How has CIB's operations been affected?
CIB ranks No. 1 for domestic digital transfers and government e-payments, and has a market share of 25% in both internet and mobile banking. A large number of customers were using digital products before the pandemic, eliminating the Covid adoption stage and reducing the number of issues faced, and the need for face-to-face interaction in branches.

How is CIB positioning itself for growth in a post-Covid world?
We need to ensure we are agile and nimble as an organization, and able to harness shifts in technology and respond to the evolving preferences of clients in all segments. In a post-Covid world, we will continue to expand our digital offerings.

We have embraced the alphabet of the future—ABCD: artificial intelligence, blockchain, cloud and data. The future is digital and remote banking. ■

At a Glance: CIB

1.4+m
Clients

6,900
Employees

EGP 122 bn
Market Cap

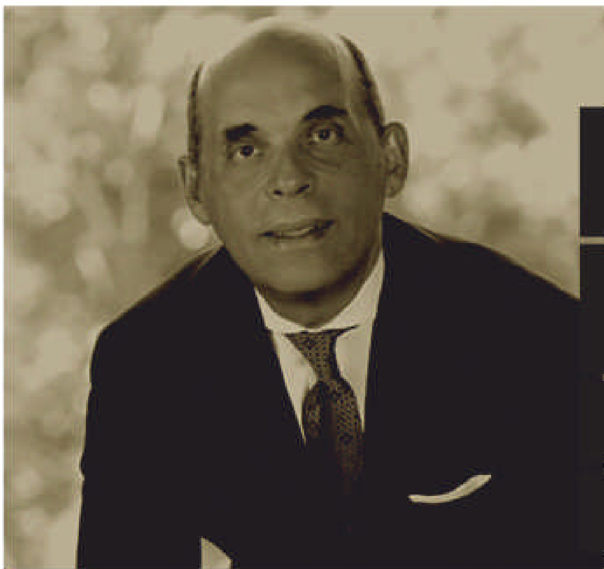
207
Branches

Rufiji River is being built by two Egyptian contractors, for example, while financial services firm EFG Hermes has a strong brokerage presence in the local markets in Kenya and Nigeria. More private capital is on its way; Egyptian food producer EDITA is in the process of building a snack food manufacturing facility[4] in Morocco.

Encouraged by high growth rates coupled with underdeveloped infrastructure, particularly in power, water and rail, Orascom Construction is increasing business in untapped markets in the continent. The company has begun constructing the Jiji and Muluembue Hydropower Plants in Burundi, scheduled to be completed by 2023, and on the Ivory Coast, its partially owned Besix subsidiary is building one of the largest water treatment plants in West Africa.

In the banking sector, CIB, Egypt's largest private-sector bank, established a presence in Kenya this year[5], acquiring 51% of Mayfair CIB Bank Limited. Its first cross-border operation, the move is in line with CIB's mandate to explore and assess opportunities in Africa, building a bridge for Egyptian customers to benefit from regional integration efforts across the continent and from the prospects available through COMESA and AfCFTA. CIB brings its technical expertise, experienced know-how and vast correspondent banking network, while Mayfair Bank, via its existing shareholders, will provide the local knowledge and navigation vital to success. The bank's aim is to widen the trade corridor between Egypt, Kenya and neighboring countries and facilitate the presence of Egyptian and international corporations with interest in Kenya, while contributing to the growth of ▶

4 en.yabiladi.com
5 www.theafricareport.com



Q&A

Tarek Fayed

CEO OF BANQUE DU CAIRE

Banque du Caire (BDC), one of Egypt's largest banks, operates a network of 240 branches and banking units that serve some 3 million customers across the nation. The state-owned lender is recognized for its pivotal role in injecting liquidity to support the national economy across all sectors, with a focus on small, medium and large enterprises.

How has the sector evolved? The Central Bank of Egypt (CBE) has made comprehensive efforts to strengthen the Egyptian banking sector. A restructuring program, partially built on the basis of having well-capitalized banks, facilitated consolidation and M&A to improve fundamentals among the nation's financial institutions.

The other pillar was reforms to improve operating and credit conditions, along with supporting the economic recovery. CBE initiatives to improve the business environment include liberalizing the currency; a financial inclusion program that supported SMEs and other, non-banked customers; and legislative amendments, such as ratifying the New Banking Act.

The undeniable impact of Covid-19 on the banking sector has accelerated the adoption of digitalization, as the CBE launched several initiatives to entice banks to move forward with more digital services, especially with regard to electronic payments. That was coupled with the new CBE law that introduced several technological and digital means that will help with the digital transformation of the banking and financial sector in Egypt.

How has Covid-19 impacted the economy? All three rating agencies—Standard & Poor's, Moody's and Fitch Ratings—reaffirmed Egypt's sovereign evaluation and credit rating thanks to economic reforms carried out by the government that allowed for a rapid and effective response in dealing with the coronavirus outbreak.

These reforms have been accompanied by a massive increase in spending on health care; the expansion of cash transfer programs to include a larger number of beneficiaries; and, in accordance with the CBE initiative, the creation of new programs to support seasonal workers whose daily earnings have been decimated by the crisis.

What have been key achievements in 2020?

The bank continues to achieve positive results and record strong growth rates. The net interest margin (NIM) increased to 5.9% recording EGP 7.5bn in Q3 2020, compared to EGP 6bn or 5.1% in the same period in 2019, reflecting a growth rate of 25%. The bank will continue to implement its precautionary policy, by strengthening allocations for credit losses with the addition of about EGP 1.7bn, which led to achieving net profits about 2.52 billion despite the repercussions of the Covid 19 epidemic.

Banque du Caire has targeted high growth rates across various sectors during 2020, strengthening its role in retail banking, arranging financing for megaprojects and securing SME funds. ■

At a Glance: Banque Du Caire

3m

Customers

240

Branches and banking units

EGP 194 bn

($12.32 billion) in assets

Kenyan corporates and SMEs. Banque du Caire, meanwhile, has established a subsidiary in Uganda as it seeks to expand its presence across the continent[6].

Egypt, bolstered by its advantageous location, is also positioned as the gateway to Africa through trade and technology, strong international and domestic transport links, existing trade agreements and its megaprojects, such as the new administrative capital and developments at the Suez Canal.

The canal, through which almost 10% of world trade passes[7], connects Europe to Africa, and Asia to Africa. This geo-economic advantage is set to be further boosted by the 460-square-kilometer Suez Canal Economic Zone, which aims to bring in foreign investment for export-oriented industries and transform the country into a global logistics hub. Established as part of Egypt's Vision 2030 sustainable development strategy, the zone has four industrial areas and six seaports, and ongoing port expansion will enable it to take better advantage of the 18,000 ships that use the canal annually.

The country looks to enhance its intra-African relations, the Suez industrial and logistical hub is expected to create value chains across the continent, becoming a manufacturing and exporting base for commodities and raw materials from the region. Thanks to its pan-African trade agreements, Egypt has the potential to attract large pools of public- and private-sector investment from all over the world to drive new business in the continent.

For international investors, Egypt's attraction goes beyond its strategic geographical location. About half the country's 90 million ▶

6 www.kampalapost.com
7 www.reuters.com

people are under the age of 30, and its young and educated workforce provides a well-trained and highly competitive talent pool. Each year, approximately 300,000 Egyptians graduate from university—around 200,000 as trained engineers, and 15,000 with European language skills. IT and telecom, energy, building materials and pharmaceuticals are particularly strong skillsets among graduates[8].

The country has long been known as a regional net exporter of educated and skilled labor, but as the economy expands, young Egyptians are increasingly opting to stay in their home country. Their passion and creativity, together with legislative support, is seeing Egypt aggressively staking its claim as one of the world's fastest-growing entrepreneurial hubs[9].

Covid's impact notwithstanding, Egypt's economic climate has remained positive. In 2019, the country's GDP grew at the highest rate in a decade[10]. And foreign capital that was lost after the revolution in 2011—which was followed by regime change and terror attacks—is returning. Although annual foreign direct investment (FDI) halved to around $5 billion in the past five years compared with $10 billion seen in 2005–2010, as investors from the U.S. and Europe retreated, FDI numbers have improved, hitting almost $8 billion in 2019, a trend that should gain pace going forward.

Macroeconomic stability is being restored thanks to an IMF program the nation embarked on in 2016, which the institution has hailed as one of its most successful ever. The government won praise from international investors for enacting tough reforms, supported by a $12 billion IMF loan package that concluded in November 2019. The three-year program focused on reviving the economy, and included a significant currency devaluation that is making Egypt an attractive hub for re-exports for multinationals.

Now that its African Union presidency has come to an end, Egypt's mission is to maintain its focus on Africa. In a post-Covid environment, where developed countries are struggling with low growth and unemployment, the time is ripe to continue this pivot toward emerging markets, to connect all the African countries and increase trade between them. Egypt has a vital role to play in the region in 2021. ■

8 www.investinegypt.gov.eg

9 www.wamda.com

10 data.worldbank.org

Q&A

Osama Bishai

CEO OF ORASCOM CONSTRUCTION

Orascom Construction is a leading global engineering and construction contractor active in the Middle East, Africa and the U.S. The company enjoys a leadership position in all major segments of the construction industry.

How has Covid-19 impacted operations? The safety and well-being of our people and communities have always been our top priority, and we took a number of immediate steps to ensure precautionary measures at our sites and offices in accordance with the highest standards.

We have reinforced our focus on important elements of our business, including project execution and controls, cash preservation and collection and cost optimization. We continue to be vigilant, and are confident in the long-term fundamentals of our markets.

Can you tell us about the Grand Egyptian Museum project? The GEM is an iconic project that will house Egypt's civilization of over 5,000 years. Once inaugurated next year, it will be the largest archaeological museum in the world.

What other key megaprojects are planned? The Cairo Monorail will be the world's longest monorail system. The first monorail line will extend 54 km from East Cairo to the New Administrative Capital and have 22 stations and a depot. The second, 42 km line will connect the Giza Governorate to 6th of October City and have 12 stations and a depot, the first public transport link between the cities.

We are also involved in building a range of infrastructure and commercial projects for two new cities, the New Administrative Capital and Al Alamein; the former includes a 537m2 opera house and cultural center, an Olympic stadium and large-scale government buildings.

The Group is building one of the largest water treatment plants in the world with a capacity of 5 million m3/day, and one of the largest wastewater treatments plants in Egypt that will serve 6 million people. In 2019, we delivered the first renewable energy project of its kind and size in Egypt—the Ras Ghareb Wind Farm, with a capacity of 262.5 MW.

What is the outlook for construction next year? Egypt is the Middle East's most populous nation, with more than half its people under the age of 30 and significant requirements for infrastructure and industrial investment. Our competitive edge, business development efforts and Egypt's solid market fundamentals have allowed us to secure a sizable inflow of high-quality projects and maintain a healthy project pipeline.

We expect continued investment across multiple sectors, including water, transportation, healthcare, new cities and data centers. We also anticipate more involvement from the private sector in the development of infrastructure, through public-private partnerships and build-own-operate structures. ■

At a Glance: Orascom Construction

60k

Employees worldwide

$5.3bn

Backlog

Notable projects:

Water mega projects
Greater Cairo Metro
World's longest monorail project
Grand Egyptian Museum
Two mega combined cycle power plants, 4.8 GW each

Xi Insists

PETER PARKS/AFP/GETTY IMAGES

● Improving U.S.-China relations will require President Xi to make real compromises. So far, he's unyielding

● By Michael Schuman

As Joe Biden settles into the White House, there's been endless debate about what his China policy should, could, and will be. Yet it takes two superpowers to tango, so Xi Jinping's approach to Biden will be every bit as critical as Biden's to Xi—perhaps even more so. Any significant improvement in U.S.-China relations is impossible unless Xi is willing to dance.

Is he? We don't know with any certainty. Xi doesn't share very much about his thinking on U.S. policy. He rarely ever even mentions the U.S. by name. As with so much else in China, we're stuck parsing Xi's comments, dissecting his actions, and making some educated projections.

A picture does emerge from the murk. And unfortunately for global stability and prosperity, it doesn't look good.

The reason can be found in how Xi has changed China and China's role in the world. Donald Trump's rejection of traditional U.S. foreign policy principles grabbed the headlines, but Xi's break with Beijing's past practices has been just as dramatic. And while Trump has been shown the door by American voters, Xi isn't going anywhere, and neither is his agenda. In that sense, Xi's impact on the world may prove to be greater and more fundamental than Trump's. And that may make China's rapprochement with the U.S. difficult, if not downright impossible.

Sure, Beijing is sending some positive signals. At the virtual Davos summit on Jan. 25, in his first speech since Biden's inauguration, Xi called on the world to abandon an "outdated Cold War mentality," adding that "confrontation will lead us to a dead end." And there are ways Biden and Xi can at least tamp down tensions. Xi will probably be open to cutting small deals to achieve specific ends. For instance, he could offer Biden a few concessions on trade or market access for U.S. companies to get remaining Trump tariffs on Chinese goods lifted. He may also find more avenues of engagement with Biden than with Trump—for example, a shared concern about climate change.

Biden may be just the right person to smooth things over. For a top American politician, he's had an unusual amount of face time with Xi. The two held extensive conversations during an exchange of visits in 2011 and 2012, when both were vice presidents. (We can guess who did most of the talking.)

But Biden will discover the Xi Jinping of 2021 is not the Xi Jinping of a decade ago. Back then, China watchers anticipated Xi would continue the "reform and opening up" launched by Deng Xiaoping in the 1980s. Now we know otherwise. Xi has reshaped the Chinese government by centralizing more control in his own hands than any leader since Mao Zedong, and he apparently aims to go down in China's history books as the rejuvenator of the country's greatness.

That's forced a drastic change in Beijing's approach to the world. Xi's reform-era predecessors were content to focus primarily on economic development. But Xi, to bolster his carefully crafted image at home, has pursued a much more aggressive policy abroad.

On just about every front, he's flexed China's new muscle in a quest for greater influence over, and respect from, the rest of the world. With his pet diplomatic project, the infrastructure-building "Belt and Road" initiative, he's expanding China's clout across Eurasia and beyond. He's sought heftier sway within international institutions such as the World Health Organization. What Beijing considers core interests have been pursued with extra gusto, whether its contentious claim to almost all of the South China Sea or the sensitive issue of Taiwan.

Add in Xi's controversial policies at home—the detention of untold numbers of minority Uighurs and the crackdown on Hong Kong's pro-democracy movement—and he's as responsible for the dangerous deterioration in U.S. relations as Trump. Improving those ties will require changes in Beijing's policies as well as Washington's.

There's a chance that a less combative approach by Biden, even in tone, could soften Xi's policies in turn. The Trump administration was, after all, bound to make Xi extra defensive by battering China with sanctions and threats and poking him in the sorest of spots, such as Taiwan. Since the Beijing government likes to characterize its U.S. policies as reciprocal, every step back by Biden would almost compel Xi to match it.

Yet on many fronts, Xi appears to be digging in. Only two weeks before Biden's inauguration, police in Hong Kong rounded up dozens of democracy advocates under the city's new national security law. Similarly, Xi shrugged off U.S. outrage over his abysmal treatment of China's Uighurs, calling his policy "totally correct" in September. Just days after Biden took office, the Chinese military sent jets near Taiwan to intimidate the island's democratic government, ignoring a protest from the new U.S. administration.

On economic matters as well, Xi appears implacable. The state's heavy subsidization of Chinese high-tech industries has been a long-running lament of U.S. companies and a (supposed) target of Trump's trade war, but Xi continues to spend. In August he unveiled juicy tax breaks to semiconductor companies.

In an essay published last August, Yang Jiechi, a member of the Communist Party's Politburo, placed full blame for rising tensions on "a handful of self-serving U.S. politicians" who make "false statements and groundless remarks" about China. "We urge them to redress mistakes and change course," he concluded. In return, Yang offered nothing concrete. In fact, he took some major issues—including Hong Kong, Taiwan, and the Uighurs—off the negotiating table, stating they "concern China's sovereignty and territorial integrity."

Translation: Xi wants a "reset" of relations with the U.S. as long as Biden does all the resetting. That's unrealistic. Democrats and Republicans now see China as a strategic adversary, so there's almost no chance Biden will turn back the clock and restore the old policy of engagement, especially if Xi refuses to compromise.

It appears Xi may have already arrived at that conclusion. The new urgency with which he is pressing for "self-sufficiency," most of all in key technologies such as chips, indicates that he aims to limit China's reliance on the U.S. and Biden's influence over the Chinese economy. Xi's new economic catchphrase, "dual circulation," places more stress on domestic development and thus may shift the focus of policy inward. That, too, could heighten tensions with the U.S. if Xi substitutes imports with homegrown products or further discriminates against American companies.

The bottom line is that Xi has policy priorities, both at home and abroad, that he won't change for Biden. In a December interview, Biden said he intends "to make it real clear to China, there are international rules that if you want to play by we'll play with you. If you don't, we're not going to play." Xi's actions make it quite clear he has no intention of abiding by what Biden considers the "rules," but instead intends on setting his own rules for how other countries should deal with his China.

Increasingly, the U.S.-China conflict is becoming a contest of the core national interests of two major powers with fundamentally different governing ideologies and views of the world. Optimally, for the good of all of us, Xi and Biden can reach some accommodation. But without some drastic shift in Xi's policies, that's hard to imagine. Although Xi may pretend to dance, he'll likely leave Biden in the stag line. Ⓑ

Rock's Drumbeat Of Deals

● Big-time songwriters are selling all or parts of their catalogs to hungry new buyers

Bob Dylan was supposed to spend the summer of 2020 on tour, winding his way from the Les Schwab Amphitheater in Bend, Ore., to the Bethel Woods Center for the Arts in upstate New York. Instead, stranded at home because of the pandemic, he lined up the biggest payday of his career.

For years, music executives had approached Dylan about buying his catalog, which includes more than 600 songs such as *Blowin' in the Wind* and *Like a Rolling Stone*. Dylan always turned them down, but in December the 79-year-old reconsidered and made more than $300 million in a pact with Universal Music Group Inc.

The sale was the largest in a spate of recent deals in which stars have cashed in on their old songs. Lindsey Buckingham, Shakira, Neil Young, and producer Jimmy Iovine sold all or part of the rights to their catalogs, while Stevie Nicks and songwriter Ryan Tedder (who's written for Adele, Beyoncé, and Carrie Underwood, among others) sold majority stakes in theirs.

Music assets are bought and sold all the time, but there's never been a period as active as the past few months. Industry executives cite the emergence of aggressive buyers, low interest rates, and Covid-19, which has prevented musicians from touring, their primary source of income. Before 2020, Dylan had toured every year for a decade, grossing more than $130 million. Although he put out five studio albums in that span, his earnings from new releases dwindled in the shift from CDs to streaming.

Another factor: the U.S. presidential election. Joe Biden has pledged to increase capital-gains taxes, so the stars wanted to reach agreements before that happens. "These artists are all in their early 70s, mid-70s, and at that age you should be thinking about estate planning," says Josh Gruss, chief executive officer of Round Hill Music, a fund that owns rights to songs by artists including the Beatles.

Many investors had given up on the music business after the internet battered CD purchases, first with piracy and then iTunes. Record sales dropped more than 40% from 2000 to 2014. As streaming services reinvigorated the industry, investors tiptoed back in. In 2016, Goldman Sachs Group Inc. projected the sector—which comprises live music, radio, recorded music, and publishing—would double in size to $103.9 billion by 2030, with the publishing piece of it almost doubling, from $5.4 billion to $9.3 billion. "People have become increasingly comfortable with where music is headed globally," says Justin Kalifowitz, CEO of Downtown Music Group, which represents the songwriters of the hit *Shallow* from *A Star Is Born*, among others. "You're seeing a flood of capital

Edited by Bret Begun, David Rocks, and James E. Ellis

coming into the marketplace to acquire a discrete pool of extremely well-known song copyrights."

Songwriters make money in more ways than ever. In addition to radio, commercials, and TV, they collect royalties from streaming services, social media companies, video games, and fitness apps. Think TikTok, YouTube, Peloton, Spotify; the average hit earns income from more than 20,000 sources globally, says Kalifowitz.

This booming market has lured buyers that include private businesses, pension funds, and companies that do little more than buy and sell music rights. No one's been a more aggressive buyer than Merck Mercuriadis, a former manager of Guns N' Roses and Beyoncé. He's spent about $1.75 billion scooping up copyrights to more than 60,800 songs in three years through his Hipgnosis Songs Fund Ltd. In addition to his deals with Buckingham, Shakira, Young, and Iovine, he now owns songs written by Blondie, Rick James, and Barry Manilow.

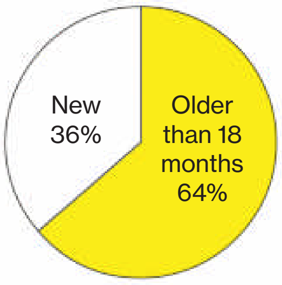
Mercuriadis finds himself up against other specialist funds such as Primary Wave Music (which has the deal with Nicks) and Round Hill Music. Their spending has prompted more staid investors to take a look, too. Asset managers such as BlackRock and private equity firms KKR and Providence Equity Partners have invested in catalogs and are in the market for more.

Interest from Wall Street—as well as overseas billionaires—grew after a consortium led by Emirati sovereign wealth fund Mubadala sold its stake in EMI Music Publishing Ltd., which was valued at $4.8 billion in 2018, six years after buying it for $2.2 billion. Ukrainian-born billionaire Len Blavatnik fared even better: After acquiring Warner Music Group Corp. for $3.3 billion in 2011, he turned a profit of $7.5 billion when the company went public last year.

To some in the industry the exuberance forewarns of a bubble, with musicians exploiting a hot market and new buyers overpaying. Acquirers now pay 14 to 17 times their share of a song's earnings, according to independent valuer Massarsky Consulting; Hipgnosis says it pays almost 16 times on average. Some recent deals have been closer to 25. "There's been a new class of buyers coming into the market recently like pirates at hot and heavy multiples well in excess of norms," says Matt Pincus, who sold his publishing company in 2017 for about $160 million and now invests in the industry.

Analysts at Stifel Financial Corp. downgraded Hipgnosis's stock in January. In a note, the brokerage wrote that Hipgnosis has recorded higher valuations of catalogs soon after buying them, despite "not having had sufficient time to add value, or underlying market assumptions to have materially changed." Mercuriadis dismisses Stifel's arguments as "almost hysterical," saying that the valuations are from independent companies and that he gets deals by tapping industry contacts and avoiding auctions; Massarsky calls Stifel's criticisms "fundamentally unsound." Mercuriadis previously led ▶

▼ Music purchased or streamed in the U.S. in 2020



MUSIC: PHOTO ILLUSTRATION BY 731; PHOTOS: GETTY IMAGES (4). DATA: BILLBOARD

◀ music group Sanctuary, which during his tenure hemorrhaged money after expanding, leading to a restructuring and sale. (He recently said its demise was caused by the broader faltering of the sector as it grappled with internet piracy.)

High prices may be here to stay. For one thing, new investors are used to them, and they're comfortable generating steady returns over the long haul. After all, they say, the life of a hit song is forever, and any investment will eventually go into the black. "You'll see the lower end of the market cool off," says Primary Wave CEO Larry Mestel, distinguishing between sales of less reliably bankable recent songs and classics from legends such as Dylan. "The quality end of the market will be there for quite a while." —*Lucas Shaw and Thomas Seal*

THE BOTTOM LINE There are so many ways for a song to make money now, so buyers are willing to pay more than ever for rights to catalogs from classic rock's most famous names.

The Virus Is Hitting Carmakers, Too

● A shortage of chips—crucial for today's autos —will cost the industry up to $61 billion in sales

When the Tohoku earthquake and tsunami ravaged Japan in 2011, ocean water flooded factories owned by Renesas Electronics Corp. Production at the swamped facilities ground to a halt—a major hit for Renesas, of course, but also a devastating blow to the Japanese car industry, which depended on Renesas for semiconductors. Lacking chips for everything from transmissions to touchscreens, Honda, Nissan, and Toyota were forced to shut down or slow output for months. As the perils of just-in-time manufacturing and the dangers of relying on a single supplier for key components became obvious, automakers vowed to steer clear of similar snafus in the future.

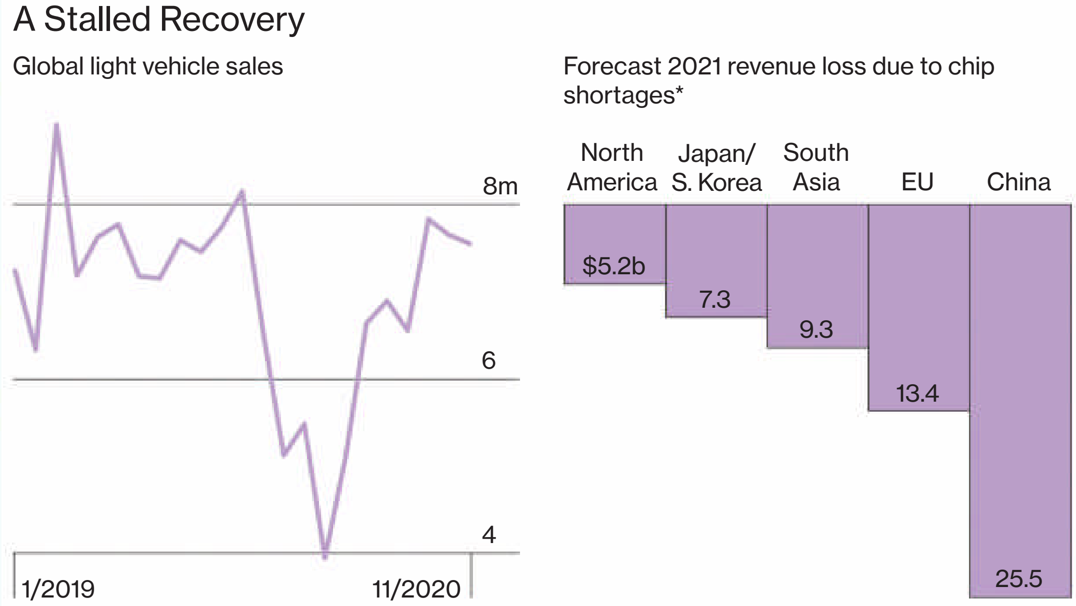
Yet a decade later, the global auto industry finds itself in an almost identical predicament. The catalyst for the breakdown this time is a slower-moving natural disaster: the coronavirus pandemic, which has disrupted the supply chain for makers of the electronics that are the brains of modern cars. That left automakers—which have long eschewed maintaining costly inventories of parts—scrambling to secure those components when sales rebounded.

The shortage could lead to more than $14 billion in lost revenue in the first quarter and some $61 billion for the year, advisory firm AlixPartners predicts. The industry is "wedded to 'lean manufacturing,' " says Tor Hough, founder of Elm Analytics, an industry consultant near Detroit. "They have gotten in this mode of just managing for next week or next month."

The pandemic forced the broadest shutdown of vehicle plants since World War II, and lockdowns closed showrooms around the world, sending sales into a funk. But last summer, after the restrictions were eased and factories reopened, demand bounced back faster than expected. Spurred by rock-bottom interest rates and fears of crowding into subways or buses, consumers across the globe snapped up SUVs, sedans, and pickups. Cars these days are in many respects computers on wheels, with electronics accounting for about 40% of a vehicle's value. By the time auto parts suppliers realized they were running short on the dozens of microprocessors needed for each car, chipmakers were slammed making semiconductors for the cellphones, game consoles, and computers that housebound shoppers were buying like crazy.

The problems have been exacerbated by the outsize power of a single company: Taiwan Semiconductor Manufacturing Co., which accounted for 56% of global chip manufacturing revenue in the fourth quarter of 2020, according to researcher TrendForce. Automakers rarely buy directly from TSMC, instead purchasing most of their electronics from suppliers that often outsource the design and manufacturing of chips to automotive-focused shops such as NXP Semiconductors NV and Infineon Technologies AG. Those companies make some parts in-house,

A Stalled Recovery



*ESTIMATES BASED ON CURRENT RATE OF VOLUME LOSSES. DATA: LMC AUTOMOTIVE, ALIXPARTNERS

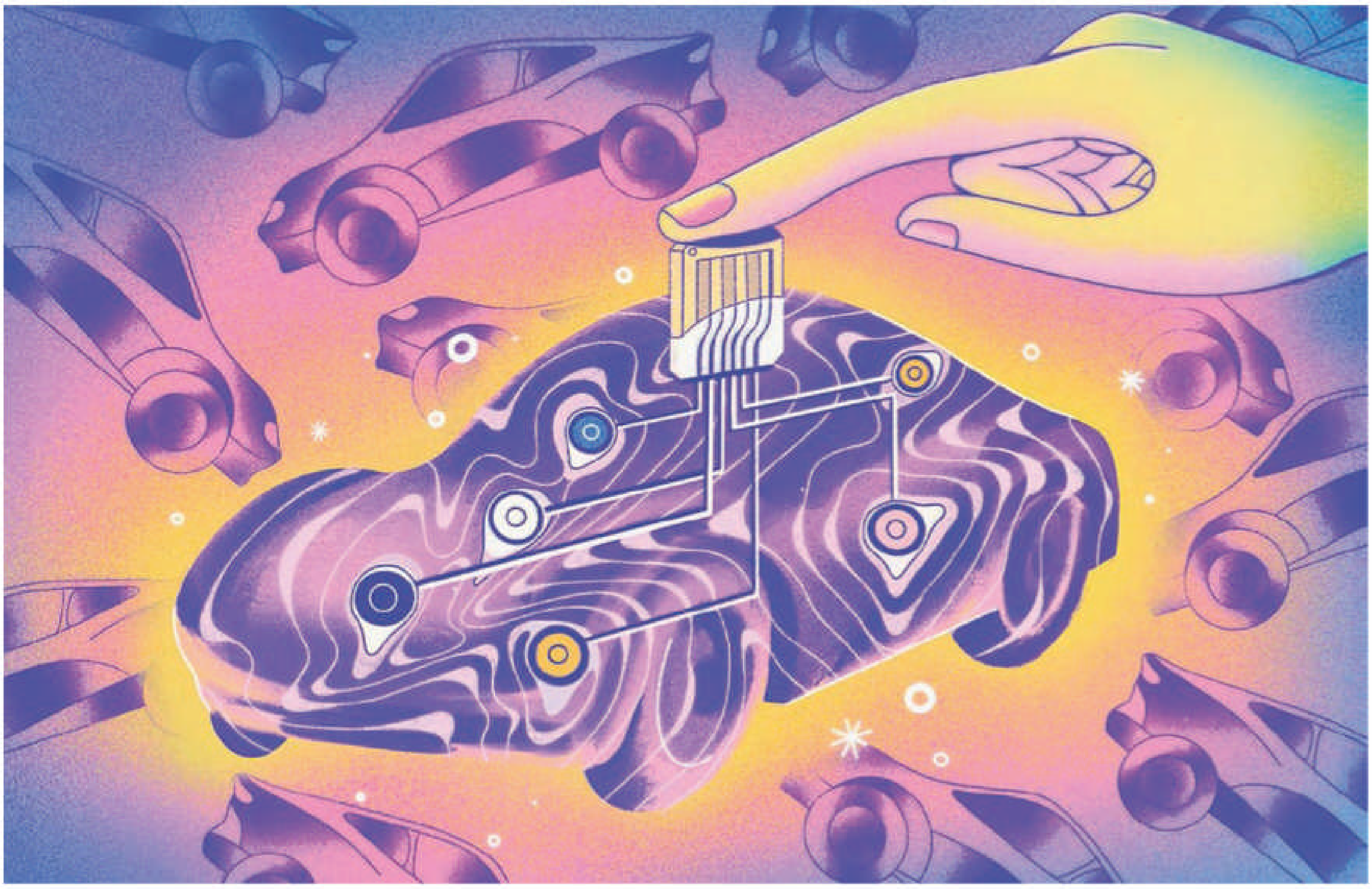


ILLUSTRATION BY REBEKKA DUNLAP

but they hire TSMC to handle much of their production. While the auto industry's needs are enormous, they're dwarfed by those of consumer-electronics giants such as Apple, Samsung, and Sony, which are "ready to pay more for chips to ensure their gadgets get to market on time," says Jeff Pu, an analyst at GF Securities Co. "Carmakers are less inclined to do so."

The problems started to bubble up a few days before Christmas, when Volkswagen AG said it was bracing for production disruptions because of a semiconductor shortage. Component makers Robert Bosch and Continental AG came next, saying they risked delays, then Nissan Motor Co. confirmed that a dearth of chips would force it to scale back manufacturing of its Note hatchback. After that, the announcements rolled in fast. Fiat Chrysler idled plants in Canada and Mexico; Daimler said it was affected by the bottleneck; Honda slashed output by about 4,000 cars at a facility in Japan; Ford shut one SUV factory in Kentucky for a week and another in Germany for a month. Researcher IHS Markit says 628,000 cars—3% of global production—will be knocked off in the first quarter alone.

Yet for all the pain, automakers are reluctant to change their lean manufacturing strategies, because the savings they offer outweigh even the costs of disruptions like those they face this year. Carmaking is an inherently low-margin business, and producers are loath to build up expensive inventory because to turn a profit, the flow of parts into a factory needs to match the stream of vehicles coming out the other side. So it makes little sense to plan the entire operation around a worst-case scenario that comes only once a decade, says Kevin Tynan, an analyst with Bloomberg Intelligence. "It's like driving a giant 4x4 SUV year-round waiting for maybe three or four snowstorms," he says.

While the two sides publicly say they're working together to fix the problem, in private each points a finger at the other. The chipmakers insist the car industry's obsession with low inventories is to blame. Auto and parts producers counter that semiconductor manufacturers have favored consumer-electronics companies because those gadgets provide the bulk of their profits—an allegation chipmakers deny.

Regardless of who's at fault, few expect the bottleneck to clear before the summer, and some say it will last into the fall. It's not easy for chipmakers to add capacity, because most factories are currently running full-steam and new plants typically cost billions of dollars and take years to build. "It's really going to have an impact through the first half," says Matt Blunt, president of the American Automotive Policy Council, a lobbying group for Detroit automakers. "And the longer it takes to resolve, the more it will bleed into the third quarter." —*Katrina Nicholas, Keith Naughton, Gabrielle Coppola, and Debby Wu*

THE BOTTOM LINE Modern autos are increasingly reliant on microprocessors to control everything from transmissions to touch screens. A Covid-related dearth of chips has slowed car production.

"It's like driving a giant 4x4 SUV year-round waiting for maybe three or four snowstorms"

Surveillance, Censorship, And Profit

Edited by Joshua Brustein

● Francisco Partners specializes in tech that has both mundane and controversial uses

Don Bowman, co-founder of Sandvine Inc., was always aware of the risks his company's products posed. Sandvine makes what's called deep packet inspection equipment, tools useful for spam filtering and internet network management that can also be used for surveillance and censorship. During Bowman's two-decade tenure, Sandvine periodically turned down potential clients, including a telecommunications company partially owned by the Turkish government that wanted Sandvine to help it spy on email correspondence. "What that could lead to—we're talking about journalists vanishing, whistleblowers put in jail," says Bowman, who has since founded a security company called Agilicus in Kitchener, Ont. "We didn't want to be part of that."

Such concerns didn't appear to take priority after Francisco Partners Management LLC, a private equity firm in San Francisco that primarily invests in technology companies, bought Sandvine in 2017. Francisco Partners replaced Sandvine's entire executive team, including Bowman, and Sandvine then began selling to governments with troubling records on human rights, according to interviews with more than a dozen people familiar with the matter and documents reviewed by Bloomberg News. Sandvine had previously dealt exclusively with the private sector, and its pursuit of government contracts, Bowman says, represented "a fundamental shift for the company."

Sandvine doesn't make its client list public and declined to comment for this story. But according to documents reviewed by Bloomberg, from 2018 to 2020 the company agreed to deals worth more than $100 million with governments in countries including Algeria, Belarus, Djibouti, Egypt, Eritrea, Iraq, Kenya, Kuwait, Pakistan, the Philippines, Qatar, Singapore, Turkey, the United Arab Emirates, and Uzbekistan. In its rankings of political freedom, the human-rights group Freedom House classified all these countries as either partially free or not free. Eritrea rated 206th out of 210 countries the group examined, worse even than North Korea.

Sandvine faced criticism after Bloomberg News disclosed how Belarusian President Alexander Lukashenko's regime had used its technology last summer to partially shut down the internet during nationwide protests over a disputed election. Sandvine canceled the deal after it became public, but advocacy groups have pressured federal and state officials to investigate Francisco Partners and Sandvine for due diligence and disclosure failures, and U.S. Senator Richard Durbin (D-Ill.) has raised questions about whether it violated U.S. sanctions against Belarus. Activists held demonstrations in front of offices for both companies. No public investigations or charges have been brought to date.

Other companies affiliated with Francisco Partners have faced controversy over deals they've pursued with authoritarian regimes. These include internet-monitoring companies Blue Coat Systems and Procera Networks as well as NSO Group Technologies, which makes software to hack into phones and computers, according to reports from human-rights groups such as Amnesty International, Access Now, and the University of Toronto's Citizen Lab, which tracks illegal hacking and surveillance.

A Francisco Partners spokesperson says Sandvine "allows the world's major communications providers to offer a safe and efficient internet with security protocols to prevent websites promoting child pornography, malware, and other criminal activity," adding that the firm was "deeply committed to ethical business practices, and we evaluate all of our investments through that lens." The firm says business ethics committees at its portfolio companies have blocked more than $100 million in sales that would have been legally permissible. It denies that it violated sanctions.

The market for government surveillance technology is about $12 billion annually, according to Moody's, and the estimates for the deep packet inspection market peg it at about one-quarter that size. Executives at Francisco Partners have kept their work largely out of the public eye and include no mention of this aspect of its operations in marketing materials. This account, based on interviews with current and former employees at the company and the businesses it's financed, as well as internal documents and financial filings, provides new details about how Francisco Partners conducts business with some of the world's most repressive governments.

In many cases the governments interested in monitoring and silencing their citizenry are U.S. allies, and there are few rules governing the technologies they use to do so. Michael McFaul, former U.S. ambassador to Russia and director of Stanford's Freeman Spogli Institute for International Studies, says the Biden administration should create new export controls and other regulations. ▶

"They could have done more to rein back the worst impulses of customers"

ILLUSTRATION BY MAXIME MOUYSSET

◀ Until that happens, there's a market opportunity, says Jonathon Penney, a research fellow at Citizen Lab. "A lot of the abuses we've seen involving these technologies would not have been possible without the support of capital-rich and resource-rich private equity firms like Francisco Partners," he says. "There's a real gap in legal accountability, and there's so much money in the sector that the incentives are just not there for companies to change the way they're doing business."

In 2019, Francisco Partners said its business strategy was to identify and overhaul poorly managed companies that had created good technology so it could "buy confusion at discount and sell clarity at premium." Since its founding in 1999, the company has raised about $24 billion and invested in more than 275 technology companies, according to its website.

The company has a long-term relationship with prominent Silicon Valley venture capital fund Sequoia Capital and has also worked with Paul Singer's hedge fund, Elliott Management Corp. In 2018, Francisco Partners announced that Blackstone Group Inc. and Goldman Sachs Group Inc. acquired a minority stake in the company.

A Sequoia spokesperson describes Sequoia as a passive investor in some Francisco Partners deals and finds the company to be "ethical in their practices and policies." Elliott Management says it had no involvement in the acquisitions of NSO Group, Procera, and Sandvine. Blackstone says it has a less than 5% stake in Francisco Partners and is not involved in investment decisions. Goldman Sachs declined to comment.

Francisco Partners' involvement in controversial government work dates to 2006, when it made the first of a series of investments in California technology company Blue Coat Systems and put Keith Geeslin, a partner at Francisco Partners, on the company's board of directors.

Blue Coat's revenue more than doubled, to $496 million, in April 2010, from $177.7 million in April 2007, according to company records. But it also began drawing negative attention. Human-rights activists disclosed that Syrian President Bashar al-Assad's regime was using the company's technology to block access to the internet and surveil dissidents during a brutal crackdown in 2011. Researchers at Citizen Lab later found that Blue Coat's technology had been used in Iran and Sudan, countries subject to U.S. sanctions.

Blue Coat said at the time that its equipment had been "unlawfully diverted to embargoed countries without our knowledge," and Francisco Partners says it held only a small stake in Blue Coat and had no ability to control its operations.

In March 2014, Francisco Partners acquired a majority stake in the Israeli surveillance company NSO Group. Citizen Lab and Amnesty International have linked the company's equipment to phone hacks of dissidents, journalists, and human-rights activists in Saudi Arabia, the UAE, and Mexico since at least 2016.

Within weeks of acquiring NSO Group, Francisco Partners began closely controlling every aspect of the business, and representatives from the company were involved in approving every deal it signed, a senior NSO Group employee says. Under Francisco Partners' direction, the number of NSO Group employees grew sixfold, to 600, boosting its global presence and sales revenue in the process, the senior NSO employee says.

Francisco Partners often learned about allegations of NSO Group's role in human-rights abuses through media reports, a former NSO Group employee says, and made efforts to investigate them.

▼ Sandvine co-founder Bowman was replaced when Francisco Partners took over

PHOTOGRAPH BY AARON WYNIA FOR BLOOMBERG BUSINESSWEEK

At times, Francisco Partners representatives who worked with NSO Group agreed to temporarily shut down customers who were suspected of wrongdoing, but they were reluctant to take permanent action. “They could have done more to rein back the worst impulses of customers,” says the former employee, who requested anonymity because of a nondisclosure agreement.

The controversies at NSO Group bothered some employees at Francisco Partners, even as the company’s leadership internally played them down. “We were told that, if some people are using the technology incorrectly, that was a minority of the revenue,” says a former employee, who requested anonymity because they were not authorized to speak publicly.

The Francisco Partners spokesperson defended its record with NSO Group, saying the company had saved lives and proved useful to governments pursuing criminals.

Francisco Partners sold its stake in NSO Group in February 2019, receiving about $1 billion for it, according to Reuters. That amounts to a return of more than 700% after adjusting for inflation.

In 2015, soon after buying into NSO Group, Francisco Partners acquired Procera Networks, a company that sold technology to monitor and manage digital networks. Procera’s direction quickly changed, according to three former Procera employees who requested anonymity because they had signed nondisclosure agreements.

Under its new ownership, Procera became more willing to sell its equipment to just about anyone, one of the employees says. Procera employees raised concerns about deals with the governments of Egypt, Turkey, and other countries with poor records on human rights. Several resigned. Johan Jönsson, who left Procera at about the same time Francisco Partners took over, says he initially believed Francisco Partners did business with Turkey because it was “utterly unprepared for doing business with the kind of equipment” Procera manufactured. But after a further series of questionable sales, Jönsson says, he came to the conclusion that the company was “very prepared to take those risks and prioritize the financial gain over ethics.”

Francisco Partners acquired Sandvine in 2017 and merged it with Procera. Operating under Sandvine’s name, the combined company became a powerhouse global provider of deep packet inspection equipment.

Sandvine devised ways of detecting particular types of data, even if it was encrypted, so its technology could tell whether people were sending WhatsApp messages or viewing Facebook and YouTube videos, even if it couldn’t monitor the content. In an internal newsletter he sent to employees in August, Sandvine Chief Technical Officer Alexander Haväng cited the technology as a way to appeal to governments whose surveillance efforts were complicated by encryption. Sandvine’s equipment could “show who’s talking to who, for how long, and we can try to discover online anonymous identities who’ve uploaded incriminating content online,” he wrote.

In 2020, Sandvine agreed to a deal with the Algerian government on a project to log data about the internet activities of as many as 10 million people and pursued a similar contract with authorities in Jordan, according to documents reviewed by Bloomberg. Francisco Partners denies that Sandvine has a contract with the Jordanian government.

Sandvine created a business ethics committee to review sales to countries with poor human-rights records, but it rarely vetoed any sales, say two current and four former employees familiar with the process. In early 2018, Sandvine executives decided to exclude questions of internet censorship—or “traffic blocking,” as the company calls it—from ethics review, meaning that it wouldn’t consider whether a government customer might use the equipment to disrupt people’s internet access.

Then Belarus used Sandvine’s equipment to help shut down news websites, social media platforms, and messaging apps amid nationwide protests. Haväng initially told concerned employees that Sandvine didn’t want to play “world police,” before eventually reversing course.

Sandvine has said it requested that Belarus return the equipment it had purchased. But that country’s government has declined, and Sandvine can’t force it to do so, according to Francisco Partners. The gear has remained in use at two data centers in Minsk, where it’s filtering a large portion of the internet traffic that goes in and out of Belarus, according to documents reviewed by Bloomberg News. Activists in the country have reported that dozens of news and political websites remain blocked and say that during protests as recently as October, there were signs that the government used Sandvine’s equipment to disrupt usage of the encrypted chat app Telegram.

“We were satisfied when we heard the news that Sandvine had stopped cooperation with the government,” says Alexey Kozliuk, a co-founder of Human Constanta, a human-rights organization in Belarus. “But the damage has already been done.” *—Ryan Gallagher*

THE BOTTOM LINE Francisco Partners has found a niche in the unregulated market for tech that governments can use to control the internet in their country.

● The annual market for government surveillance technology is about

$12b

The Battle of GameStop

IRL, the video game retailer has no profits. But its shares became part of a showdown between online stock pumpers and short sellers

Short sellers—investors who make money betting a stock will fall—get called a lot of things by bulls. Bloodsuckers. Parasites. Other words not fit to print. Now, in the vortex engulfing the shares of GameStop Corp., they have a new name: the establishment.

They've been cast in the role with relish by their chatroom usurpers, the tens of thousands of day traders whose belief in a left-for-dead retailer has become a self-fulfilling prophecy, lifting the stock $1,745%, to $348, in just the first 17 trading days of 2021. GameStop has been a romp for the crowd that gathers in Reddit's WallStreetBets online forum. For those wagering on a decline, it's been a catastrophe.

GameStop, which isn't expected to turn a profit before 2023, was a cash register for bearish traders before this year. Hedge funds had been winning for so long, they overlooked the tinderbox they were creating should sentiment turn. Now it has, violently. Short sellers bet against stocks by borrowing shares they don't own and then selling them. If a stock's price rises sharply, some may have to "cover" their bets by buying shares, which helps push the price still higher—an event known as a short squeeze.

A notable victim of the Reddit attack has been Citron Research's Andrew Left, one of Wall Street's most celebrated iconoclasts. He said on Jan. 22 that he'd decided to stop talking publicly about the company; the actions of an "angry mob" had made him fear for his safety. "Price movement aside, I am most astounded by the thought process that goes into making these decisions," Left wrote in an email. "Any rational person knows this type of trading behavior is short-lived." Citron and Melvin Capital, another short seller of GameStop shares, conceded defeat on Jan. 26 and closed their short positions, with Left saying his firm took "a loss of 100%" on the trade.

The online uprising against GameStop shorts began 22 months ago, when inklings of a bull case started showing up on WallStreetBets. A thread

Edited by Pat Regnier

by user "delaneydi" said detractors of GameStop were undervaluing the retailer's cash: "The companies valuation does not reflect the current earnings power, especially when considering the companies large cash horde." (WSB posters are not known for their spelling or punctuation.)

That view was mostly ignored as the shares continued to tank and enrich bears. Then two things happened to lay the foundation for the events of this month. One was Michael Burry—the trader played by Christian Bale in *The Big Short* and a veritable spirit animal for internet stock gurus—saying he had a stake in GameStop. Second was the surfacing of an idea, in jest, that hinted at the power the crowd could have over the stock. Could GameStop fall so far that it would make a takeover possible—by WSB itself? It would only cost about $45 million to buy up the entire float if the stock dropped to 50¢ a share, said user MGE5 in a June 5, 2019, post. The stock closed at $5.04 that day, but it had plunged 36% the previous day, so anything seemed possible.

In April 2020 user "Senior_Hedgehog" alerted the YOLOing masses to the "biggest short squeeze of your entire life." According to the elder Hedgehog, 84% of the retailer's shares were held short—suggesting that a lot of investors could be forced into covering if the stock price shot up. And so the value trade thesis and the idea of forming an unofficial cooperative to swarm the stock coalesced into a chance to inflict pain against Wall Street short sellers. Striking the first blow didn't take long. Shares rallied 22% on the day of Senior_Hedgehog's short squeeze post. The next day they soared by another 26%. But doubters were still outspoken and the shares stabilized.

Then another break. Ryan Cohen, co-founder of Chewy Inc., disclosed a 5.8 million-share stake in GameStop through his RC Ventures. Chewy was everything GameStop wasn't: a nimble internet success with, perhaps most important, a stock that had already served up plenty of gains. GameStop and Cohen declined to comment.

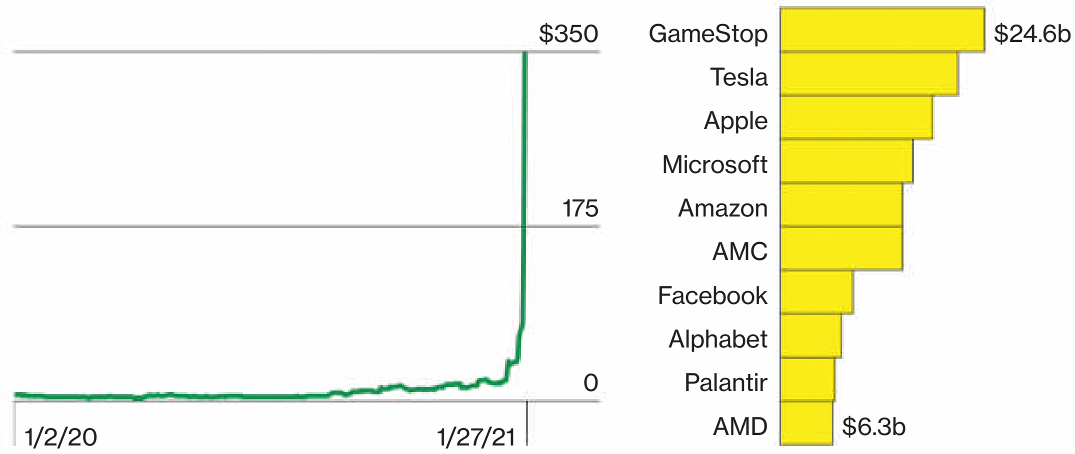
As shares began their steady rise during the last four months of 2020, more and more users climbed on the bandwagon. And as part of their welcome party they were reminded of the code of conduct: never sell, never surrender. Or, in WSB parlance, only buy if you have diamond hands.

Along the way, WSB began calling out those on the other side of the trade: "Have you robbed your billionaire today?" Up for debate is whether a short squeeze alone is powering the stock. "This is much like the chicken and egg question," said Ihor Dusaniwsky, managing director of predictive analytics at financial data company S3 Partners, in mid-January. Had buying triggered the squeeze? Or did short covering amp up the momentum? What's clear is that GameStop's stock has become as much a battleground between warring market crowds as it is a bet on a company. And, of course, it also could all go the other way for GameStop holders at the first sign of mutiny within WallStreetBets' ranks. —*Brandon Kochkodin*

Game of Stonks

GameStop share price

Securities with the largest traded value on U.S. exchanges on Jan. 27*



*TRADING VALUE TALLY AS OF 5 P.M. DATA: COMPILED BY BLOOMBERG

THE BOTTOM LINE GameStop became an obsession of an online discussion board, combining fans of the company with those who just wanted to profit by bleeding short sellers.

The Reddit Crowd Also Loves SPACs

● Promoters and hedge funds make big money on blank-check stocks—and retail investors pay

The SPAC boom that seemed to come out of nowhere in 2020 is still going strong. Billionaires, celebrities, and money managers are lining up to start special purpose acquisition companies, and hedge funds are clamoring to buy an early piece of them. Retail investors are piling in, with Reddit boards and even a corner of TikTok lighting up with discussions about these unusual stocks. SPACs, also known as blank-check companies, are empty corporate shells that raise money from investors and then aim to merge with a private business, essentially taking that company public through the back door.

"This stock has the potential to double or maybe triple your money in 2021," crowed one TikTok user, as he walked viewers through his investment ideas ▶

PHOTO ILLUSTRATION BY 731. PHOTOS: GETTY (6), SHUTTERSTOCK (4)

◀ over the sounds of electronic music. The SPAC he was hyping had recently announced a deal to buy a financial technology company. His video garnered almost 18,000 likes.

Last year more than 200 blank-check companies raised $80 billion from investors, according to data compiled by Bloomberg. That exceeded the combined total in all previous years and made up almost half the year's volume of initial public offerings, the data show. So far in 2021, an additional 67 SPACs have hit the market.

SPACs are started by a sponsor, who might be a large private equity fund, a venture capitalist, or perhaps someone well-known. (Basketball legend Shaquille O'Neal is a strategic adviser to one SPAC.) Sponsors create a company and work with a bank to sell shares in an IPO. The company will have no actual business, other than to take the cash it raises to invest in another company that's yet to be identified.

In its IPO, the SPAC sells units that include a $10 share and something called a warrant, which is a right to buy another share at a cheap price if the stock rises in value. The vast majority of the proceeds—which average about $250 million—comes from hedge funds and other institutional investors who are able to get in early. A SPAC has two years to find a company to merge with, or it dissolves and investors get their cash back.

If the blank-check company does find a partner to merge with, shareholders can choose to hold on or, if they don't like the deal, redeem their shares for $10 plus interest. The early buyers who got warrants get to keep them. This is why some investors consider a SPAC to be a low-risk bet. When a deal goes through, sponsors typically get paid in the form of cheap stock in the newly merged company. The target company, merging with the already-public SPAC, gets listed on the market without going through some of the hoops required in an IPO. (After the deal, the SPAC typically takes on the target's name.)

That's a lot of moving parts, so it's worth reviewing. A SPAC can be a great deal for early investors, sponsors, and target companies. Which raises the question: Who pays for all this good stuff? Critics say it's usually the investors who buy in later and hang on after a deal is completed.

For hedge funds that invested early and redeemed their shares when the merger was announced, the average returns including the value of warrants were about 11.6%, according to a paper on SPACs by law professors Michael Ohlrogge of New York University and Michael Klausner of Stanford and management consultant Emily Ruan. But for investors who stick around, shares typically lose a third of their value or more in the year following the merger. The sponsors' take and the warrants held by early investors dilute the value of the shares left over for everyone else.

"It's very strange," Klausner says. "I fundamentally don't understand why these things exist."

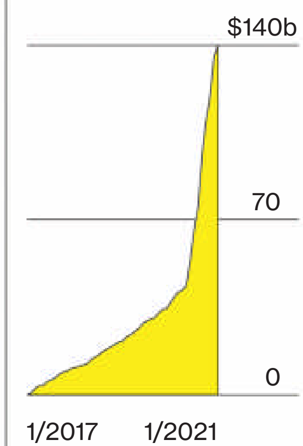
In a way, the rise of the SPAC also marks a return of investor interest in active money management. Think of a SPAC as a fund whose aim is to buy just one home-run stock and the sponsors' take as a fat management fee. Many blank-check companies are even led by the biggest names in hedge funds, including Pershing Square Capital Management's Bill Ackman and Glenview Capital Management's Larry Robbins. (Ackman has said his SPAC is less costly for investors than most, because it's not designed to pay him with the usual chunk of cheap shares, though he can profit from warrants.)

Still, even the titans of Wall Street can have trouble generating big returns when too many money managers start chasing too few deals. Another six dozen blank-check companies have announced plans in January for IPOs. "It just seems like that may be too much, and there just isn't capacity for additional SPAC IPO activity," says Jim Shanahan, a senior equity research analyst at Edward Jones.

SPACs have some big forces behind them for now. Investors are still hunting for better returns as interest rates languish, and there's lots of appetite for risk. Investors seem to be hungry for new companies, including some that in other times might have had difficulty going public, and SPACs are greasing the wheels. For bankers, there's no time to waste. Citigroup Inc. has hired four bankers dedicated to helping special purpose acquisition companies in the last 18 months alone. "There's a recognition that there's a lot of uncertainties in this market still, despite the fact that indices are marching upwards," says Russell Chong, co-head of North American equity capital markets at the bank. "No one is taking anything for granted." —*Jennifer Surane and Crystal Tse*

THE BOTTOM LINE The complex structure of SPACs makes it hard to see where all the money goes, but shareholders who hang on through a merger can lose a lot of value from dilution.

▼ Cumulative value of announced SPACs since Jan. 2017



"I fundamentally don't understand why these things exist"

28

ILLUSTRATION BY NICHOLE SHINN. BLACK: DEMETRIUS FREEMAN/BLOOMBERG. EPSTEIN: ALAMY STOCK PHOTO. DATA: COMPILED BY BLOOMBERG

Leon Black Hangs On

● The besieged founder of private equity giant Apollo is out as CEO but keeps his influence

In the end it was two against one–the ultimate power play by Leon Black, one of Wall Street's ultimate power players. After months of ugly headlines about his business dealings with notorious sex offender Jeffrey Epstein, Black orchestrated a plan to remove the stain from Apollo Global Management Inc.–without completely letting go of the private equity firm he built.

Black and one of his lieutenants, Marc Rowan, joined forces against the partner they viewed as the wrong pick for the Apollo throne. Rowan would get the keys to the kingdom, while his colleague and rival, Joshua Harris, would gain nothing. Insiders described the drama on the condition they not be named. On Jan. 25 the board disclosed that Black had paid $158 million for Epstein's advice. Still, the iconic dealmaker will remain chairman, while his preferred partner replaces him as chief executive officer.

The hope among the firm's executives and investors is that it's now fully extricated from Black's tabloid-worthy association with Epstein, whose arrest and subsequent jailhouse death in 2019 sent shock waves well beyond moneyed Manhattan. Damage control has kept Apollo distracted as one revelation after another about Black's business ties to Epstein spilled into public view, unsettling clients and shareholders. The firm has long maintained it never hired Epstein for any services, and Black was never accused of any involvement in his crimes.

Few Apollo investors were eager to see how the firm would fare if it were to lose its longtime leader. For weeks a number of its top clients and their advisers have privately suggested Black stay on as chairman, say people with knowledge of their thinking.

The lingering question is whether investors will feel less comfortable once they read the 22-page report by law firm Dechert that was commissioned by Apollo's board. It describes Black's financial dealings with Epstein from 2012 to 2017–beginning after Epstein pleaded guilty in 2008 to felonies including procuring a minor for prostitution. Black paid Epstein for advice including tax and estate planning that helped save at least $1 billion, says the report. Black has said he had no knowledge of Epstein's abuse of underage girls, beyond the 2008 conviction, and wouldn't have hired Epstein if he had.

Black asked the board to commission the review after a report in October in the *New York Times* described his extensive use of Epstein for help with financial matters. In the meantime, several public pension plans put commitments to the firm on hold, a move that threatened to slow fundraising.

As the review was finished, Harris expressed concerns that the extent and scale of Black's financial relationship with Epstein could further damage the firm's reputation, and he advocated that Black should relinquish his chairman and CEO posts. He made his case directly to Black, Rowan, and at least one board member, the insiders say. Spokesmen for the executives declined to comment beyond Apollo's public statements. Harris said in a company statement that he supports Rowan as CEO.

Black has a history of surviving disasters and coming out on top. He founded Apollo in 1990 with partners from Drexel Burnham Lambert, which collapsed in a scandal that led to the conviction of junk-bond king Michael Milken. The fledgling investment company started buying distressed assets, including Midtown Manhattan office buildings, luggage maker Samsonite, and the company that owned Vail resorts, at deep discounts. In the aftermath of the 2008 financial crisis, Apollo engineered ways to protect itself even when some of its companies went bankrupt. Its assets reached $433 billion at the end of September 2020.

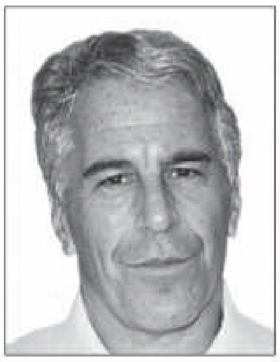
Harris worked to become a more public face for the company, speaking frequently at conferences and in the media. He expressed an interest in potentially taking over as CEO, according to people familiar with the matter. But in the past few years, Black repeatedly asked Rowan to consider assuming the mantle. He viewed Rowan as a genius who could continue Apollo's growth.

Some investors will wait to see whether more issues related to Black's Epstein ties arise before pledging new money, says Gerald O'Hara, an analyst at Jefferies Group who covers Apollo's stock. "You need to show good citizenship for a certain period of time," O'Hara says. —*Heather Perlberg, with Pierre Paulden*

THE BOTTOM LINE A report commissioned by Apollo's board says Black paid $158 million to Epstein for advice including tax and estate planning. By changing CEOs, Apollo is trying to move on.

"You need to show good citizenship for a certain period of time"

● Black



● Epstein

‘Roaring’?

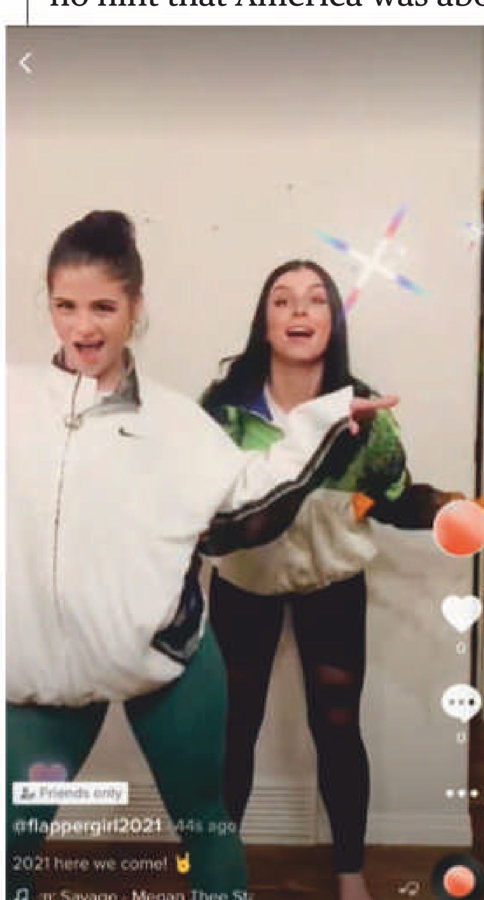
● A century ago, a boom followed a pandemic, but history may not repeat itself

The day was cold and windy. Standing outside the Capitol, the just-sworn-in president called for “a new unity of spirit and purpose” to bind together a nation that had been wracked by a pandemic and high unemployment. His predecessor wasn’t on stage. The inauguration of Warren G. Harding on March 4, 1921, marked the inauspicious, unofficial start of an historic decade. The somber mood gave no hint that America was about to go on a tear.

The Roaring Twenties saw widespread adoption of the assembly line, the automobile, radio, motion pictures, indoor plumbing, and labor-saving electric appliances. Consumerism and mass culture took shape. It was the decade of art deco and jazz, Coco Chanel and Walt Disney, *The Great Gatsby* and the Harlem Renaissance. It was “the first truly modern decade,” says retired Marquette University economic historian Gene Smiley.

As the U.S. suffers through another pandemic, it’s tempting to ask whether history will repeat itself. Once the virus passes, will the 2020s roar the way the 1920s did?

It’s not impossible. The past year demonstrates that the economy and society can change shape quickly. We’ve seen multiple Covid-19 vaccines developed in record time and an almost-overnight transition to remote work. Tesla Inc. delivered just shy of a half-million electric vehicles in 2020 despite the pandemic. A London-based unit of



Not So Fast

Edited by Cristina Lindblad

FROM TOP: BETTMANN/GETTY IMAGES. COURTESY KORTNEY WASCHUK AND TENEAL DUTRISAC

Alphabet Inc. solved a half-century-old scientific puzzle, using artificial intelligence to predict accurately how proteins fold, which could revolutionize drug discovery.

In all probability, though, the U.S. will continue to wrestle with "secular stagnation," an economic plague of developed nations. Preconditions include an aging population, slow labor force growth, and weak demand for credit, which is why the disease is resistant to traditional monetary remedies. The latest evidence that investors aren't holding out much hope the coming decade will break out of that mold: The yield on inflation-protected 10-year Treasury notes is around negative 1%, down from 4% during the '90s tech boom.

Despite the differences, by copying what was done right in the Roaring Twenties and avoiding what went wrong, Americans can make the 2020s a success—by today's standards, anyway.

The world of 2021 is "a muddled mix of the Twenties in a lot of ways," says Rutgers University economist Eugene White. Stock prices are high in relation to corporate profits, as then. Today's suspicion of international institutions such as the United Nations and World Health Organization would be familiar to a traveler from the 1920s. Race relations are once again strained, though Black Americans are in a far better position than they were a century ago. Tariffs rose under President Donald Trump, as they did in the 1920s. Americans continue to complain about overbearing government, as they did during Prohibition. The 1920s was the first decade in which the rural population was smaller than the urban one; in the 2020s, rural White America is feeling disenfranchised after having gone strong for Trump's failed reelection.

The 1920s didn't get off to a good start. The Spanish flu pandemic, which killed about 675,000 Americans out of a population of 100 million, was over, but the U.S. was deep into an 18-month downturn marked by the sharpest one-year decline in wholesale and consumer prices in 140 years of record-keeping. The economic miracle of the Twenties didn't really begin until July 1921, when the recession ended and boom psychology set in.

This summer, depending on how vaccinations progress, there will likely be a flicker of that mania as people emerge from their Covid-19 bubbles, ready to party. Economists surveyed by Bloomberg are predicting above-average growth in gross domestic product after a difficult first quarter, with the median forecast peaking at an annualized 4.7% in the third quarter.

Indications of pent-up demand are abundant. Carnival Corp., in a sign of confidence in the public's desire to socialize again, plans to begin boardings in April for its biggest ship ever, the 5,200-passenger *Mardi Gras*. Finally free to do as they please, Americans may make like the Lost Generation, who chose to "live in the pure moment, live gaily on gin and love," as the literary critic Malcolm Cowley wrote.

Gin and love make a powerful cocktail but won't sustain a decade's worth of growth. The bull case for a repeat of the 1920s is that the pandemic lockdown has accelerated the adoption of technologies such as videoconferencing and digital commerce that will keep paying dividends long after the virus is vanquished. McKinsey & Co. says a global survey of executives revealed that they were a "shocking" seven years ahead of where they planned to be in terms of the share of digital or digitally enabled products in their companies' portfolios. And there's still headroom. Cowen Research reports that almost half the corporate technology buyers it interviewed said they were in the early stages of a transition to cloud computing.

What's hard about forecasting technological progress is figuring out where we are on the adoption curve. Take robots. The word was coined in 1920 by a Czech playwright, Karel Capek, but a century later robots haven't lived up to hopes—or fears. It took 13 years, from 2005 to 2018, for the number of installed robots in the U.S. to double, according to the International Federation of Robotics. To a pessimist, that's almost a plateau. To an optimist, it means robots are still on the bottom of the S-shaped adoption curve and are poised for takeoff at any moment.

Bearish forecasters say labor-force expansion and gains in schooling don't match those of the 1920s, and information technology and biotech breakthroughs, while impressive, don't measure up to the transformative, general-purpose technologies—electrification and the internal combustion engine, to name two—that powered growth a century ago. As investor Peter Thiel famously said, "We wanted flying cars, instead we got 140 characters." (It's 280 characters now, but still.)

For the average American, life changed more from 1920 to 1929 than it's likely to change from 2020 to 2029. Electrification gave us refrigerators (instead of ice boxes), washing machines (instead of washboards and hand-cranked wringers), and radio (instead of your sister at the piano). With electrification, factories no longer had to rely on power from a single engine that was connected to machines via noisy, inefficient belts and pulleys. ▶

● Median forecast of the U.S. GDP growth rate in the third quarter of 2021

4.7%

◀ The internal combustion engine came into its own in the 1920s, powering cars, trucks, farm equipment, and airplanes. The number of registered drivers almost tripled during the decade. The automobile's rise sparked investment in roads and suburbs as well as production of rubber, steel, glass, and oil.

Robert Gordon, an economist at Northwestern University, is a leading proponent of the argument that these modern times don't live up to those modern times. At the request of *Bloomberg Businessweek*, he assembled figures on labor productivity for the entire economy from 1893 through 2019, clustering the data into roughly equal spans that begin and end at high points in the business cycle. The data up to 1948 come from a book he wrote, *The Rise and Fall of American Growth: The U.S. Standard of Living Since the Civil War*. For the rest he relied on government figures.

The data compiled by Gordon demonstrate that productivity growth jumped in 1920 and remained high for a half-century before slumping after 1973. "While it is likely that productivity growth will revive somewhat in the 2020s from the dismal record of the 2010s," Gordon wrote in an email, "there is no chance of sustained decade-long growth that matches the achievement of the 1920s."

One lesson, then, is that timing matters. The 1920s roared because technologies that had been nurtured for several decades were finally ready for mass deployment. That may not be the case today.

It's easier to spot social similarities between the decades than economic similarities. Then as now America was divided between a fast-moving, multiethnic, urban society of immigrants and a predominantly White, conservative, rural society pining for a past that it perceived as purer and less tumultuous. Americans elected three Republican presidents in the 1920s—Harding, Calvin Coolidge, and Herbert Hoover. Harding vowed a "return to normalcy," while Coolidge, a taciturn Vermonter, "appeared to be a reluctant refugee from the previous century," wrote Nathan Miller in *New World Coming: The 1920s and the Making of Modern America*.

The reformist Progressive Era that began around 1900 had lost its moxie, and the big-government New Deal hadn't yet arrived. Business was given free rein. "Never before, here or anywhere else, has a government been so completely fused with business," the *Wall Street Journal* wrote in 1928. Said Coolidge: "The man who builds a factory builds a temple. The man who works there worships there." Elon Musk slots in nicely as this century's answer to Henry Ford, though our society is more skeptical that what's good for business is good for the country.

Gordon calls the 1920s "a Janus-faced decade that defies simple characterization." It was a time of liberation, in which women got the vote and dared to wear short skirts, smoke cigarettes, and drink bathtub gin, while Black poets, authors, and musicians found wide audiences. "It was the period when the Negro was in vogue," poet Langston Hughes wrote.

But women still faced discrimination, and Black Americans and immigrants faced that and worse. In 1921 a White mob burned more than 1,200 homes in a Black neighborhood in Tulsa. In 1925 thousands of unmasked Ku Klux Klan members marched down Pennsylvania Avenue in Washington.

The Immigration Act of 1924 barred the gates to immigrants from Asia and seriously restricted immigration from southern and eastern Europe—drawing the admiration of none other than Adolf Hitler, who wrote approvingly in *Mein Kampf*, "The American Union categorically refuses the immigration of physically unhealthy elements, and simply excludes the immigration of certain races."

The 1920s was a time of rising prosperity on the whole but also rising inequality of incomes and wealth and deepening divisions in society. Prohibition, which took effect in 1920, drove a wedge between "drys" and "wets" and fueled organized crime. Factory workers, stock investors, and Big Business mostly did well, but the still-sizable agriculture economy was shocked by a 53% decline in farm product prices in the 1920-21 recession and would take years to recover.

"There is no chance of sustained decade-long growth that matches the achievement of the 1920s"

The first three years of Trump's term were likewise marked by a tide of strong economic growth that lifted many boats, though not all. The unemployment rate for Black Americans, for instance, reached a record low. The pandemic has wrecked much of that progress. Bringing the economy back to its potential to lift up the less fortunate is a second reason, after saving lives, for President Biden to accelerate the distribution of vaccines.

Perhaps the most important lesson the 2020s can learn from the 1920s is the peril of isolationism. The U.S. emerged from the Great War of 1914-18 as the world's most powerful economy as well as its biggest creditor, having lent heavily to the Entente Powers to finance the war effort.

Yet the U.S. resisted taking on the responsibilities of global leadership. Fed up with Europe and its bloody quarrels, isolationists in Congress prevented the U.S. from joining the League of

Nations. With stringent fiscal and monetary policy, the U.S. forced its deflation onto other countries. Washington also insisted that the U.K. and France repay their war debts to the penny. In a vise, those countries raised the money to pay the Americans by exacting reparations from Germany. That fed the resentment among Germans that contributed to the rise of Hitler.

Much has changed since then. The U.S. is now a debtor nation, consuming more than it makes. Trump was correct that this is a problem: The U.S. is accumulating debts, while its productive capacity is being hollowed out.

What's similar is that today, as in the 1920s, the U.S. can't escape the special obligations that go along with being the world's biggest economy. Americans learned that lesson after the twin disasters of the Great Depression and World War II. The U.S. was instrumental in the founding of the UN, the International Monetary Fund, and the World Bank and led the push to lower tariff barriers, which enabled poor countries and those ravaged by war to prosper through trade. Nations such as Germany and France set aside imperialist dreams and focused on quality of life. "If you ask an average European man what he cares about, it's very often soccer," says Columbia historian Adam Tooze, author of the 2014 book, *The Deluge: The Great War, America and the Remaking of the Global Order, 1916-1931*.

In four years in office, Trump revived isolationism, even resurrecting the "America First" motto that Harding campaigned on in 1920—and that was embraced by the anti-Semitic, fascist-sympathizing America First Committee that fought to keep the U.S. out of World War II.

In the absence of U.S. leadership, nations such as Kenya, Ethiopia, Nigeria, Malaysia, and Vietnam are at risk of falling into the orbit of China, says Tooze. "As in the Twenties, we are our own worst enemy," he says. Biden must attempt to demonstrate that the U.S. is once again a reliable partner.

Meanwhile, the notion that the Covid-19 pandemic is some kind of trampoline that will bounce the U.S. toward a bright future is not only off-putting, but wrong. Pandemics enduringly damage societies in ways that go beyond the death toll. In October the IMF released a working paper by senior economist Tahsin Saadi Sedik and economist Rui Xu that uncovered a vicious cycle: Pandemics reduce output and increase inequality, stoking social unrest, which further lowers output and worsens inequality. The study was based on disease outbreaks in 133 countries from 2001 to 2018. "Our results suggest that without policy measures, the COVID-19 pandemic will likely increase inequality, trigger social unrest, and lower future output in the years to come," the authors wrote.

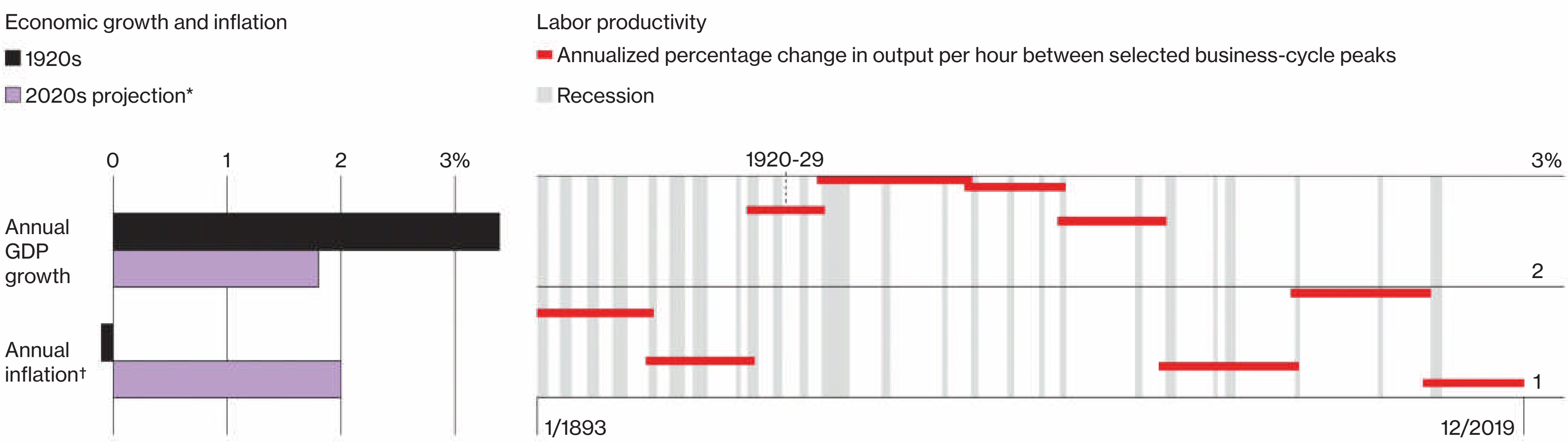
A final lesson of studying the 1920s is simply that history does have something to teach us—a point that the movers and shakers of that frenetic decade sometimes had trouble grasping. "History is more or less the bunk," Ford said in 1916. "It is tradition. We don't want tradition. We want to live in the present, and the only history that is worth a tinker's damn is the history we make today."

Introspection wasn't the forte of the Roaring Twenties. "Torn nerves craved the anodynes of speed, excitement, and passion," Frederick Lewis Allen, looking back from the near remove of 1931, wrote in *Only Yesterday: An Informal History of the 1920s*.

Our nerves, too, are torn. But learning from the past can help the healing begin. —*Peter Coy*

THE BOTTOM LINE The 2020s are unlikely to roar as the 1920s did, but there are still lessons to be learned from that turbulent, inventive decade.

Two Decades Far Apart



*MEDIAN LONGER-RUN PROJECTIONS OF FEDERAL RESERVE'S FEDERAL OPEN MARKET COMMITTEE MEMBERS. †CONSUMER PRICE INDEX FOR 1920S; PERSONAL CONSUMPTION EXPENDITURES INDEX FOR 2020S
DATA: BUREAU OF LABOR STATISTICS; FEDERAL RESERVE; ROBERT GORDON, NORTHWESTERN UNIVERSITY; NATIONAL BUREAU OF ECONOMIC RESEARCH

5

POLITICS

The Mountain State Kingmaker

● Joe Manchin, a conservative Democrat, is the split Senate's must-get vote

The success or failure of Joe Biden's presidency was always going to hinge on the U.S. Senate. But the senator poised to determine that outcome isn't the one everybody expected.

In the weeks after the election, Senator Mitch McConnell of Kentucky, the presumed Republican majority leader, looked to be the critical figure, with the power and willingness to frustrate the new administration's lofty ambitions. But Democrats' upset victories in the twin Jan. 5 runoff elections in Georgia gave them a 50-50 split and control of the Senate, bumping McConnell into the minority and shifting the spotlight to someone else: Democrat Joe Manchin of West Virginia.

As the Democrats' most conservative senator, Manchin represents the 50th vote on almost every issue. Little that Biden hopes to achieve will happen without his consent. "Manchin has always held some power," says Jennifer Duffy, an independent Senate analyst. "Now he holds a lot more."

Manchin's star turn in the Biden era has arrived sooner than expected. While Democrats' January victories opened up vast new opportunities, allowing them to confirm Biden's nominees and control what bills are brought to the floor, McConnell seized on a technicality to prevent them from taking over unless incoming Majority Leader Chuck Schumer of New York agreed to preserve the legislative filibuster, which gives McConnell and the GOP effective veto power over legislation.

Like so much in the Biden presidency, the resolution ultimately came down to West Virginia's senior senator. Although Schumer held firm, Manchin, who bills himself as a traditionalist and one of the few Democrats unwilling to "go nuclear" and eliminate the filibuster, recommitted to that position. "I will not vote to change the filibuster," Manchin told *Politico* on Jan. 25.

Satisfied that he'd extracted public commitments from Manchin and another moderate Democrat, Senator Kyrsten Sinema of Arizona, McConnell declared victory. So did Schumer, who'd rebuffed McConnell's demand. The resulting mood of angry perplexity is a preview of what the next two years will bring—and illustrates why Manchin will be the central character in Washington's drama.

Although his filibuster vow may sound ironclad, both sides know the political calculus can

PHOTO ILLUSTRATION BY 731. PHOTO: KEVIN LAMARQUE/REUTERS. DATA: COMPILED BY BLOOMBERG

Edited by Amanda Kolson Hurley

shift quickly. It has before: In 2013 former Senate Majority Leader Harry Reid of Nevada made a similar commitment, only to turn around 10 months later and nuke the filibuster for most judicial nominees to surmount McConnell's obstruction. (McConnell returned serve in 2017, further scaling back the filibuster so Democrats couldn't block Neil Gorsuch from the Supreme Court.)

Many Democrats believe the true test of Manchin's convictions will arrive only when Republicans block a key piece of legislation that he supports. "I don't think Manchin will look favorably if McConnell keeps trying to throw monkey wrenches in everything we try to do," Reid says.

Manchin, 73, belongs to a political species that's almost extinct: senators elected in states whose voters chose a president of the opposite party. Only three remain: Democrat Jon Tester of Montana, Republican Susan Collins of Maine, and Manchin, who was narrowly reelected in 2018 in a state that went 69% to 30% for Donald Trump last November.

His endurance owes partly to familiarity—he played football at West Virginia University, then served as a state legislator, state senator, secretary of state, and governor before being elected to the U.S. Senate—and partly to his ability to buck Democrats often enough to reassure his Trump-friendly constituents. His 2010 Senate victory was powered by a memorable television ad in which the NRA-endorsed Manchin pulled out a rifle and shot Barack Obama's climate bill, vowing, "I'll always defend West Virginia."

West Virginia's loyalty to him, however, has looked increasingly shaky. No state has swung harder from blue to red in the last quarter century. Following Trump's election, Manchin resisted entreaties to switch parties and passed up consideration to become Trump's energy secretary. "We made a huge effort to try to get him to flip to the GOP during the transition," says Steve Bannon, Trump's chief strategist at the time. Manchin held firm and eked out reelection as a Democrat in 2018, this time running an ad in which he shot a GOP lawsuit to repeal the Affordable Care Act, whose protections are popular in West Virginia.

In theory, doing away with the filibuster would be highly beneficial to his state because it would shift the power to block most bills from the Republicans to Manchin and his fellow moderates. He could name his price, and Biden would pay it. "He has the potential to be kingmaker on pretty much every issue," says Adam Jentleson, author of the new book *Kill Switch: The Rise of the Modern Senate and the Crippling of American Democracy*.

But for a politician in Manchin's constant state of precarity, facing an electorate back home that just voted for the Republican presidential candidate by 39 points, the option of letting Republicans take the heat for killing bills that wouldn't be winners in West Virginia isn't such a bad thing. "One of the worst things that could happen to Joe Manchin is to get exposed routinely on difficult votes," says Josh Huder, a senior fellow at the Government Affairs Institute at Georgetown University. "Filibusters offer political cover, enable blame-shifting, and protect him from scrutiny."

McConnell's gambit to jam Democrats, though it failed, succeeded in dragging Manchin into the center of public scrutiny. Right now, no question preoccupies Washington Democrats more than what he will ultimately do.

There's little doubt about what he'd prefer: to work across the aisle with moderates in both parties to craft legislation of modest ambition and cost. December's $900 billion Covid-19 relief package, hashed out by a bipartisan group of senators and House members tied to the Problem Solvers Caucus, was a model for the approach Manchin has always favored.

"We got together one night for a drink after the deal got passed and decided that we would continue to try to do this and make it an ongoing approach in the Biden era," says Democratic Representative Josh Gottheimer of New Jersey, a co-chair of the Problem Solvers Caucus. "Philosophically, that's what Joe believes is best."

But maintaining a centrist, committee-driven approach to governing would necessarily limit what Biden and Democrats could accomplish with their likely fleeting command of both the White House and Congress. McConnell's history of stonewalling Democratic presidents and driving a wedge in their caucus makes the odds of a return to polite, productive centrism even more far-fetched.

That's why many Senate insiders expect Manchin to have to make tough choices about the filibuster, if not over the organizing resolution, then over future Democratic priorities that run into Republican obstruction. At some point, this will pit his traditionalism against his ability to deliver for West Virginia. Some Democrats who've served with him are cautiously optimistic that he'll choose the latter. "If Joe Manchin can be shown that getting rid of the filibuster will help get important legislation done, Joe will be amenable to getting it done," says Reid. "The time is not here now. But I think it could be before too long." —*Joshua Green*

THE BOTTOM LINE Manchin, the Democrats' hinge vote, is adamant he doesn't want to scrap the Senate's filibuster. But at some point, that may conflict with his desire to get bills passed.

▼ Donald Trump's 2020 margin over Joe Biden in West Virgina, Senator Joe Manchin's state

39%

Trump's 2020 margin over Biden in Montana, Senator Jon Tester's state

16%

Biden's 2020 margin over Trump in Maine, Senator Susan Collins's state

9%

How the Democrats Won in Georgia

● A finely tuned turnout machine, and plenty of cash, led to victory in the Senate runoffs

Shauna Swearington waited tables for 23 years at the Sundial, a revolving restaurant atop a downtown Atlanta hotel, before getting furloughed in March 2020. A diabetic single parent putting her daughter through college, she lost her income and then her employee health insurance as the pandemic stretched a temporary layoff into months.

Her story turned her into an effective weapon against two now-former Republican U.S. senators in the Georgia runoff elections on Jan. 5.

Swearington was among more than 1,000 laid-off hotel workers who fanned out across the state to tell their stories on doorsteps, helping deliver control of the U.S. Senate to Democrats in two races many thought they couldn't win. Over a little more than six weeks leading up to Jan. 5, a multiracial, multiethnic army of canvassers knocked on almost 10 million doors, according to organizers. It was a marked contrast to the mostly digital strategy that pandemic-leery Democrats used for the November general election.

Paid by her union, Unite Here, Swearington stuck literature in doors, knocked, and then moved 6 feet back, as she'd been trained to do: "I would say, 'It's Shauna from Unite Here. I am a furloughed worker from Marriott. I have been displaced out of my health care. My medicine is very expensive. I want to get back to my job when it's safe. I need somebody to take some responsibility in Washington.'"

People often responded with their own stories, and Swearington tried to coax them to the polls. If someone had no way to get there, she called and paid for an Uber. Then she followed them to the polling place and paid for another Uber to take them home.

Many factors went into the surprise double win of new Senators Raphael Warnock and Jon Ossoff, including changing demographics and President Trump's strong-arm tactics to overturn the state's November election results. But one of the most important was Democrats' decision to carry out a ground game that was 10 times larger than in the November general election, says Gwen Mills, secretary-treasurer of Unite Here. The effort was oiled with a staggering amount of cash. Warnock and

▲ Swearington

◀ Said

Ossoff raised more than $210 million between them, according to their most recent Federal Election Commission reports, not counting the tens of millions that flowed through independent groups.

The runoff success backs up 20 years of research into what brings out voters, which is knocking on doors and, to a lesser extent, other direct personal contacts, says Andra Gillespie, a political scientist and director of the James Weldon Johnson Institute at Emory University in Atlanta. "It's not rocket science," she says. "But you need resources to do it."

In Georgia, money found its way to community groups and unions mostly by way of Fair Fight, a PAC formed by voting-access advocate Stacey Abrams after she narrowly lost to Republican Brian Kemp in the 2018 gubernatorial contest. Fair Fight, Mills says,

PHOTOGRAPHS BY LYNSEY WEATHERSPOON FOR BLOOMBERG BUSINESSWEEK (2); BIDEN: PATRICK SEMANSKY/AFP/GETTY IMAGES was "incredibly deliberate" about getting the money to many different organizations for get-out-the-vote efforts. So the turnout push "was culturally specific, language specific. We had that many resources."

A union for domestic workers, Care in Action, targeted Black women and Latinas. Asian-American groups and the state Democratic Party reached out to voters in 16 languages. The Georgia Latino Alliance for Human Rights, the oldest Latino organization in the state, and Mijente, which came to Georgia a year ago, were among those corralling the Latino vote. They say they were able to knock on the door of every Latino voter in Georgia.

Unite Here, Swearington's union, did outreach to voters who matched its Black and Latino membership as well as African immigrants. Data suggested these voters were unlikely to vote again after November, says organizer Semir Said, and canvassers quickly learned their fears were well founded. "People said they had already voted," says Said, who was born in Ethiopia. "Some people actually thought we were joking."

The union brought in African immigrant canvassers, including laid-off hotel workers and taxicab drivers from Georgia, Philadelphia, and Washington, D.C. They tracked down Nigerian-American truck drivers who were only sporadically in Georgia and Ethiopian immigrants with multiple jobs who were rarely home. They paid for babysitters and Uber rides. It was the largest effort to turn out the African immigrant vote in U.S. history, Said says; he estimates it got between 5,000 and 10,000 people to the polls on Jan. 5.

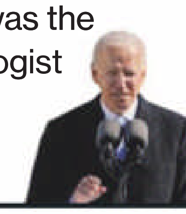
"The ground game really, really matters, particularly when you see people from that community coming out to talk to that community," says Rashawn Ray, a fellow in governing studies at the Brookings Institution in Washington. "Nothing is more effective."

What remains to be seen for Democrats is whether this success can be repeated once political money has other places to flow. Unite Here's Mills argues that not just resources per se, but resource allocation–to canvassing rather than social media or TV ad buys–was "pivotal" in preventing a falloff in Democratic voters from the general election to the runoffs. Linh Nguyen, who directed the Democratic Party's Georgia outreach to Asian Americans and Pacific Islanders, is confident, too: "We are still on a group chat with messages that go off every five minutes. We are already planning for 2022." —*Margaret Newkirk, with Bill Allison*

THE BOTTOM LINE Democrats and liberal groups spent big on a sophisticated canvassing operation prior to the Jan. 5 runoffs. It worked—but might be hard to repeat with less cash.

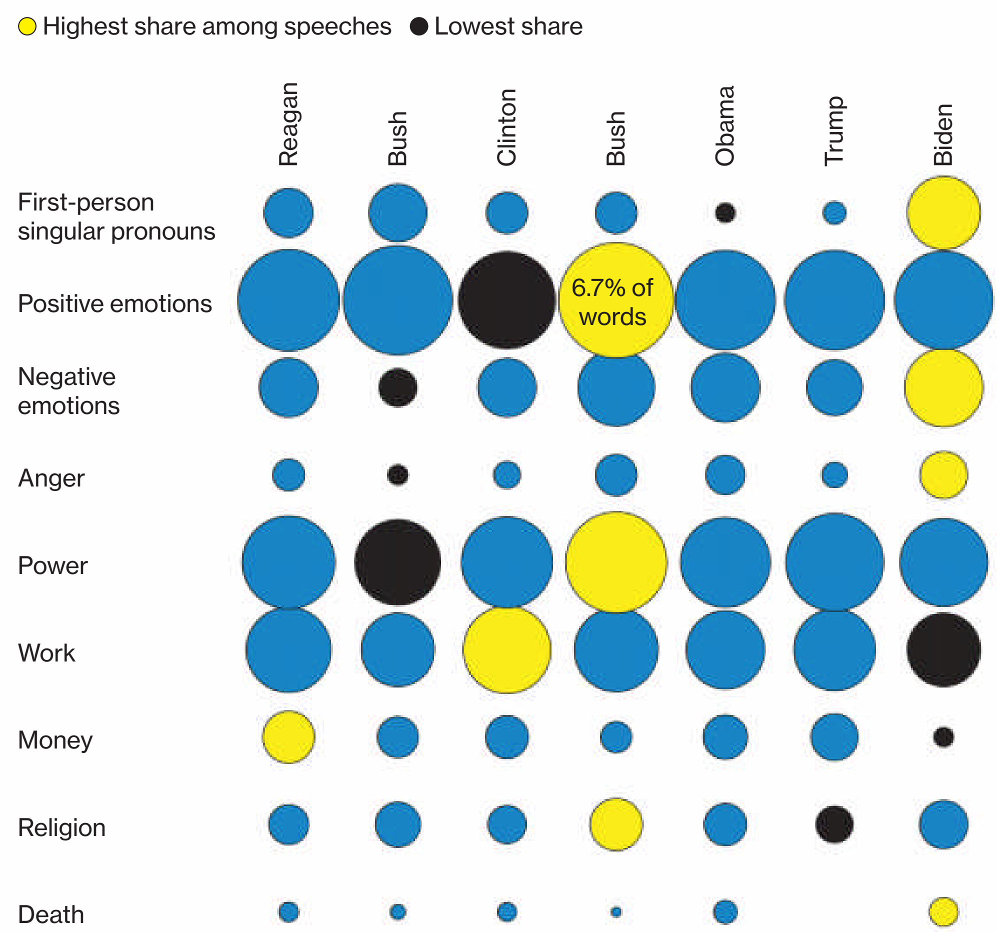
Speech | Biden's Subtext

The inaugurations of Joe Biden on Jan. 20 and Donald Trump on Jan. 20, 2017, were very different, for obvious reasons. Their inaugural addresses also took up different themes, with Trump vowing to end "American carnage" and Biden promising that his "whole soul" was in unifying the country. Although Trump's speech struck many commentators at the time as dark, Biden's was the least upbeat in a generation, according to social psychologist James Pennebaker of the University of Texas at Austin.
—*Ryan Teague Beckwith and Dorothy Gambrell*

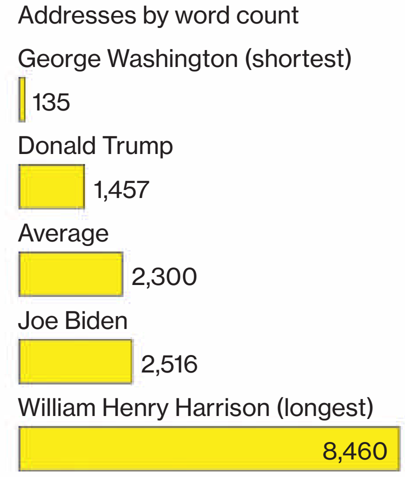


Using the natural-language processing software LIWC (Linguistic Inquiry and Word Count) to analyze first inaugural speeches from Ronald Reagan's onward, Pennebaker found that Biden's had more expressions of negative emotion than average, and of anger in particular. Biden talked less about money or work than Trump or any president since the 1970s, and—not surprisingly during a pandemic—more about death, asking Americans to join him in a silent prayer for those lost to the coronavirus. An analysis provided to Bloomberg using another tool, Diction, created by Roderick Hart, finds Biden favored personal language ("I," "mine") and everyday words ("highway," "groceries").

Words used in presidents' first inaugural addresses, 1981-2021



Addresses by word count



Trump and Biden used simpler language in their addresses than other recent presidents. Trump's corresponded to a 10th-grade reading level on the Flesch-Kincaid readability scale; Biden's to an eighth-grade level. There were sharper contrasts between their speeches. Biden, establishing a link with the past, referenced four historical figures—George Washington, Abraham Lincoln, Martin Luther King Jr., and St. Augustine—while Trump referenced none. Biden used the word "democracy" 11 times, more than any other president at his inauguration. (The runners-up are Harry Truman in 1949 and Franklin D. Roosevelt in 1941, who each used the word nine times.) Trump didn't use it at all.

Albert Bourla

Chairman and
Chief Executive Officer,
Pfizer Inc.

“We do not know yet, but it looks like Covid is here to stay”

In an interview with Bloomberg Editor-in-Chief John Micklethwait, one of the people most responsible for helping to vaccinate the world against Covid-19 talks about the new virus variants, dosage, and the difference between the Trump and Biden administrations

Photograph by
Maegan Gindi

JOHN MICKLETHWAIT: *How frightened should we be about the new coronavirus variants?*

ALBERT BOURLA: We should not be frightened, but we need to be prepared. So we are focusing right now on having a very good surveillance network, so every time that the new variant comes up, we should be able to test, at least in the labs, if the vaccine is effective or not.

Way back, we had discussed the possibility that a variant would arise for which the vaccine would not provide protection. And we were working on a process that will allow us to do the development very fast. Now we have started implementing this process.

I interviewed Dr. Anthony Fauci, who said it was especially important to get the second doses on time, because he thought that made a particular difference with the new variants. Do you agree?

I agree with that, absolutely. And I would say that in all scenarios, you need to make sure that you give the second doses within the time the studies recommend. And in our study we had from 19 to 42 days. Within this framework, the vaccine works. Beyond that, it’s a risk.

Is the Covid vaccine going to become like the annual flu shot?

I wouldn’t exclude that. If you were asking me two months ago, I would have said yes, it’s a possibility. If you ask me today, I think it is a high possibility. We do not know yet, but it looks like Covid is here to stay.

But also it looks like we have the tools to make Covid like the flu. That means it will not disturb our lives or the economy. We just need to be very vigilant about [tracking new] strains. And we need to be very vigilant about vaccinating people.

You’ve said quite recently that you could get six doses from every vial that you deliver, where previously people had talked about getting five. Can you just take us through that and how that changes some of the mathematics?

Getting six doses out of a vial was not a surprise to us. We knew it because we were filling the bottles. It’s just that when we were doing the studies, we had five doses. And then, when we applied for approvals, we didn’t have data to validate the six doses yet. With Europe we asked, “Would you like to wait a few weeks so that we can apply for six?” And they said, “No, you should apply now, and then when you have data for the six, you should provide it to us.”

So once we generated the data for six, we provided it not only to Europe but to all regulatory authorities. That, obviously, is very important because a dose was being wasted. It would remain in the vial and be thrown away. Now that’s not going to be the case. People are being ▶

◀ instructed to try to extract the sixth dose. And they have the means to do it. We have already validated 36 combinations of different commercially available needles and syringes that can do that.

There's been a real fuss in the EU over having enough doses. The German health minister had speculated about a ban on exports. You and other drug companies that create vaccines in Europe wouldn't be allowed to export them outside the European Union. What's your reaction to that?

I don't think it's a good idea even to insinuate that someone can ban the export of a vaccine. Let's keep in mind that a lot of the materials needed to produce this vaccine are coming from other countries. So if one starts a ban, then what will be the response of another? That would be a lose-lose situation rather than a situation that will help Europe.

What we are doing, and doing very collaboratively, both with the European Commission and also with the state members, is to try to dramatically increase our manufacturing capacity. We have announced that we have a very solid plan to produce more than 2 billion doses this year. I understand that everybody wants something that can potentially open the economy and save lives. And I recommend a little bit of patience so that we will be able to do our job and provide product for everyone. There is a lot of tension because there is fear out there. So let the voices calm down. And everybody, let's do our jobs.

How long will it take to get a Pfizer vaccine that doesn't need to be kept at such dramatically low temperatures?

We are working on different forms that will be much easier to store. And one of them is, for example, a lyophilized version, which is a powder that you reconstitute. We are very advanced with this project, so I think we will start testing it in humans in the first half of this year.

You've had a few weeks now dealing with the Biden administration. What's the main difference between them and the Trump administration?

First of all, I don't want to take sides. But there is a clear difference. The current president is very much science-driven and -oriented. President Trump was much more gut-feeling-oriented. And with vaccines, because of complicated science, gut feeling is not the right way to go. I believe that people in the previous administration did their best to organize an operation to help the American people. But the indications are that the new people understand better what they are doing.

I want to talk about people who have fears about taking the vaccine. What are you doing to combat those fears? Or do you think that's a job for government?

No, I think it's a job for everyone. It's a job for you as a journalist, it's a job for the government, it's a job of every scientist. What I would say to people who fear the vaccine is that they need to recognize that the decision to take it or not will not affect only their own lives. It will affect the lives of others. And most likely it will affect the lives of people that they love the most, who are the people that they socialize the most with. If you don't take the vaccine, you are becoming the weak link that allows this virus to replicate. So please think twice before you make such a decision. And don't let fear get in the way.

I know you've been part of the WHO's Covax team to get vaccines to the world's poorer countries. Are you worried at all about the idea that the rich world does get fairly vaccinated but then the poorer world doesn't? Not only is that morally bad, but it also provides a kind of breeding ground for new variants of the virus.

In pandemics you are as protected as your neighbor. And it is extremely important that we will not let what you said happen, which is that the rich countries will get vaccinated and the poor will not. Not only because that will be a threat also to those countries—that's not the point. The point is that there is human decency here. And there is a need for everyone to have equitable access to vaccines. In the low-income countries, Pfizer will provide this vaccine on a not-for-profit basis.

The U.S. has had more than 1,300 deaths for every million people. Go to Asia, and many countries have had fewer than 50 per million; China claims to have had three per million. So by any measure, America has had a rotten time. The main problem in the U.S. seems to be a health-care system that isn't good at dealing with pandemics. So if you were in Joe Biden's shoes and you were trying to do something about the health-care system, what would you do?

I believe that a lot contributed to this absolutely devastating number in the United States. The politicization of Covid was one of them. It became a political statement not to wear a mask, for example. That contributed significantly to the increased number of deaths.

But I believe one of the big lessons that Covid taught us is the power of science in the hands of the private sector. It was the private sector, the health-care industry, that resolved the [shortage] of ventilators in the beginning. And it was the health-care industry that brought the diagnostics in record time. And then later, the treatments, and now the vaccines. Those things didn't happen by chance. They happened because we had a vibrant industry.

Should there be a kind of Manhattan Project to come up with vaccines in the future, where all the countries collaborate? Is that realistic?

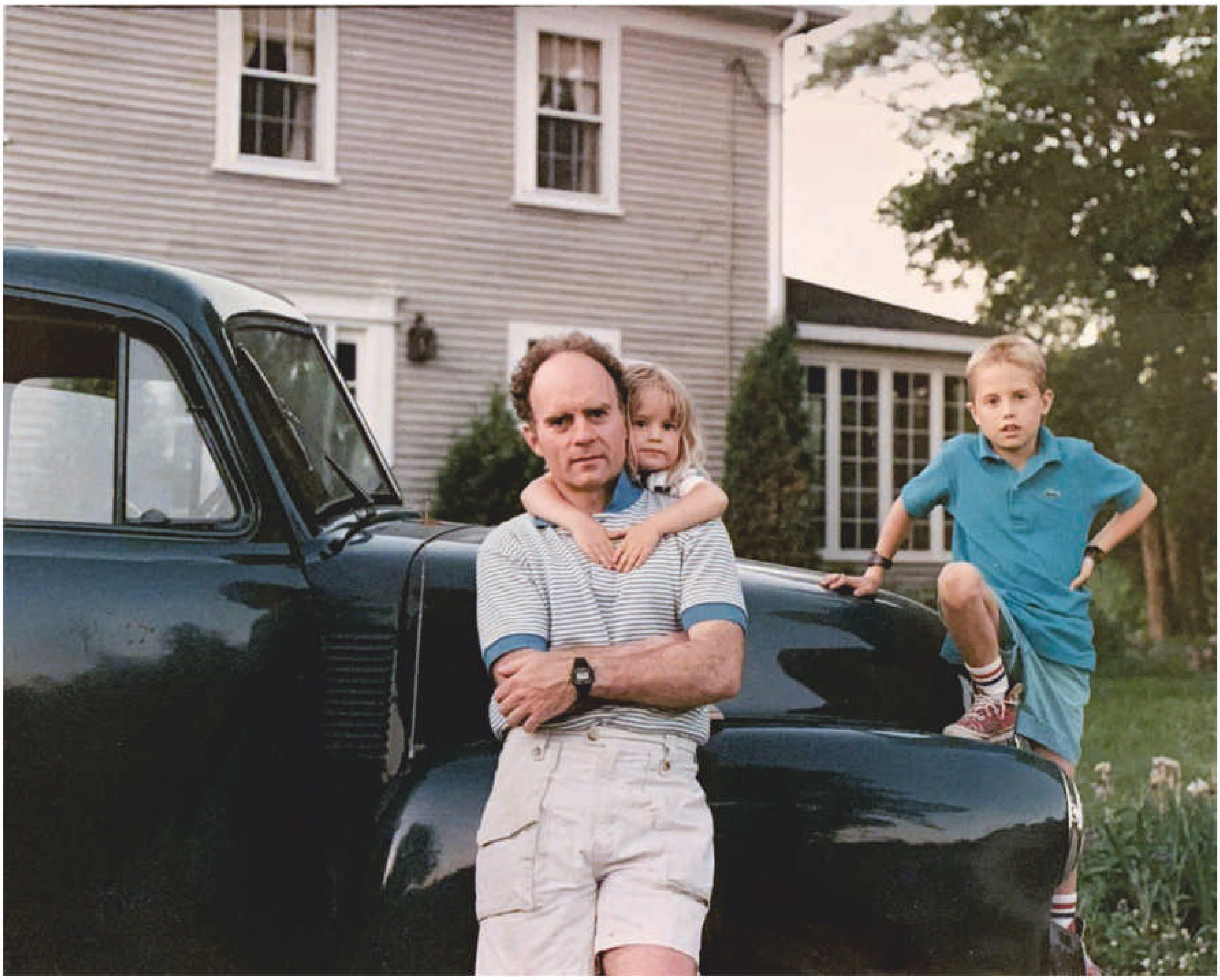
The way that things are happening is not, "Let's sit all together and work." You need to have teams that know each other. They should have infrastructure and, in some cases, compete, because that's also very healthy. During Covid-19 there was significant collaboration between companies. And there was significant collaboration between regulatory agencies, academia, and the private sector. So we should be focusing on seeing what went right and building on it. What went wrong we will take out. Ⓑ

Edited for space and clarity.

how I helped my dad die

His body wrecked by ALS, my father insisted that his death, like his life, was his to control

By Esmé E. Deprez



The author with her father and brother at home in Maine in the late 1980s

COURTESY ESMÉ E. DEPREZ

I was finishing up breakfast in New York when my dad sent me a text message. He was ready to die, and he needed me to help.

The request left me shaken, but that's different than saying it came as a shock. I'd begun to grasp that something was really wrong 10 months before, in May 2019, when he'd come to California from Maine. He was there to meet his first granddaughter, Fern, to whom I'd recently given birth. But he couldn't bend down to pick her up. He was having trouble walking, and he spoke of the future in uncharacteristically dark terms. We'd traveled to see him in Maine four times since then, and each time he'd looked older: his face more gaunt, his frame more frail.

At first, he'd walk the short distance to go to the bathroom. Then he needed someone to help him stand and use a portable urinal. Where once we'd all gather around the candlelit dinner table to eat, a ritual on which he'd always insisted, he now sat with a plate in front of the television. Eventually he started sleeping in a mechanical hospital bed on the first floor so he could avoid the stairs. He refused the wheelchair and walker, and kept falling as a result. I hated my growing hesitancy to place Fern in his lap, but sensed his fear of dropping her.

By the time my dad texted me, on March 12, 2020, amyotrophic lateral sclerosis, the incurable illness also known as Lou Gehrig's disease, had ravaged the 75-year-old body to which he'd so diligently tended—the body of a disciplined athlete and restless traveler who'd run 18 marathons, summited mountains across North America, and navigated remote stretches of Africa. It felt both cruel and kind that his "condition," as he called it, spared his mind—the mind he'd used to become a Harvard-trained epidemiologist, preach the power of public policy, recite William Wordsworth from memory, and extemporize about Rousseau, Marx, and Krishnamurti. ALS had robbed him of his most prized ideals, independence and freedom, and trapped him in a brown leather recliner in his girlfriend's living room. He was staring down quadriplegia. Ronald David Deprez had had enough.

I had come to New York with Fern and my husband, Alex. It was an absurd time to travel there: Coronavirus case numbers had begun to spike, and the city was shutting down, leaving the streets eerily empty. But I had work to do and plans to go see my dad afterward. I'd feared the pandemic might soon ground domestic air travel, stranding me across the country from him for who knew how long.

Maine had only recently legalized medical aid in dying, allowing people with terminal illnesses and a prognosis of six remaining months or less to obtain life-ending drugs via prescription. In April my dad became the second Mainer to make use of the new law.

He'd always said he'd sooner disappear into the woods with his Glock than end up on a ventilator or a feeding tube, alone in an institution. The law provided a more palatable path. Opponents call this method of dying, which is now legal in eight other states and Washington, D.C., physician-assisted suicide. Advocates prefer the term death with dignity. It's an extreme act, not suited to most people. But it sits at the outer edge of a continuum of health-care options that allow people to retain control over how and when their lives might best end. And for the majority of Americans—who surveys show would, if faced with terminal illness, prefer to forgo aggressive interventions and die at home—more alternatives exist along that continuum than ever before.

The second-youngest of four children, my dad was raised primarily by his mother, who worked as a hotel chambermaid. After co-captaining his college football team, he went on to found a public-health research and consulting firm and a nonprofit. He became an amateur photographer, expert cook, and self-described Buddhist. He could wire a house, tile a floor, bag a duck, skin a deer, ride a motorcycle, and helm a boat. His life testified to the notion that if you work hard enough, you can do just about anything.

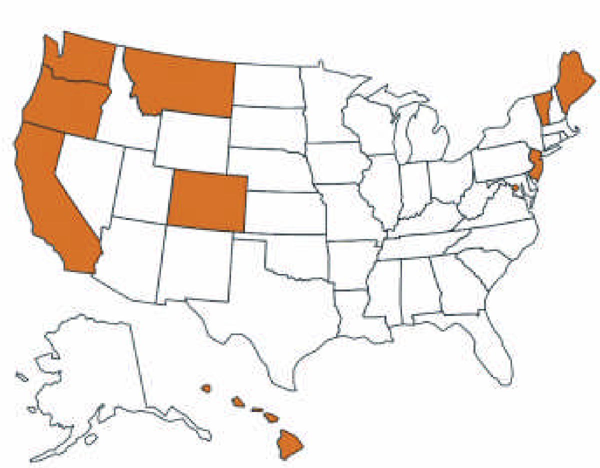
Then came ALS, a force he couldn't bend to his will. The disease would cause his nerve cells to degenerate and die, turning his muscles to mush and depriving his brain of the ability to voluntarily control the movements involved in talking and swallowing. He'd lose his ability to walk and grow prone to choking, labored breathing, and pneumonia. He'd be dead within three years of the onset of symptoms, maybe five, after his body suffocated itself.

He wasn't going to beat ALS. No one does. But neither was he willing to let it beat him.

Perhaps there'd been early indicators, easy to dismiss in the moment. While hiking with my husband in Morocco's Atlas Mountains in 2013, Dad wobbled precariously on the boulder-strewn trails. During a trip he and I took to Beirut and Cairo in 2017, painful cramps wracked his legs in the night. That winter, walking across the parking lot after a day of skiing in the Sierra Nevada, a spill left him splayed out on the asphalt amid his gear.

Neurologists at Massachusetts General Hospital were the first to suggest ALS, in the summer of 2018. Dad refused to follow up as recommended, didn't share the news for many months, and brushed it off when he did. Instead, he convinced himself and us that orthopedic surgeries would help him overcome what he cast as the typical fate of an aging athlete. But a knee replacement in September 2018 failed to improve his balance. Neck surgery in March 2019 didn't halt the weakening and atrophying of his right arm, left him perpetually exhausted, and set in motion a downward spiral.

States Where Assisted Death Is Legal



DATA: DEATH WITH DIGNITY NATIONAL CENTER

Back in the 1970s, when my dad embodied his progressive politics with a full head of curly brown hair and a bushy mustache, he helped craft health policy inside the halls of Maine's statehouse. Decades later, within days of his neck surgery, lawmakers there proposed a radical shift in the state's approach to life's end: the Maine Death with Dignity Act. At least seven similar attempts since 1995 had failed. This one passed, by a single vote, making Maine the ninth state where assisted death is legal. (Oregon was the first, in 1994.) The timing proved propitious for my dad, its approval and implementation unfolding as he inched closer to needing it.

He was born in 1944, part of a generation that experienced waves of scientific progress and technological breakthroughs that have enabled people to overcome acute diseases and manage chronic conditions. These advances have allowed people to live longer, making those 65 and older a larger share of the population than at any point in history.

A health-care system designed to prolong life at whatever cost, however, often fails to let it end. "We're giving people interventions they don't want and treatments that are painful and make them lose control over their own destiny and well-being at end of life," Laura Carstensen, who teaches psychology and public policy at Stanford and is the founding director of its Center on Longevity, told me. "And with Medicare costs soaring, we're going broke along the way." This last point is true not just as a matter of government budgets, but on the personal level as well. As Atul Gawande wrote in his 2014 book, *Being Mortal: Medicine and What Matters in the End*, "More than half of the elderly in long-term care facilities run through their entire savings and have to go on government assistance—welfare—to be able to afford it."

The pandemic has forced people to confront and consider death on a daily basis. Experts such as Carstensen say that's not all bad: Conversations about dying and disease and end-of-life care can be uncomfortable, but research shows that they make it more likely for people to die in ways that honor their wishes, save money, and soften the heartache for those left behind.

The idea that patients should have a say in their own end-of-life medical care has been fought over for decades. Like many his age, my dad had signed a legal document spelling out his wishes that health-care providers withhold life-prolonging treatment such as artificial nutrition or hydration should he become irreversibly incapacitated. The first such document wasn't proposed until 1967, and it would be decades before directives of that nature gained prominence and legal recognition nationwide. Only after Congress passed the Patient Self-Determination Act in 1990 were hospitals and other providers required to inform patients of their rights under state law to make decisions concerning their medical care, including the right to refuse treatment. That same year, in its first right-to-die case, the U.S. Supreme Court ruled that a competent person has a constitutional right to refuse lifesaving hydration and nutrition. The court later decided that the Constitution doesn't ensure the right to an assisted death, but it left states to make their own laws.

Assisted-dying laws go beyond the right to die passively by refusing food, water, and care. They allow people like my dad to proactively hasten the end. Some 71 million Americans, or 1 in 5, now live in states where assisted death is possible. While the number of people using the laws has grown over time, their ranks are still small: fewer than 4,500 cumulatively, according to data compiled by the advocacy group Death with Dignity National Center. In 2019, 405 died this way in California, the state with the highest number that year.

The broader principle of allowing people to control their final days has been shown to have clear benefits. It's a top goal of palliative care, for example, a growing interdisciplinary approach that emphasizes discussions between seriously ill patients and their care providers about how to better manage their symptoms. Studies show it can result in less aggressive treatments, improved quality of life, and reduced spending. Hospice care, which begins after curative treatment stops and death is near, can also cut hospital use and costs.

> As the process dragged on, my dad grew increasingly pessimistic that he'd gain access to this option. I found myself in the disturbing position of contemplating other ways to help him end his life

Maine's law requires navigating a maze of mandates and built-in delays intended to discourage all but the most motivated candidates. As the process dragged on longer than he'd anticipated, my dad grew increasingly pessimistic that he'd gain access to this option. So in a desperate attempt to reassure him he could die on his own terms, I found myself in the disturbing position of contemplating other ways to help him end his life.

Perhaps my husband and I could carry him and his gun down the hill behind his house and leave him? Or take his rowboat out into the ocean and push him overboard? Smother him with a pillow while he slept? I was willing to consider the emotional and potential legal burden that came with these options, but they also horrified me. A hospice nurse had left a "comfort pack" of drugs in the fridge that included a vial of morphine. I researched how much would likely cause an overdose—more than we had. I looked into something called voluntarily stopping eating and drinking, ▶





Ron Deprez; at the bottom right is the author, her daughter, and Ron in one of the last photos taken of them together

◀ or VSED. It sounded like torture, and my dad thought so, too. I explored what it would take to transport him to Switzerland, the only country that allows easily accessible assisted death for nonresidents. That could have taken months to organize.

I later learned of popular how-to books such as *Final Exit*, by the founder of the modern American right-to-die movement, Derek Humphry. It became a No. 1 *New York Times* bestseller after it was published in 1991 and has been translated into 13 languages and sold 2 million copies worldwide. ("The book's popularity is a clarion call, signaling that existing social and clinical practices do not give Americans the sense of control they desire," a New York state task force wrote in a report after the book's publication.) In 2004, Humphry co-founded a group called Final Exit Network. According to its newsletter, its volunteers "go anywhere in the country to be with people, at no charge, who desperately seek a peaceful way to die," even those "who are not necessarily terminal, including those suffering from early dementia."

Plotting ways to off my dad felt absurd. The assisted-death movement aims to save people from that predicament. Ludwig Minelli, the lawyer who founded the Swiss assisted-death organization Dignitas in 1998, saw himself as a crusader for "the very last human right." Jack Kevorkian, who helped about 130 people die and was convicted of murder for one of those deaths, believed people should be able to choose to end their lives even if physical death isn't as imminent as some U.S. state laws now require.

Aid-in-dying is legal in all or parts of nine countries, and a 10th, New Zealand, will make it legal in November. Belgium and the Netherlands take the most liberal approaches. There, assisted death is available to adults and minors faced with constant and unbearable suffering, be it physical or mental. People with dementia and nonterminal conditions, such as severe depression, can qualify. Most countries with assisted-dying laws allow for euthanasia, which is when a doctor physically administers the drugs, usually by injection. All U.S. states forbid euthanasia and require patients to ingest life-ending drugs on their own.

Most Americans support giving terminally ill individuals the choice to stop living. Gallup says solid majorities have done so since 1990 (ranging from 64% to 75%, up from 37% when it first polled on the issue in 1947). Majorities of all but one subgroup, those attending church weekly, are in favor, including both Republicans and conservatives. Significantly, one-third of Americans who obtain prescriptions for lethal drugs don't end up using them, which advocates say underscores how much comfort and peace people can find in just having the option.

In the U.S., opposition has come mainly from religious groups that consider assisted death akin to suicide—to a sin—and from disability-rights advocates, who warn of the potential for abuse, coercion, and discrimination. The American Medical Association, one of many health-professional groups that has also fought the legalization of aid-in-dying, argues

COURTESY ESMÉ E. DEPREZ (5)

that the practice is "fundamentally incompatible with the physician's role as healer."

The hospice and palliative-care fields might seem like natural allies of assisted death. But Amber Barnato, a physician and professor at the Dartmouth Institute for Health Policy & Clinical Practice who studies end-of-life decision-making, says mainstream medicine has only recently begun to recognize the power of palliative care, and some people in the field worry that participation in assisted deaths might curb its reach. Palliative and hospice care are already wrongly linked with "giving up," she says, and practitioners are wary of anything that could further that misconception. Research shows, however, that the availability of palliative care hasn't suffered in places that have legalized assisted dying. And while opponents of Oregon's law warned it would lead to the legalization of euthanasia, that hasn't happened either.

Critics would call my dad's death a suicide. But he wanted to live. He was going to die from his illness, regardless of whether he used lethal drugs to hasten it. The word "suicide" never felt like it fit.

On March 15, Alex, Fern, and I flew from New York to Portland, where my mom and dad raised my older brother, Réal, and me following their split in the mid-1980s. My dad had been living just outside the city with his girlfriend for the past year as he declined. Having just spent five days in what was then the heart of the pandemic, we said a quick, socially distanced hello before making our way to isolate at my dad's house on Deer Isle, a three-hour drive up Maine's coast. My husband and I both came down with moderate Covid-19 symptoms within days.

Over the next few weeks, my dad made the necessary requests for life-ending drugs from his primary-care doctor, Steven Edwards. (The law requires an oral request, then a second oral request and a written one at least 15 days later.) I sent him photos from the long walks I took in the woods along the water, Fern strapped to my chest. I could sense how happy it made him that we were enjoying the area and learning the idiosyncrasies of his house. We talked or FaceTimed every day. He told me his limbs felt heavy and hurt.

Much about the coronavirus remained a mystery, but we felt confident that by April 10 we'd no longer be contagious and planned to head south to see him. I'd just sat down to start my workday on the ninth when he texted me: "Es. You may think about coming today." In the anxious fog of his pain, he couldn't understand why he hadn't yet qualified for Maine's law and needed me to figure it out. We packed up the car and left as soon as we could.

The following day, I took a leave of absence from work to devote myself full time to researching the law's requirements. I connected with the head of Maine Death with Dignity, the advocacy group that had helped write and pass the legislation. The law had been in effect just six months, and just one person had used it. Dr. Edwards could lose his medical license if he failed to follow its requirements to the letter.

Up until this point, I'd pushed my dad not to give up entirely on medical intervention. I talked up the two Food and Drug Administration-approved drugs for ALS, which can prolong life by a few months. I emailed with Mass General's chief of neurology about an impending clinical trial for new therapies. I arranged an emergency visit to the Mayo Clinic in Minnesota. My dad wasn't interested in any of this. He went to Mayo only grudgingly, accompanied by my brother and a family friend, and refused further testing once there. His girlfriend had been providing heroic, around-the-clock care, but as his needs grew, I spoke with assisted-living facilities, nursing homes, and providers of 24-hour in-home care. He shunned those options, too. Every time I pushed, I risked alienating and upsetting him further.

Even as I tried to mask my frustration—how could he not do everything possible to have even one more day with us?—witnessing my dad waste away helped me understand his desire to escape. Being physically capable was essential to him. He was annoyingly militant about eating healthfully. He'd skied and rock-climbed with us into his 70s and had bigger biceps and firmer abs than anyone I knew close to his age. He'd also worked hard to build his retirement savings, part of the legacy he'd leave to his children and grandchildren. Particularly important to him was the Deer Isle house, which he'd spent the past decade turning into a home. The last thing my dad wanted to do was to deplete his bank accounts by paying people to care for him past the point he could enjoy living.

He hadn't given up in the face of his decline. He kept doing what exercises he could, getting acupuncture, and meditating. Nor did he let his appearance go, insisting on a daily shave and putting on real pants instead of sweats, with help from the home health aide who came in a few hours a day. But he didn't want to be remembered as a frail, dependent shut-in. ALS had snatched away the vitality that had given his days meaning. He no longer recognized his life. Perhaps that would make it easier to leave behind.

ALS patients make up the second-largest share of people opting for assisted deaths in the U.S., after those with cancer, data show. There's no one test to identify ALS. Doctors conclude someone has it based on what's called a "diagnosis of exclusion," which is to say they systematically rule other things out. This characteristic of the disease, and my dad's refusal to follow up with neurologists upon the first suggestion that it could be the cause of his body's decline, had fed his denial that he had ALS. As I deciphered what remained to be done to get my dad qualified under Maine's law, that denial emerged as the biggest hurdle. He didn't have an official diagnosis, and his doctor couldn't proceed without one. I scrambled to secure an emergency telemedicine appointment with a Mass General doctor my dad had seen back in 2018. As his iPad camera captured how difficult it had become for him to walk and raise his arms—evidence of the disease's progression—she confirmed ALS without hesitation. ▶

◀ That worked. Mercifully, I wouldn't have to take drastic measures to help my dad end his life. On April 17, I found myself behind the wheel of his black truck, driving the 20 minutes to a pharmacy in Portland, the only one in the state that sold the necessary drugs. I paid $365 and clutched the white paper bag like a precious heirloom. In it was the latest protocol, called D-DMA: one brown glass bottle containing powdered digoxin, which is normally used to treat irregular heartbeat but causes the heart to stop at extreme doses. And another with a mixture of diazepam, commonly known as Valium, which is usually used to treat anxiety but suppresses the respiratory system at high doses; morphine, an opioid pain reliever and sedative that also suppresses the respiratory system; and amitriptyline, an antidepressant that stops the heart at high doses.

The next day was my birthday, and Alex and I had persuaded my dad to let us take him for a walk outside in his wheelchair. "So we'll go to Deer Isle tomorrow," my dad proclaimed at one point out of the blue. No fanfare. It wasn't a question. It was his way of saying it was time.

When morning came, my dad's girlfriend got him packed and dressed and helped him into his truck. We stood back while they shared an emotional goodbye. The sky was clear as Dad, Alex, Fern, and I pulled out of the driveway.

A few hours later we crossed over my dad's favorite bridge, suspended above the choppy waters of the Eggemoggin Reach, connecting the island to the mainland. His eyes welled up. We'd made good time and arrived well before dark. Alex carried my dad, piggyback-style, from the car into the house. My brother flew in a few hours later from California.

I slept beside my dad that night in his bed, waking to help him adjust his arms, drink water, and sit up to pee. I dripped blue drops of morphine into his mouth to ease the aches and help him sleep. It was intimate, odd, and beautiful, a role reversal neither of us had foreseen. I opened my eyes in the morning to find his trained upward, through the skylight. "Treat thoughts like clouds," he said. "Just watch them pass by."

That was Monday, which he'd said would be the day. We gathered around him, seated in the swivel chair I'd helped him pick out years prior to gaze out the windows at the Atlantic Ocean. We rummaged through the plastic storage bins where he'd tossed thousands of old photos over the years. We found a black-and-white print of his father from the 1940s that he hadn't seen in ages, and it made him beam. We came across fading negatives of a naked woman, and we laughed.

The pharmacy had enclosed precise directions: The drugs had to be taken on an empty stomach. But as the hours wore on, he kept wanting to eat. Sourdough hard pretzels. A chocolate Rx bar. Tinned calamari and crackers with cheese. Soon enough it was dinnertime, and Alex made my dad's favorite: pasta with clams, freshly dug by a neighbor from the flats in front of the house and dropped off that morning. We sat around the dinner table and drank good wine and talked about the women who'd come and gone in my dad's life. He asked which one we liked best. The specter of death hung over us, but, after so many months plunged into the mental anguish of his illness, he could live in the now. He no longer feared his deteriorating body, or the prospect of a prolonged death. If only for a day, we had our dad back.

The night before, I'd read to him in bed from a book by his favorite poet and fellow Mainer, Edna St. Vincent Millay. I'd opened it to a random page: a poem called, of all things, *The Suicide*. Tonight it was Mary Mackey poems I looked up on the internet after we couldn't find the book. I massaged his calves and quads and feet. He thanked me for helping him. I felt thankful, too—that he wanted me there by his side.

Would Tuesday be the day?

He kept us guessing until the end, which was maddening and exhausting and understandable. That morning, a health aide came to give him a sponge bath and a shave. She casually commented how much I looked like him—I was so clearly his daughter, she said—and I beamed with pride. We spent a while listing his favorite poems to share and songs to play at the memorial we'll hold for him after the pandemic, and it made him smile. I read a letter my brother's wife had written to him (the pandemic and two kids had kept her at home), and it made him cry. We meditated to the voice of Ram Dass. Fern toddled around in enviable ignorance, figuring out how to take her first steps.

> "That was enough," he said, leaving a few drops in the glass. "I'm dead." And then, "Whoa, whoa," and he closed his eyes for the final time

And then, at about 4 p.m., he declared himself ready to begin the process, with an anti-nausea drug. We wrapped ourselves in down coats and wheeled him outside to the front porch, where he used to sip dirty vodka martinis and smoke cigars after a hard day's work. It would be weeks until the season's last snowfall, but behind the house, along the forest path heading down to the water, the neon green shoots of fiddleheads were poking up through the earth and fresh spruce tips were emerging from the ends of the branches of the trees.

It started to drizzle, and we headed back inside. Dad asked us to move a framed black-and-white photo of his mother atop the wood stove he'd refurbished years ago. He said he hoped he'd see her. He said he'd miss not skiing with us again and "I'll be all around you—just look for me," or something to that effect. When the others stepped away, he turned to me and said he wouldn't be doing this if he felt like his condition had left him any other choice. It felt like an apology. I told him I understood.

Réal and I stood at the kitchen sink and added water to the first powder—the digoxin that would slowly stop our dad's heart—in a rocks glass with a redheaded canvasback duck painted on the side. There would be no turning back after this one. He stared at the liquid for a few moments, then gulped it down. "Only the good die young," he said with a sly smile. Alex questioned what he meant. "Well, I haven't been good," he replied.

We followed it with shots from a fancy bottle of Irish whiskey he'd been saving, Redbreast 15 Year Old. He requested David Bromberg's version of *Mr. Bojangles* and sang along. He said something about this being such an immensely better way to die than being hooked up to tubes in a hospital bed, and we all nodded. If ever there were a good way to go, Alex practically shouted through tears, this was it. Then we mixed, and Dad swallowed, the sedatives. "That was enough," he said, leaving a few drops in the glass. "I'm dead." And then, "Whoa, whoa," and he closed his eyes for the final time.

For hours it looked like he was simply taking a nap. He snored. I sat on the floor holding his hand and rested my head on his upper arm. It wasn't until around 8:30 p.m. that we felt his pulse finally give out. Strong heart. Strong guy. He would have liked that.

There were few instructions about what to do next—and no need, because it was an expected death, to call the police or an ambulance—so Réal, Alex, and I sat vigil for hours more until we felt ready to ask a funeral home to come to take the body. We plowed through an entire box of tissues. Simon & Garfunkel crooned. It kind of looked like Dad was still napping, mouth agape, but also not at all. His skin had grown pale, his body cool. My brother kept saying it wasn't him anymore. He wasn't in there.

Although he was born and spent most of his life in Maine, my dad didn't discover Deer Isle until the 1990s, when he was consulting on a rural health project nearby. He loved it more than any other place in the world. I loved it, too, from my first visit shortly after he bought his house in 2010. It was a shell back then, and Alex and I slept on a mattress on the floor.

My dad always gave me grief about not spending more time there, but he also understood that I had a life and career in New York and then California. After his death, Alex, Fern, and I stayed for six more months. We were working remotely, and Fern's day care was closed anyway, so we took advantage of the silver lining. As the pandemic worsened, causing lonely deaths in chaotic hospitals with goodbyes and last rites delivered over FaceTime, we came to appreciate even more my dad's peaceful, graceful, at-home exit.

Sometime during the first week of July, I passed by a framed photo on the living room bookshelf, probably taken in the late '80s or early '90s. In it, my dad is dressed in a blue-and-white-striped rugby jersey. His face is young, his wrinkles less deep. I'd walked by it hundreds of times, but it struck me this time. It was almost like I didn't recognize him, as if he were a stranger. I started to panic. Was I forgetting him already? Moving on too quickly? To see him only in photos and no longer in person was becoming distressingly normal.

It was late, and I climbed into bed and picked up a book he'd left on his nightstand by the Marxist critic and artist John Berger. I'd left off the night before on page 15. On it was a poem called *History*, the introduction to which my dad had marked with a pen: "The dead are the imagination of the living. And for the dead, unlike the living, the circumference of the sphere is neither frontier nor barrier."

The pulse of the dead
as interminably
constant as the silence
which pockets the thrush.
The eyes of the dead
inscribed on our palms
as we walk on this earth
which pockets the thrush.

I'd never really understood poetry. Pockets the thrush? Thrushes as in songbirds? I searched the internet and failed to find anything that shed light on what the poem meant and why it might have touched my dad.

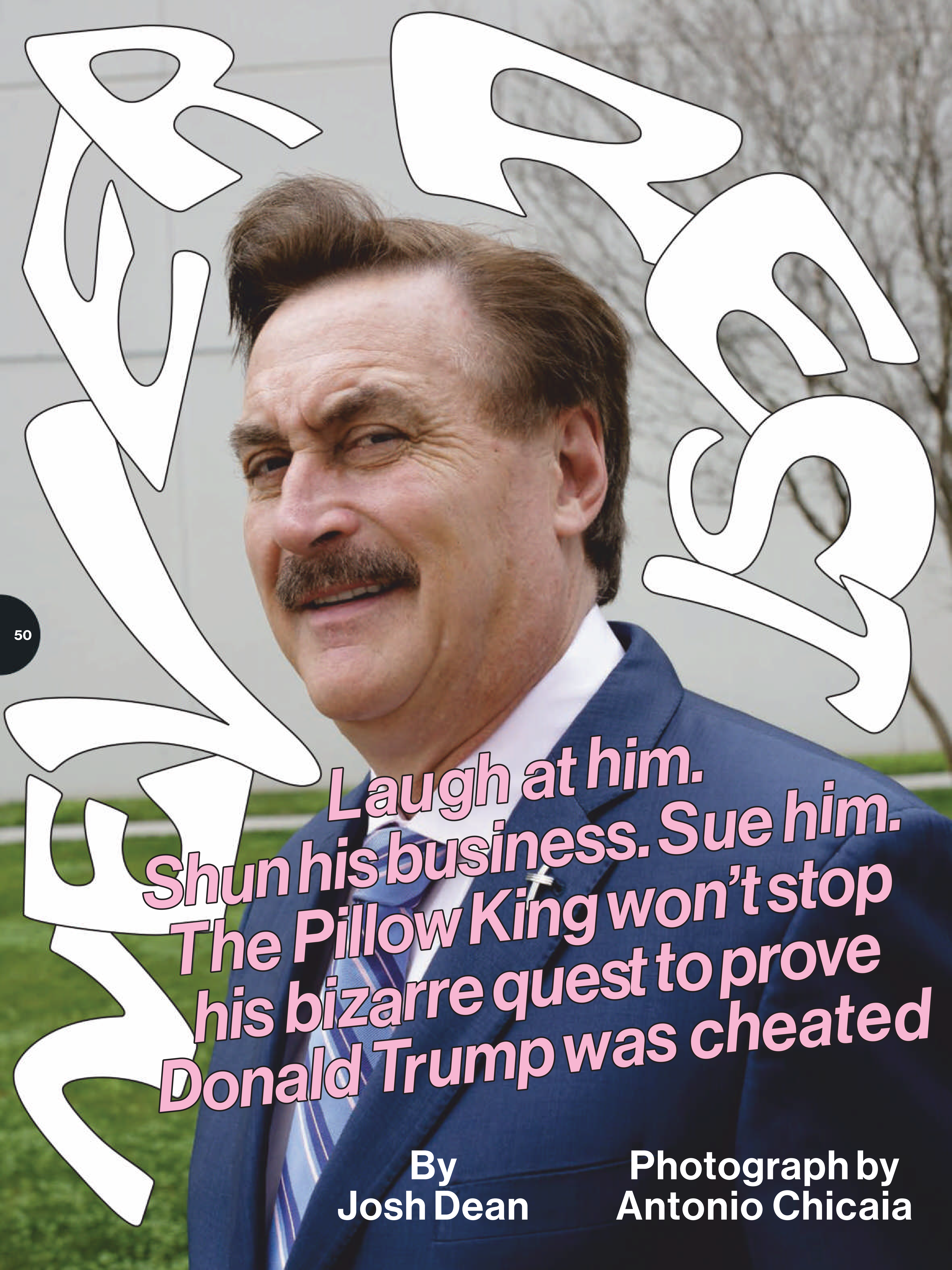
A few months later, I searched again and up popped an article about Berger on a British website called Culture Matters. It didn't discuss that particular poem, but I emailed the site anyway.

"Yes well it's a great little poem, no wonder your Dad liked it," Mike Quille, the site's editor, responded the next day. "And understanding it may help assuage your grief at his passing, as it is very much about life and death." He continued on to explain how in this one, as with many of Berger's poems, "death is seen and heard in the here-and-now, part of every life-cycle, whether animal or human.…Death and Life work together in Nature.…Earth is both the habitat and sustainer of the living, and the 'pocketer' and burial place of dead things. And that's just what history is, a combination of life and death."

I thanked him and told him a bit about my dad and the way he'd died. He wrote back once more. "Your Dad sounds like a man who appreciated life well enough to be able to handle death. Which is how you transcend its finality, I guess."

Whether it was cleaning the kitchen or building a career, my dad had always told me: If you're going to do something, do it right. And that independence was freedom, and free was the only way to live. His desire to die on his own terms made perfect sense given how he'd lived. He never hid from controversy. He embraced confrontation. You couldn't talk the man out of anything: He was a my-way-or-the-highway type, confident in what he did and the way he did it, because it was the right way for him.

It turns out he was teaching me until the end. I couldn't change my dad's decision about how and when to die. Nor could I honor his right to be in control without surrendering my own. So I helped the man who'd brought me into this world to leave it. Ⓑ



Never Rest

Laugh at him. Shun his business. Sue him. The Pillow King won't stop his bizarre quest to prove Donald Trump was cheated

By Josh Dean

Photograph by Antonio Chicaia

A typical person would be mortified to get caught on camera, outside the Oval Office, clutching notes that seem to suggest martial law as a way to help overturn a presidential election. For Mike Lindell, it was a blessing. Possibly the best thing that had happened to the founder and chief executive officer of MyPillow Inc. in the challenging days since Donald Trump, the candidate he'd fervently supported for the past four-odd years, lost the election and his job.

"Oh, this is so great," Lindell told me by phone in late January, from an undisclosed location that later turned out to be Texas. "That was a miracle that they took that picture.... Now all of a sudden, all the media is coming to me. Nobody came to me before, because they didn't want me to say the truth."

That "truth" being Lindell's opinion—evidence-defying conviction is more like it—that the Nov. 3 election of President Joe Biden wasn't a true and fair result. Biden, Lindell asserts, "is not our real president" and is in the Oval today only because of many injustices including, but not limited to, voting by dead people, voting by illegal immigrants, voting by minors, late-night dumps of ballots printed in China and smuggled into Georgia, and—the one he really can't abide—the hacking of machines from Dominion Voting Systems Inc. China did this, along with four other countries, he said. "You had China, a little bit of Russia. You had Iran. I can't remember the other two. It might've been Iraq." To state the obvious, none of this has been proved anywhere.

Lindell has been among the most unwavering of Trump loyalists since the fall of 2016, when he met the then-candidate at a campaign stop in Minnesota, home base of MyPillow, and decided this reality-TV star was the best man to lead America. That encounter occurred just a month or two before I met Lindell, on assignment for this magazine. In fact, the day I arrived at MyPillow HQ, Lindell had just returned from a Trump election-night party in New York and was proudly displaying a photo of himself with the president-elect and Mike Pence taken at that event. As I wrote at the time, Lindell looked in the photo "like a man who couldn't believe his luck."

This seemed, back then, as if it would be a quirky footnote in Lindell's colorful biography. After all, I'd traveled to Minnesota to chronicle his bizarre life story—his rise from near-death crackhead to wildly successful pillow salesman most famous for starring in his own ubiquitous ads. If you watched late-night TV or listened to the radio, you knew Mike Lindell and his magical pillow. But as the story revealed, you probably didn't know the half of it.

I hadn't thought a lot about Lindell in the years since, except when people would send me clips about him, often in the context of Trump. But his encounter with the future president changed the trajectory of his life. He became a regular on right-wing TV and at Trump rallies—always there, with a smile as wide as his mustache, to salute his man. And when the Trump administration's refusal to accept the 2020 election results finally crumbled, in the days after the Jan. 6 insurrection at the U.S. Capitol, Lindell was one of the last men standing in support. This made him, in the waning days of January, a go-to call for journalists looking for a final toke on the Trump news crack pipe.

When I finally reached him, at 9 p.m. on the day after Biden's inauguration, our talk had been pushed back three times because of the volume of calls from reporters. "It's ridiculous, the media," Lindell said, having just shoveled down his first meal of the day. "Nonstop interviews, podcasts, TV shows—for four days, from morning till night."

The latest volley of calls had been sparked by another surprise news hit that very day. England's *Daily Mail* newspaper was reporting the end of an unlikely romance between "the MyPillow guy" and actress Jane Krakowski, of *30 Rock* fame. I have to say it was one of the weirdest and most surprising gossip headlines I'd ever read. Lindell quickly dismissed the rumor of any romance (as has Krakowski). He called it a "hit piece" about "some actress I'd never met before in my life. They made it up. So I'm suing them."

This was no bluff. A day later, Lindell hired Charles Harder, defamation lawyer of choice for aggrieved conservatives—perhaps you remember him as the lawyer who helped kill Gawker Media—to file suit against a notorious gossip rag for asserting that he, a single man, had been dating an attractive woman who is also single.

"For my evangelical platform, that's defamation," Lindell, who says he's a devout Christian, explained. And he suspects it was a plant. "I think they put it out to push the story of me going after the Dominion machines, and after the fraud, because now it pushed everything down." This was the crux of it. Lindell's assertion is that the story was concocted by enemies to push his election fraud allegations further down the results pages when people search his name.

But Lindell had far bigger problems than some arguably flattering gossip. His increasingly loud campaign to convince the world about election fraud was blowing back on his empire. In early January eight big-box retailers, including Kohl's Corp. and Bed, Bath & Beyond Inc., dropped MyPillow from their stores. "Just bury Mike's company and bury him," Lindell snipped. "Put his 2,500 employees out in the street."

And an even bigger danger was looming: Dominion Voting Systems had just threatened him with a defamation suit. "You have positioned yourself as a prominent leader of the ongoing misinformation campaign," the letter said. "Litigation regarding these issues is imminent." Dominion had already sued Trump lawyer Sidney Powell, and a couple of days after we talked, the company sued Rudy Giuliani.

The letter probably didn't have the effect its drafters hoped for. Lindell doubled down. "It was like a mafia letter," Lindell told me. "'You have been warned!' And I'm going, 'Warned of what?' They dropped that letter, because I met with these investigative journalists that found all this evidence."

Lindell was talking about two writers for a website called the *American Report*, which has a history of trafficking in ▶

The sheer mania of it all blurs the s

conspiracy theories. These writers claim to have "forensic proof," in Lindell's words, of Dominion machines being hacked to manipulate results in Biden's favor. "I told Dominion, I said, 'Sue me, then we get the evidence out there quicker.'"

Defamation suits can be devastating. A decision in Dominion's favor could destroy MyPillow. Lindell said he wasn't worried. "They don't want to do a lawsuit against me, because they know we have all the evidence. If you do a lawsuit, you have to be deposed, you have to have discovery. And I would not have gone out there if I wasn't 100% sure. When I saw the president, I said: 'Mr. President, I know I only have a few minutes, but I'm telling you everything I have in this world—every person I know, my business, everything—I will put it all on the line if I'm wrong.' That's why I'm all in. I don't care about any lawsuit. This is for our country and for humanity."

It wouldn't have occurred to me in a million years that I'd be talking to Mike Lindell about voting machines, or election fraud, or really anything other than extensions of the MyPillow line. I knew, four years ago, that this was an unusual man—certainly among entrepreneurs who built nine-figure businesses. I knew he was brash and reactive and completely without guardrails. But I certainly never could have imagined that the next time we talked he'd be trying to undermine a presidential election.

Most CEOs are careful by nature. They do everything possible to avoid landmines. Lindell just leaps into minefields, and so far he hasn't blown up. His agitation on behalf of Trump has actually helped MyPillow, he said, though that isn't why he's doing it. "Business is up so much the last week that we've had to keep hiring people," Lindell said. His factories were adding shifts to meet the demand from fans of MyPillow and, presumably, the former president—the kinds of consumers who get outraged by "cancel culture" and show their disapproval by buying pillows as an act of revenge. "We're so busy right now, because of all these attacks."

Lindell is used to this dance. This wasn't his first bout with bad press or even his first bout with bad press at the White House. Perhaps you recall the coronavirus briefing last spring at which Lindell appeared to talk about how MyPillow was ramping up production of masks to help fill a national shortage. Then he went off script: "God gave us grace on Nov. 8, 2016, to change the course we were on," Lindell said. "A nation had turned its back on God. I encourage you to use this time at home to get back in the Word. Read our Bible."

"I did not know he was going to do that," Trump commented, "but he's a friend of mine, and I appreciate it."

"When I did that, our business went up about fourfold," Lindell told me. "But now this last week pushed it up to a new level.... It just keeps getting busier, because the public knows that this is all just an attack, and they go, 'Why are they attacking him when he's trying to tell everyone that there's machine fraud and we should never ever use machines again in an election?'"

This is the sole focus of Mike Lindell's life now, in post-Trump America. To prove to the world that the election was illegitimate and that the main culprit was compromised voting machines. "Since November 4th, not one waking hour have I not been focused on the election fraud," he said. "I have put in over $2 million of my own money into helping out different people throughout the country. Supporting them both with resources and my time."

So who's running MyPillow? The company, he said, is in capable hands: His son Darren is at the helm. Lindell said that for basically "the whole last year" he's been away from day-to-day operations of the company he founded. "When they have problems, they give me a call."

Speculation had been rampant in Minnesota that Lindell would run for governor. He was seriously considering it, but now he had doubts. This case against Dominion had become a crusade, and if he can't win it, he has no interest in running for any office. "I would never even think of running until these machines are never used again anywhere in the world," he told me.

Lindell was already extremely sure of the fraud but claims that his smoking gun arrived in early January, when those writers reached him. Also, "another guy came to me and he's a mathematic cyber forensic expert. I've never seen a genius like that in math, and he validated what these other people have."

Basically, Lindell's story is this: These machines had algorithms built in to count every Biden vote as 1.2 votes and every Trump vote as four-fifths of one. This would be provable, he insists, but "no one was allowed into those machines." That said, he claims that if you were able to fix the algorithms to deliver a true result, the "actual count was 79,800,000 for Donald Trump, 68,200,000 for Biden. But that doesn't count all the other stuff. You had 8,000 dead people that voted, you had the 6,000 minors, 12,000 people that didn't live in Georgia that voted, 6,000 people that voted twice." (Again, none of this has been proved.)

Lindell makes plenty of assertions like this, about Georgia, and Arizona, and Nevada, and Pennsylvania, and even about his home state, Minnesota—where no one has contested the result. Except Mike Lindell.

I would encourage any journalist who plans to discuss this subject with Lindell to clear the calendar. You're going to want some time. The various threads get confusing, and when Lindell talks about them, he does so furiously. It's difficult to take notes, let alone get questions in.

eriousness of what he's proposing

Not because Lindell won't answer them. The man is an open book. But because having this discussion is like standing in front of a fire hose. It's overwhelming, and the sheer mania of it all blurs the seriousness of what he's proposing: that we remove a sitting president and... reinstall Donald Trump?

"It's the biggest heist in the history of the world, and the biggest crime against humanity, because these are communists that did this," Lindell said.

Hold on a second, I said: What about the courts? At last count, Trump's lawyers had won just 1 of 62 legal challenges, some of them in front of Trump-appointed judges.

These judges, Lindell said, refused to look at the real evidence. They just couldn't handle the truth. "I'll tell you this, when this evidence gets before the Supreme Court," he said, referring to the "forensic cyber" evidence from the *American Report*, "when those nine justices–if they look at it, because [Chief Justice John] Roberts is compromised–but if they do look at it...it is so blatant that they're all nine going to raise their hand and go, 'Wow, we were attacked by China and all this.'"

The media, Lindell said, just won't show this evidence. And social media sites won't either. (Twitter had been flagging Lindell's tweets for weeks and shut down his account, finally, on Jan. 26.) So it's up to him. "They're trying to suppress this, but it will come out. You can't keep this down. And I got a big mouth."

You do like to talk, I replied.

"I'm just so excited."

Finally, I brought the conversation back to the White House photo. If the evidence is so clear, then why, on the day that infamous martial law shot was taken, did then-President Trump not jump at it?

First, Lindell would like to correct the record. The martial law thing–he says that wasn't him. A friend, a lawyer he wouldn't name, gave him some papers to give to Trump. Those papers, which he says he hadn't even read, included the martial law thing, plus a note about a new CIA boss. Lindell's contribution was his new evidence, boiled down to four pages. "So I go in there with these four pages, and I go, 'Mr. President, this is the smoking gun. The machine fraud is real. I have done my own tests.' I said, 'I would bet everything I have in this world that this is 100% accurate.'"

He'd been promised only five minutes, and when that was up, a staffer took him upstairs "to the lawyers" to show them the papers. The lawyers took the papers, disappeared for a few minutes, and then sent Lindell back downstairs with the papers to wait, again. "They said, 'It'll be about 10 minutes.'" Shortly thereafter, someone clarified. It would actually be two hours, or possibly more.

Lindell got the hint and was ruffled. "I said, 'This is a matter of national security. I'm going to wait here until the president says that I'm supposed to go.' That's when I went outside to make a phone call, and the picture was taken."

Finally, he was shown back inside to see some "underling lawyers" who listened for 10 minutes. "It was like talking to the wall." When, he asked them, could he see the president to discuss this evidence?

There would be no additional time. "So I left, and then about two hours later, I find out that that guy with the telescopic lens took that thing where it says insurrection or martial law. So then it's just 'Mike Lindell wants martial law!' For one thing, I don't even know what all it entails. For another thing, that wasn't my sheet."

On the plus side, the photo sparked the media circus that's still chugging along. "I'm finding out every media person has my phone number." And when the Dominion letter hit the news, they just kept calling. "You tell Dominion to get this lawsuit started," Lindell said he told them. "I welcome that. I get to show my side to the public. Let's do it on national TV."

The conviction with which Lindell stands behind the machine fraud is the same conviction with which he stands behind the botanical extract oleandrin, which he peddles as a preventer of Covid-19 infections, and the same conviction with which he stands behind the former president. "I'm not going to go jeopardize my reputation, my word, if I'm only 99% sure. If I would have never met Donald Trump, I wouldn't have went 100% all in. I might've went in 90%. Then I met him. I'm going, 'Well, this is it. I believe in it 100%.' I believe in him. And I'm going all in."

But what, I asked him, if this fails. What if no one ever believes him or, worse, if he's sued and loses? At what point would Mike Lindell decide he's had enough?

"I'll never quit," he replied. "So if I have to go door to door and show people, I will get it out there. I'm very optimistic, and I'm very persistent, Josh, and it's going to reveal itself, and I'm not backing down, ever."

He's also, by the way, not getting the Covid vaccine. "Are you kidding me? I've heard there are horrific things in there. This is a joke. And then they introduce a new virus anyway. They'll just keep introducing new ones." Anyway, he said, he has his own cure. "I take My Oleander every day. I've been in crowds, my employees that take it, thousands of people taking this, you don't get it, and if you do get it, you're sick for two days at the most. So why would I take it when the cure has been here? Look it up on your online there. Get yourself some. I'll ship you some. Then you don't have to take anything. I mean, you don't need to take this vaccine. It's all Big Pharma crap."

Maybe so, I replied. But I'm getting the shot. Lindell took that in.

"You go ahead, and I'll pray for you that you're the one that doesn't die." B

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coronavirus.gov

SCROLLING BACK TO THE FUTURE

THE OLD-IS-NEW-AGAIN SPECIAL

One of the most ancient technologies is coming back in a big way. *By Vlad Savov*
Illustration by Justin Metz

February 1, 2021

Edited by James Gaddy

Businessweek.com

Marko Ahtisaari, former chief of design at Nokia Oyj and son of Nobel laureate Martti Ahtisaari, would often tell me consumers want smartphones to be as big as possible in their hands and as small as possible in their pockets.

A decade later, gadget makers are taking up the challenge.

This month, South Korea's LG Electronics Inc. and China's TCL Technology Group Corp. both unveiled a vision for the future that takes the "hard" out of hardware. Their displays, like an ancient scroll or a high school diploma, can be unrolled to expand the screen area while in use and then slink back to roughly half the size when not. The most compelling aspect isn't the shape they end up in but the transition between smartphone and tablet. The mechanics are hidden, lending them a magical quality.

LG, which recently started selling an $87,000 "rollable" TV, is extending its technical know-how to pocket-size devices and plans to commercialize a rollable smartphone this year. TCL, second only to Samsung Electronics Co. in U.S. TV sales, introduced a smartphone concept with a 6.7-inch display that can expand to a 7.8-inch tablet by hiding the flexible OLED screen inside the phone and using a motor to roll it in and out.

These demonstrations build on a multiyear, industry-wide race to push beyond the boundaries of conventional black rectangles and invent the next device paradigm. In recent years, concepts have gone in a wide variety of directions: Nubia showed off a wearable smartphone in 2018 that curls around a user's wrist, while a curiosity such as the wallet-shaped Royole Flexpai opens and then folds over itself like a newspaper. Some devices, like Xiaomi Corp.'s Mi Mix Alpha in 2019, are all screen, wrapping around both the front and back of the phone.

"The industry is getting ready to shape-shift," says Ben Wood, chief of research at CCS Insight and the founder of a mobile phone museum in the U.K. "There's a delight in the variety of solutions cropping up: Several companies are working on foldables; others are developing rollables."

The marketing team might still need to work on that "rollable" language used to describe these scroll-like phones, but the visual appeal of the devices is instant. And the advantages, borrowing from the earliest Egyptian scribes, are obvious. More room to read and write, less storage space required, and additional protection from the elements—thanks to its ability to retract—are all useful attributes whether you're tallying grain shipments along the Nile now or millennia ago.

This year will provide a test for the industry's retro-inspired innovation. In a market saturated with black monoliths that Wood calls "terribly boring," he sees this as a catalyst for renewed excitement. Foldable hinges and rollable power-trains are becoming the prized trade secrets of the mobile world, and after years of merely refining the touchscreen, reducing bezel sizes, and creating higher refresh rates, hardware designers are regaining the freedom to experiment with the way we interact with our gadgets.

These novel devices are already among us. Samsung's

PREVIOUS PAGE: GETTY IMAGES. THIS SPREAD: COURTESY COMPANIES

OTHER 'BACK IN TIME' TECH

Retro-inspired releases this year are coming for your ears, wrist, and sweet tooth

LOOKS LIKE A Pan flute
The **Sony SRS-RA5000** wireless speakers are the brand's first foray into 360-degree sound. It can fill up a room without overpowering conversation, and with seven driver units and the ability to add to a speaker group in the Google Home or Amazon Alexa app, it'll have you piping a carefree tune while you work from home. Pricing and availability will be announced in the spring.

WORKS LIKE A marionette
Estimated to begin deliveries in March, **Mudra Band for Apple Watch** allows you to navigate the interface without ever touching it. Use its gesture-controlled software to check text messages—or your heart rate—by merely waving your fingers over the screen, like a modern-day, tech-savvy Geppetto. The $179 device is compatible with Apple Watch Series 3 and above.

TASTES LIKE Soft serve
ColdSnap's 17-inch-tall, 50-pound machine has been described as a Keurig for ice cream. It uses recyclable single-serve pods to make both dairy and nondairy varieties, as well as frozen yogurt, smoothies, coffee, and cocktails in 90 seconds or less. It will initially be priced around $1,000, and the company expects to beta-test it this summer. Commercial deliveries begin in early 2022.

Galaxy Fold in 2019 was widely panned, but the company has doubled down on the technology with the $1,450 Galaxy Z Flip in 5G and the $2,000 Galaxy Z Fold 2, and it plans to release four more iterations this year. Motorola Mobility LLC last year released a $1,400 foldable Razr that comes with a 48-megapixel camera. Motorola parent Lenovo Group Ltd. recently unveiled a foldable-screen ThinkPad laptop that costs $2,500.

Apple Inc., which counts LG among its display suppliers, has developed prototype foldable screens for internal testing but hasn't solidified plans to release one yet. Its usual wont is to let others take the hazardous first steps. As with the iPad, Apple Watch, and AirPods, the industry leader will not be first to use flexible displays, but its choice of how to tackle the category will most likely define its future direction.

The appeal of rollables is that there's no crease in the display, says Stefan Streit, global marketing chief at TCL. "Smartphones with rollable displays are thinner, at less than 10 millimeters thick, and slimmer, maintaining their thickness after stretching out and drawing back." The design's only downside is that the hidden screen and motor eat up space on the inside that would usually be filled with the battery and cameras. Although the first iterations of foldables have proved fragile, their rollable siblings will expand and contract reliably "up to 200,000 times," Streit says. If you were to do so 100 times a day–the average number of times we open our phones–that's still more than five years' worth of use.

Rollables are getting the honeymoon treatment today because "people are getting excited about the possibilities without thinking about the likely downsides," warns mobile industry analyst Avi Greengart, founder of Techsponential. Battery life, endurance, and, perhaps most difficult of all, an adaptable user interface that makes the most of the enlarged display will all be challenges for rollable displays to overcome.

If anything, the bigger danger that rollable devices face in the year ahead is of exaggerated expectations. Samsung's first attempt at a foldable got everyone's attention–then ire–after durability issues during the media test launch forced an embarrassing delay; shares slid 3.1%. Its chief executive officer admitted he "pushed it through before it was ready."

Rollables appeal to some of humanity's most primordial technology but require the most advanced and precise building techniques. (Xiaomi's Mi Mix Alpha release was canceled because of manufacturing complexities.) Like Formula One race cars or the pro sports photographers chasing them, this technology will need an early-adopter class to put it through rigorous testing and real-world use before it trickles down to the market for mortals.

The technical difficulty and high initial cost of producing rollable displays means they "may take quite a while to reach the masses," says Levin Liu, vice president and head of research for Guangdong Oppo Mobile Telecommunications Corp. His company showed off the Oppo X 2021 in November, a concept device whose screen expands with the swipe of a finger from 6.7 inches to 7.4 inches. It required the invention of a bespoke powertrain for rolling the screen into place, a new panel display plate to keep the device rigid when extended, and a reinforced-steel laminate to lay the display onto for better reliability.

But we're getting closer. Ten years ago, Ahtisaari's Nokia labs showed off a kinetic device concept that was essentially a touchless, malleable phone controlled by twisting and bending instead of tapping. Nokia's smartphone decline since then is well-documented, and today Ahtisaari is playing in a rock band.

The urge to radically rethink the mobile phone remains nonetheless. At the very least, the buzz about the future of technology sure beats the surface-level refresh of the iPhone's black rectangle. It's hard to get excited when the biggest potential upgrade this year is a new fingerprint reader. Ⓑ

Comfort en Croûte

Chefs are wrapping every available ingredient in pastry as old-school preparations make a comeback

By Kate Krader Photograph by Liz Clayman

Even by the standards of time-intensive, retro-food trends such as baking bread, the resurrection of elaborate savory pastries is remarkable. Dishes like beef Wellington were last seen dominating conversation in the *Mad Men* era, but chefs today are back to wrapping crusts around ingredients in a manner that would make Henry VIII hungry. With restaurants currently restricted in the ways they can wow diners, a grand-looking, belly-filling presentation that attracts attention on social media is a smart business model.

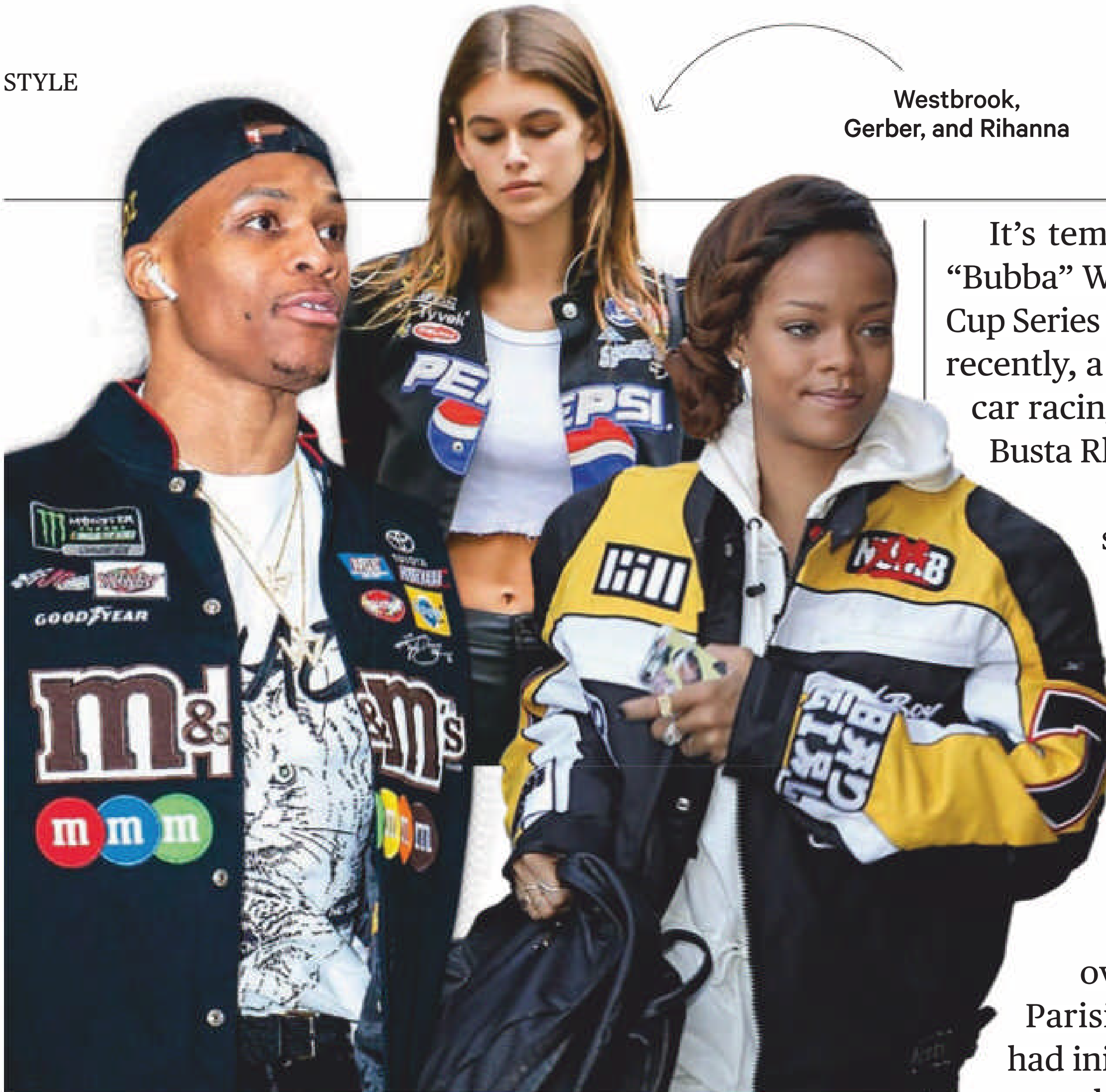
At his New York City flagship, Daniel Boulud puts a towering crown of puff pastry on consommé studded with chunks of braised duck leg and foie gras. Quail baked in brioche and then presented tableside is a specialty at the Nicolett, which opened in November in Lubbock, Texas. "It's a culmination of key regional ingredients, classic French cooking, and a little nostalgia that transports you to a simpler time," chef-owner Finn Walter says.

But if there's one yesteryear pastry that chefs are gravitating to, it's *pithivier*. People who recognize the name at all might know it from *The Great British Baking Show* or as an almond-cream-filled *galette de rois* ("king cake") with its starburst-patterned top. Pithivier's background is unclear, though most people point to the town of the same name in France's Loire Valley as its birthplace.

For the opening of his new American brasserie, Francie, in Brooklyn, N.Y., chef and co-owner Chris Cipollone put a pithivier with curried honeynut squash filling on the menu. "A crust enveloping anything evokes comfort," he says. "If you grew up eating a chicken pot pie, breaking something open with a nice hearty filling feels especially good right now." Across the East River in Manhattan, chef Fabian von Hauske says his pithiviers, filled with mole and cheese or beef *birria*, a Mexican stew, have been very popular. And Sean Brock has been using a variety of game birds to make individual pithiviers at his latest restaurant in Nashville, the Continental. "These old traditions are so difficult to master," he wrote on Instagram about his dramatic dish. "We're having a blast trying." ■

↑ Underneath Boulud's pastry is a decadent consommé with duck, savoy cabbage, and black truffle cream

Westbrook, Gerber, and Rihanna



Track Suits

The return of the Nascar jacket as fashion statement is more playful than it is political

By Hannah Elliott

You can't miss Badd Wolf.

The Los Angeles native wears gold teeth and cowboy boots and drives an orange BMW emblazoned with logos like the ones on a stock car. He'll probably also be blaring his hip-hop track *Dale Earnhardt*, released last year, about his idol.

Wolf, known to friends and family as Antoine, might also be wearing Earnhardt's black, white, and red Nascar team jacket, complete with Burger King and GM logos. "All my cousins looked at me like I was weird," says Wolf, 32, speaking by phone about the early days of his Nascar obsession, which began when he saw *Days of Thunder* at the age of 4. Among his collection of Earnhardt duds, he has a favorite Shell jacket with a crimson and gold Pennzoil motif. "Nascar was not a huge thing where I grew up—especially being Black."

Lately, though, Wolf has company. Nascar jackets are being worn by tastemakers such as Rihanna and Russell Westbrook as well as shoppers at L.A.'s Melrose Trading Post at Fairfax High. Most are bought in thrift stores or online shops such as Grailed and Limëtliss. Whereas Wolf could find them for $30 five years ago, the same examples with Mobil, M&Ms, or McDonald's patches sell for hundreds of dollars today.

It's tempting to chalk up the jackets' allure to Darrell "Bubba" Wallace, the sole Black driver in the top-tier Nascar Cup Series and only the second in its 73-year history. But until recently, a hypebeast's motivation hasn't been about stock-car racing or even subversion, though early devotees like Busta Rhymes wore them with tongue-in-cheek swagger.

On a basic level, the bold color blocks and logos splashed like confetti across the sleeves make them ideal for expressing personal style. "The appeal of auto racing gear is that it's super-bright, super-graphic," says Samuel Hine, a senior associate editor at *GQ*. "The silhouettes are simple, but the garments themselves are incredibly expressive."

Technically speaking, this is the third wave of the trend. Racing jackets were popular in street culture in the 1990s, egged on by Jeff Hamilton's oversize leather jackets with loud graphics. The Parisian designer, enthralled with American sports, had initially designed for Michael Jordan, and that soon earned fans including Magic Johnson and Arsenio Hall. Other brands at the time, such as Cross Colours, were also playing with racing logos and colorways on their apparel and earned wide popular success. The look faded somewhat from mainstream view until 2008, when Pharrell Williams showed up to a party in a Jeff Gordon jacket with a giant Pepsi logo on the front. Model Kaia Gerber donned a cropped version of it 10 years later.

High fashion would occasionally nod in the racing suit's direction: In a 2013 Y-3 show, Yohji Yamamoto released a Skittles-branded assortment of vibrant leather jackets with influence from Dainese, an Italian motor sports company; Vetements sold out of its take on racing jackets in 2015. "Co-opting these cultural signifiers is second nature to Gen Z," Hine says. "You can dress like a skateboarder even if you don't know how to skate. You can wear a Nascar jacket if you're not a fan of Nascar. You can just look at it and think, 'This is cool.'"

Following the events of last June, however, when a noose was found in Wallace's garage after the sport banned the Confederate flag at its racetracks, the act of wearing a Nascar jacket has taken on an added dimension. At 27, Wallace has been the most outspoken driver about racial justice, wearing an "I Can't Breathe" shirt to events and racing his No. 43 car in a bespoke Black Lives Matter livery. His $150 BLM jacket—black, with McDonald's and Coca-Cola logos on the front, white piping on the shoulders, and dark-skinned and light-skinned hands gripped together on the back—has been sold out in Nascar's online shop for months.

Another merge point came in September, when Jordan himself purchased a Nascar Cup Series team and hired Wallace as his driver. His No. 23 car's paint scheme is a vibrant Chicago Bulls red over white with black detailing. It will look exceptional, no doubt, in a jacket motif.

Wolf is sold on it already. "It's a huge fashion statement," he says. "I love it." Ⓑ

WESTBROOK: ZACH BEEKER/NBAE/GETTY IMAGES. GERBER: BG021/BAUER-GRIFFIN/GC/GETTY IMAGES. RIHANNA: NEIL MOCKFORD/FILMMAGIC/GETTY IMAGES

The ’80s Man

No pastel-colored shirt—or jacket—required to pair with these vintage reissues. *By Mark Bernardo Photographs by Janelle Jones*

Nostalgia has long been the engine of trends in luxury wristwatches–the 1960s and ’70s in particular produced models with immense staying power, and both decades have been extensively mined for revivals: your Rolex Daytonas, Heuer Monacos, Patek Philippe Nautili. By comparison, the decade of big hair, spandex, and Hammer pants is mostly recalled as a creatively fallow time in the watch world, an era dominated by colorful quartz-powered Swatches and digital nerd-chic G-Shocks. For a handful of heritage watchmakers, though, the ’80s were an opportunity to experiment, to introduce variations on classic collections, and to rethink existing models that had become dated. And, lo and behold, like *Dynasty* and *Magnum P.I.*, some of these overlooked classics are getting a second act.

PASHA DE CARTIER
In 1985 legendary watch designer Gérald Genta revamped the Pasha, which was specially commissioned in the 1940s by the Sultan of Marrakech. Notable for its screwed-down crown protector, art deco numerals, and square minute track on a round dial, it resurfaced in 2020 with a modern automatic caliber. *From $5,700; cartier.com*

BREITLING CHRONOMAT B01 42
The original Chronomat made its debut in 1948 but got a sporty facelift in 1984, Breitling’s centennial year. That version inspired the most recent models, powered by the chronometer-certified B01 caliber and including defining elements such as a turning bezel with “rider tabs” at the quarter hours. *From $8,100; breitling.com*

CHOPARD ALPINE EAGLE CHRONO XL
The series takes cues from the St. Moritz, Chopard’s first steel sports watch, a bestseller in the ’80s. The family uses proprietary Lucent steel, and each piece is defined by its namesake’s avian motifs, including a textured dial evoking an eagle’s iris and the feather-shaped counterweight on the second hand. *From $19,200; chopard.com*

PROP STYLIST: STEPHANIE YEH

HUBLOT CLASSIC FUSION 40 YEARS ANNIVERSARY
Gold watches on rubber straps don't raise an eyebrow now, but when Hublot introduced the first one in 1980, it was a move as bold as the decade to come. Forty years later, new limited editions, here in titanium, expand its modest case diameter to 45mm and upgrade the quartz movement to Swiss-made automatic. *From $8,300; hublot.com*

TUTIMA M2 CHRONOGRAPH
The NATO Chronograph in 1984 became the official watch of German army pilots, who prized its comfort, legibility, and impact and pressure resistance. These attributes live on today with a barrel-shaped titanium case and a movement protected by an inner casing of mu-metal, an antimagnetic iron-nickel alloy. *$6,500; tutima.com*

OMEGA CONSTELLATION GENTS
The Constellation made its debut in 1952, but its most iconic iteration arrived 30 years later, with a tonneau-shaped case, monolink bracelet, and four-clawed bezel with engraved roman numerals. All those elements are revived in this new collection, which houses a Master Chronometer movement. *From $5,280; omegawatches.com*

PIAGET POLO S
Although its release came in 1979, the original Polo hit its stride as a go-to jet-setter's watch in the following years. The modern Polo S has a "shape-within-a-shape" construction, marrying a classically round case and a cushion-shaped dial. A subtle striped motif recalls the integrated look of the original as well. *From $9,900; piaget.com*

Pop Went the Art Market

Regrets? The man who helped create today's turbocharged art market has a few. *By James Tarmy*

In 1960, after only a year in business, Rudolf Zwirner's fledgling gallery in Essen, Germany, was in serious debt. In a panic he turned to the dealer Hein Stünke, whose gallery in Cologne, Der Spiegel, had become a gathering place for the European avant-garde. "Young man," Stünke said, "you can't expect to earn enough money with contemporary art. You also have to be active on the secondary market. Buy paintings that customers are looking for, and then resell them at a profit."

And with that, Stünke neatly summed up a winning business model that would carry Zwirner—and almost every other successful contemporary art dealer—for the next 60 years. Now 87 and living in semiretirement in Berlin, he's arguably a more influential figure in the history of contemporary art than his son, David, whose mega-gallery has locations in Hong Kong, London, New York, and Paris.

As the elder Zwirner details in his new autobiography, *Give Me the Now* (translated by Gérard Goodrow, David Zwirner Books, $35), he co-founded the first contemporary art fair, helped establish one of the world's first public-private art museums, and was instrumental in introducing pop artists to Germany. Yet Zwirner sometimes felt as if "the sorcerer's apprentice, whose very way of life was threatened by the forces he summoned."

Zwirner was born in 1933 and started his career just as West Germany was embarking on its *wirtschaftswunder*, the so-called economic miracle that propelled the war-torn country to postwar prosperity. But as Germans got rich, they refused to spend money on art—at least, not contemporary art.

Finding the collectors in Essen lacking, he moved his gallery to Cologne in 1962 and pulled out all the stops. He staged stunts including a seven-minute exhibition—as long as it took to hard-boil an egg—of paintings by the Swiss artist Daniel Spoerri. He hosted Andy Warhol's first show in Germany, where, in 1967, the artist filled the gallery with helium balloons that Zwirner sold for 200 marks each ($50 at the time).

Still, "the situation at home was desolate," Zwirner writes. "In total, there were roughly 10 collectors in Germany who were decidedly committed to contemporary art in the 1960s."

In an effort to drum up new business, Zwirner co-founded Kunstmarkt Köln (now Art Cologne) in 1967. During its opening week, 15,000 people visited the fair's 18 galleries. It "opened the door to meeting new types of collectors, similar to what we experience today in the globalized art market," Zwirner writes. The model was so successful—the dealer Ernst Beyeler founded Art Basel in Switzerland in 1970, and satellite fairs popped up almost instantaneously—that, Zwirner writes, "inspired by Warhol, we blew up the exclusivity of the business in order to tap into new customer groups." At the time, he continues, "we could not have known that in doing so we would one day pull the rug out from under galleries as such."

By 1974 the European Art Dealers Association was calling for the abolition of art fairs. "Business was gradually shifting from the galleries," Zwirner explains in a lament that's echoed by gallerists a half-century later. "Collectors preferred visiting the fairs and abandoned their ties to a single dealer."

One collector, the chocolate baron Peter Ludwig, stuck with Zwirner for most of his career. Over the years, Zwirner helped Ludwig purchase works by Roy Lichtenstein, Robert Rauschenberg, and Warhol at record prices, creating a 350-piece collection that formed the basis of the Ludwig Museum in Cologne, which opened in 1986.

It was quite an achievement, but Zwirner uses his involvement with Ludwig as a cautionary tale. "My ambition to achieve only the best for him proved to be a commercial error," he writes. "Other collectors believed that they would be offered only what Ludwig declined—that is to say, second choice."

Similarly, much of Zwirner's autobiography is closer to a warning than a victory lap. He describes today's art market as "turbo." And whereas his operation at its peak had a core clientele of 10 to 12 long-term collectors, his son's gallery has thousands all over the world.

The scope of the art market might have changed, Zwirner continues, but its formula for success isn't that different from when he began. "The future of the gallery lies especially in the realm of the analog, in smaller events on site, in personal conversations," he writes. "Since my beginnings in art more than 50 years ago, the trade has been revolutionized. But one thing has remained the same: It still revolves around works of art." B

ILLUSTRATION BY JACI KESSLER LUBLINER

Style With a Sixth Sense

The Tamarisk chair nods to sharp-edged geometry for a distinct look
Photograph by Victor Prado

Throughout history, the hexagon holds special significance as a symbol of coherence and balance. Six-sided seating isn't common today, but it was a regular feature of the Qing dynasty in China—a pair of 18th century chairs sold at a 2017 Christie's auction for HK$8.47 million ($1.085 million at the time). For his collaboration with Dowel Furniture, designer Josh Greene explores the shape's potential in his $1,500 Tamarisk chair in ebony (pictured), while also drawing on the Arts and Crafts master Charles Rennie Mackintosh as well as French architect Charlotte Perriand, "California look" maven Michael Taylor, and '80s star Karl Springer.

THE COMPETITION

- Not as ancient as the 18th century, George Nakashima's 1946 Straight chair ($908) is a modern take on the traditional Windsor and is made from American walnut with contrasting hickory spindles.
- Emeco's $1,000 Navy wood chair comes in either white oak, black oak, or walnut and is made by working with Amish communities in Lancaster, Pa.
- The Chaise Tout Bois ($1,070) by Jean Prouvé was designed in 1941 and constructed from wood, as metal was scarce during the war. It's available in either light- or dark-stained oak.

THE CASE

At almost 20 inches wide and 3 feet tall, the Tamarisk chair updates the hexagonal seat—"such a cool shape," Greene says—for contemporary, yet relaxed, interiors. Made of solid oak hardwood with a rattan cane seat and a straight, ladderlike back, the accent chair is more sculpture than lounger. It can work as a pair in an entryway on opposite sides of a console or as a solitary figure in a bathroom. Two taller options—a counter stool and bar stool—and five other finishes are available as well. *$1,500; dowelfurniture company.com*

With Bloomberg Opinion

Money Can't Buy... Oh, Never Mind

By Justin Fox

That money can't buy happiness is an age-old trope. Since the advent of modern public-opinion research, scholars have been trying to test it—with varying results.

One issue is that happiness may have different aspects. In a much-cited 2010 paper, psychologist Daniel Kahneman and economist Angus Deaton (both winners of the Nobel Prize in economics) looked at Gallup surveys and found that while Americans' assessment of life satisfaction went up in lockstep with income, their emotional well-being plateaued after a household income of about $75,000 a year, around $90,000 in today's dollars. Emotional well-being was measured by asking about feelings experienced the previous day, then classifying the responses by whether they exhibited positive affect or blue affect (worry and sadness) and stress.

Around when Kahneman and Deaton were doing this research, Harvard psychology doctoral student and former software product manager Matthew Killingsworth was developing a measurement tool, an iPhone app called Track Your Happiness that pings users at random intervals and asks about their activities and feelings, often using a sliding scale for answers. One early finding, published in 2010, was that wandering minds bring unhappiness.

Killingsworth, now a senior fellow at the University of Pennsylvania's Wharton School, has since used his app to measure the link between happiness and income. The conclusion, just published in the *Proceedings of the National Academy of Sciences*, is that while the connection is stronger for life satisfaction than it is for experienced well-being, it doesn't disappear for the latter after $75,000 or $90,000. Money keeps buying happiness, even for the affluent. **B**

—*Fox is a columnist for Bloomberg Opinion*

● APP HAPPY
Killingsworth drew on 1,725,994 experience-sampling reports from 33,391 employed U.S. adults using his app.

● ABOVE AVERAGE
U.S. median household income was $68,703 in 2019. Among the participants in Killingsworth's survey, it was

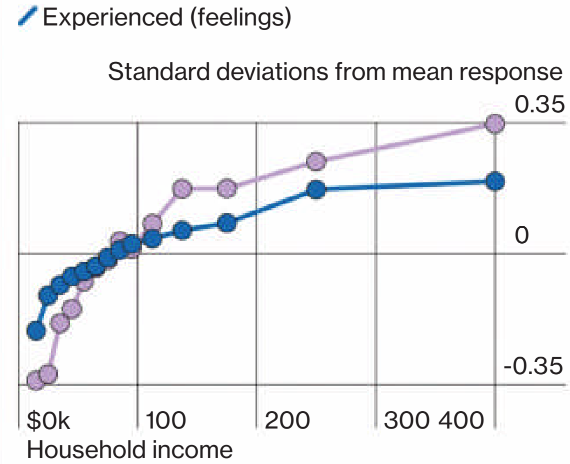
$85k

● IT MAY NOT WORK FOR COUNTRIES
Economist Richard Easterlin found in 1974 that higher per-capita national incomes didn't bring higher reported happiness, a conclusion that's been debated ever since.

● Survey of well-being in the U.S.

Evaluative (life satisfaction)

Experienced (feelings)



● JOY DEGREES
Each percentage-point increase in income brings a roughly equivalent increase in happiness; an additional $1,000 means a lot more if your income is $30,000 than if it's $300,000.

ILLUSTRATION BY GEORGE WYLESOL. DATA: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES

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