

Bloomberg Businessweek

February 13, 2023

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Meet Asia's Richest* Man

How a short cost
Gautam Adani
\$100 billion

20

*That was so 2022



THE GLASS CEILING IS CRACKING. ISN'T IT?

Booth researchers are investigating how cultural norms and expectations affect the gender gap.



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◀ Meat grown from cell cultures already has the FDA's informal approval, but PR will be a challenge

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■ COVER TRAIL

How the cover gets made

1

"So this week's story is about Gautam Adani."

"Oh, nice! India's richest man and a member of the Bloomberg 50 club! What's he on the cover for?"

"He's no longer the richest man in India."

"Doh! Is it because of crypto again?"

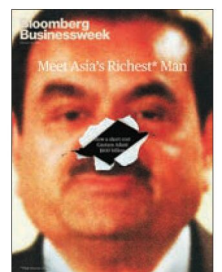
"Actually, no. He was taken down by a small short-selling firm called, ironically, Hindenburg."

"If you ask me to illustrate a blimp panting someone again, I swear—"

"That idea was gold. But if you really want to make this hard for yourself, by all means, take it in another direction."

"Oh, I will, and it'll be classy, beautifully executed and completely blimp-free."

"Truly a missed opportunity."



Cover: Photo illustration by 731; photo: Bloomberg

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Worldwide, there have been 672 million cases of coronavirus and almost

6.9m

deaths. With the world more or less reopened—and people spending fewer and fewer hours in videoconferences—Zoom announced on Feb. 7 that it's eliminating 1,300 jobs, 15% of its workforce.

War in Ukraine

Ukrainian President Volodymyr Zelenskiy made a surprise visit to the UK on Feb. 8, meeting with Prime Minister Rishi Sunak and addressing Parliament. "We know freedom will win," he told the lawmakers. "We know Russia will lose. And we know that victory will change the world."

Russian Defense Minister Sergei Shoigu warned NATO on Feb. 7 that its shipments of tanks and longer-range missiles to Ukraine "could bring the escalation to an unpredictable level."



A man navigates the rubble in Hatay, Turkey, on Feb. 7. Rescue teams from around the world are pouring into the country and neighboring Syria after a pair of powerful earthquakes on Feb. 6 killed at least 12,000 and left millions homeless.

Shares of Google owner Alphabet fell more than 7% on Feb. 8, after a faulty demonstration of Bard, its artificial intelligence chatbot.

The day before, Microsoft said it would power its Bing search engine and Edge browser using the ChatGPT language model developed by OpenAI.

Benefiting from soaring oil and natural gas prices as a result of Russia's invasion of Ukraine, BP reported

\$27.7b

in profits for 2022. It's an awkward moment for the Big Oil companies, which increasingly promote their efforts to switch to cleaner energy and cut emissions even as they post record earnings from fossil fuels. ▷ 38

Hong Kong's top court ruled for transgender activists in an ID case.



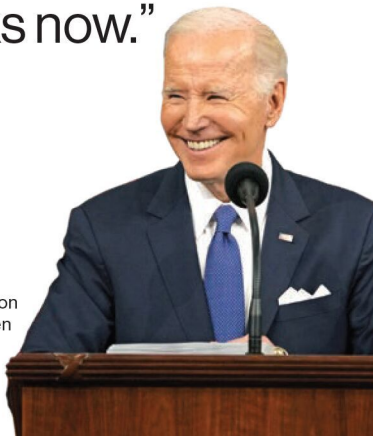
Trans people in Hong Kong should be allowed to change their gender on government IDs without undergoing sex reassignment surgery, the city's Court of Final Appeal ruled on Feb. 6. Formerly, the civil registry refused to change the gender marker for anyone who hadn't had surgery. The court said that policy violated the right to privacy in Hong Kong's Bill of Rights.

Hermès won its lawsuit against the digital artist behind "MetaBirkin" NFTs on Feb. 8, convincing a jury in New York that Mason Rothschild's sale of the NFTs violated its right to the Birkin trademark. The jury awarded Hermès

\$133k

in total damages, finding the Rothschild NFTs aren't protected speech under the First Amendment.

"As we all apparently agree, Social Security and Medicare is off the books now."



Delivering his second State of the Union address, on Feb. 7, President Joe Biden drew Republican lawmakers into a spontaneous give-and-take, getting them to agree to keep entitlement programs out of the negotiations to raise the debt ceiling.

Walt Disney CEO Bob Iger announced plans on Feb. 8 for a dramatic restructuring of the world's largest entertainment company that includes cutting 7,000 jobs and finding cost savings of about

\$5.5b

Beyoncé nabbed four Grammys on Feb. 5, bringing her total so far to 32, a record for a single performer. And on Feb. 7, LeBron James scored his 38,388th point in the NBA, surpassing Kareem Abdul-Jabbar's 39-year-old record.



Don't Let Putin Blow Up Nuclear Arms Control

President Joe Biden's administration recently issued a pointed warning: Russia is failing to comply with the terms of the New Start Treaty, the last remaining arms-control agreement between the world's two biggest nuclear powers. Given President Vladimir Putin's record of nuclear threats and disregard for international law, Biden can have no illusions about Russia's willingness to abide by negotiated limits on the size of its arsenal. To preserve the treaty, the US would be wise to make clear what Russia stands to lose by abandoning it.

Signed in 2010, the New Start agreement limits the number of long-range nuclear warheads each side can deploy and the vehicles used to deliver them. To verify compliance, each country agreed to 18 on-site inspections a year conducted by officials from the other. Even as bilateral relations worsened, the work of disarmament quietly continued: In the treaty's first decade, inspectors carried out more than 300 visits to nuclear bases and support facilities. Since 2018 the US and Russia have both come under New Start's cap of 1,550 deployable strategic nuclear warheads—a 30% reduction from 2002 levels and almost 75% lower than at the end of the Cold War.

That progress is now in jeopardy. According to the US, Russia is refusing to submit to any on-site nuclear inspections, which were suspended at the start of the pandemic. The Kremlin also pulled out of a scheduled meeting last November to discuss implementation of the accord.

The US Department of State says Russia's intransigence is a matter of "serious concern" but not yet a formal violation of the treaty. It should hardly come as a surprise: With the US and its allies engaged in a proxy war against Russian forces in Ukraine, Putin has little incentive to give teams of US inspectors access to some of his country's most sensitive military installations. In public statements, Russia has suggested that its future compliance with New Start will be conditioned on the West halting its support for Ukraine and rolling back the post-Cold War expansion of NATO.

The Biden administration needs to push back. It should insist that any attempt to use arms control to extract concessions on Ukraine is, well, a nonstarter. The US must remind the Kremlin that the provisions of New Start benefit Russia as much as the US, by enabling Russian inspectors to verify that US efforts to modernize its nuclear arsenal aren't undermining Russia's strategic deterrent. Remaining in compliance with the treaty also allows Russia to avoid pouring resources into maintaining thousands of outdated long-range nuclear weapons that have no bearing on the outcome of the war in Ukraine.

Biden should be just as clear about the costs Russia faces if it walks away from New Start. Regardless of how the conflict in Ukraine ends, the US must withhold restoring diplomatic and economic relations with Russia until Putin agrees to comply

with the agreements he's previously made. If he persists with nuclear gamesmanship and continues to block implementation of the treaty, the US should respond in kind—by continuing regular nuclear exercises, accelerating the deployment of more advanced nuclear bombs in Europe and bolstering the missile-defense capabilities of NATO allies.

Biden also needs to make a more forceful case for why nuclear arms control remains vital to Americans' security. While continuing to invest in its arsenal, the US should abide by New Start's cap on warheads and resist building costly weapons systems that the military doesn't need.

Arms-control agreements haven't eliminated the danger of nuclear war, but they've greatly reduced it. Failing to sustain those efforts would undermine decades of progress toward disarmament and make the world a more dangerous place. **B**

For more commentary, go to [bloomberg.com/opinion](https://www.bloomberg.com/opinion)

■ AGENDA



► Carnival Returns

After two years of Covid disruptions, the greatest show on Earth is back in Rio de Janeiro on Feb. 17. The city expects a record-setting crowd for the famous parades of the samba schools and the *blocos*, or street parties, that follow.

► On Feb. 16, the US Federal Open Market Committee publishes the minutes from its latest rate-setting meeting, at which it raised its benchmark to a range of 4.5% to 4.75%.

► The US releases its monthly inflation data on Feb. 14. The rate has fallen for six consecutive months, reaching 6.5% in January, and forecasters believe it will drop again.

► The UK reports its unemployment rate on Feb. 14. Analysts expect it to stay near 3.7%, suggesting the workers who went on strike for pay raises on Feb. 1 still have plenty of leverage.

► This week we'll see earnings from Marriott and Coca-Cola on Feb. 14; Cisco and Kraft Heinz on the 15th; Airbus and Nestlé on the 16th; and Mercedes-Benz and Deere on the 17th.

► The biggest Nascar race of the year, the Daytona 500, runs on Feb. 19. Last year's winner, Austin Cindric, who drives a Ford Mustang for Team Penske, hopes to repeat.

► The British Academy Film Awards take place on Feb. 19. At Gold Derby, the oddsmakers believe top honors will go to *The Banshees of Inisherin* or *Everything Everywhere All at Once*.

The Activists Are Back



6

● Agitators such as Nelson Peltz and Elliott Management are going after noteworthy names now that stock prices are down

● By Ed Hammond

At the start of January, Nelson Peltz returned from doing whatever billionaires do over the holidays and told Walt Disney Co. it stunk. That's not verbatim. But when someone says you have "prominent cracks in the flywheel," what else can it mean?

Activist hedge funds make their money by seeking out

just such cracks. Their playbook, of which Peltz is a famed exponent, says that companies (read: share prices) can be improved (read: go higher).

The whole process—storied corporations being picked apart by belligerent, publicity-hungry rich guys—can be the stuff of high drama, yet for the past few years it hasn't been. The stock market was rising so high that activists struggled to find juicy targets among the big names. Instead they went after smaller, weaker, more boring companies. Barely a month into 2023, things look quite different. Hours after Peltz threw shade at Disney, Bayer AG, the German conglomerate behind everything from aspirin to weedkiller, found itself under attack from Jeff Ubben, the activist-turned-constructivist-turned-occasional-dissident-shareholder.

A few days later, Elliott Management Corp. announced that it held a stake in tech giant Salesforce Inc. (Ubben

showed up there, too.) By the end of that week a third investor, ValueAct Capital, had entered the fray. In addition to disclosing a stake, it achieved something the others had not: winning a seat on Salesforce's board for Mason Morfit, its chief executive officer. Together, Disney, Bayer and Salesforce have market valuations totaling more than \$400 billion, and broad brand recognition that's guaranteed to grab headlines.

Big activism is back. Why? Rule changes and a fatigue with bad corporate governance play important roles, but as with so many things, it starts with money and good timing.

In the decade-plus leading up to the Covid-19 pandemic, activism went from a fringe investment strategy to a mainstream corporate blood sport. That transformation—fueled by successful campaigns against big companies such as Procter & Gamble (Peltz), Canadian Pacific Railway (Bill Ackman) and AT&T Inc. (Elliott)—attracted a lot of money.

Activist hedge funds swaggered into 2020 flush and ready to pounce. Then Covid happened. During a humanitarian crisis, it seems less cool to pressure a company to lay off workers or raise prices for roller-coaster rides. Activists seemed to understand that a more delicate approach was needed. They slowed down. Some even swore off activism altogether. Others focused on smaller companies they could attack without drawing negative attention from the press and politicians.

Once the world settled into a new-Covid-normal, with activists still sitting on oodles of money, it followed that big activism would come back. Why didn't it happen sooner? Well, coming out of the crisis, many of the world's largest companies were as valuable as they'd ever been or near it, which made it harder for dissidents to complain about their shortcomings.

Those days are over. Big Tech and Big Pharma—and pretty much all large corporations, except for Big Oil—have lost value over the past year. It's now less expensive for activists to amass meaningful stakes pretty quickly, and their fellow investors are more likely to listen to new ideas about getting a stock price back up. And, according to the activists, a lot of questionable corporate governance went on while they were taking a break.

Salesforce is a good example. Seeking corporate strategy improvements, the world's largest customer relationship management software company has included actor Matthew McConaughey and self-proclaimed "thought donor" and rapper Will.i.am in high-level business meetings, according to the *Financial Times*. In September, its co-CEOs took to the stage at the company's Dreamforce conference, a yearly celebration of "the magic, the moments, the miracle of human connection," wearing fluffy bunny ears.

These are the sort of things that investors might write off as zany or even visionary in a bull market, but they seem jarring, three months later, when you say you're going to sack 8,000 workers amid slowing sales growth. Similarly, when Peltz showed up at Disney with a \$900 million stake and his eyes trained on a board seat, he portrayed the company as

cartoonishly incompetent. In three short years, Disney had hired a new CEO, Bob Chapek; embroiled itself in a political row around LGBTQ rights; fired Chapek; rehired his predecessor, Bob Iger; missed earnings forecasts; and cut revenue guidance.

The company, Peltz said, was at a crossroads. It could carry on down the dark path of destroying value or let him Restore the Magic. (Yes, that's the actual domain name he's using to keep observers up to date on his campaign.) Disney has rejected Peltz's critique, claiming his board experience at soap and ketchup companies doesn't translate to the entertainment industry.

Activists like going after big companies in part because their sheer size means there's more to aim at. Salesforce is a potential piñata. Elliott can use its stick to encourage job cuts, price increases, asset sales, share buybacks, executive pay freezes and cheaper cushions on the corporate jets. The possibilities are endless. And each one, in theory, makes the company—and Elliott's investment—more valuable.

Big companies also give activists a degree of risk protection that scale provides. Peltz, who gives off wizardly vibes with his white hair and glasses, might honestly believe the only way to make Disney's board the happiest place on Earth is to give him a seat. No doubt he also knows that, flawed as the company may be, its stock is unlikely to go to \$0 if he doesn't get one.

The already favorable conditions for big activism were augmented last September, when the Securities and Exchange Commission introduced new rules governing board elections. The so-called universal proxy rules mean companies are now required to include activist nominations for board seats on the voting cards they send to shareholders.

Previously, activists had to mail out their own separate voting cards. It was a cumbersome and expensive undertaking, especially at large companies, which tend to have a high proportion of retail investors who own minuscule numbers of shares. Activists didn't always bother trying to get to every possible voter. Now they get to do it on the dime of the company they're fighting.

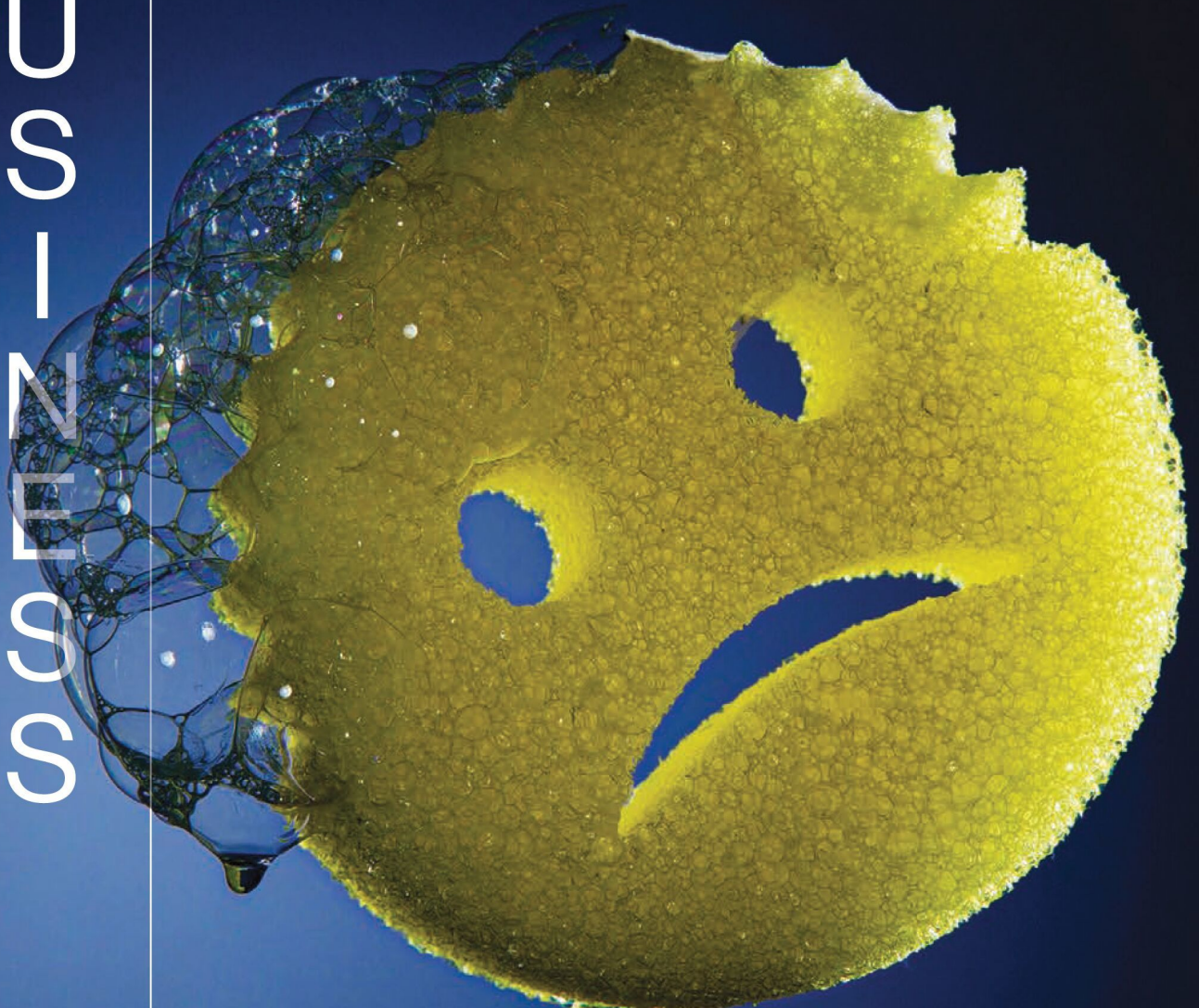
Taking on the biggest brands in America also serves an important marketing function for activists: It plays into their self-styled image of a David sticking it to a bloated Goliath, a strategic fudge that elides the reality that these antagonists are often several turns richer than those they antagonize.

It's an image that can be hard to give up, even when it's not your money on the line. Even Ackman, who said last year that he's "permanently retired" from activist short selling (a pursuit he called the "noisiest form of activism"), hasn't been able to resist needling from the sidelines in recent days. Weighing in on Hindenburg Research's campaign against Adani Group, which has wiped tens of billions of dollars of value off the Indian conglomerate's various entities, Ackman told his 603,000 Twitter followers that the attack looked "highly credible and extremely well researched." **B**

1

BUSINESS

8



BED BATH & BEYOND HOPE

The near-bankrupt retailer was hit by Covid, but it has plenty of its own missteps to blame

Edited by
James E. Ellis

In late summer, as Bed Bath & Beyond Inc. faced plunging sales and a revolt by suppliers angry over unpaid bills, the company's management called a meeting. Interim Chief Executive Officer Sue Gove told staff at headquarters in Union, New Jersey, that more face time would help address the retailer's mounting woes, according to six former managers and employees who attended but asked not to be named talking about internal company business.

To many employees—most of whom had already returned to the office three days a week starting last March—the request seemed like just another example of how executives were mired in minutiae as the chain barreled toward bankruptcy. One employee spoke up and said an extra day in the office wouldn't turn around the struggling company. Many in the room nodded or applauded, according to the former managers and employees.

When other well-known stores have spiraled into distress in recent years, e-commerce often took the blame. But the case of Bed Bath & Beyond is more complicated. Although the chain was hurt by online rivals such as Amazon.com Inc., its undoing is also a story of how attempting to abandon a company's strategy and quickly reinvent itself during a time of financial weakness can end in tears.

Layoffs, management changes, boardroom shake-ups, stock buybacks and strategic overhauls are go-to maneuvers for modern business, and Bed Bath & Beyond tried them all. But at almost every recent turn, the company took steps that led it deeper into a financial quagmire.

Weeks after the return-to-office edict, Gove said the company would fire about a fifth of its corporate and supply chain workforce and shut 150 of its almost 770 Bed Bath & Beyond stores in the US. The retailer had secured new financing, Gove said, and was undertaking a turnaround plan to prepare for the holiday shopping season.

The reprieve didn't last. In a last-ditch bid to stave off bankruptcy, the company on Feb. 7 introduced an equity offering that aims to raise as much as \$1 billion. It will use some of those proceeds to make payments that it had missed in recent weeks to creditors and bondholders. The retailer will also use the cash to get more products in its stores. Shelves have been sparse after suppliers—worried about not getting paid—have pulled back on shipments.

But the home-goods chain warned in a securities filing that even if it's able to raise the funds it needs for its eleventh-hour turnaround, it still might end up having to file for bankruptcy. Suppliers might remain skittish. Many shoppers have already

turned their back on the chain after years of decline. Analysts say the company is simply delaying an inevitable restructuring, from which it could emerge as a far smaller version of its former self or, potentially, sell its assets and cease to operate. A Bed Bath & Beyond spokeswoman didn't respond to requests for comment.

The company's fall has been swift and severe. At its peak in 2017, Bed Bath & Beyond had 1,560 stores with 65,000 employees, bringing in \$12.3 billion in revenue. But in the nine months through November 2022, it posted sales of only \$4.2 billion, and its head count dwindled to fewer than 30,000. On Feb. 7 the retailer said it plans to slash its flagship store count by about half, to around 360.

Shares of Bed Bath & Beyond surged 92% on Feb. 6 to close at \$5.86, only to plunge the next day—fueled in part by so-called meme-stock investors who've focused more on its short-term trading prospects than on its declining fundamentals.

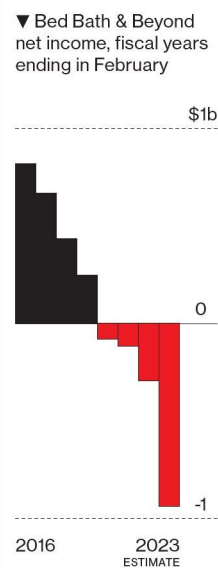
Warren Eisenberg and Leonard Feinstein founded Bed Bath & Beyond in 1971. As it grew, the company shunned retail orthodoxy, giving local managers wide discretion in stocking shelves, rather than relying on mandates from headquarters. It mostly eschewed warehouses, stacking can openers, coffeepots and bathmats almost to the store ceilings.

"Everything that we did was for the customer," says Arthur Stark, Bed Bath & Beyond's longtime president, who left in 2018. "If it meant carrying too much inventory in the store, it was OK. If customers made the commitment to come to our store, we would have it in stock."

Bed Bath & Beyond also pleased shareholders. Under longtime CEO Steve Temares, it poured billions of dollars into repurchasing stock and acquired Christmas Tree Shops, Cost Plus World Market and Buy Buy Baby, the last one founded by Feinstein's sons. Still, the company's executives had a blind spot: the web. As Amazon and other online shopping sites appeared on the horizon, Bed Bath & Beyond's executives focused on their brick-and-mortar business. Eventually that caught up with them.

Same-store sales, a retail metric that excludes new or recently closed locations, began to fall in 2017. Stark, who joined Bed Bath & Beyond in 1977, says that in hindsight the company should have focused more on online retail. "Surely we could have done better," he says. "There's no question."

Yet, Stark says, the company's success made it reluctant to change. It had been profitable for years and seemed to go from strength to strength, expanding across the US and Canada. ▶



◀ “We were confronting the challenge of maintaining our stores, maintaining our profitability and investing in technology and digital,” says Stark, who now serves on the senior advisory boards of Jefferies Financial Group Inc. and Vintage Investment Partners. He says Bed Bath & Beyond should’ve considered taking the company private to build up e-commerce at the temporary expense of profits.

As executives struggled to invest for the long term amid short-term market pressures, one of the best-known discounts in US retail history was also adding to the strain. Bed Bath & Beyond’s ubiquitous 20%-off coupons, which had been sent to tens of millions of households for years, lured shoppers and boosted sales. But they eroded profits, too.

“Like any form of promotion, it becomes a drug,” Stark says. Over the years, attempts to pull back on the mailings or reduce the discount backfired. “Once you’re addicted to it and your customer is addicted to it, it’s a very difficult thing to wean them off of,” he says.

By early 2019, activist investors began agitating for change. Ancora Advisors, Legion Partners and Macellum Capital Management Asset Management wanted Temares to leave. The trio urged asset sales, more investment in private-label brands and online commerce, as well as more buybacks.

In a 168-page document making their case, the investors noted that the first time Bed Bath & Beyond executives said the word “Amazon” on a conference call was on Dec. 21, 2016, a sign they weren’t “embracing industry change.” Within months, Temares was out.

“We always were well aware of our competitors, respected them, and studied what they did to learn what we could do better,” Temares wrote in a statement in response to questions from Bloomberg News. “I could not have been more proud of the associates I worked with, the quality people they are, and the dedication they exhibited,” he added. “That was then. Ultimately, as we see over and over again, arrogance and ineptitude are deadly.”

The board, with four new members selected as part of an accord with the activists, named former Target Corp. executive Mark Tritton CEO in October 2019. As Target’s chief merchandising officer, Tritton had overseen a private-label overhaul credited with helping speed growth at the discount giant.

Tritton and his team, which included former senior executives from Macy’s, True Value and Walgreens, moved fast to tackle the falling profitability and revenue they inherited. They wanted a third of Bed Bath & Beyond products to be

private-label goods—which can bring higher margins for retailers—up from 10%, within three years.

Tritton also said he planned to get rid of poorly performing labels and double down on well-known brands such as KitchenAid and Oxo. But that effort faltered as major brands faced pandemic-induced supply chain problems, and the company’s worsening cash crunch left it unable to pay for some premium products, say former managers.

In a presentation to investors a year after taking the reins, Tritton compared his revamp to remodeling a home. “Our house is beloved by so many, but a house reliant on positive memories from the past won’t weather any storm,” he said.

In the first five months of 2021, Tritton pushed to introduce six private-label product lines, which is ambitious by retail standards. The degree of difficulty was increased by attempting to design, order and oversee manufacturing of thousands of new items as the pandemic snarled output and shipments from China. Once the private-label brands arrived in stores, most were new to shoppers and didn’t resonate with them.

Tritton also promised to use more cash to buy back stock. In October 2020 he and his team pledged to repurchase \$675 million in shares over three years. By November 2021, the amount had increased and the time frame had accelerated: They’d complete the repurchase of \$1 billion shares within about a year. At the time, the retailer had roughly \$600 million of cash on hand.

Some credit analysts said that was aggressive and that the retailer’s executives appeared overly optimistic that strong spending by cooped-up consumers in 2020 and 2021 would endure. Dennis Cantalupo, CEO of Pulse Ratings, a credit rating and consulting company, says Bed Bath & Beyond could’ve survived at least an additional six months if it hadn’t repurchased shares. “Rather than take that money and put it in the bank and assume that the tailwinds to the industry are going to subside or normalize, they initiated the buyback campaign,” he says.

The timing and magnitude of the buybacks stood out “given the simultaneous rapid decline in the company’s topline and cash flow and the need for the company to reinvest in its business quickly,” Fitch Ratings analysts David Silverman and Monica Aggarwal wrote in an email.

Tritton’s private-label push ended up being more extensive than what some of the activist shareholders had requested, according to people familiar with their thinking who requested anonymity. Some former Bed Bath & Beyond executives, though, say the pandemic and supply

● The value of shares that Bed Bath & Beyond announced in 2021 it would buy back

\$1b

chain problems made it almost impossible for Tritton to transform the ailing company.

As the retailer atrophied, Tritton was ousted, in June 2022. Sales in the three months ended on Aug. 27 fell 28% from the previous year. Inventories became increasingly sparse as many suppliers, worried about getting paid, halted or restricted shipments to the chain.

That's meant many Bed Bath & Beyond shoppers have left stores empty-handed—including

Stark, its former president. About a year ago he went to a store in East Hanover, New Jersey, to look for wedding registry gifts with his son and the son's fiancée. The couple wanted Wamsutta bedsheets, once a staple at the retailer. They had no luck. Then, Stark says, "they said, 'Let's go to Bloomingdale's.'" —*Jeannette Neumann and Eliza Ronalds-Hannon*

THE BOTTOM LINE Bed Bath & Beyond was hobbled by online shopping and its own financial moves. Now a last-ditch effort to raise \$1 billion in equity could still end in bankruptcy or liquidation.

This Peanut Allergy Pill Is A Tough Nut to Crack

● Nestlé spent \$2.6 billion on Palforzia, but sales of the drug have been a disappointment, and the investment may be written down

When Nestlé SA's peanut allergy medicine first hit the market in 2020, Robert Wood, the director of pediatric allergy at Johns Hopkins Hospital in Baltimore, started preparing to offer it to the children he treats. But Covid-19 soon derailed in-person treatment, so over the next year and a half, Wood and his colleagues told some 1,000 patients about the new drug instead, suggesting they consider it when the pandemic abated.

Their responses came as a shock. Only six people were interested in a medicine that had been billed as a game changer for life-threatening allergies—the first of its kind to be cleared by US authorities. Three years later, Wood has yet to prescribe the drug, Palforzia, and he isn't alone. Doctors and patients from California to Germany appear to be shunning the medicine in favor of the tried-and-true prescription for sufferers: simply avoiding peanuts and carrying an adrenaline injection for emergencies.

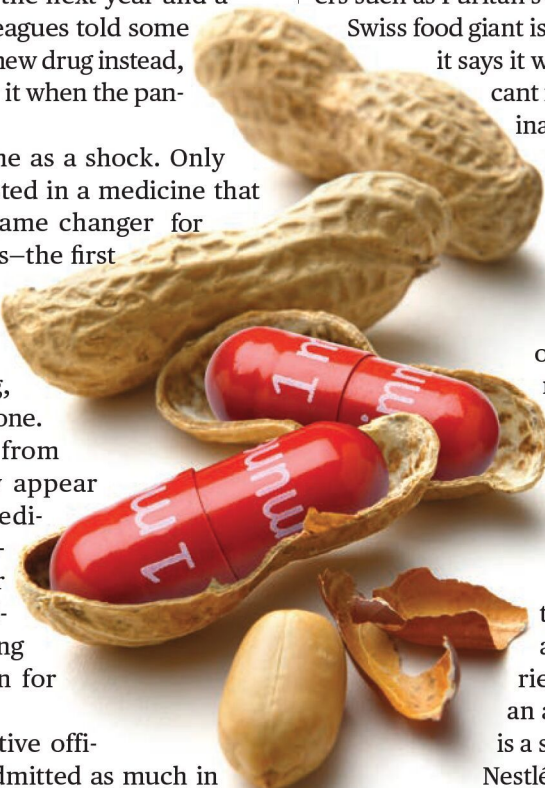
Nestlé's chief executive officer, Mark Schneider, admitted as much in

November, conceding that the drug's uptake had been slow. Schneider in 2020 bought out Palforzia's developer for \$2.6 billion, paying a staggering 174% premium as he sought to take "the science business to the next level," snapping up vitamin makers such as Puritan's Pride and Solgar as well. The

Swiss food giant is now looking for a buyer, and it says it will have to recognize a significant impairment to the deal's original value—likely presaging a big writedown at a time when its core grocery business faces pressure from inflation.

Maybe the company known for Nespresso capsules and Kit Kat chocolate wafers was never the right owner for a complex-to-administer niche medicine, but Schneider is on the hunt to find avenues of growth in keeping with his strategic tilt toward health and wellness. The CEO "is looking to make acquisitions in new areas, and that inherently carries risks," says Martin Deboo, an analyst at Jefferies. "Palforzia is a signal of that."

Nestlé reiterated its commitment ►



◀ to nutritional health in an email and said Palforzia is safe and effective and solves the problem of variable potency that can hobble efficacy or trigger an allergic reaction with other less stringent treatments.

Peanut allergy is a widespread condition whose successful treatment has eluded Big Pharma for years. In the US, 6.1 million people are affected, according to the nonprofit group Food Allergy Research and Education. Overall about 2% of the population in Western nations suffers from it. Nestlé thought it had found the answer when it agreed to buy out Palforzia owner Aimmune Therapeutics, which had developed the first form of desensitization to peanuts to win US regulatory approval.

The product is essentially peanut protein that's been packed in a pill, standardized and categorized as a medicine after meeting the US Food and Drug Administration's exacting clinical-trial requirements on safety and efficacy. By exposing children to tiny but gradually increasing amounts of the ingredient, Palforzia slowly raises their sensitivity threshold. But the process requires commitment by parents and kids to a demanding regime that lasts more than a year.

The first doses get administered in an allergist's office, during an appointment that can take as long as four hours and includes monitoring for any immune reaction. Then, over a period of about six months, the amount is slowly increased, requiring a visit to the doctor every two weeks and daily doses at home in between. After that, there's a maintenance period.

Palforzia's website says the medicine must always be taken at the same time daily, preferably with a meal. Kids shouldn't take an extra dose if they miss a day. The powder in the capsule must be mixed with food that can't be too hot or too liquid, and children shouldn't exercise for three hours after ingestion. The product must be stored in the refrigerator.

Priscilla Hernandez, who lives in California, considered Palforzia for her 10-year-old son, Zacky, who's been allergic since he was a baby. She ended up choosing to continue avoiding peanuts instead, in part because her son suffers from other food allergies as well. "At least I know how to control this situation," she says. "We avoid, we eat at home, we do all these practices that we've already learned."

Palforzia is not without risk. During the clinical trials, about 9% of children suffered potentially dangerous immune reactions when their doses were being increased.

Germany's Institute for Quality and Efficiency

in Health Care concluded that Palforzia doesn't offer any advantage over peanut avoidance. Daniela Preukschat, head of the agency's chronic diseases division, says kids on the drug still had to carry adrenaline pens, meaning they "continue to be restricted in terms of their diet and lifestyle." They also end up using the injection pens more often than children who simply avoided peanuts, she says.

Despite its humble contents, the drug is expensive. The UK panel that assesses medicines' cost-effectiveness estimates the price tag for the National Health Service is about £5,162 (\$6,230) per patient in England. Paul Turner, an allergy doctor at Imperial College London, advises patients to start on the therapy and switch to peanut fragments as soon as they can, because it's "a better use of the limited financial resources we have in the health-care system." Nestlé says that could put patients at risk.

As for Wood at Johns Hopkins, he says the allergy center would've lost money administering Palforzia—something it was willing to do if there had been enough interest among patients. When asked whether some patients might've gone elsewhere for Palforzia, Wood says probably not. A few joined a clinical trial for another allergy treatment, Roche Holding AG's Xolair, though most of them are "still in our clinic and just said in the end it wasn't worth it."

Nestlé's Schneider has been pragmatic in culling businesses that don't fit his health, nutrition and wellness strategy in the wake of a 2017 attack by activist investor Dan Loeb. He's sold off the company's dermatology unit as well as stakes in ice cream, and he's cut Nestlé's longtime investment in L'Oréal SA.

The moves have left him with a pile of cash to invest. Schneider came to Nestlé in 2016 with a health-care pedigree, having previously led the German medical conglomerate Fresenius SE. So his admission about Palforzia's woes at a strategy seminar in Barcelona late last year prompted a grilling from investors over his other health investments.

Pascal Boll, an analyst at Stifel, says this was a one-off for Schneider, who's done well steering Nestlé overall. "Mark Schneider continues to enjoy investors' trust," he says. "This mistake has been forgiven, but it should not be repeated." —*Dasha Afanasieva and Naomi Kresge, with Marthe Fourcade, Thomas Mulier and Dinesh Nair*

Nestlé's CEO "is looking to make acquisitions in new areas, and that inherently carries risks"

THE BOTTOM LINE Nestlé CEO Schneider wants to expand the company's footprint in health, nutrition and wellness. But his unsuccessful bet on an allergy drug shows the risk in the strategy.

A Billionaire's Tough Strategy Goes Awry

● Jorge Paulo Lemann set stiff cost-cutting goals. Did Americanas brass go too far to meet them?

It wasn't too long ago that Jorge Paulo Lemann was arguably the most respected—and feared—corporate baron on Earth. The Brazilian billionaire and his two longtime business partners were scooping up multinational giants at a frenetic clip and folding them into the vast empire they built from Rio de Janeiro.

In 2008 it was Anheuser-Busch InBev. In 2010, Burger King. Then came H.J. Heinz, Tim Hortons, Kraft Foods Group and, finally, in 2016, the biggest of them all: brewer SABMiller. With each new acquisition, Lemann, inspired by his idol, former General Electric Co. Chief Executive Officer Jack Welch, would order up deep cost cuts. Perks were eliminated, payrolls slashed, factories shuttered.

It was excruciating for rank-and-file employees but thrilling for Lemann's financial backers, who pocketed windfall gains as the new, leaner companies churned out ever-bigger profits. The 3G model, as it was dubbed on Wall Street in honor of Lemann's principal investment company, 3G Capital Inc., was so ruthlessly effective that it began to revolutionize thinking in C-suites across America. Even Warren Buffett, who invested in a couple of the deals Lemann struck, seemed mesmerized. "Jorge Paulo and his associates are extraordinary managers," he gushed in 2013.

But then it all went wrong for Lemann. In early 2017 he was rebuffed when he tried to acquire European conglomerate Unilever Plc for \$143 billion and merge it with Kraft Heinz Co. This exposed a fundamental flaw: 3G's obsessive focus on costs, rather than on expanding the business, meant it needed a never-ending pipeline of big targets that it could buy and squeeze savings from so it could keep boosting profits. Starved of fresh acquisitions, 3G faltered. The prices of the stocks of Kraft Heinz and Anheuser-Busch (which is technically outside of 3G) cratered, Lemann and his partners' collective fortune shrank by \$14 billion, and the vaunted 3G model had, for all intents and purposes, died.

So Lemann, now 83, already had a distinct lion-in-winter feel to him when Americanas SA, a Brazilian retail giant of which he and his partners have been major shareholders for decades, collapsed into bankruptcy last month after a \$3.8 billion

hole was discovered in the company's balance sheet.

The stock fell 77% in a single day, and the bonds plunged to a price of only 15¢ on the dollar. Creditors are mapping out plans to seize Lemann's personal assets, and Americanas' once-bustling 1,700 stores are mostly empty.

The crisis halfway around the world that engulfed the empire of Gautam Adani—also the result of questions about accounting practices—may have thrust the Americanas' blowup to the back pages of the international press, but in Brazil the scandal rages on. President Luiz Inácio Lula da Silva ripped into Lemann early this month, comparing him to Eike Batista, the disgraced mogul who's serving a 30-year prison sentence from his home in Rio for bribery.

"Lemann was hyped as the greatest businessman on Earth," Lula said in a TV interview. "He was the guy who spoke out against corruption constantly. And then he commits fraud."

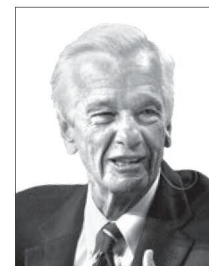
This is perhaps an overstatement. There's no evidence that directly links Lemann to the accounting irregularities allegedly orchestrated by Americanas executives. But Lula's broadside drives at a nagging question that those in financial circles in Rio and São Paulo keep raising: Were the actions taken by those executives a mere random act or at some level the result of the cutthroat deliver-results-at-all-costs culture that Lemann created?

Only two years earlier, the billionaire's critics note, Kraft Heinz paid \$62 million to settle a US Securities and Exchange Commission probe into accounting irregularities. In a regulatory filing, Kraft said it fully cooperated with the SEC over the course of its investigation. Kraft agreed to settle the allegations without admitting or denying the SEC's claims. So even beyond its recent stock market failures, broader scrutiny of 3G's sharp-penciled business model is increasing.

"Having a cost-cutting and profit-maximizing philosophy is no sin. In fact, that's a virtue in financial markets," says Jim Gulbrandsen, chief investment officer at NCH Capital Inc., a hedge fund in Rio. And yet, he says, it's now clear that at Americanas, this created "an environment where people would oversteer and go to extremes."

Gulbrandsen lays most of the blame on those in charge of the retailer's finances, but, he says, "the captain has to go down with the ship." Given who that captain is—the richest person in Brazil and, as Lula pointed out, someone who was held up as a beacon of moral rectitude in a country plagued by graft—"this is the biggest scandal in Brazilian corporate history," Gulbrandsen says.

Americanas didn't reply to a request for ►



● Lemann

◀ comment, but it has changed senior management and begun an independent probe of the situation.

Paulo Prochno, a professor of strategy at the Robert H. Smith School of Business at the University of Maryland, says there's an additional aggravating factor in the 3G playbook: Executives are often given contracts loaded with enormous bonuses for hitting profit targets. "That really gives strong incentives for people to not be ethical," says Prochno, who's long tracked Lemann's expansion.

Like Gulbrandsen, he says he doubts that Lemann and his partners, Marcel Telles and Carlos Sicupira, knew about the accounting irregularities but says that matters only to a degree. They created "a system that leads to this behavior."

Lemann has commented publicly only once since the story broke, in a statement co-signed by Telles and Sicupira that said the three had been unaware of any irregularities and noted that the company's executives, auditors and lenders had never raised alarms. Lemann, Telles and Sicupira declined to comment through a 3G spokesman.

It was early in the evening of Jan. 11 that Americanas issued a statement saying it had uncovered a 20 billion real (\$3.8 billion) liability that wasn't properly accounted for in its balance sheet. Sergio Rial, who had taken over as CEO of the retailer at the start of the year, said he quickly realized that executives had been masking debt they took on with suppliers. In the lexicon of accountants, this is called supply chain finance or reverse factoring, an arcane practice that can make a company's balance sheet appear stronger than it is.

Rial resigned that night. The company filed for bankruptcy protection eight days later.

Lemann, Telles and Sicupira have controlled the retailer since 1982. It was one of the first acquisitions they made as they began to expand their empire beyond the powerful investment bank, Garantia, they'd built in Rio a decade earlier. Lemann founded Banco Garantia after a brief stint as a professional tennis player, and Telles and Sicupira—the second- and third-richest Brazilians, respectively, after Lemann—were early hires.

This was during the go-go days at GE, when Welch was wowing Wall Street with his ability to deliver soaring profits quarter after quarter. Down in Rio, Lemann and his associates were in awe, too. They pored over GE's results, searching for the secret sauce that propelled the stock ever higher, Cristiane Correa wrote in her book on the trio, *Dream Big*. They started dabbling with "Neutron" Jack's methods by the late '80s, using his talent ratings curve to dismiss 10% of employees when they bought Brazilian beermaker Brahma.



▲ A retail location in São Paulo

Brahma is in many ways a prime example of their business model. In 1999 they used it to acquire local rival Antarctica. They then merged that company with Belgium's Interbrew, which in turn acquired Anheuser-Busch and, eight years later, SABMiller. In the process, they turned a Brazilian brewer worth \$60 million into a powerhouse with operations in more than 50 countries. Each merger brought them new savings and, for a while at least, greater profits. At its zenith, the conglomerate, called Anheuser-Busch InBev, was worth \$260 billion.

Only in the wake of the rejection from Unilever has Lemann started to de-emphasize the cost-cutting, long the crux of the 3G model. Revenue growth—making and selling products people really wanted—was the new key. Lemann acknowledged last June that his executive training program had become "outdated."

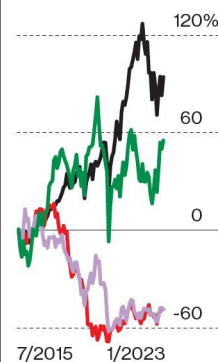
"We trained people in cost-cutting, efficiency and logistics," he said in a rare interview on CNN Brasil, "and not in marketing, innovation and creating things in a digital world."

This revelation may have come too late to save Americanas. And much of the rest of Lemann's empire is in the doldrums. Shares of Kraft Heinz and Anheuser-Busch have both plunged more than 55% from their peaks last decade. And Restaurant Brands International Inc., which houses Burger King and Tim Hortons, is off 14%.

Buffett, meanwhile, doesn't talk much about Lemann publicly anymore.

The last time the Kraft-Heinz merger came up at a Berkshire Hathaway Inc. annual gathering was in 2019. Buffett kept fretting that the deal price had been too high. "We made a mistake," he said. But longtime business partner Charlie Munger saw the contours of a bigger lesson in it all. The arc that 3G had carved out—one successful deal after another, followed by a stinging failure at the end—is normal "in a big place with a lot of young men who want to get rich quick," Munger said. "You want to be careful. It's so much easier to take the good ideas and push them to wretched excess." —*Daniel Cancel*

▼ Change in share price since July 2015
 / S&P 500
 / Restaurant Brands International
 / Kraft Heinz
 / Anheuser-Busch InBev



THE BOTTOM LINE Jorge Paulo Lemann, Brazil's richest man, made relentless cost-cutting key to his business strategy. Now the nation's president says that sharp-penciled tack has a downside.

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\$elling Influenc€

● Startup LTK helps creators find sponsorships and set up e-commerce operations

On a good day, Jen Adams posts more than a dozen photos to social media, displaying a wide range of new outfits. The neutral colors she loves—beige, gray and black—contrast with her bubbly personality, which comes through in the hundreds of warm comments and heart-eyes emojis she sends to her 823,000 Instagram followers.

To the casual scroller, Adams—who goes by @interiordesignerella—appears to spend her days shopping and showing off. But behind the scenes is a sophisticated marketing business, an

always-on operation with strict daily sales goals and about a dozen active partnerships with brands at any time. Adams has nine staffers, three of them working full time. “I am a shopping platform,” she says.

Of the 4.2 billion people who use social media, about 500 million try to make money from it, according to social media marketing and analytics company Linktree, which estimates that only 60,000 of them earn more than \$50,000 a year.

While social media influencers make money from taking a cut of the advertising on platforms including Instagram and YouTube, many of them dismiss these earnings, sometimes saying they amount to little more than coffee money. The bigger opportunities are in brand partnerships, where companies either pay influencers a flat fee to promote their products or give them a cut of any online sale their posts generate. Research firm



Statista estimates the amount paid to influencers globally reached about \$16 billion last year, more than nine times its size just six years ago.

The largest social media platforms have tried periodically to help influencers nurture these relationships and make a living from their online activity. These efforts have often failed, opening the door for startups. Adams relies on LTK, a Dallas-based company that provides technology and connections to business partners. Without LTK, says Adams, she wouldn't have a business at all.

Influencers who want to work with LTK have to apply—the company's roster consists of about 200,000 people, concentrated mostly in the US. On the most basic level, it provides technology that tracks clicks and sales from content on external social media apps and websites, a necessary service for anyone trying to claim a cut of the commerce

her posts inspire. The company also arranges deals between marketers and influencers, and recently set up a self-service portal through which brands can connect with influencers on their own. In 2017, LTK launched its own app where influencers can post content and tag products that link to retail sites. Last year \$3.6 billion in fashion, beauty, home decor and more was sold through LTK's technology.

Since 2011 the brands that work with LTK have spent \$1.9 billion on creators, almost half of that in the past year. Marketers are eager to partner with LTK-level influencers, whom they see as having a strong connection to audiences that companies may have a hard time reaching through traditional channels. "We can lean on creators who have done a lot of work to understand the nuances of the platforms in which they're telling these stories and who've already built a loyal following," says Barbra Sainsurin, executive director of brand and digital marketing at Anthropologie.

About 200 of LTK's creators have made more than \$1 million through the platform. (Adams declines to say whether she's one of them or to give details about the financial performance of her operation.)

In late 2021, SoftBank Group Corp. invested \$300 million in LTK, valuing it at \$2 billion. With the cash came quick expansion, more than doubling the employee head count from 300 to 700. The company also used the capital to accelerate the development of features such as a buy button in its app so consumers can purchase directly from influencers' shops.

Social media platforms have seen this type of e-commerce as a logical addition to their own advertising businesses, which are under increasing pressure. Meta Platforms Inc. launched an affiliate program for creators in 2021 but shut it down a year later. Instagram's attempt to provide tracking links and analytics for creators was similarly unsuccessful, and last summer ByteDance Ltd.'s TikTok delayed plans to start an e-commerce operation in the US and Europe.

LTK has the advantage of not having to balance the needs of influencers against the competing priorities of a massive advertising business. That means it's succeeding where platforms have stumbled, says Angela Du, a partner at SoftBank who helped lead its investment in the company. "There's never been a better moment for them to really build their brand and make their presence known," she says. "Creators are frustrated with all these changes that are happening at other platforms."

There was no social media influencer industry to speak of when Amber Venz Box, a fashion ►

◀ Adams at home in Poway, California

"There's never been a better moment for them to really build their brand and make their presence known"



◀ blogger from Dallas, founded the company in 2011 with her husband. Their business, initially known as RewardStyle, was focused on developing ways to help creators monetize their content, regardless of where they were posting. It started by making web links for fashion bloggers that allowed them to track how their audience reacted to their content. When the iPhone moved a huge share of web browsing from PCs to smartphones, Venz Box hired engineers to make creators' websites work better on mobile devices. When Instagram first took off, LTK devised links for the captions, so users who liked certain posts would be sent an email with links to purchase the products featured.

The latest big shift in social media—the rise of TikTok—could prove particularly challenging for LTK's influencers. Previous generations of social media gave huge advantages to influencers who'd built up their own followings. TikTok's ranking algorithms, by contrast, boost the types of content likely to draw engagement, regardless of who created it. This makes it easier to go viral, even for those without preexisting audiences, and more people than ever are trying to profit from social media. About three-quarters of nonprofessional creators who earn money from content they post online started doing so only within the past year, according to an October 2022 study from Adobe Inc.

Instagram, long a top choice for fashion and beauty influencers, has been trying to replicate TikTok's algorithmic approach, making engagement on that platform increasingly unpredictable.

LTK presents its app as platform-neutral, selling itself as a more reliable advocate for its influencers than the platforms themselves. But its relevance lasts only as long as it can provide influencers with ways to connect with users or monetize content. "Strategies that we used during the last 10 years of the creative revolution are expiring," Venz Box told a crowd of about 300 people at its annual conference in Dallas in September. "Today we are in another transitional period where content is the driving force."

As she spoke, Venz Box wore a yellow Carolina Herrera tweed minidress with crystal embellishment across the collar, waist and front (\$2,490 from online retailer Moda Operandi and currently sold out), black 100% calfskin leather pumps with an 11-centimeter heel by Saint Laurent (on sale for \$620.48 at online retailer Cettire) and Tarte's Maracuja juicy lip balm in rose (\$24 on the brand's site). Venz Box posted a photo of herself wearing the outfit on her app. She made sure to tag the right products so she'd get a cut of any sales. —Alex Barinka

THE BOTTOM LINE The ever-shifting landscape of social media means that influencers seeking to make a living have to constantly tweak their strategies.

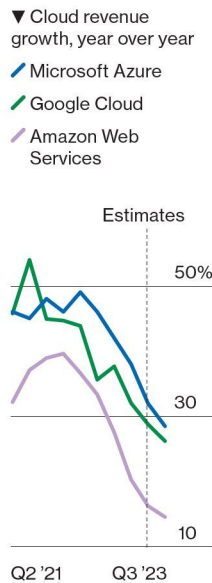
Dark Skies for The Cloud

● There are signs of strain for a business that Big Tech has seen as its next big profit center

For a while, cloud computing was Big Tech's cash machine. As the digital economy grew, companies across the economy developed a greater need for flexible data storage and processing power. This created an opportunity for tech companies to rent out such capacity. The pandemic accelerated the trend, creating years of good news for Alphabet, Amazon and Microsoft.

Their cloud computing businesses are still getting bigger, but not as quickly as they once were. The rate of growth for each of the three market leaders in the fourth quarter fell at least 10 percentage points from the previous nine months. That's partially because a shaky economy means "every dollar is being inspected" at existing customers, says Rikin Shah, founder and chief executive officer

◀ Venz Box at LTK headquarters



of Slower.ai, which helps companies migrate to the cloud. Most cloud infrastructure is priced based on usage—so customers can lower their bills by simply using less. Amazon.com Inc. Chief Financial Officer Brian Olsavsky said on a Feb. 2 earnings call that mortgage lending and crypto trading were two examples of the many slowing industries dragging cloud growth.

For the first time in the history of the industry, there are signs that the amount of business migrating to the cloud is slowing. The companies for which the transition made the most sense have already done so, meaning the customers doing so now often have more complicated and time-consuming projects. This complexity can mean newer customers are less lucrative for cloud providers than the ones they signed up in the past.

This is an uncomfortable shift for Big Tech, which has seen renting out computing power and storage as an attractive second act. Amazon Web Services generates less than one-sixth of Amazon's revenue, but the company wouldn't be profitable without its cloud division. Microsoft Corp.'s Azure has fueled a revenue resurgence in the past decade. Alphabet Inc.'s Google, which lagged its main rivals in starting a cloud business, is hoping its still-unprofitable cloud division will help the company diversify beyond advertising. (Alibaba Group Holding Ltd., the Chinese tech titan that's the fourth-largest global cloud provider according to Synergy Research Group, has fared worse than US counterparts in recent months, because of a broader economic slowdown in China.)

As they rushed to the cloud, many businesses didn't find the most cost-effective ways to carry out the transition. Some of them are now focused on reducing their cloud computing expenses, according to Dave McCarthy, a vice president at IDC's infrastructure practice. "If cloud cost optimization wasn't already high on the priority list for CIOs, now it is," he says. This cost consciousness is a sign the market is maturing, says Sid Nag, a vice president at Gartner Inc.

Microsoft CEO Satya Nadella described the new atmosphere on an earnings call on Jan. 24. "Just as we saw customers accelerate their digital spend during the pandemic, we are now seeing them optimize that spend," he said.

The growth isn't exactly coming to an end. The cloud makes up only about a fifth of the almost \$1.9 trillion annual IT market globally and has plenty of room to grow, according to Bloomberg Intelligence analyst Anurag Rana. The next phase of expansion will be spurred by big companies that have long used on-premises servers and

storage shifting to rented computers over the internet, Rana says.

Industries such as finance and health care are often cited as holdouts. Oracle Corp., which has also been slow to build out its cloud business, spent \$28.3 billion in 2022 to acquire Cerner, a provider of electronic health records, in part as a bet on the hard-to-crack market. New artificial intelligence products including OpenAI's ChatGPT and Google's Bard could provide significant cloud demand if they grow as expected. Nadella said in Microsoft's earnings call that Azure's machine-learning revenue has at least doubled for five consecutive quarters.



Still, the promise of economywide cloud conversion has been delayed, inspiring leaders to think about their next big bet. Much of Amazon's Feb. 2 earnings call focused on the slower AWS growth. But CEO Andy Jassy ended the meeting by looking past the cloud. He reflected on which future investment could transform the company again.

"Think about how different a company Amazon would be today if we hadn't invested in AWS—that informs some of the other meaningful investments we're making," Jassy said, citing health care and a plan to launch thousands of internet satellites into Earth's orbit. "It only takes one or two of them becoming the fourth pillar for Amazon for us to be a very different company over time." —*Brody Ford and Matt Day, with Dina Bass and Julia Love*

THE BOTTOM LINE Existing cloud customers are trying to reduce spending, while new customers often require more complicated transitions that aren't as lucrative for providers.

Adani, Downsized

● The billionaire symbol of India's growth is a lot less rich after a short seller's attack

An hour past sunrise in India on Feb. 2, the billionaire Gautam Adani appeared in a video posted online to reassure his investors: Everything will be fine.

For days the shares of companies in his mighty Adani Group conglomerate had been in a tailspin. The selloff was triggered by a damning report published by a US activist short seller—an investor that bets on the prices of assets falling, then tries to make that happen by taking its case to the public. Hindenburg Research accused Adani of running nothing less than “the largest con in corporate history,” with a barrage of allegations about artificially inflated share prices and accounting games. Adani Group issued a strong denial, but investors weren't waiting to decide who was right. In just a week, the total market value of a group of Adani-related companies, in industries including energy and construction, had fallen more than \$90 billion.

“Dear friends,” Adani began his statement. Then he confirmed some bad news from the night before: Because of the steep drop in its share price, his flagship company, Adani Enterprises Ltd., would cancel its recent public sale of new shares. It was an implicit but stunning admission of the colossal damage to his business. But, Adani said, surely his investors wouldn't waver in their support.

The short speech had a solemn air that reflected sudden uncertainty over not only Adani Group but also India's aspirations for fast growth and global economic power. Here was an ultrawealthy businessman with deep ties to the country's political elite, and somehow he couldn't contain the damage from a volley by a tiny New York firm cheekily named for an exploded airship. As he often does, Adani ended his video with “*Jai Hind*,” a phrase favored by politicians that translates to “Victory to India.”

His words weren't enough. When the markets opened that morning in Mumbai, shares in Adani companies plunged again. By sunset, his personal losses since the short report totaled

\$58 billion—almost half his fortune. He was no longer Asia's, or even India's, wealthiest man.

The situation has laid bare a sometimes vast gap between India's corporate world and the financial centers in London and New York. When the short seller's report was released on Jan. 24, few in India expected any lasting impact. Some of the allegations echoed familiar misgivings: People in financial circles had long whispered about Adani Group's befuddling financials, and a handful of journalists in India had written about curious dealings inside the conglomerate, with little to show for it besides rebuttals from the group. But Hindenburg's report resonated, perhaps because of the short seller's success raising questions about Nikola Corp., a US electric-truck maker whose founder was convicted of fraud last year.

The 100-page document makes many allegations, but the key ones are that people close to Adani have used a network of obscure, offshore shell companies to buy and sell shares in his businesses and pump up their prices or to inject them with funds so they would seem more creditworthy. By making the businesses appear more valuable, Hindenburg argues, Adani Group could attract more investment or take out more loans collateralized by stock. The report notes that when it was published, Hindenburg had short positions on Adani Group's US-traded bonds and on non-Indian-traded derivatives and stood to make money if investors fled Adani.

Adani Group's rebuttal says the report is full of stale and baseless accusations by a short seller looking to make a “wrongful gain.” Not to be outdone on sheer length, the response, with appendixes, ran more than 400 pages. “We accept criticism,” Jugeshinder Singh, the group's chief financial officer, told Business Today TV. “But we cannot accept lies.”

The total loss for Adani companies stood at \$109 billion by Feb. 8; their value was about \$236 billion before Hindenburg. “This is now affecting the stability of our markets, our reputation, our financial institutions and, most importantly, our retail investors,” Mahua Moitra, a lawmaker, wrote to India's main securities regulator after Hindenburg's report was published, demanding it investigate Adani Group. “I hope this is dealt with expeditiously.”

It's hard to overstate the story's impact in India. That's because unlike some of Hindenburg's recent targets—hyped-up electric vehicle makers, gambling apps and a business targeting Mormons that Hindenburg says may be a Ponzi scheme—Gautam Adani's empire is an industrial behemoth.

Coal extracted from mines Adani owns is shipped via his ports and railroads, then hauled to the ▶



◀ furnaces in his power plants. The electricity produced runs on his transmission lines into homes built with cement his group produces, where people prepare dinner on stoves fueled by Adani gas with Adani cooking oil, grains and apples. Later, at their kitchen tables, they might discuss impending vacations using flights between his airports, or scroll through photos stored in his data center. No other individual in India’s modern history has built such a presence in so many parts of the economy in such a short time.

Adani, 60, is a soft-spoken man who for most of his career has avoided publicity. He was born in Ahmedabad, an industrial hub in Gujarat in western India, the seventh of eight children. His father was a textile merchant, his mother a homemaker. He spent six months in college in Mumbai and dropped out to work as a diamond sorter. Sometime later he returned to his hometown to run a plastics business owned by one of his brothers. In 1988 he founded a commodities trading company. After a few years he secured a contract to manage a port in Gujarat, his entry point into the business of infrastructure. Then followed forays into coal, edible oils, power plants and more.

Adani has been a pillar of Prime Minister Narendra Modi’s “Make in India” campaign, which seeks to develop the country’s infrastructure and manufacturing. Modi also hails from Gujarat, and the two have been close since the early 2000s. What Modi espoused, Adani built.

As a global rally in stocks and other assets took hold in 2020, shares of Adani Group companies rose stratospherically—and kept going even in 2022. They pulled Adani, the main shareholder, up the Bloomberg Billionaires Index to a net worth of as much as \$150 billion, second only to Elon Musk. But some people were skeptical. His companies’ steep valuations defied financial logic. The number of shares that could be freely traded by outside investors, for reasons that partly hark back to Adani’s large ownership stakes, was relatively small. Such scarcity means a stock can have big swings. Indian mutual funds largely avoided investing in the companies, so they got less coverage from equity analysts.

The base of Adani’s empire is a group of 10 publicly traded companies. There’s also a vast network of closely held entities. This kind of family-controlled conglomerate has long been commonplace in India. The ability to move profits and personnel within the group to prop up struggling businesses or build new ones makes them resilient. A family’s name can also open doors. But these empires can also become opaque and complex; unspoken rules and family dynamics can sway

governance and operational decisions in ways that may be puzzling or anathema to outside investors focused on shareholder value.

Adani has openly tried to link the fate of his companies with that of India. In November, Adani Enterprises announced it would sell shares worth \$2.5 billion. It was a bid to legitimize the company’s soaring value, get analyst coverage and attract new shareholders, especially small Indian investors. “The story of Adani is the story of India,” Singh, the finance chief, told reporters in January. “Every household of rural India can invest in it.”

Hindenburg’s report hit just as the share offering began—timing that doesn’t seem like a coincidence, given the impact. Adani Group vowed to complete the weeklong offering as planned. It initially told some bondholders that a point-by-point rebuttal wouldn’t be issued until later, people familiar with the matter told Bloomberg News. But as share prices began to fall, a sense of urgency ripped through Adani Enterprises’ headquarters in Ahmedabad. Days later the company published its response.

Did it help? The hundreds of pages of documents from Hindenburg and Adani presented complex business dealings in eye-glazing detail. It was a staggering pile of information for any finance professional, let alone an ordinary investor, to plow through in just a few days. On Jan. 31, the offering’s final day, shares of Adani Enterprises closed 4.4% below the price range at which the new shares were offered to investors.

Investors Pull Back

Market value of Adani Group companies



DATA: COMPILED BY BLOOMBERG ON FEB. 8 AT 1:45 P.M. ET

Still, Adani Group said investors had committed to buy all of them. That was thanks in part to a last-minute push to sign up big buyers, including two other billionaire business families. But ordinary investors had largely stayed on the sidelines. The next day, Adani Enterprises shares plummeted and closed more than 30% below the subscription range. Anyone who bought the new shares would in effect be exposed to a large, instant loss. Anxious investors

called Adani’s team to voice their concerns. Late that evening, the offering was canceled. “Our board strongly felt that it would not have been morally correct to proceed,” Adani said in his video address.

As this was playing out, the damage had spread. A broader index of Indian equities also tumbled, and the rupee fell against all its Asian peers. Some observers pointed out that certain practices a US investor might view with apprehension—that the Adani Group pledges shares as collateral for loans and bonds, or that many top executives are family members—are common at India’s conglomerates. Perhaps Hindenburg just didn’t understand how business is done there. Others blasted the short report as an attack on the country itself.

Not everyone agreed. “Adani has been telling the world that Adani is India and India is Adani. This is

bullshit,” PN Vijay, a wealth manager in New Delhi, said in a heated exchange on the video channel of *India Today*. “This is the stock market. In the stock market, short selling goes on every day.”

Given its sheer scale and importance in India, Adani Group could ultimately prove more resilient to a short attack than some detractors hope. Shares partly rebounded in recent days as Adani and his family prepaid some debt backed by shares. But the eyes of global markets are now fixed upon it and its founder, and the complex structure that may have once helped the conglomerate vault to prominence is giving skeptics inside and outside the country plenty to chew over. —*Anders Melin and P. R. Sanjai*

THE BOTTOM LINE Adani built a vast fortune and a conglomerate that’s become a key part of Modi’s economic ambitions for India. Investors are asking what it’s really worth.

The Little Shop That Shook India

● Nate Anderson’s Hindenburg Research makes money by making companies miserable

To the companies he attacks, what Nathan Anderson does for a living is unethical, even immoral. But to most Wall Street professionals, he provides a necessary service by highlighting potentially overhyped companies and ensuring that markets do their job. Whether they consider him a vulture or a savior, they all agree that Anderson and his firm, Hindenburg Research, are good at what they do: taking companies down and making money from it.

Anderson is what’s known as an activist short seller. He exposes accounting discrepancies and alleged wrongdoing in scathing reports that journalists quote liberally in articles that often spur government investigations, all with the goal of nudging investors to sell. He typically works closely with deep-pocketed investors who place short bets—borrowing shares and selling them back at a profit when the price declines—alongside his.

Since he incorporated Hindenburg in 2018 from an apartment in New York, Anderson has targeted dozens of companies, but most have been small and had US-only footprints. Named for the ill-fated zeppelin, Hindenburg says its mission is to point out “man-made disasters” that are bound to blow up. Then it speeds the process along. On average, targeted company stocks fell about 15% the day after Hindenburg’s negative report appeared

and were down 26% six months later, according to calculations by Bloomberg News. Now Anderson is gunning for one of India’s biggest conglomerates, a group of companies controlled by Gautam Adani, until recently Asia’s richest man, who’s perceived to have close ties to Indian Prime Minister Narendra Modi. It’s a huge gamble—and it appears to have paid off.

Hindenburg, which now employs about a dozen people, isn’t a hedge fund. It prefers to be known as a forensic research outfit that operates with its own capital. Yet on prior projects, it’s taken on partners as investors, who take advantage of Hindenburg’s coming bombshell before it explodes. Joshua Mitts, a corporate and securities law professor at Columbia University, says it’s “very common” for activist short sellers to have partners who take positions on their behalf. Partners typically get an advance look at the research so they can have their shorts in place. If the ploy succeeds, Hindenburg takes a cut of the profits.

Perhaps the best-known Hindenburg exploit was a September 2020 report on Trevor Milton, the founder of electric-truck maker Nikola Corp. Anderson said Nikola had made fraudulent claims about the progress on its technology to land deals with top auto companies, including releasing a video of a truck in motion, which Hindenburg ►

This time, Anderson is gunning for a giant conglomerate



◀ found out was rolling downhill with zero horsepower. In October, Milton was found guilty of defrauding investors.

Hindenburg's 100-page Adani report, which it says took two years to compile, alleged market manipulation through an elaborate network of Adani family-owned offshore shell companies. Over two weeks, the report wiped out more than \$110 billion from the conglomerate's pre-Hindenburg value, pushed some of its bonds to distressed levels and caused Adani to shelve stock and bond offerings. The opposition party in India's Parliament demanded an investigation into the tycoon's connections to Modi. Adani Group, which called the allegations baseless and discredited, appeared by Feb. 7 to have arrested the slide by prepaying some debt and announcing plans to do more of the same. But the damage was done.

It's not known if Hindenburg has closed its short positions or which specific instruments it used (or their dollar value). Anderson has said only that he shorted Adani through its US-traded dollar bonds and non-India-listed derivatives. This could involve buying credit default swaps, which enable their owner to speculate on whether a company will repay its debt, or put options, which are akin to betting that a stock will fall below a certain level, called the strike price. Anderson did not respond to requests for comment.

The son of a professor and a nurse, Anderson, 38, grew up in Connecticut and graduated from the University of Connecticut with a business degree. During college, he lived for a time in Israel, working as a paramedic while attending classes at Hebrew University. He later worked for a financial analytics

company before taking a job checking out potential deals for the investment firms of wealthy families. His passion, he's said, is to "find scams."

Early on he looked into potential Ponzi schemes and occasionally teamed up with forensic accountant Harry Markopolos, who famously tried to warn federal authorities that Bernard Madoff's money management business was a huge fraud. Anderson has called Markopolos a role model. Around 2014, Anderson started filing whistleblower complaints with US authorities in hopes of collecting bounties for uncovering fraud. One of his first big gets: looking into hedge fund Platinum Partners with Markopolos. Seven executives were subsequently charged with securities fraud.

Short sellers have been betting against stocks for centuries, but today's activists are a far more aggressive breed. They typically spend months building a case against a company, then issue blistering reports laying it all out. Among the most famous: In 2011, Carson Block of Muddy Waters Capital took aim at Chinese forestry company Sino-Forest for overstating its assets; it filed for bankruptcy the following year.

But the activists have also attracted unwanted attention. Block is among those being scrutinized in a vast US Department of Justice probe of the practice. Block, through a spokesperson, declined to comment but in the past has said he's confident he's done nothing illegal. An inquiry doesn't necessarily mean charges will be filed. Hindenburg, says a person familiar with the case who asked not to be named because the matter is private, has not been subpoenaed or even contacted by any agency involved in the probe.

Authorities are looking for evidence that activists sought to exacerbate stock drops or manipulate markets, said people with knowledge of the case who asked not to be named discussing a federal inquiry. One potential tactic is called "smash and grab," when traders short stocks, publish negative information and unwind their positions for a quick profit before their reports are shown to be false.

So far, Hindenburg isn't claiming Adani among its list of victories. And Anderson, for all his reliance on the media to get his information widely disseminated, is keeping quiet. He declines interview requests, leaving analysts, companies and reporters to rummage around Hindenburg's website for clues about his next steps. —*Edward Ludlow and Amanda Cantrell*

THE BOTTOM LINE Although activist short sellers are in the game for profit, they can play an important role in markets because they have an incentive to dig up bad news.

◀ Anderson

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Britain to the Barricades

Strikes are paralyzing an economy that was already tottering

Nurses and ambulance workers across England walked out in record numbers on Feb. 6 in protests over better pay, but strikes are losing their power to shock. Life-disrupting work stoppages have become almost a daily occurrence in Britain—not only across its cherished National Health Service (NHS) but also at railways, schools, courts, airports, delivery offices, passport centers, universities and museums. For commuters, getting to work is a daily struggle.

Trade unions are demanding more pay for their workers to compensate for inflation, which soared to a 40-year high of 10.5% in the 12 months to December—or more than five times the Bank of England's 2% target. The steep rise in household bills and energy prices is eating into incomes, leading union leaders to reject pay offers they say don't keep up with the cost of living.

The Conservative government's unwillingness,

so far, to negotiate wage demands is exacerbating waves of strikes that started with the railways last summer. Union bosses routinely take to the airwaves to berate ministers for failing to engage in talks, while ministers insist their doors are always open, as long as the topic of discussion isn't this year's pay.

This is the dilemma facing Prime Minister Rishi Sunak: Conservatives tapped the former chancellor of the Exchequer in October to get the economy back on track after the catastrophic premiership of Liz Truss, who announced a series of unfunded tax cuts that crashed the pound. Sunak says giving millions of public-sector workers inflation-matching raises in the current fiscal year, ending April 5, would be “unaffordable” and risks interfering in the UK's annual pay review process, in which independent panels gather evidence and then make recommendations.



In July, the government accepted the NHS pay review's advice to grant NHS workers a raise of at least £1,400 (\$1,677) backdated to April. Health unions now want the government to rethink the award in light of rising inflation and are refusing to engage in talks on next year's package until the current dispute is resolved.

Chancellor of the Exchequer Jeremy Hunt has warned that hiking pay now could result in a wage-price spiral, an argument that many economists dispute, saying the theory that pay increases fuel inflation has been completely debunked. The government would talk to the unions about "absolutely anything, except things that will mean that high inflation is entrenched for longer," Hunt told BBC TV on Feb. 2. That message hits hard for NHS workers, because Hunt joined calls for a pay raise for nurses only seven months ago, when he was chair of the House of Commons Health and Social Care Committee, a group of lawmakers who study health policy.

Pressure is building on Sunak's government after authorities in Scotland and Wales, which enjoy a degree of autonomy over matters including health, offered increases to NHS workers, thereby averting walkouts.

Surveys show that UK voters largely support strikes by nurses and ambulance staff, though there's less sympathy for railway workers. The NHS is ingrained as a national treasure in the British psyche, yet long-term underfunding and chronic staff shortages have resulted in record wait times for emergency treatment and a scarcity of beds in wards.

Nurses on the picket lines say they're fighting not just for more pay but also for respect and understanding that the job has become too tough and patients aren't getting the care they deserve. This argument has found a receptive audience among Britons who three years ago were clapping on their doorsteps in gratitude for NHS staff risking their life during the pandemic.

The sorry state of the NHS will be a major theme in the next general election, which must be held no later than January 2025. Polls show the Tories—in power since 2010—trailing far behind the opposition Labour Party, led by barrister Keir Starmer. (Starmer often reminds the public that his late mother worked for the NHS as a nurse and that his wife does now, too, as an occupational therapist. Not to be outdone, Sunak speaks of growing up in "an NHS family," his father a doctor and his mother running the local pharmacy.)

Sunak marked 100 days in office on Feb. 2, yet his tenure has already been dotted with numerous

scandals involving senior ministers and policy retreats to appease anxious rank-and-file Tories. He fired his Conservative Party chairman, Nadhim Zahawi, last month after an internal probe found Zahawi had failed to properly declare that he was under investigation for having underpaid his taxes. (Zahawi ultimately settled a multimillion-pound tax bill along with a penalty for not paying the right amount at the correct time.) Meanwhile, Sunak's deputy prime minister, Dominic Raab, is being investigated over multiple allegations that he bullied his staff, which he denies.

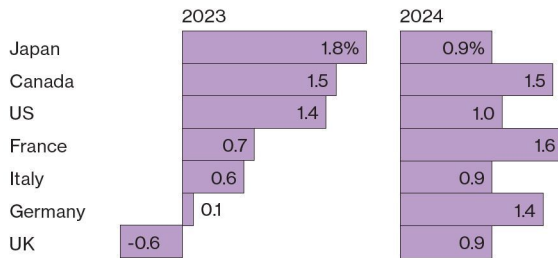
Yet what may ultimately be most dangerous for Sunak's premiership is his failure to get a grip on vital public services, whose quality and reliability have deteriorated sharply, even as taxes have climbed to their highest level in decades. "What people will be asking themselves at the next general election is this: 'Am I and my family better off with the Tories?'" Labour's Shadow Chancellor Rachel Reeves told Parliament in November.



● Sunak

UK Set to Underperform Rest of G-7

GDP growth forecast, year-over-year



DATA: INTERNATIONAL MONETARY FUND

Meanwhile, predictions for the economy are dire: The Bank of England said on Feb. 2 that the UK was already in a recession and warned that pre-pandemic levels of output won't return until at least 2026. The central bank also slashed its estimate of the economy's potential output—the rate at which it can grow without kindling inflation—to 0.7% a year, which is half the rate logged in the decade before the pandemic. Officials cited depressed levels of trade and investment in the wake of Brexit, along with a shrinking workforce, as factors.

Restoring public services is seen as integral to improving the UK's growth potential. For instance, shortening wait times for medical procedures would cut down on employee absenteeism. But one pay raise can't restore the damage wrought by a decade of austerity following the 2008 financial crisis. As a result, Britain is quite literally crumbling. The bill for repairing or replacing defects at English schools ►

◀ Picketing at University College Hospital in London on Feb. 6

◀ was more than £11 billion in 2021, according to a government report. There's an estimated £13 billion backlog of fixes to get roads into a state where they can be maintained in a cost-effective manner, according to a survey of local councils.

"Nurses are for life, not just for lockdown," read one hand-painted sign at a picket line on Feb. 6. Sunak's government, concerned about the economic cost of rewarding key workers, may be underestimating the political price tag on inaction. —Emily Ashton

THE BOTTOM LINE The British government is refusing to hike pay for public workers in the current fiscal year. This may eventually cost Tories, who are trailing Labour by around 20 points in polls.

A Rolling Recession Is the Best Kind

● A series of sectoral downturns may help subdue inflation without significant job losses

You've heard about a hard landing of the economy. That's a full-blown recession where millions of jobs are lost. And you've heard about a soft landing. That's where the economy slows to a nice, steady pace without decimating the labor market as inflation comes down.

Now there's a new economic meme making the rounds. It's called a rolling recession, and it's a bit of a hybrid. One industry suffers a contraction, then another, but the economy as a whole never swoons, and the job market largely holds up. "Industries and sectors take turns getting down, as

opposed to declining more or less all at once," is how Loyola Marymount University economics professor Sung Won Sohn puts it.

That framework doesn't explain everything that's going on with this puzzling post-pandemic economy, but it's as good a description as any of what the US has been going through since the Federal Reserve began lifting interest rates from zero in March of last year. And it holds out at least the possibility that the economy will survive its worst bout of inflation since the 1970s without having to endure a contraction.

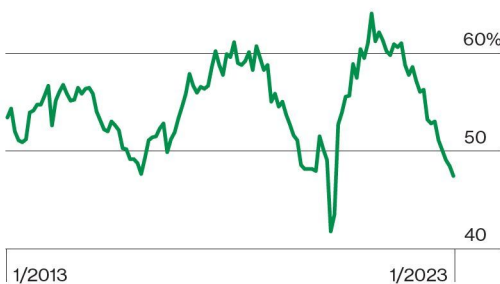
The first to take the hit, not surprisingly, was housing, the sector most susceptible to the Fed's rapid-fire rate increases. The industry was especially vulnerable because a steep runup in property prices during the pandemic had already put homebuying out of reach for many Americans. Housing starts, a key gauge of construction activity, fell for a fourth straight month in December and were down for the year as a whole, the first annual drop since 2009.

Next came manufacturing. A widely watched index of factory production has declined for five months straight through January. Among the culprits: cooling demand for US exports and consumers who are no longer locked down shifting their spending from goods—think Peloton bikes and personal computers—to services, such as restaurant meals and vacations. 3M Co., the maker of everything from Post-it notes to touchscreen displays, said last month that it plans to cut about 2,500 manufacturing jobs.

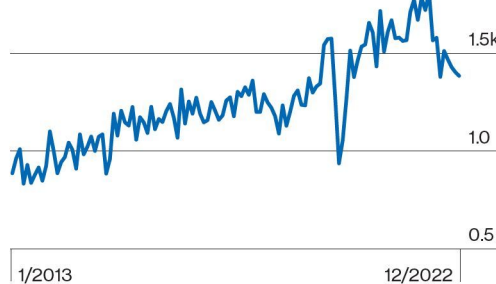
Tech companies that prospered during the pandemic have also been reducing staff in response to weak sales and falling online ad revenue. The industry announced job cuts of more than 97,000 last year and is on pace to top that in 2023, with 67,000 positions eliminated since Jan. 1, according to a Bloomberg tally.

Some Sectors of the US Economy Are Cooling, But the Job Market Is on Fire

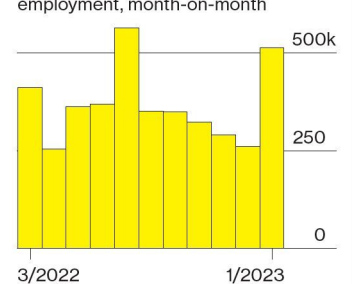
Manufacturing PMI*



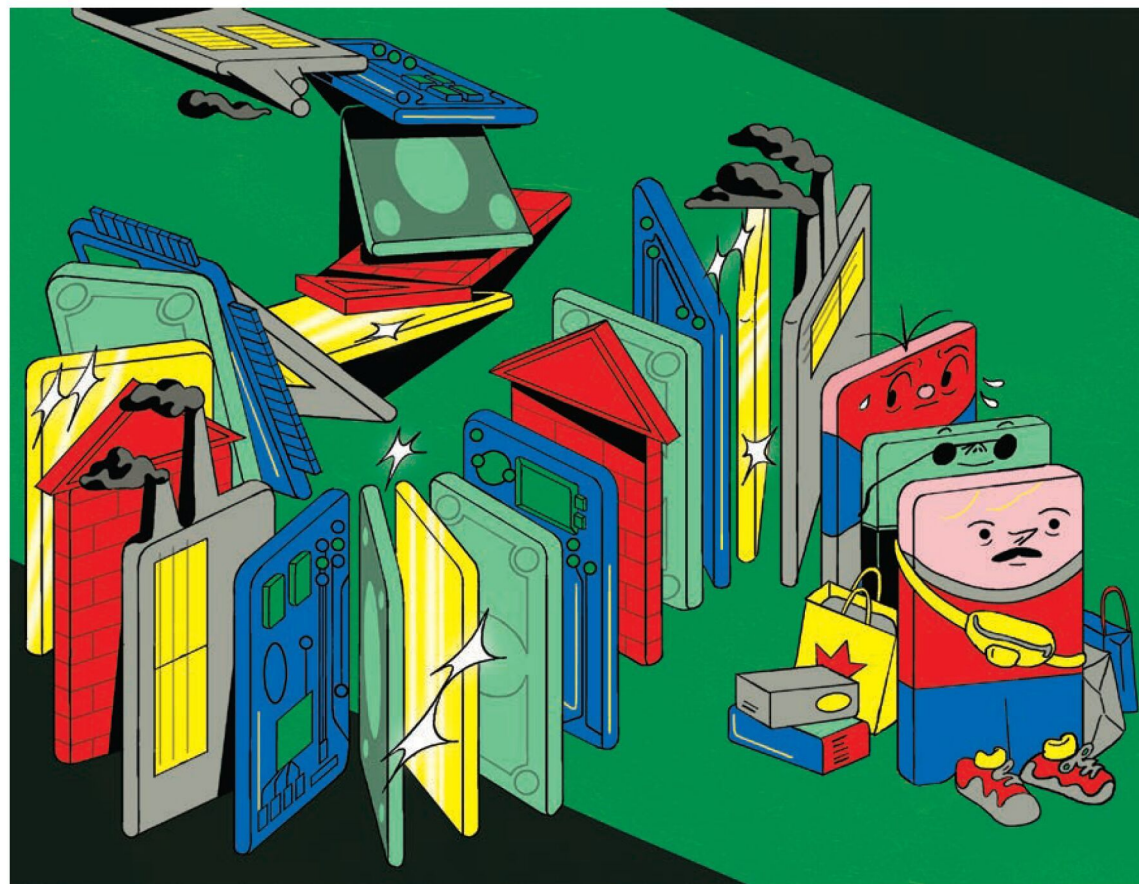
New privately owned housing units started



Change in nonfarm payroll employment, month-on-month



*PURCHASING MANAGERS' INDEX READINGS BELOW 50% INDICATE CONTRACTION. DATA: INSTITUTE FOR SUPPLY MANAGEMENT, US CENSUS BUREAU, BUREAU OF LABOR STATISTICS



Add it all up, and what you get is a deceleration in economic activity and a welcome topping out of inflation—but no widespread downturn.

Because of consumers, the main bulwark of the economy, things haven't gotten worse. Although they were squeezed last year by higher prices for gas, eggs and everything else, they didn't buckle, thanks to savings built up during the pandemic and the boost to incomes from a vibrant job market. "While macroeconomic and geopolitical uncertainty persists, consumer spending has been remarkably resilient," Mastercard Inc. Chief Executive Officer Michael Miebach said in a Jan. 26 earnings statement.

This is not the first time the US has suffered a rolling recession. Veteran financial market analyst Ed Yardeni recalls using the phrase in the mid-1980s, when a collapse in energy prices cut a swath through the oil patch and the repeal of an investment tax credit crippled commercial real estate. The economy slowed but didn't crack.

Another soft patch occurred in 2016, as a runup in the dollar hurt US exporters and a decline in commodity prices depressed revenue for farmers and oil companies. But again, no recession—though some pundits said the slowdown in America's heartland helped Donald Trump get elected president that year.

So what's in store this time? The ideal outcome, from the Fed's and investors' point of view, would be for the rolling recession to continue, say Charles

Schwab Corp. analysts Liz Ann Sonders and Kevin Gordon. If that were to happen, the weakness in the economy would extend into the service sector, and the hot job market would cool, even as housing and manufacturing started to stabilize and then turned up. This scenario would allow the US expansion to continue while paving the way for a further fall in inflation.

The signs of this happening are mixed. Much to the surprise of economists, hiring exploded in January, pulling down the unemployment rate to its lowest level since 1969. That led to yet another meme on Wall Street, the no-landing scenario: Growth revs up and inflation stays elevated, forcing the Fed to slam on the brakes and drive the US into a recession.

But not everyone buys into that gloomy take. On Feb. 6, just days after the release of the bumper jobs numbers, Goldman Sachs Group Inc. chief economist Jan Hatzius lowered his odds of a downturn over the next 12 months, to 25% from 35%. In a note to clients, he cited, among other things, a slowdown in wage growth and a rapid drop in inflation—both of which are welcome news for the Fed. Schwab's Gordon says it's basically a toss-up whether the rolling recession the US is experiencing will turn into something worse: "Nobody has a good handle on this yet." —*Rich Miller*

THE BOTTOM LINE Housing and manufacturing are already in a slowdown, and tech is looking dicey. Yet if consumers don't buckle, the US economy may yet avoid a full-blown recession.

Because of consumers, the main bulwark of the economy, things haven't gotten worse



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fresh magazines, hot games,
recent software, latest music releases.

Unlimited satisfaction one low price

Cheap constant access to piping hot media

Protect your downloadings from Big brother

Safer, than torrent-trackers

18 years of seamless operation and our users' satisfaction

All languages

Brand new content

One site



AVXLIVE **ICU**

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We have everything for all of your needs. Just open <https://avxlive.icu>



Work Shift

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32

THE TECH RESIS MAKING OFFICE L



● Advice on how to tackle ineptitude or strategic incompetence in the workplace

Most of us have a dirty IT secret we don't want our co-workers to know about. Some people struggle to send a calendar invite or generate a Zoom link. Others are stumped about how to save a document as a PDF. A colleague asked you to comment on their slide deck—if only you knew how.

One might think, almost three years after hundreds of millions of employees around the globe were very suddenly—and often not very willingly—forced to master the intricacies of video-conferencing software and collaboration tools on the fly, that we'd have made a great leap toward universal tech literacy.

That's not the story I heard when I interviewed several managers, all of whom asked not to be identified because they wanted to avoid shaming their staff. One woman, who leads a team whose members are mostly older than she is, told me she wants the people she supervises to feel comfortable asking questions. Yet she's frustrated that employees continually come to her with IT issues rather than contacting the company's help desk or just Googling for answers.

Young people may appear more technologically in the know, but they often have their own blind spots. A few managers told me they've had to have conversations with Generation Z members of their team about checking email, as in: "You need to do it. Regularly."

Part of the problem is that new technologies don't replace older ones. Instead, for extended

TANCE IFE HELL



ILLUSTRATION BY ASYA DEMIDOVA. DATA, GRAMMARLY BUSINESS 2023 STATE OF BUSINESS COMMUNICATION REPORT, CONDUCTED IN PARTNERSHIP WITH THE HARRIS POLL

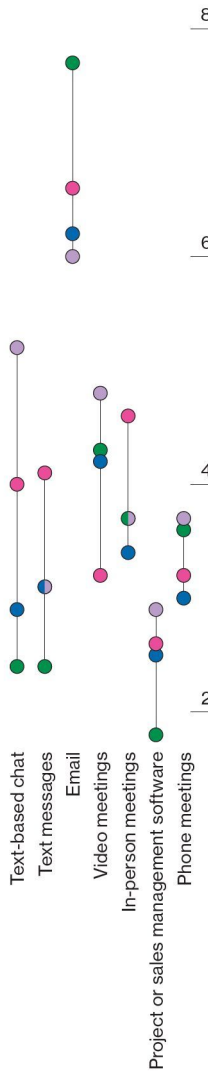
periods of time, they commingle. As media theorist Neil Postman wrote in *Technopoly: The Surrender of Culture to Technology*, “a new technology does not add or subtract something. It changes everything.”

In many cases, becoming passably adept in a new skill (say, moderating a conference call on Zoom) somehow makes us more sloppy in those we’ve already mastered. Our email etiquette gets worse; our Slack direct messages grow unthoughtful; we forget delay-send exists. Or we assume that just because someone in our work orbit knows how to perform some task, that means they’re the right person to ask for instructions on how to do it.

You could chalk up this kind of behavior to exhaustion and burnout. But often it’s also about workplace power dynamics. There’s plain-vanilla ineptitude, and then there’s what’s known as strategic (or weaponized) incompetence.

▼ Hours per week knowledge workers report spending on each communication channel

- Boomers
- Gen X
- Millennials
- Gen Z



This form of resistance has a long lineage, born of an office caste system that’s now largely defunct. Businessmen in the 1970s and ’80s didn’t have to learn how to use a word processor or Xerox machine or juggle their incoming calls; their secretaries did it for them. Then came the fashion for “lean” enterprises and the advent of the personal computer. Like it or not, white-collar workers became their own secretaries: responsible for answering the phone, drafting and distributing office memos, making appointments. Some entered the workforce during this time and didn’t know any other way. Others, too demoralized or fearful of losing their jobs, quietly acquiesced.

But some have resisted this redistribution of labors, either because they were more senior and able to hold on to their secretarial support, or because they managed to keep their jobs even as they refused to perform additional responsibilities. Those in the latter camp behave as if they still have assistants, only those assistants are their colleagues—typically junior, usually female—forced to perform tasks not in their job description just so Bob can continue his workflow as if it’s 1994. (A classic example: the female employee who gets asked to write up notes at every meeting.)

Sometimes the resistance to new workplace technologies, particularly on the part of leaders, isn’t (explicitly) about power. They’re too far removed from the everyday communication styles of their employees to understand why it’s so important to learn them in the first place. Brian Elliott, a senior vice president at Slack, hears evidence of this disconnect in his ongoing conversations with executives about their issues with the return to office.

“The reason they want to have people back in the office is ‘fill in the blank,’ but usually it’s about how they feel like they don’t have their finger on the pulse of the organization, especially given the economic situation,” says Elliott, who heads Future Forum, an initiative launched in September 2020 to help companies grapple with the pandemic-accelerated shift away from an office-centric work culture. “But they’re missing out on the conversation because they’re not in the tools where people are having that conversation.”

He’s referring not only to messaging apps such as Slack, but also to collaboration tools including Google Docs, Microsoft Teams, Airtable and others tailored to specific industries. People were using these before the pandemic, but now, at many companies, universities and nonprofits, they’re the primary platform for communication and culture-building.

◀ It's leaders who aren't using those tools who you'll often find lamenting the post-pandemic decline in engagement and drop-off in productivity. Many of these bosses, depending on age, have never experienced forging a complex, trusting relationship online. They didn't have AOL Instant Messenger or Tumblr friends; they can't imagine meeting the love of their life on OkCupid or Tinder—just as younger workers might not be able to fathom building a friendship (or falling in love!) through snail mail.

“There's this analogy of the dance floor and the balcony from the early 2000s,” Elliott says, “where you have all the individual contributors down on the dance floor, and sometimes the leaders need to get pulled up from the dance floor to the balcony to get some perspective, to see where the lights are off, or the sound is weird, whatever. And that sometimes you need to pull leaders onto the dance floor to see what the experience is like. But today the dance floor has moved. The dance floor is not the office! And it hasn't been for a while, but it's now more true than ever.”

In other words, executives are looking at the old dance floor, finding it empty and feeling anxiety about it. It's up to middle managers to convince them that what's happening on the dance floor that they can't see measures up. That's not easy—and one of many reasons why, in a report Future Forum released this fall, it was middle managers who reported the biggest declines in work-life balance and increases in stress over the past year.

Whether a technological disconnect is the result of tool overload, lack of training or an exec looking at the wrong dance floor, they all point to a larger, organizationwide opacity when it comes to how we work, how we communicate with one another about that work and how we understand others' responsibilities in completing that work.

Every few years an organization should ask itself: How has the way we complete tasks drifted with time, particularly as we've added new technologies that change the workflow, and who still seems to be struggling with essential parts? How can we identify and address those gaps without embarrassing or shaming anyone?

Next, organizations should identify all the ways people are currently communicating, then be transparent about norms for each, so communications aren't needlessly replicated (and thus ignored), and people can cultivate rhythms that allow them to be good at their jobs while not being married to their inboxes. For example: Emails are for announcements; Slack rooms are for any sort of discussion that should be public for all on a team; direct

Part of the problem is that new technologies don't replace older ones—for extended periods they commingle

messages are for quick questions and should be marked with urgency levels; phone calls, unless previously arranged, are for emergencies. And if someone refuses to abide by that system, it's cause for a conversation with their manager.

Being explicit about which means of communication is used for what decreases the anxiety around missing a communication. It makes it so you can check email twice a day instead of every 20 minutes. It permits employees to prioritize when and how they monitor various communication tools, instead of endlessly, exhaustingly cycling through all of them. It allows new employees to ease into the communication culture of an organization instead of immediately drowning in it. It's one of many ways to erect guardrails around work, and it makes each specific technology and its use part of the job description—not an option each employee can choose to take or leave.

When we become ruthless in the quest for our own productivity and the protection of our own preferences, there's always someone picking up, responding to and accommodating all that's left behind. In many cases that person is doing largely invisible and uncompensated labor—in the home, as the partner who makes the rest of that person's life run, but also in the workplace itself.

While a stubborn refusal to learn, to accommodate or to find compromise may make your life easier, it makes your co-workers' lives significantly harder. If you care about equity in the workplace, it's time to stop mindlessly treating your co-workers like your IT department. If you're sick of feeling vulnerable about the things that don't come naturally, take time to learn how to do them, so that you stop inadvertently putting more work on others' plate. And if you've been telling yourself a story that says your co-workers don't mind, they almost certainly do.

One woman told me about her long-running resistance to using a digital calendar, even as the rest of her team had adopted one. At one point her boss told her she was, quite frankly, ruining everything for the team. That was what she needed to hear: that a decision she thought was personal was actually communal.

There are so many reasons for technological disconnects, and just because there's a shiny new app doesn't mean everyone should be using it. But employees, managers, executives, everyone should look at their resistances and avoidances and refusals and consider: “Am I ruining it for everyone?”
—Anne Helen Petersen

THE BOTTOM LINE To improve communications within teams and prevent some workers from burdening their colleagues, employers should be explicit about which tech tool is used for what purpose.



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CALL ME MAYBE?

● When Zoom fatigue sets in, it's probably time to pick up the good ol' telephone for a one-to-one chat

Mary Jane Copps is known as “The Phone Lady,” so it’s little surprise that she gets a lot of phone calls. The former journalist offers classes that can cost \$3,600 for a daylong group session, coaching tens of thousands of people over the years on improving their phone conversations—anything from simple pointers on breaking the ice to detailed strategies for closing a sale.

Lately, the tenor of the job has shifted. When Copps started her business two decades ago, what she calls “phone anxiety” accounted for about 10% of her work. Today, it’s almost half. “People are afraid to have conversations,” Copps says, recalling a client who sought anxiety medication just to pick up the phone.

She attributes this in part to a generational shift: People in their 20s grew up without talking regularly on landlines, instead relying on smartphone-enabled text, chat and videos. They never learned the basics and now shun—or even fear—phone conversations. A survey conducted before the pandemic found that four in five younger Americans had to mentally prepare themselves before making a call. Then Covid-19 got everyone addicted to videoconferencing tools such as Zoom, and Slack grew into a vital forum for workplace chatter—leaving the good ol’ curly-corded handset to gather dust.



Those new technologies, plus the shift to remote work and the resulting decline in demand for office space, “will organically decrease the addressable market” for desktop phones, according to industry tracker Frost & Sullivan. And even when employees return to their desks, they don’t necessarily spend much time there because of a greater focus on group brainstorming sessions, training or one-on-one mentoring.

With fewer phones and fewer people needing them, the phone call “has become a lost art,” says etiquette expert Jodi R.R. Smith. “But it’s not dead. A polished professional knows how to use the phone—and when.” Here are six tips on reviving those rings. —*Matthew Boyle*

● Clearing the Air

Phones are the best way to quickly cut through overly complex emails, meandering chats or other text-based interactions where the tone can become unclear, says Liz Wyse, an adviser at Debrett’s, which publishes a handbook on business etiquette. An extended back-and-forth with a client over a confusing detail via email can result in frustration or even losing the account, Wyse says, whereas a phone call might sort things out immediately.

you can stretch your back, doodle, take a walk or simply gaze out the window—providing a boost to your mental or physical health. “Phone calls have driven productivity and social connection for many decades,” Jeremy Bailenson, founding director of the Virtual Human Interaction Lab at Stanford University, writes in a study of Zoom overkill. “Only a minority of calls require staring at another person’s face to successfully communicate.”

“Spontaneity is important, and we’ve lost a bit of that,” he says. Research from the Massachusetts Institute of Technology’s Connection Science and Human Dynamics labs shows that the most effective teams engage in frequent, informal communication outside of scheduled meetings.

● Privacy Enabler

Some workplace information—who’s getting laid off tomorrow or the final terms of an acquisition—is better left out of email or Slack. Again, phone calls come to the rescue. “For more sensitive information, or a point of view, the phone can be invaluable,” says business etiquette trainer Nisha Trivedi. “Sometimes there is no substitute for it.”

● Fighting Fatigue

Could that video chat be a phone call instead? Most likely yes, and it can reduce the exhaustion, stress and cognitive overload known as Zoom fatigue. In a videoconference, on some level you’re always performing. But when you’re just talking on the phone,

● Checking In

Workplace communication today is highly planned and scheduled, to the detriment of more casual conversations. Those can be easily accomplished by phone, and they help build connections and a sense of belonging, says Bobby Melloy of Culture Amp, which organizes services such as employee surveys.

● Career Booster

Job seekers will get much further by ringing up a recruiter rather than simply uploading a résumé to a job board. Even if you’re not looking for a new gig, calling a colleague or former boss you haven’t spoken with for a while can offer a networking boost. “They could have information you can use, like what’s going on down at the loading dock,” says Smith, the etiquette expert. Those short calls “are the grease that helps lubricate the interactions for the actual work we do.”

● What Not to Do

A phone call’s benefits (unscheduled, unrehearsed) can also be drawbacks. Chats can veer into flippant or wholly inappropriate language, making colleagues uncomfortable. To prevent this, experts suggest bringing an agenda to each conversation. That way, you know how and when to end the call. Just don’t hang up until you’ve scheduled the next one.

WHEN THE PRICE ISN'T RIGHT

● Why companies are pricing wrong, and how to fix that while boosting profits

Each month, I shell out \$6.99 for word processing software, \$9.99 for a transcription app and \$7.99 for an organizer. As what you might call a power user, I'm often logged in to all of them for more than 40 hours a week. But my total cost is less than \$1 per day—exactly what occasional users pay.

It's the kind of scenario that drives pricing experts bananas. "A subscription, in a nutshell, is a quantity discount," says Oded Koenigsberg, professor of marketing at the London Business School, who says he sees such pricing "inefficiencies" everywhere he shops.

Suboptimal pricing took root during the past decade as low inflation meant few companies had the motivation to alter their strategies. That left them sacrificing potential profits even as improved data analytics offered the possibility of smarter pricing, says James Wilton, managing partner at advisory firm Monevate. "Subscriptions are often a hangover from the licenses of the early software days," Wilton says. Companies "assume that if customers don't like it, they'll leave."

Historically, consumers have had little sympathy for companies kvetching about rising costs. But these days most everyone is painfully aware that materials, shipping and labor have all gone up, making it easier for companies to charge more. Inflation "gives the opportunity to identify and serve the customers they want," Koenigsberg says.

When the economy is strong, companies typically hesitate to let customers go, even unprofitable ones. "They want market size," says Koenigsberg. But when the business runs into trouble, "they'll remove customers that are drawing them further into the red." He suggests not waiting for the downturn. Even in good times, it's smart to look for clients who eat up time and effort but don't provide enough profit to make them worth the trouble.

The idea is to implement pricing that aligns with a product's value to the most desirable customers, which often involves redistributing features and moving toward charging based on use. That way, instead of constantly struggling to find customers, entrepreneurs can boost revenue by increasing



usage among existing ones. The downside is that income can be less predictable as some people will hesitate to commit until they know how much they'll use a service—and then may cut back. And Wilton suggests avoiding an across-the-board increase of, say, 8%. "That's never a good idea, because some customers would probably pay more than 8%, and some absolutely will not," he says.

One trick is to price a service in a way that discourages buyers from thinking about it day-to-day. For example, a tennis club could set prices based on monthly court rentals, but charging per session might make people reluctant to hit the court, so that's a bad choice. Wilton says tiered pricing based on rentals per month makes greater sense: \$200 for 1-4 sessions, \$300 for 7-10, apportioned in a way that most users fall in the center of a tier.

Without a well-thought-out strategy, though, tiered pricing can work to the advantage of heavy users and the detriment of the company. Instead, try offering features that are particularly valuable to small groups. For example, only 5% of customers might need door-to-door courier delivery—but they'll likely pay handsomely for it.

Dan Bernoske, chief executive officer of revenue consultants Cortado Group, notes that entrepreneurs often trust their "gut instinct" on pricing. That, though, may not dovetail with what clients are willing to pay. Given the amount of data available to identify the best pricing model for a particular business, it's better to crunch some numbers and do market testing. "One of the biggest challenges," Bernoske says, "is reducing reliance on the founder."

Discounts and sales can also help, but timing is important, says Kevin Kirby of pricing consultant Wise Athena. Many companies offer sales at predictable times of year: back-to-school, Christmas, winter closeout. It's smarter to aim promotions at buyers who love the brand but balk at higher prices. Kirby says well-timed multibuy (buy two, get one free) or temporary discounts can keep customers loyal even as prices go up. "The name of the game for 2023 is how to use your promotional dollars," Kirby says. "You really have to understand when you can make those price reductions to increase your volume." —Arianne Cohen

THE BOTTOM LINE Consumers don't want to hear companies grouching about higher costs, but the day-to-day experience of inflation makes them more amenable to price increases.

Photographs by SEM LANGENDIJK

SHELL GOES SU

The oil giant is investing billions of dollars in renewables and other low-carbon energy solutions—and making record profits selling fossil fuels

Illustrations by COMPANION-PLATFORM

STAINABLE - ISH

By
DRAKE BENNETT AND WILL MATHIS

Future site of Shell's Holland Hydrogen 1



In 1902 the Royal Dutch Petroleum Co. built a refinery in Rotterdam, on the river running to the nearby North Sea. The facility would later relocate a few miles downstream to the village of Pernis, where it processed crude from the company's distant concessions on the island colony of Sumatra, in modern-day Indonesia. At the time, petroleum was mostly refined into kerosene to be burned for heat and light. But the young company's Sumatran crude was particularly light and low in sulfur, and thus suited to a newer use: powering the automobiles that were growing in popularity as playthings for the wealthy. Five years later, to compete with the American juggernaut Standard Oil, the Dutch company merged with an English competitor run by brothers Marcus and Samuel Samuel, who'd developed a new type of ship to carry crude in bulk. The brothers named each tanker in their growing fleet after kinds of seashells—an homage to their father's import-export business, which had brought shell-encrusted curios into England from East Asia.

During the century that followed, the appetite for petroleum products grew exponentially, and Royal Dutch Shell grew accordingly to feed it. Today the Pernis refinery, officially called Shell Energy and Chemicals Park Rotterdam, is the biggest in Europe at more than 5 square kilometers (2 square miles). Each year, 20 million metric tons of petroleum flow through the compound's holding tanks, processing units, towering catalytic crackers and tens of thousands of kilometers of pipes and are transformed into gasoline, diesel, jet fuel and the chemical feedstocks for products such as plastics and hand sanitizer.

Right now a new unit is being built at the park, one that can turn animal waste and used cooking oil into diesel and aviation fuel. When it comes online in 2024, the so-called HEFA unit (for hydroprocessed esters and fatty acids) will produce as much as 820,000 tons of biofuel a day, making it one of the largest such facilities in Europe. It's the first step in a broader transformation envisioned for the plant: One by one its 60 or so units will be repurposed or replaced, shifting both their inputs and outputs. Less crude will flow in, and more green materials will flow out. The plant will also shift away from fuels in general—even biofuel releases carbon when it combusts. And Pernis will produce more chemical

feedstocks, lubricating oils, bitumen (for asphalt) and other products that aren't burned at all. "We will just switch off a few units, but we will build more new ones to replace them," says Jos van Winsen, the plant's general manager, sitting in his office overlooking the jungle of pipes below. "We will change our footprint, and we will change our product portfolio." That, at least, is the idea.

Shell Plc, the world's largest international oil and gas company by market capitalization after Exxon Mobil and Chevron, is trying to do something with little precedent. In 2020 its then-chief executive officer, a Dutch chemical engineer named Ben van Beurden, announced it would be a "net-zero" emitter by 2050. That goal, and that timeline, could put Shell in line with the transformation of the energy system necessary

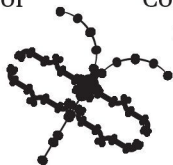
to keep global warming to 1.5C. That's the limit to which the 193 nations that signed the Paris Agreement climate treaty have committed to pursue—and the threshold below which, according to the United Nations' Intergovernmental Panel on Climate Change, the world might avoid the most devastating effects of warming. Shell's goal applies not only to the emissions of its own business activities but also to the much more considerable emissions of its customers, millions of whom buy gas for their cars from Shell filling stations.

Under pressure from their home governments and some shareholders, other European energy giants are making similar promises. Britain's BP Plc, like Shell, has committed to eliminate or offset its emissions and those of its customers by 2050, slashing oil production while it develops a sizable renewable power business. France's Total SE has changed its name to TotalEnergies SE to reflect its identity as more than just an oil and gas company, and it's also investing heavily in renewables.

It's a different picture in the US, where a public consensus around the urgency of climate change remains elusive, and American competitors Exxon Mobil Corp. and Chevron Corp. have been slower in committing to fight global warming. But Van Beurden, who came up through the ranks of Shell's gas and refining businesses (including a stint at Pernis), argues that complacency may look financially irresponsible in a world that's moving toward lower-carbon energy. "If you want to have a business



An early oil tanker



A net-zero Shell would have to be radically different from the company that exists today

model that is sustainable in the long run, there's no choice but to participate in the energy transition," he says, in an interview in his London office last November, weeks before the end of his tenure as CEO. "Why would I invest in a business that may well peak in the next few years?"

A net-zero Shell would have to be radically different from the company that exists today. In 2021, Shell and its customers released almost 1.4 billion tons of carbon dioxide into the atmosphere—more than the emissions of Japan, the world's third-largest economy. Last year, with prices elevated by the war in Ukraine and resulting supply disruptions, Shell and its competitors made record profits extracting, processing, transporting, selling and speculating in oil and natural gas. And up until now, the energy giant's decarbonization efforts have produced little, hampered by shifting management priorities and a reluctance to fully commit to the thinner profit margins of low-carbon energy. Announcing Shell's earnings on Feb. 2, its new CEO, Wael Sawan, recommitted to the net-zero plan, known as Powering Progress. At the same time, and despite an unprecedented windfall, the company said spending on its renewables unit wouldn't increase in the coming year.

Still, the world around Shell is changing. In the past two decades unexpectedly rapid technological advances have slashed the cost of renewable energy. The price of lithium-ion batteries is forecast to keep falling after a post-pandemic jump last year, speeding their adoption in electric vehicles and also in the power grid, where industrial-scale storage could smooth the intermittency of wind and solar power. New European laws will require a faster build-out of renewable power, ban internal combustion engines in new cars starting in 2035 and impose steadily rising costs on emissions through a cap-and-trade system. In the US, President Joe Biden's climate bill, the Inflation Reduction Act of 2022, guarantees generous subsidies to scale up green power and EVs and replace gas boilers with electric home heating. It's later and potentially slower than many climate activists and scientists would like, but an energy transition is indeed happening. The question is whether companies such as Shell, long part of the problem, can be a meaningful part of the solution.

Shell's efforts to seriously expand beyond oil and gas date to 1997, when the company set up a business called Shell International Renewables. "Renewables are now one of our core areas of business and demonstrate our intention to invest in areas of sustainable growth," the company wrote in a 1998 report titled *Profits and Principles—Does There Have to Be a Choice?* In 2001, Shell teamed up with German utility E.ON SE and a unit of the industrial giant Siemens AG to manufacture solar panels in the Netherlands and in Germany. After it bought out its joint-venture partners

in 2002, Shell briefly became one of the world's largest solar manufacturers.

But throughout the early 2000s, China was massively subsidizing its own solar industry, offering manufacturers free land, tax breaks and cheap credit to scale up. That brought the price of solar panels down far sooner than most forecasters had predicted. It also drove just about everyone else out of the business. As the market became flooded with cheap Chinese photovoltaics, Shell shut its main factories in Europe and tried unsuccessfully to shift to a more efficient solar cell technology. "It was never a really good business proposition," Van Beurden says now. "We couldn't make that work." In the late 2000s the company halted the expansion of its wind-power portfolio, the biggest part of its renewables business. Shell folded its remaining renewable businesses into its much larger natural gas division. (Natural gas produces fewer emissions than oil when burned, and far less than coal, so energy companies often present it as a bridge fuel in the energy transition.)

Still, others did make it work. In 2008, when Shell pulled out of the London Array, a wind project off the southern British coast, it sold part of its stake to Denmark's Orsted A/S (then known as DONG Energy, a name derived from Danish Oil & Natural Gas). Orsted and its partners agreed to spend €2.2 billion (\$2.9 billion at the time) to build what was, at 175 turbines, then the world's biggest offshore wind farm. The Danish company sold off its natural gas arm and is now the largest offshore wind company in the world, with a total renewable power capacity more than four times greater than Shell's at the end of 2021.

In 2018, Shell hired an outsider, Elisabeth Brinton, who'd helped build a renewables business at Australia's AGL Energy Ltd. Brinton brought in management consultants from McKinsey & Co. and proposed creating a division within Shell that would take electric power generation and part of the company's growing energy trading operation out of the natural gas division—undoing much of the reorganization that had followed the failure in solar panels.

The maneuver was meant to raise the prominence of those businesses and ensure growth independent of Shell's fossil fuel operations. "Becoming a net-zero emissions energy business is a huge task," Brinton said in a Q&A posted to the company website in 2020. "The business plans we have today will not get us there. So, our plans must change over time, as society and our customers also change." But the migration never happened, and Brinton left soon after to work on sustainability at Microsoft Corp. (She declined to comment for this story.)

Her departure was part of a broader exodus. An internal study in 2021 found that more than 80% of external hires to Shell's renewable and other low-carbon businesses left ▶



◀ within four years, according to a former executive involved in commissioning the study, who asked not to be named speaking about their past employer. That executive, and five more who spoke to *Bloomberg Businessweek* on the condition of anonymity, described a similar personal trajectory: joining the company optimistically hoping that its name and balance sheet could create incredible opportunities, then growing frustrated over time. The new-energy sectors Shell tried to enter were often occupied by much smaller companies that could act more quickly. A spokesperson for Shell says its renewable and new-energy business has lower-than-average attrition for the industry and “has grown and evolved significantly.”

The tension at the heart of Shell’s effort is that, even as oil use and, potentially, gas use are projected to peak in the next decade or two, the business remains highly lucrative. Last year’s annual profit of \$39.9 billion obliterated Shell’s 2008 record of \$28.4 billion. By contrast, many of the alternative energy technologies that exist today are unproven at scale, and those with a track record remain far less profitable than oil and gas. “We’ve now reached the point where the oil and gas majors accept that climate change is happening and society does expect them to deal with it,” says Michael Liebreich, former CEO of BloombergNEF and an energy consultant who’s advised Shell. But the companies, he says, “can’t do it as fast as they say because, fundamentally, oil and gas keeps the lights on. And it’s the only bit that makes money.”



Van Beurden

Part of the issue for Shell has been the breadth of its ambitions. The company expects to be, Van Beurden says, “a very large company when it comes to electricity,” expanding not only in wind and solar but building a network of electric vehicle chargers and using its trading arm to buy renewable power from other producers and sell it to customers. There’s a logic to this: Decarbonization, according to most models of how it might realistically transpire, will happen by increasing the number of things, and types of things, that get powered off the electric grid rather than by burning something.

In announcing itself as an electric power company, Shell will have to master a substantially different business from the one it’s been in for most of its history. Petroleum and natural gas are concentrated in commercially viable amounts in a limited number of places on the planet. For the most part, those deposits are difficult and expensive to find and exploit. Transporting the fuel to where people want to burn it (i.e., everywhere) requires a global infrastructure of tankers, tanks and pipelines and, with natural gas, liquefaction plants and enormous specialized terminals. Scarcity and uncertainty let fossil fuel companies charge a healthy premium for their product. And when prices are low, producers can park their product and wait for the laws of supply and demand to begin to work in their favor.

Electricity is different, and renewable electricity especially so. Sunlight and wind aren’t something one goes and discovers, nor is it currently practical to send their energy around the world. Electricity companies aren’t extracting a valuable commodity that they can store or transport or hoard; they’re providing a service. And selling electricity to people to use in their homes at scale requires navigating a quilt of regulations that govern those markets from state to state and country to country. “It’s a more local business,” says Atul Arya, chief energy strategist at S&P Global Commodity Insights. “The oil business, whether you’re in Alaska or in Texas or in the North Sea or in the Middle East, is a pretty similar business.”

Several of Shell’s new-energy hires say the company’s reluctance to adapt its mindset undermined their efforts. Shell executives accustomed to the chancy but high-reward world of oil and gas were reluctant to sign off on capital investments in wind farms and solar arrays, with their reliable but reliably lower profit margins. According to Mads Nipper, CEO of wind leader Orsted, a typical offshore wind project can have a return of as little as 1% after the cost of capital. By comparison, Shell’s published figures target a return of 20% to 25% in oil and gas drilling projects. In late 2021 activist investor Daniel Loeb proposed the company split itself up, separating its liquefied natural gas, renewables and marketing divisions from its legacy business. Shell publicly defended its integrated approach, and the proposal didn’t go anywhere.

Shell is on track to reach certain carbon goals. The Greenhouse Gas Protocol, a widely used accounting standard, breaks down emissions into different categories to quantify an organization’s full climate impact. Scope 1 emissions are those that an entity creates directly—in Shell’s case, the carbon dioxide and methane released into the air from its refineries and gas platforms and its trucks delivering its products. Scope 2 comprises more indirect emissions, those created by the company’s own energy suppliers—the natural gas, for example, burned by the power plants owned by the utilities to which Shell pays its electric bills. By the end of this decade, Shell plans to halve its Scope 1 and 2 emissions, from a total of 83 million tons of CO₂ emitted in 2016 to 41 million in 2030. (In 2021, the last year reported, they were down to 68 million.)

But those make up less than 10% of the company’s overall carbon footprint. The far greater share is its Scope 3 emissions—those produced by the fuel it sells to people and businesses to burn in their cars, trucks and airplanes. Shell has no clear plan for getting rid of those. On the company’s website, a flowchart depicting the climate targets of its Powering Progress plan relies on a *deus ex machina*, with one bubble representing 1.3 billion tons of CO₂ in 2021, another representing zero tons in 2050—and no steps in between.

Shell’s own language about its emissions trajectory is less categorical at certain times than others, especially when addressing its shareholders rather than

the general public. “Our 2050 net-zero target is conditioned by society’s progress as there is significant risk that Shell will not be able to meet its net-zero target if society is not net zero,” the company wrote in its most recent annual report. Shell’s oil production is indeed declining slowly after peaking in 2019, but that’s in part because the company has focused more on natural gas. Sawan, the new CEO, previously

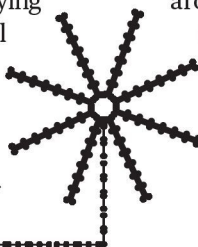


The Pernis refinery

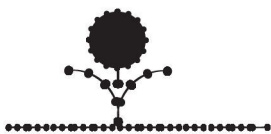
natural gas at the moment,” adding, “and I think for a long time to come.” Nor will all of the reductions Shell calculates necessarily translate into less carbon escaping into Earth’s atmosphere. By decade’s end the company aims to achieve 120 million tons a year of Scope 1, 2 and 3 emissions reductions from funding projects that protect or restore forests, grasslands and other natural areas



ran both of Shell’s profit engines—its business liquefying and transporting natural gas and its fossil fuel discovery and extraction arm—and he’s made it clear that he’s in no hurry to abandon gas. In an interview with Bloomberg Television on Feb. 2, he said that that business “continues to grow in a world that is desperately in need of



around the world. Because they absorb carbon from the air, these can offset emissions that a business such as Shell continues to produce. The so-called nature-based solutions space, however, has been dogged by questions about its actual impact: Carbon-offset research company Sylvera Ltd. has found that only 31% of the projects it studied had the climate impact they were meant to. ►



◀ And so far, much of the emissions progress Shell has achieved has come from selling off oil wells and refineries in the US, Denmark and Germany. While that moves those emissions off Shell's books, it doesn't make them go away. "You shouldn't sell the asset to someone else," says Dimitri Lafleur, an analyst at Global Climate Insights. If you're concerned about reducing emissions, he argues, "you should run it down to the end of the field life."

Lafleur previously worked for Shell as a geophysicist in its natural gas fields, first in the UK and the Netherlands and later in Australia. "At some stage it became clear to me that climate change was a really concerning issue," he says, "and I thought Shell wasn't doing enough." He says he pitched his managers on geothermal energy, which uses techniques sim-

ilar to oil and gas drilling to tap subterranean heat for renewable energy. But Lafleur says the company wasn't interested. In 2012 he quit to pursue a Ph.D. focused on energy and climate change. According to the Shell spokesperson, the company is currently involved in seven geothermal projects in the Netherlands. "There are a ton of things Shell can do," Lafleur says. "Given the level of expertise and skills of project management, they're very well-placed to execute very complex projects." Indeed, Shell itself touts that same engineering expertise—in deep-water drilling and working in other remote and logistically tricky environments—as a potential advantage in building wind farms at sea. But to Lafleur, Shell still looks like the conservative place he left a decade ago. "It's not the pace that's required, given the acceleration we need," he says. "If you're not doing sufficient cuts in the next decade, the ship for 1.5C has sailed."

2021 a three-judge panel in the Netherlands, presiding over a lawsuit brought by a group of environmental organizations, ruled that Shell had to cut *all* of its emissions—Scope 1, 2 and 3—by 45%, and by 2030, not two decades later. Shell is appealing, arguing that it shouldn't be expected to succeed where governments have so far failed. "The energy transition should be valid for the whole market," Marjan van Loon, president of Shell's Netherlands unit, says of the decision. It shouldn't be a matter, she argues, of "a court case or one company."

In the last years of Van Beurden's tenure, Shell unquestionably scaled up its investment in the renewable and low-carbon technologies it had talked about for decades. In the past two years it bought Indian solar developer Sprng Energy for \$1.6 billion and US renewable power company Savion LLC for an undisclosed sum. It also has agreed to pay almost \$2 billion for Denmark's Nature Energy Biogas, which turns animal manure into natural gas. In addition, Shell is investing more in its own in-house renewables efforts. Overall spending on its renewables and energy solutions unit rose to a record \$3.5 billion in 2022, nearly 50% higher than the year before.

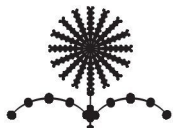
By comparison, however, Shell invested more than twice that



Renderings of HH1

amount, \$8.1 billion, in oil and gas exploration and extraction last year. And on the February earnings call, Sawan suggested future investments in renewables and other energy transitions will be more stringently evaluated: "We will make sure that those investments go into the areas where we can see line of sight toward attractive returns to be able to reward our shareholders."

The company faces a similar criticism in court: In



“At some stage it became clear to me that climate change was a really concerning issue, and I thought Shell wasn’t doing enough”

Twenty miles west of the Pernis refinery, on an artificial peninsula reclaimed over the decades from the North Sea, an expanse of sandy soil surrounds a cluster of construction trailers. If all goes as planned, by 2025 the spot will be home to 10 electrolyzer modules, each the size of a shipping container, that separate water into oxygen and hydrogen. The former will be released into the air; the latter will be stored as a carbon-free compressed-gas fuel. Lijs Groenendaal, Holland Hydrogen 1’s supervisor, describes the project as she stands in coveralls over a toylike scale model. “Because it’s a molecule, you can transport it,” she says of the hydrogen fuel.

Despite its attempts to get into electric power, Shell is still banking on the continued need for transportable molecules. As impressive as recent advances in battery technology have been, a battery powerful enough to run an airplane or a large ship would leave no room for passengers or cargo. In addition, heavy industrial processes such as steelmaking will continue to require the high heat of combustion.

Hydrogen fuel is a potential solution for both. It produces no carbon when it burns and, in the electrochemical reaction of a fuel cell, can power a vehicle without being burned at all. Hydrogen is also an ingredient in fertilizers and other chemical products produced at Pernis. It’s a potential solution, as well, to the problem of storing wind and solar energy, by transmuting it via electrolyzer into an emissions-free fuel to be burned in power plants when the wind drops or demand spikes. “We are going to see a lot of investment getting to scale for hydrogen,” says Arya, of S&P Global Commodity Insights. “An electrification-of-everything world also relies heavily on hydrogen.”

HH1 will cost about €1 billion, Van Beurden says, and will be 10 times bigger than the next-largest project in Europe today. It will produce up to 60 tons of hydrogen a day; to ensure the process is carbon-free, the electricity to run the electrolyzers will come from an offshore wind farm that Shell is building with Dutch utility NV Eneco.

Even if hydrogen scales up dramatically, however, it will still play a far smaller role in the global energy system than what oil and gas do today. To make its hydrogen business viable, Shell will need to help create a market for it. It’s a similar issue with the biofuels it will start pumping out at Pernis. The company has the chemical and engineering expertise to produce them, but biofuels remain two or three times more expensive to produce than fossil fuels. Until that changes,



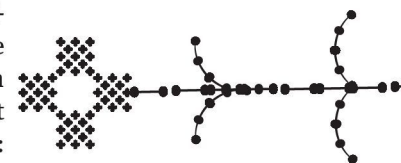
they’ll remain a niche product. The same goes for the still economically unfeasible carbon capture and storage techniques that Shell and other energy companies say can render fossil fuel combustion almost emissions-free.

Shell already has relationships with the commercial and retail customers it will need to reach for hydrogen and biofuels—the company is one of the world’s biggest suppliers of jet fuel to airlines and diesel gasoline for trucks. And it has a history of taking new fuels and creating demand for them. In the 1960s, Shell was a pioneer in building the gas liquefaction plants and port terminal facilities without which natural gas would’ve remained a promising but impractical oil-well byproduct.

Then there’s that oil and gas money. Van Beurden suggests that at some point Shell will use its cash hoard to buy its way into new-energy prominence. “I’d be shocked if you wouldn’t make one or two significant moves in the portfolio,” he says. “Maybe in power. Maybe in bio. The moment will come that it’s opportune to make the move: A target will become available, a target will become attractive, and we are ready for it.” For a company the size of Shell, that means something an order of magnitude bigger than its previous investments—something, Van Beurden says, more like the \$52 billion it spent to buy the natural gas company BG Group in 2016, an acquisition that was crucial to its shift away from oil.

Thus far, the businesses doing the most to drive and profit from the energy transition have been the Chinese companies dominating the solar cell industry and European innovators that have turned windmills from bucolic relics into industrial behemoths. Electric utilities and other developers have been the ones spending trillions of dollars to build renewable power plants. Battery makers and car companies—most prominently Tesla Inc.—have made electric cars a mainstream product. It hasn’t, in other words, been traditional energy giants.

For what it’s worth, some of Shell’s strongest critics believe it has a significant role to play. “Shell has the brains, the billions and the global reach to accelerate the transition,” says Mark van Baal, founder of activist group Follow This, which uses shareholder resolutions to push big oil companies including Shell to cut their emissions more aggressively. “The company finally says, ‘Yes, we’re going to transition, but we have to do it very slowly.’ If they wanted to do it slowly, they should have started in 1990. There’s no time to do it slowly anymore.” **B**



*Who's Hungry
For Some*

LAB-GROWN MEAT?

LAB MEAT
CAFETERIA
01/24/2023
CLERK
SUBTOTAL 20.00
TAX 4.85
TOTAL 24.85
VISA OFFLINE
APP: 1
CHANGE
THANK YOU FOR
COMING
HAVE A NICE DAY

LEADING SCIENTISTS AGREE THAT CELL-CULTURED MEAT PRODUCTS WON'T GIVE YOU CANCER, BUT THE INDUSTRY DOESN'T HAVE THE DECADES OF DATA TO PROVE IT, SO IT'S TRYING TO AVOID THE QUESTION INSTEAD BY JOE FASSLER



you avoid meat to cut down on animal cruelty, carbon emissions or both, your options are a lot better than they were a decade ago, which is to say they're... fine. For people who can afford to pay a premium, veggie burgers and nuggets from the likes of Beyond Meat Inc. and Impossible Foods Inc. are a much tastier option than the average imitation-meat entrees of the past. What they aren't, though, is meat—and many such products are so packed with salt and saturated fat that they probably shouldn't be a staple of most diets. There is, however, another option on the way for those in search of better guilt-free protein: growing meat from cells in a lab, without raising any living animals for slaughter. Yes, really.

Thank the biotech revolution. Under the right conditions, animal cells can be grown in a petri dish, or even at scale in factories full of stainless-steel drums. For decades, companies such as Pfizer Inc. and Johnson & Johnson have cultured large volumes of cells to produce vaccines, monoclonal antibodies and other biotherapeutics. Now the idea is that we might as well eat these cells, too.

The Big Three startups in the field—Believer Meats, Eat Just and Upside Foods—have raised more than \$1.2 billion in combined venture funding to bring products to grocery shelves. From the Bay Area to the Middle East, their research facilities and pilot plants are producing small amounts of chicken that, by most accounts, you'd be hard-pressed to tell didn't come from a slaughterhouse. Late last year, Upside became the first to receive the US Food and Drug Administration's informal blessing to bring its products to market. All three companies have announced

their first partnerships with restaurants in anticipation of a fuller regulatory thumbs-up.

Some of the companies call their products cultured meat, or cultivated meat, or cell-cultured meat. All of them stress the M-word. "This is meat," Upside Foods Inc. Chief Executive Officer Uma Valeti said at an industry conference a little more than a year ago. "Calling it anything else, I think, is going to be misleading." On a cellular level, alternative protein advocates say, it's no different. And that's 99.9% true.

The big honking asterisk is that normal meat cells don't just keep dividing forever. To get the cell cultures to grow at rates big enough to power a business, several companies, including the Big Three, are quietly using what are called immortalized cells, something most people have never eaten intentionally. Immortalized cells are a staple of medical research, but they are, technically speaking, precancerous and can be, in some cases, fully cancerous.

Don't worry: Prominent cancer researchers tell *Bloomberg Businessweek* that because the cells aren't human, it's essentially impossible for people who eat them to get cancer from them, or for the precancerous or cancerous cells to replicate inside people at all. You'd be better off worrying about the nitrates (linked with cancer) or fecal matter (a source of deadly infections) found in farm-raised meat. And cow tumors sometimes wind up in store-bought ground chuck, too. Of course, the facts might not matter much if ranchers or other players in the traditional meat industry felt threatened enough to declare a public-relations war. It's all too easy to imagine misleading Fox News chyrons about chicken tumors and cancer burgers.

So while cultured meat companies are desperate to avoid their products being fixed in the public's mind as a bunch of lab experiments, they also realize that an extended fight about the scientific

technicalities of cellular profiles risks forging exactly that association. Even if your nouveau meat doesn't cause cancer and isn't exactly made from cancer, having to say so repeatedly will inevitably turn off a great many potential customers. As one executive in the field told me, with a dose of comic understatement, there's a chance the whole thing really "might bother some people."

Eat Just Inc. declined to comment for this story. Believer Meats Chief Scientific Officer Yaakov Nahmias says that his company uses immortalized cells in its cultured chicken and that his team has somehow, by means he says even they don't understand, created immortalized cells that don't share any genetic signatures with cancer cells. (Two cell biologists I shared his comments with expressed skepticism.) Eric Schulze, Upside Foods vice president for global scientific and regulatory affairs, says his company stands by its FDA nod and its safety protocols. "Many of the inputs and processes we use have been used for decades or even centuries in food production," he said in a statement. "Our product is as safe as the chicken you eat every day."

Nonetheless, interviews with dozens of current and former employees, executives, investors, analysts and other insiders, as well as reviews of the companies' regulatory filings and past statements, make clear that the cultured meat industry is anxious about its use of immortalized cells and is doing what it can to avoid the subject. In part, this is because scientists aren't as quick as journalists to use the words "essentially impossible" in writing. Despite the informal consensus around the safety of immortalized cells, there just aren't any long-term health studies to prove it.

Over the past couple of years, this potential PR nightmare has been a recurring theme among insiders, including, occasionally, at conferences. "That's a thing that comes up pretty often," ►

◀ Kimberly Ong, a consultant at the biotech safety firm Vireo Advisors LLC, said during her remarks at a June event in Brooklyn. Several prominent startups have chosen to avoid using immortalized cells entirely, a slower and more technologically demanding path to market.

The leading startups, for their part, are pressing ahead, nodding to their potential vulnerability with the occasional creepy waiver. At Upside's facility in Emeryville, California, where the company spends weeks at a time growing poultry cells in drums, investors and pesky reporters tasting a cooked version of the final product have been asked to first acknowledge the lack of long-term health data. "The cultured meat and related food products in the Tasting are experimental," the company's waiver reads. "The properties are not completely known."

Refusing to engage with the issue could ultimately cost cultured meat companies, and maybe the rest of us, too. The companies still have a long way to go before their pilot projects lead to affordable mass production, but if they can overcome those barriers in the next decade or two, they stand to reinvent the trillion-dollar meat business and humanity's relationship with the rest of the animal kingdom. If they're wrongly dismissed as Frankencancer, or simply rejected because they weird people out, then overprocessed veggie burgers will remain our best alternative for a long, long time.

protein evangelists tend to make cell-cultured products sound sort of miraculous. Just take a biopsy—a cell sample—from a cow, pig, chicken or salmon and then grow it, ad infinitum, into burgers, bacon, breasts or steaks. "You just need a cell," Eat Just CEO Josh Tetrick said in June, during a speech at

a factory groundbreaking in Singapore. "From that one cell, you can make billions of pounds of meat."

But normal cells procured from humans and livestock don't actually divide forever. Left to their own devices, they'll multiply maybe a few dozen times before they stop growing (a state called senescence) or die. This is what's known as the Hayflick limit, named for a famous early researcher on aging, and it's a major problem for any company that wants to run a cultured meat factory. You'd never be able to grow cultured meat at scale using normal cells without collecting frequent biopsies from a herd of donor animals, which is expensive, messy and not quite cruelty-free.

That's where immortalized cells come in. They've been used in medical research since the early 1950s, when the first and most famous immortal cell line—derived from the cervical cancer cells of a woman named Henrietta Lacks—was successfully grown in a lab. Lacks is widely viewed as a victim of failed medical ethics and systemic racism; her cells, which have gone on to generate billions of dollars in economic value, were taken without her knowledge or permission. They've also saved lives. The so-called HeLa line of cells first enabled researchers to continue study without fresh samples from living humans or animals, leading to breakthrough discoveries in oncological and immunological science. Today, AstraZeneca Plc and J&J's Covid-19 vaccines are grown using immortalized human kidney and retinal cells, respectively. The process is a lot like making cultured meat. Immortal cells are grown in a big steel drum called a bioreactor, ultimately generating thousands of pounds of cell mass.

The idea of eating immortalized cells started to take hold in 2008, when the activist group People for the Ethical Treatment of Animals offered a million-dollar prize to anyone who could grow 10,000 pounds of meat cells by 2011. PETA got the idea from a handful of scientists who saw the promise of

emerging 3D-printing technology. While most of their peers dreamed of printable hearts and kidneys putting an end to organ donor waitlists, some of that field's pioneers, including Vladimir Mironov, a biology professor at the Medical University of South Carolina, argued that the technology could also yield a steady supply of cruelty-free meat. Mironov also tended to make grand pronouncements about the idea being "the inescapable future of humanity," earning him some jabs in mainstream venues, including *The Colbert Report*. Stephen Colbert dismissed the National Science Foundation grant-winning researcher as a quack and his early lab samples as "shmeat," short for "shit meat." PETA's million-dollar prize went unclaimed.

Just a few years later, though, the field seemed far less like a joke, and several startups began to look serious. In 2017, Upside raised a \$17 million round of venture funding from the likes of Bill Gates, Richard Branson's Virgin Group and meatpacking giant Cargill Inc. Thus began a multibillion-dollar arms race that made cultured meat one of Silicon Valley's buzziest industries, following the trajectory of hype for fake-meat companies such as Beyond and Impossible. Absent from most news articles and term sheets, however, was any mention of immortalized cells.

Cells become immortal in human bodies all the time, by mutating to bypass senescence—and mutating some more to evade the immune system, which generally tries to kill off such mutants. Cultured meat companies induce these changes via genetic modification or by forcing normal cells to reproduce until some of them mutate. The resulting cells can divide forever, defying the normal limits of growth. This also makes them unmistakably more like cancer cells than they used to be, says Robert Weinberg, the pioneering Massachusetts Institute of Technology biologist who proved cancer is a genetic disease in the 1980s. "If a cell is immortalized, that implies that it's already

IF WE WANTED TO, WE COULD EAT MALIGNANT *chicken tumors* BY THE BUCKETLOAD

completed one of the prerequisites to become a cancer cell," he says.

Critically, however, there's no evidence that cultured meat cells are going to become cancerous in a diner's body. Most of the scientists I spoke with for this story say that worst case, our digestive enzymes would break down any animal cancer cells we ate. If we wanted to, we could eat malignant chicken tumors by the bucketload. "It's essentially impossible for a cell from one species to gain a foothold in the tissues of another species," says Weinberg. "So even if one were to take highly malignant cells from a cow and drink them, I don't see what the problem would be."

And yet "cancer" is a terrifying word. How can the makers of cultured meat prove to regulators and skeptics that there's nothing to worry about? "The best way is to give it to people and then ask them 20 years later or 30 years later, 'Has any of you gotten cancer at a higher-than-normal rate?'" says Weinberg. "But that's not a practical experiment." The likeliest path for companies to set more people at ease is to win government approvals and put their products on plates.

In November the FDA sent Upside Foods a "no questions" letter in response to its application for approval, clearing the way for its chicken's final approval by the US Department of Agriculture. The FDA's safety assessment shows that its evaluation criteria included the chicken's potential for contamination and adulteration. It also notes that Upside monitors its immortalized cells to make sure they don't become cancerous or otherwise wig out. In a footnote, the agency concluded that even fully cancerous cells would be safe to eat because they stop growing after they leave the bioreactor, and cooking and digestion will break them down harmlessly. "We did not identify any properties of the cells as described that would render

them different from other animal cells with respect to safety for food use," the FDA said.

Even with the Upside approval, though, the uncomfortable truth is that none of the companies has data to prove their safety beyond every last doubt.



get around the problem, some startups are keeping immortalized cells out of their recipes. Aleph Farms Ltd. is using naturally immortal embryonic stem cells to try to avoid what CEO Didier Toubia calls a potential problem with "consumer acceptance." (He didn't use the word "cancer.") IntegriCulture CEO Yuki Hanyu says his cultured meat startup is eschewing the proven science of immortalized cells in favor of experiments with cells taken directly from living animals, precisely to avoid being falsely labeled as cancerous. "There will be someone who will be poking at this issue," he says. "And it could basically flare up."

These startups are at much earlier stages than the Big Three. "You have to bear in mind, the immortalized technology is 30 years old," says Ramiro Alberio, a reproductive biologist at the UK's University of Nottingham who recently developed new cell lines for cultured meat using embryonic stem cells. "I don't even have a website. I licensed my cell lines to multiple companies based basically on word-of-mouth."

Meanwhile, the companies using immortalized cells are already trying to scale up. Eat Just has announced plans to build a US facility with 10 66,000-gallon bioreactors, enough to produce 30 million pounds of product a year. This suggests the company is betting that it can overcome any PR

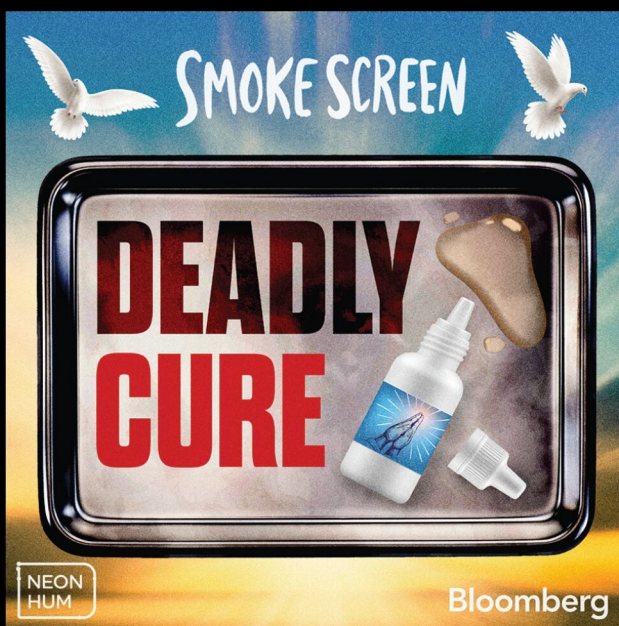
blowback, along with cost. But if recent history is any guide, it won't be easy. In early 2021, after Gates said in an interview that rich nations should switch to 100% plant-based and lab-grown beef, the backlash was swift. Before long, Tucker Carlson was on Fox News asking a guy in a cowboy hat why "they hate beef so much." Last year, Marjorie Taylor Greene, the far-right Republican member of Congress from Georgia, accused Bill Gates of conspiring to force Americans to eat "fake meat" from a "peach tree dish." Her malaprop drew jeering headlines, but it also resonated on the American right. And this was all before anybody used the word "cancer."

For now, the companies seem to be sticking with silence as their strategy. In so doing, however, they're ceding a critical opportunity to demystify their products and head off fearmongering. Even with more than a billion VC dollars on the line and the FDA on board, the direction this conversation takes might make all the difference. When it comes to the human appetite, novelty can be intriguing—or it can really gross you out.

That tension was clear on the first day of that June industry conference in Brooklyn, when a startup called Wildtype hosted a surprise tasting of its cultured salmon for VIPs including Eric Adams, New York City's (mostly) vegan mayor. Several attendees told me the tasting was a profoundly emotional experience that even brought one of them to tears, that to them it represented the almost Biblical gift of something from nothing—no animals harmed in the making of this meal. Adams, however, didn't seem so inspired. As the tasting got under way, he excused himself and left without trying the fish. **B** *This story was produced in collaboration with the Food & Environment Reporting Network, a nonprofit investigative news organization.*

A church sold a 'miracle cure.' It was bleach.

The true story of a family that used
faith to sell poison—and the people
who fought to take them down



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Girl With a Pearl Earring, one of 28 Vermeers on view at Amsterdam's Rijksmuseum

Her, Again?



An unprecedented Vermeer exhibition is the latest “once-in-a-lifetime” retrospective of one of the most famous artists of the Western canon. Here’s why these shows keep coming
By James Tarmy

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February 13, 2023

Edited by
Chris Rovzar

Businessweek.com



Johannes Vermeer's output was so scant that for the past 350 years it's been almost impossible to exhibit his work at any scale: Each of his about 37 known paintings was thought to be too valuable, too fragile—and, ever since *The Concert* was stolen in the Isabella Stewart Gardner Museum heist in 1990, too jealously guarded by its owners—to travel much. Instead, the Dutch baroque master's exhibitions tend to be padded with work by other artists. This results in shows that Taco Dibbits, general director of Amsterdam's Rijksmuseum, calls "Vermeer ands": "Vermeer and the Delft School, Vermeer and letter writing."

But this month, for the first time in its history, the Rijksmuseum opened a show without any qualifications. Running from Feb. 10 to June 4 and titled simply "Vermeer," its 28 paintings are the largest gathering ever showcased, with loans from around the world. "Museums realized that something like this would never happen again," Dibbits says.

The thing is, once-in-a-lifetime exhibitions have been happening a lot lately. There was the Louvre's 2019-20 Leonardo da Vinci show in Paris, which featured more than 160 objects, including 11 out of fewer than 20 acknowledged paintings by the artist; it attracted more than 1 million visitors, shattering records. In 2022 in London, after a Covid delay, the National Gallery opened a massive Raphael exhibition pegged to the 500th anniversary of the artist's death. Its 90 objects included 29 paintings, a tapestry on loan from the Vatican and two bronze roundels from Rome's Santa Maria della Pace, never before shown outside of Italy.

Nearly simultaneously, in Florence, the Palazzo Strozzi—best known for contemporary art shows—somehow persuaded 60 institutions to lend it 130 works for "Donatello: The Renaissance." It even included a panel made for a baptismal font in Siena that hadn't left the church since Donatello installed it 600 years ago.

"It was unprecedented, and an unrepeatable exhibition," says Arturo Galansino, director general of the Palazzo. "It was not only a once-in-a-lifetime exhibition, it was a once-in-history exhibition." (Separate versions of the show traveled to Berlin and will be at London's Victoria and Albert Museum this month.)

Mega art shows are nothing new. But as the number of museums around the world has ballooned, from what Unesco says was 22,000 in 1975 to 95,000 today, and the category of fine art has expanded to

Inside the exhibition
"Donatello: The Renaissance"

include everything from videos to graffiti, museumgoers have become, if anything, more selective. That could be one reason, directors say, for this superlative new crop. "I think audiences are more discerning," says Gabriele Finaldi, the director of London's National Gallery. "Audiences will give you short shrift if you're trying to make a big noise, and maybe the show isn't quite cracked up to what it should be."

This flowering of so-called bucket-list exhibits could also be a natural product of increased intra-museum collaboration at the highest level, which "makes sense financially, because you're working with the same smaller number of institutions with whom you can do ongoing projects," suggests Peter Miller, the dean of Bard Graduate Center in New York. Shows that include prime works from a select group of global museums, he continues, are akin to "the attempt by a few football club owners to create a European superleague. It's the best of the best playing against each other for their own mutual benefit, and presumably to delight audiences."

Given how long each of these shows has taken to assemble, the phenomenon is not strictly "recent." It took more than 10 years to organize the Leonardo show, according to a news release. Planning for the Donatello exhibition began, Galansino says, around 2015, seven years before it was unveiled. The Raphael show took nearly as long—five and a half years. The Vermeer exhibition, in contrast, was conceived comparatively recently, when Dibbits heard whispers that the Frick Collection, a lavish house museum filled with old masters on New York's Fifth Avenue, would finally close for a multiyear renovation and expansion. The Frick's Vermeers "haven't been in Europe for a hundred years," Dibbits says. "They've always been in the building, and they could never leave." With the museum turning into a construction site, suddenly the paintings were free to travel. "There was just one time slot, and we had to do it now," he says.

The Rijksmuseum has four Vermeers of its own. Dibbits first turned to the Mauritshuis museum in the Hague, which has three, including his most famous work, *Girl With a Pearl Earring* from 1665. That conversation, he continues, was relatively easy—"they said it would be great"—at which point he began to contact everyone else. A total of 13 separate lenders "reacted

Raphael's *Procession to Calvary*, at the National Gallery



incredibly positively,” Dibbits says. “Washington’s National Gallery immediately said it would lend and cooperate.”

All museums loan to one another if they can. “The kind of show you can do just from your own holdings will be different from a show amplified by materials from elsewhere,” Miller says. “It lets you tackle bigger topics, let’s say. And museums are generally willing to lend, because if I lend to you now, down the road you will lend to me.”

According to Dibbits, a painting might not have been able to make it to the show for reasons that include being too fragile to travel or being considered “such a core of the museum that it can’t leave.” A donation may also stipulate that it could never be loaned out. “It’s a bit like the world championships in football,” Dibbits adds. “The evening before the match, everyone was talking about which players weren’t in the field.”

Vermeer’s paintings are famously nuanced and detailed, which from the standpoint of exhibition design presents a hurdle: His art “is so popular partly because, when you stand in front of his paintings, there is such a direct intimacy, and in a sense time stands still,” Dibbits says. As a consequence, even though an estimated 800,000 people will try to attend, the Rijksmuseum plans to limit visitors to a fixed number every day. “It will be more like 400,000 visitors than 800,000,” says Dibbits. “We won’t be able to host them all, because that would be an impossible viewing experience.” The museum has already pre-sold more than 150,000 tickets, its all-time record.

In that respect, Dibbits hits on a paradox of these once-in-a-lifetime exhibitions: They aren’t always profitable. “Normally we don’t talk about money, but I can tell you that ‘Donatello’ was the most expensive show we ever produced,” says the Palazzo Strozzi’s Galansino. “We are a private foundation, and

our budget is basically 45% sponsors, 40% to 45% ticket sales, and roughly 15% is public money, so the success of every show is very important.” Despite the high costs, he says the attendance of more than 150,000 was about average, but with a high percentage of international visitors. (Roughly 170,000 people came to the Strozzi’s Jeff Koons show in late 2021.) “We had people coming from all over the world,” Galansino says. “The numbers were similar, but the demographics were different.”

The Raphael show was also fairly costly to organize, says the National Gallery’s Finaldi. “Loans from faraway countries are generally much more expensive”—transport, insurance—“but also, with an exhibition like ‘Raphael,’ which had such a variety of objects, there was a lot of cost for the design of the exhibition,” he says. Special vitrines, structures to hang rare tapestries, “all of those contributed to what ended up being quite a large budget.” And yet ticket sales didn’t exactly set records. “It was a successful show, but bear in mind this happened in the immediate aftermath of Covid, so our visitor numbers were impacted by that,” Finaldi says. “These are not fundamentally about raising revenue, they’re about sharing our enthusiasm for great art. If we lose sight of that, it’s a sad thing.”

They’ve also been an occasion to conduct new scholarship. The Rijksmuseum has done extensive scans of various works in advance of the Vermeer exhibition, yielding, among other discoveries, the knowledge that its own *The Milkmaid* (1658-59) contained an underpainting with preliminary sketches that the artist later painted over. (“The general assumption was that the artist produced his small oeuvre very slowly and always worked with extreme precision,” the museum said in an announcement. “This view is now being revised.”) The museum also published a biography of the artist written by Gregor J.M. Weber, the co-curator of the exhibition, and it’s publishing a catalog with new scholarly essays. “These are all things that reach beyond the exhibition itself,” Dibbits says. “That’s why we allocate these kinds of resources to it.”

He declines to say exactly how much the show cost, other than to note that exhibitions usually amount to “several millions” and that “insurance costs were high” (surely an understatement). But there’s no doubt in his mind that it’s worthwhile. “I don’t believe in doing a blockbuster exhibition because it’s a blockbuster,” Dibbits says. “It’s our duty as a museum to show the best works to the public.” **B**



Vermeer’s *The Milkmaid*, at the Rijksmuseum





Pulitzer hotel

GO HERE NOW

Amsterdam's New Era

A more cautious attitude toward tourism meets a progressive rethink of the canal city's complex past
By Sarah Rappaport

It's pre-dawn on a flight to Amsterdam, and a group of men on a bachelor party are pounding beers, dressed in costumes as Bavarian barmaids and talking loudly about visiting the red-light district without their partners knowing. This isn't the vision of Amsterdam that city officials want.

During the pandemic, Amsterdam was able to see what the city looked like without tourists of this ilk, and it doesn't want to go back. Some city officials have proposed a "discouragement" ad campaign for international visitors with plans to "go wild" in the city. Other ideas: earlier closing times for bars and clubs; an extended ban on group tours; further Airbnb restrictions as well as a tightening of river cruises, sea cruise ships and budget flights; and marijuana smoke-free zones, linked to an existing alcohol ban in the city center. They still want tourists, but for the culture, not just the cannabis coffee shops.

"What we do not welcome is people who come here on a vacation from morals. They express a form of behavior they would not express at home," Mayor Femke

Halsema told Bloomberg CityLab last July. "It's a place where you should go if you're looking for beautiful museums, or to see the underground culture, or if you want to attend our [gay] Pride."

According to Onderzoek en Statistiek (the city's research and statistics department), more than 18 million tourists will arrive in 2023, a limit at which the city council is required to intervene under a June 2021 ordinance called Amsterdam Tourism in Balance. In 2019, 22 million visitors came to Amsterdam, the population of which is less than 900,000.

Of course, people have always come to this cool capital for many reasons, even if a bit of fun is one of them. When I first visited in 2014, I toured the Anne Frank house, a dream since reading her diary as a young Jewish girl hoping to be a writer; I hustled around the Van Gogh Museum, then split a THC-laced space cake and got extremely lost. I don't think I wandered outside the city center. If I did, I can't remember.

Revisiting today, armed with the advice of my Bloomberg colleagues in the Amsterdam bureau, I find the city as I recalled: buzzy and vibrant even on a cold weekend in January. There is thick bike traffic ring-a-ling-ing everywhere and heavy footfall along the De 9 Straatjes (Nine Streets) district canals, though "no public drinking" signs now threaten €100 (\$109) fines. Ads for museums and cultural attractions are ubiquitous.

I wanted to be the kind of visitor Amsterdam is hoping for and to see firsthand the efforts to spread tourism over the whole of the city. I hit the Zuidas district to find the restaurant Nela, which opened in August. It's one of the hottest tables in the city, located up several marbled flights of an outdoor staircase. (As I caught my breath, a kind hostess informed me that there was indeed an elevator.) Inside the elegant, airy space, chefs Hari Shetty and Ori Geller, formerly of Nobu London and Yaffo-Tel Aviv, respectively, offer such dishes as sea bream in a green herbal rub, prepared from an open kitchen with a "live-fire cooking" concept.

Shetty says people from all over the Netherlands are coming on weekends, and some Americans and Brits, too. The two chefs used to work in the city center, but wanted something off the beaten tourist track—and a haven that could become a destination. "We want to be like the living room in this neighborhood to make people feel at home," he says. The baby leeks with mustard dressing are reason enough to return.

Back toward the center, eclectic Dutch design store Moooi opened the doors of its Utrechtsestraat shop in December. Inside I was immediately charmed by quirky bedding with patterns featuring extinct animals and lighting fixtures that looked like large marshmallows on chopsticks. How much space did I have in my carry-on?

Utrechtsestraat is one of the nicer independent shopping streets in

Pine Pole 75 at
Super Lyan



Amsterdam, with the Zwart op Wit (Black on White) bookstore, Dutch women's clothing store Vanilia and the Zielinski & Rozen perfumery. Not a stag party in sight, just chic boutiques in which to spend an afternoon and a paycheck.

Alongside its changing relationship to tourism, Amsterdam is reckoning with a more intractable past. Over in trendy Oost, the Tropenmuseum (Museum of the Tropics) collection dates back to 1864 as a display of colonial might featuring artifacts from places such as Indonesia and Suriname. In June, a powerful permanent exhibition opened with a more reflective narrative.

"Our Colonial Inheritance" starts with a video display featuring interviews about what colonialism means to people in the modern world. There are also news clips of Halsema apologizing in 2021 for the city's role in the slave trade, and Prime Minister Mark Rutte doing the same on behalf of the Netherlands for his country's violence against Indonesia. In December he became the first European head of state to apologize for the slave trade, period. The exhibition then artfully addresses the sins of the tiny country as it stretched out to colonize vast tracts of the world, such as the 1621 massacre of the Bandanese after the islanders refused to accept a monopoly on the nutmeg trade. (Survivors were sent into slavery on Java.)

"Colonialism was global, but we wanted to focus on Dutch colonialism and the inheritance of that here in the Netherlands,



because if we wouldn't do that, who else would?" says Wendeline Flores, lead curator of the exhibition. Her country's history in that regard isn't taught in-depth at school, she says, and she wants to create a dialogue around it.

And as Amsterdam's crown jewel of an art museum, the Rijksmuseum, opens its blockbuster Johannes Vermeer exhibition, that dialogue is especially timely. The wealth from colonialism is part of what made the region such a leader in art, trade and commerce in the 17th century, when artists like Vermeer and Rembrandt were creating the masterpieces that are such a big draw for tourists and a point of pride for the city.

"There wouldn't be a Rijksmuseum without colonialism," Flores says. And Amsterdam, she observes, "would have looked very different." **B**

WHERE TO STAY

Pulitzer Amsterdam: This five-star heritage hotel is a glorious maze of 25 connected 17th and 18th century canal houses with a destination bar that bustles on weekends. Rooms come stocked with bike repair kits, and cute design touches include little gold windows in the bathrooms that look as if they belong on houseboats. The history of these quintessential Dutch buildings is an attraction in itself—my room was a former silk merchant's shop—and concierges give walking tours of the canals. A partnership with the Rijksmuseum allows hotel guests to skip the lines on their way to see *Girl With a Pearl Earring*. From €399

Conservatorium: Located in an impressive 19th century building that used to be a bank, the 129-room luxury hotel could easily be confused for one of the neighboring cultural institutions, like the Van Gogh Museum. Label hounds will love the nearby P.C. Hoofstraat shopping street, lined with stores such as Gucci and Louis Vuitton, while tulipophiles can swoon to the property's own orangey-red, double-flowered varietal and book helicopter sightseeing tours when everything is in bloom. From €795

Pillows Maurits at the Park: A new addition to the city's hotel scene, Pillows opened in November next to the Oosterpark, where

fit Amsterdammers work out with personal trainers and young families push strollers around while sipping coffee on sunny mornings. The soft, earthy color palette of the hotel's lobby and stairwells gives it a spa-like atmosphere, away from some of the hustle and bustle of the canal areas. From €320

WHERE TO EAT

Nela: In a striking plant-covered tower reminiscent of Jenga blocks, the smart, modern design of the dining room, with its light, airy atmosphere and open kitchen, is as memorable as its seasonal, fire-kissed cuisine. Sit at the chef's counter to watch as peppers are roasted or pizzas are thrown in the wood-burning oven, and make sure to save room for the tiramisu with coffee "caviar" as a dessert.

Rijks: Art lovers can pair world-class exhibitions at the Rijksmuseum with Michelin-starred Dutch fine dining. A €105 six-course menu focuses on local ingredients, with dishes such as venison with red cabbage, sloe gin sauce, chestnuts and crispy black pudding.

Amoi: This local-recommended option for Indonesian food is cheap, cheerful and under the radar. The chicken satay with a mild peanut sauce for €11 was a highlight, alongside plenty of vegetarian options like

the gado-gado with crunchy vegetables and jammy egg. It's on the Kinkerstraat, a five-minute bike ride from the Pulitzer.

WHERE TO DRINK

Super Lyan: This buzzy bar comes from spirits maestro Ryan Chetiyawardana, named world's best bartender by Tales of the Cocktail. Near Centraal Station, it has a glam and moody atmosphere, with pink neon lights surrounding the bar and service and drinks that lean more playful than precious. Try the Pine Pole 75 for €14, made with Woodford rye, Lillet Blanc and pine "champagne." It tastes like a smokier version of a French 75.

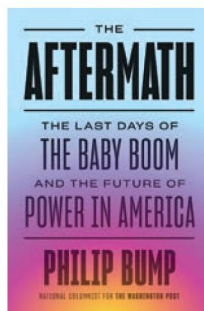
La Dilettante: A cozy little boîte that serves natural wine (mostly French) in the bohemian De Pijp district, alongside bar snacks like cheesy gougères. It's walk-in only, with friendly servers who are passionate about good pours at reasonable prices: A glass of fruity Beaujolais is €6.

Bar Basquiat: The crowd runs young and trendy in the hipster Oost district—especially at this all-day spot named for the famed American artist. Fuel up with a coffee and a warm cinnamon roll before a morning visit to the Tropenmuseum. Or afterward grab a tall glass of the local Basquiat Session White beer, offered along with the usual Heinekens, Amstels and simple cocktails for under €11.

The Best Books of Spring

From thrilling, high-stakes mysteries to expert histories that reexamine stories we thought we knew, this season's reading will keep us on our toes

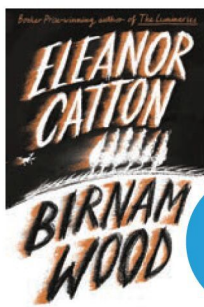
By James Tarmy



The Aftermath: The Last Days of the Baby Boom and the Future of Power in America

By Philip Bump

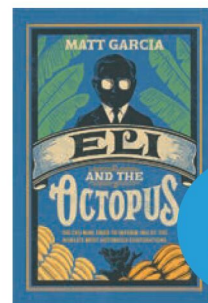
Boomers just won't let go. And who can blame them? Even in the twilight of the American century, after their roughly 76 million members replaced the so-called Greatest Generation with an arguably less great generation, the bloc of people born from 1946 to 1964 has remained in power, wielding its economic might to benefit itself at the cost of everyone else. This isn't a new subject, but Bump, a national columnist for the *Washington Post*, is mercifully more interested in debunking stereotypes than dissecting what went wrong. Deploying a dizzying amount of data visualization, he articulates what's happening now to predict what comes next. *Out now; Viking*



Birnam Wood

By Eleanor Catton

A decade after her last novel, *The Luminaries*, won the 2013 Booker Prize, Catton has come roaring back with a propulsive thriller pitting environmental activists against a shadowy billionaire in the New Zealand wilderness. (In fairness, she's been busy in the interim, most recently writing the screenplay for the 2020 movie *Emma*, starring Anya Taylor-Joy.) Catton is merciless to her characters and extremely generous to her readers, deploying buoyant, seemingly effortless prose. Imbuing the tale with satire, without overwhelming it with the burden of outright comedy, the author maintains a brisk pace right up to, and even after, the action's triumphant climax. *March 7, Farrar, Straus & Giroux*

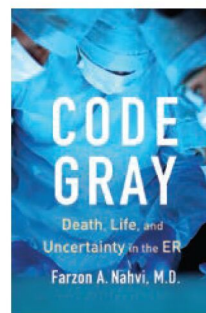


BW
PICK

Eli and the Octopus: The CEO Who Tried to Reform One of the World's Most Notorious Corporations

By Matt Garcia

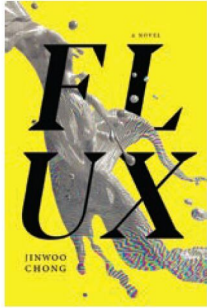
People may be familiar with hedge fund billionaire Leon Black, who stepped down from Apollo Global Management in 2021. Fewer, perhaps, are aware that his father, Eli, helmed United Brands, a company made famous before his tenure for helping overthrow a democratically elected Guatemalan president. Garcia, a Dartmouth College professor, chronicles the elder Black's rise and fall, to and beyond the moment he jumped out of the window of his office building in 1975. Garcia complicates Eli's American-dream-style climb by picking apart the financial machinations that led to his ascent. *April 18, Harvard University Press*



Code Gray: Death, Life, and Uncertainty in the ER

By Farzon Nahvi

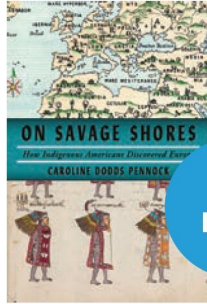
Particularly when entering a hospital, it's comforting to imagine that doctors always know the right thing to tell you. And often they do. It's those other times, though, that Nahvi—an ER physician in Concord, New Hampshire, and a clinical assistant professor of emergency medicine at the Geisel School of Medicine at Dartmouth—has chosen to focus on. At turns discomfiting and often bracing, the book uses one specific case (a previously healthy woman who has a heart attack) as a stalking horse to present his real point, namely that when it comes to life and death, what we see and what we say are rarely black and white. *Feb. 21, Simon & Schuster*



Flux

By Jinwoo Chong

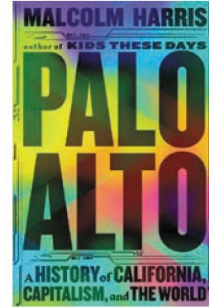
In one of the more ambitious literary debuts in recent memory, Chong jumps through time and between narratives, deftly weaving his characters' storylines to create a noir-style piece of speculative fiction. Undertakings along these lines are often impenetrable, and the plot, a quasi-futuristic blend of present and past, isn't exactly straightforward. But Chong is an uncannily accessible writer, and so as the novel flits from a newly laid-off twentysomething to a fortysomething witness in a criminal trial to an 8-year-old child, the action coalesces into something compelling and utterly new. *March 21, Melville House*



On Savage Shores: How Indigenous Americans Discovered Europe

By Caroline Dodds Pennock

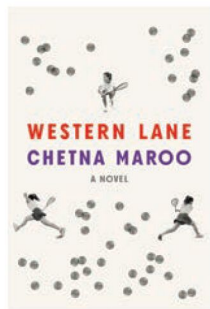
Even as the triumphant history of western European expansion into the Americas is reappraised and, more often than not, wholly rejected, its retelling remains one-sided, a tale of what Europeans did or didn't do to Indigenous people in their lands. But such a narrative ignores the reverse: the thousands of slaves, dignitaries and royalty who crossed the Atlantic and ventured onto European soil. To overlook them, writes Pennock, a senior lecturer in international history at the University of Sheffield in England, is to ignore their contributions to European society. She draws on the scant historical record of these people's time there to show that their impact was, in fact, very real. *Out now; Knopf*



Palo Alto: A History of California, Capitalism, and the World

By Malcolm Harris

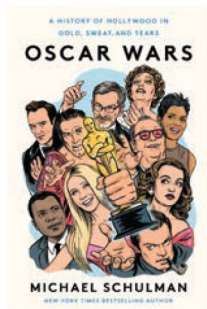
The city of Palo Alto has roughly 70,000 people and covers only 24 square miles, but its residents (Mark Zuckerberg), major university (Stanford) and companies (Hewlett-Packard) have had an impact on billions of Earth's inhabitants. Harris, a journalist and author of the book *Kids These Days: The Making of Millennials*, examines the city's contradictions by tracing its path from a counterculture to its ironclad embrace of laissez-faire capitalism. Part history book, part indictment of an American idyll fueled by environmental destruction, racism and dubious business practices, *Palo Alto* is a valuable contribution to the city's mythology. *Feb. 14, Little, Brown & Co.*



Western Lane

By Chetna Maroo

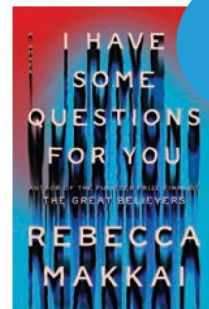
Given that nothing too consequential happens in this endearing coming-of-age novel, its success is a tribute to the strength of Maroo's tight, affecting prose. Set in England and centered on a precocious, rambunctious 11-year-old named Gopi who becomes consumed by playing squash after the death of her mother, the book slowly unearths its protagonist's inner world as she swings and swats her way through grief. As Gopi leaves her family behind (emotionally, not literally), her passion becomes a salve—even as the rest of her world threatens to fragment. *Out now; Farrar, Straus & Giroux*



Oscar Wars: A History of Hollywood in Gold, Sweat, and Tears

By Michael Schulman

Despite having crafted a book filled with enough Hollywood arcana to titillate any trivia buff, Schulman, a staff writer at the *New Yorker* and the author of *Her Again: Becoming Meryl Streep*, has a broader point to make. The Academy Awards, he writes, are a barometer for understanding America's zeitgeist. Even when the Oscars miss the mark (the 1969 best picture winner was the musical *Oliver!*, while *2001: A Space Odyssey* and *Rosemary's Baby* weren't even nominated), those failures, Schulman shows in this riotously fun chronicle, can be interpreted as a sign of generational conflict. *Feb. 21, Harper*



I Have Some Questions for You

By Rebecca Makkai

Fittingly for a novel structured like a true-crime podcast (an old murder is reexamined with new eyes and evidence), the book's protagonist, Bodie, is a podcaster and an occasional college professor. When she returns to her old boarding school in New Hampshire, where decades earlier a popular, beautiful classmate was killed, she begins to make connections—or, perhaps more to the point, see faults—in the events that transpired when she was a teen. Makkai, whose novel *The Great Believers* was a finalist for the Pulitzer Prize for Fiction in 2019, is as interested in the plot as she is her characters' ability to follow it, turning the book into an examination of memory, identity and nostalgia. *Feb. 21, Viking*



Punch Shot

With *Full Swing*, Netflix tries to tease drama out of the most staid of sports: Golf. *By Michael Croley*

The average golfer takes a few holes to get going. And *Full Swing*, the new series from the creators of Netflix's hit *Formula 1: Drive to Survive*, also gets off to a slow start. It opens by profiling the friendship and rivalry of young superstars Jordan Spieth and Justin Thomas. The episode, "Frenemies," showcases a professional golfer's life and the cadence it entails—showing the pair in the cabin of a private jet, drinking beer and ribbing each other. They're competitive, but the rivalry feels overshadowed by the camaraderie. These guys are a little too well-behaved to make interesting television.

But in the fourth episode, which zooms in on some lesser names, the show really starts to find the flag. Not every player comes from a well-heeled background; for those who are struggling to make a living at the game, the stakes are higher. What comes across in the eight episodes is the sport's incredible capriciousness: Certain victory can twist shockingly into painful defeat, and a player's fate turns on each swing. Fractions of an inch can alter entire outcomes—and lives.

Chilean Mito Pereira's stunning loss at the 2022 PGA Championship, after he'd started the final round ahead by three shots, is relived in excruciating detail. His meltdown on the final hole is so much harder to witness with *Full Swing* training its cameras on his friends and wife, who can barely watch. The show also captures the fragile and enigmatic Brooks Koepka, who rose to the top, winning four majors, but whose game was utterly lost and irrecoverable to him in 2022. And it paints an intimate and tender portrait of Tony Finau, one of the PGA Tour's few players of color.

Then the focus shifts from personal rivalries to global tensions. When Netflix first greenlighted the show, before

the start of the 2022 season, the producers couldn't have anticipated a year with so much upheaval: The PGA Tour was, and continues to be, embroiled in a legal and existential battle with LIV Golf, the new Saudi-backed league. LIV was paying golfers upfront—upwards of \$200 million, some reports say—to lure the likes of Dustin Johnson, Ian Poulter, Sergio Garcia and Phil Mickelson.

Full Swing had access to Johnson and Poulter. Both declined to answer questions on camera about the Saudi kingdom's politics; we see their reticence to address similar queries in numerous LIV press conferences as well. When finally put to the test, both say joining LIV was a decision they made for their families. "Make more money and work less," Johnson says. "Who wouldn't do that?" Schisms among millionaires rarely make for good drama, but it feels juicy to watch nastiness between the players who've joined LIV and those who chose the "legacy," as they put it, of staying on the PGA Tour.

An omnipresent question during each of *Full Swing*'s episodes is who will be next to join LIV, and what it will mean for the future of professional golf. It's especially fun when Matt Fitzpatrick, an undersize Englishman who probably wasn't on LIV's radar, wins the US Open in dramatic fashion. Inevitably he must be asked if he's been contacted by LIV and whether he'll join if offered a contract. (They did; he wasn't interested.)

One of the most pleasing things about *Drive to Survive* is that it chronicles a clear chase: to be the season-ending champion based on points earned in each Formula One race. Although the PGA Tour has its own full-season trophy, the FedEx Cup, it's not nearly as important as its major championships. In fact, *Full Swing* shows a fraction of the tournaments, and not in chronological order, choosing instead to build itself around personalities. Viewers will feel this lack of narrative thread. Taking events out of order becomes disorienting for those who know the schedule, undermining the manufactured drama of some of the storylines.

One can understand the effort to gin up suspense; the players' generally good behavior makes the program a bit bland. But at its best, *Full Swing* succeeds in showing how intense the four majors are for players. We see the collision of nerves, ambition and skill during the tournaments, going deep into the lives of each champion to experience their tension, misery and elation on golf's biggest stages. In those moments, the program's beautiful visual style and perfect musical score provide some of the best golf documentary work ever done.

Full Swing seeks to give a fuller picture of the men who make up the game today, those who play for money and those who play for honor. In doing so, it examines the fickle nature of talent and how much it hinges on mental fortitude. For invested fans, the show won't provide many revelatory moments, but *Full Swing* is really for everyone else. It's a highly stylized pro golf primer that captures the spirit and nature of today's game while nodding toward its precarious future. If the pros eventually eat themselves alive, *Full Swing* will have recorded the first chapter of that history. **B**



Cracking the Case

A leather briefcase can last for decades. So you'd better choose the right one

By James Tarmy Photograph by Hannah Whitaker

More than a watch or a pen or a tie, the right briefcase can subtly telegraph style and professionalism while serving a conspicuously utilitarian purpose. It's the object you heave onto a conference table, rifle through at a lunch meeting and rely on for an elegant commute. Given that most classic briefcases do basically the same thing (open and close and carry things), the best are set apart through design, materials and build-quality. With its clean lines, manageable size and timeless, discreet aesthetic, the Pur two-compartment briefcase from R. Horn's Wien is guaranteed to deliver function in a form you'll want to have by your side for decades.

THE COMPETITION

- Made by hand in Ettinger's century-old UK factory, the slim Burlington briefcase (\$1,750) can fit a laptop and a handful of documents. Suede inside with a sturdy bridle leather exterior, the bag has two slip pockets, one on the outside for easy access.
- Asprey's Hanover 1 briefcase in saddle leather (\$3,150) will wear beautifully over time, and the calfskin interior offers a single main compartment and two pen pockets, plus slots for your business cards and phone.
- Structured, crisp and contemporary, Sandqvist's Alice bag (\$390) looks hypertrim but has a slot large enough to fit a 13-inch laptop along with a larger main compartment. A removable leather shoulder strap and zip top add to ease of use.

THE CASE

R. Horn's Wien is a boutique Austrian manufacturer whose eight craftsmen make products by hand in its Vienna workshop. Light, elegant and made from a supple soft leather, the Pur is roomy enough to carry a laptop or an iPad along with a book, but slender enough that it won't look like you've stuffed your whole work desk inside. There are two main compartments with a thin third in the front for loose papers, all of which can be locked securely with a small clasp on the flap that's based on a century-old design. (Don't lose the key!) Inside, the lining provides a vivid pop of red, which owners can expose judiciously—a tiny bit of pizzazz in an otherwise staid, if stylish, wrapper. €985 (\$1,075), rhorns.com

Financial Bubbles Are Hard to Pop

By Shuli Ren

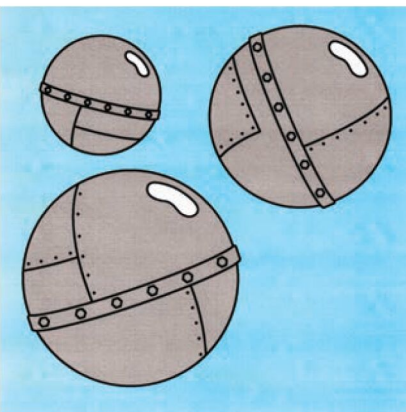
Despite appearing unsustainable, financial bubbles can last a surprisingly long time. Consider three: Japanese government bonds, the US stock market and Chinese real estate.

Since September 2016, the Bank of Japan has steadfastly vowed to keep its 10-year government bond yield near zero, even as central banks in the US, EU and UK started raising rates. Bond traders are getting vocal, saying the BOJ will have to raise rates eventually. Consumer price inflation has been above its target

for nine months, and with the central bank owning half of Japan's sovereign debt, traders complain that the market isn't functioning properly, according to the bank's latest survey. But the BOJ stood firm. In the first three weeks of January, the bank spent a record \$169 billion buying government bonds to maintain its rate policy.

There's also the ever-rising US stock market. In January the Nasdaq Composite Index climbed more than 10%, even as Big Tech cut tens of thousands of jobs. The wishful thinking here is that a slowing economy will force the Federal Reserve to slash its benchmark rates as early as the second half of this year—despite officials' repeatedly trumpeting the opposite message—and Big Tech's cost-cutting efforts will keep their earnings intact.

Stories of Chinese developers building high-rises in ghost towns surfaced a decade ago, and short sellers have been pointing fingers at builder China Evergrande Group's enormous debt for just as long. Yet construction kept



booming, and the government imposed specific measures to curtail it in 2020.

These perceptions are very stubborn. In the past, real estate was the best-performing financial asset class for Chinese households, as stocks were for Americans. As such, fear of missing out pushed them to buy whenever there was a price drop. Meanwhile, Japanese households seem unable to shake off a deflationary mindset. The current pace of wage growth is still well below the 3% that BOJ Governor Haruhiko Kuroda sees

as necessary to achieve his long-term inflation target of 2%.

So it's worth looking at the measures China had to impose to pop its real estate bubble. Regulators forbade commercial banks from lending to developers deemed to have too much debt. Banks were discouraged from issuing mortgages. Local governments were told to curtail sales of land. The crackdown sent China's economy into its weakest growth since the Cultural Revolution.

In light of the China experience, it's doubtful the other two bubbles will pop anytime soon. Unless Prime Minister Fumio Kishida forces Japan's biggest corporations to raise worker salaries in a meaningful way, the deflationary mindset will remain entrenched and the new BOJ governor, who will likely be nominated this month, will have to continue tamping down rates. And with the Fed's credibility in question, the tech-heavy US stock market will continue to rally as if there's no earnings slump coming. **B**

—Ren is a columnist for Bloomberg Opinion



Bloomberg

Intelligent Automation: Transformation in a Time of Uncertainty

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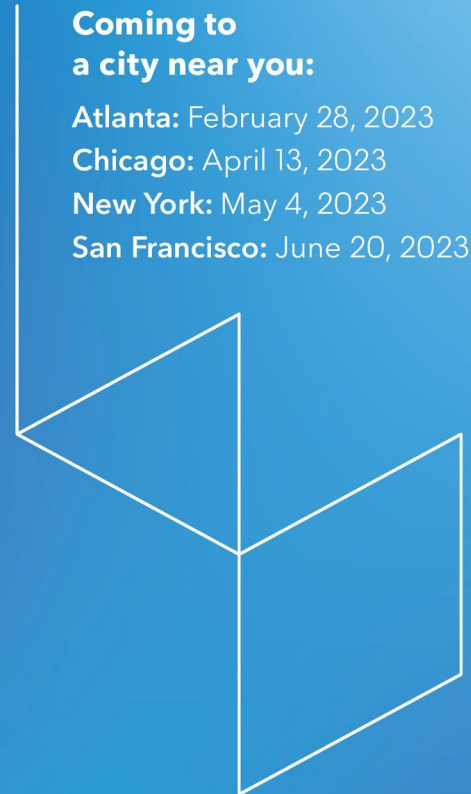
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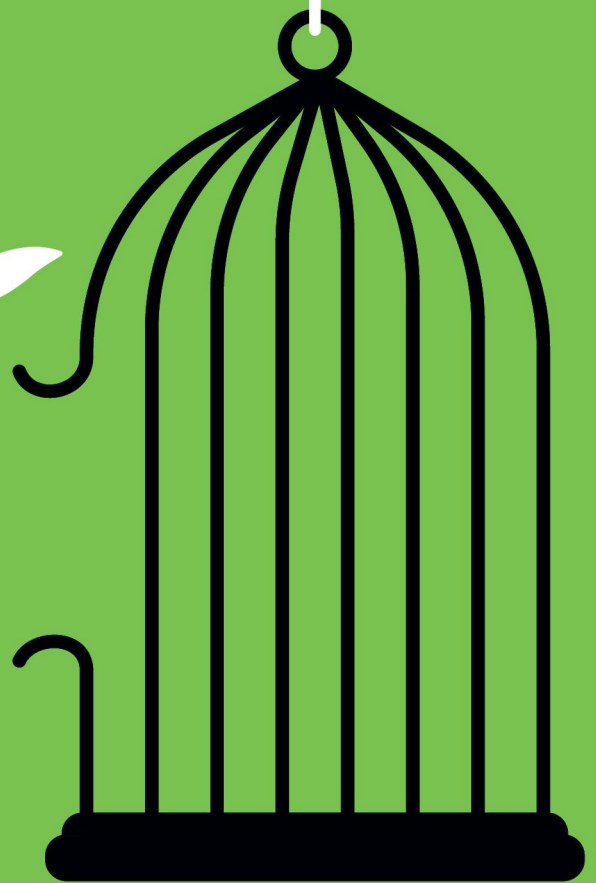


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