● Survey fatigue is real 26 ● Have a better midlife crisis 63 ● Ben & Jerry's Unilever fight 48

Bloomberg Businessweek

February 20, 2023 ● DOUBLE ISSUE

ONE YEAR LATER

The staggering cost of Putin's invasion of Ukraine 6

Will it ever end?

Bloomberg Businessweek

February 20, 2023

◀ McAfee, who went from Silicon Valley pioneer to prisoner in Spain, took his own life

ADALBERTO ROQUE/AFP/GETTY IMAGES

FEATURES

CORRECTION

"A Billionaire's Tough Strategy Goes Awry" (Business, Feb. 13) should not have described Eike Batista as under house arrest.

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■ COVER TRAIL

How the cover gets made

1

"So this week we're returning to Putin's invasion of Ukraine—it's been almost a year of war already."

"No shortage of depressing imagery, that's for sure."

2

"There's destruction here. But it's missing ..."

"Devastation?"

3

"Honestly, that's very hard to look at. Maybe too hard?"

4

"The defiance is good, but we've lost the devastation."

"Got it. There's one more option that I think sums things up. ..."

Cover: Photograph by Lenka Klicperova

REMARKS: KATYA MOSKALYUK. COVER TRAIL (TOP TO BOTTOM): MYKHAYLO PALINCHAK, LENKA KLICPEROVA, RAFAEL YAHOBZADEH

● The great balloon hunt continues.

As of Feb. 12, four objects had been shot down over the US and Canada, but the Biden administration suspects the last three served commercial purposes and weren't used for spying. They "could just be balloons tied to some commercial or benign purpose," National Security Council spokesman John Kirby said on Feb. 14.

● The US consumer price index in January climbed

0.5%

according to the Bureau of Labor Statistics, the most in three months. It's up 6.4% from a year ago. The Commerce Department says retail sales rose in January by 3%—the biggest jump since early 2021. Both data points suggest the Fed is likely to keep raising rates to cool the economy.

● Regulators say Starbucks's union busting broke the law.

The National Labor Relations Board on Feb. 13 found that the company illegally threatened, interrogated and terminated pro-union employees. Starbucks has denied any wrongdoing.

● Worldwide, there have been 674 million cases of coronavirus and

6.9m

deaths. Researchers at Cedars-Sinai Medical Center in Los Angeles said on Feb. 14 that people infected with omicron—considered a milder variant of Covid-19—face an increased risk of diabetes and related diseases, though vaccination appears to reduce the risks.

● The WHO said on Feb. 14 that Syria and Turkey will need much more than the

$43m

the agency initially appealed for. The death toll from the devastating Feb. 6 earthquake has topped 41,000. Hans Kluge, the WHO's regional director for Europe, expressed particular concern about infectious diseases, given the region's crippled water and sanitation facilities.

● A young woman being pulled alive from the rubble of a collapsed building in Hatay province in Turkey on Feb. 13—177 hours after the earthquake struck.

● Nicola Sturgeon said on Feb. 15 that she will step down as leader of the Scottish National Party.

Sturgeon has been the popular face of Scotland's independence movement for eight years, but her recent push to reform gender recognition policies has proved controversial, nudging many Scots back to the UK government's side. A recent survey in the *Sunday Times* found that support for independence has fallen to 47%, from 53% in December.

● "The absence of dialogue is tearing us apart from within.... This powder keg is about to explode."

President Isaac Herzog warned that Israel is on the verge of "constitutional and social collapse," as protesters surrounded parliament on Feb. 12, seeking to derail Prime Minister Benjamin Netanyahu's proposal to make it easier for the state to appoint judges and limit the Supreme Court's authority to strike down legislation.

● Companies in the S&P 500 are adding more Black women to boards than ever before.

From May 2021 to April 2022, 46 of the 395 new directors named—or 12%—were Black women, Dow Jones reports, the most in the 15 years that researchers have been tracking the statistic. They've joined the boards of Abbott, Delta, Lowe's and other major companies. The trend partly reflects a desire to have boards that look like businesses' workforces and customers.

● On Feb. 14, LVMH named musician and tastemaker

Pharrell Williams as creative director for menswear at Louis Vuitton, which has annual sales of €20 billion ($21.4 billion). Like the late Virgil Abloh, his predecessor, Williams has a streetwear background. He's already collaborated with Louis Vuitton, as well as Moncler and Chanel.

BALLOON: ALAMY. CUP: ALAMY. TURKEY: ENES YILDIRIM/ANADOLU AGENCY/GETTY IMAGES. HERZOG: OLIVIER MATTHYS/GETTY IMAGES. WILLIAMS: PASCAL LE SEGRETAIN/GETTY IMAGES. ILLUSTRATION BY RAÚL SORIA

Florida's Gun Laws Take a Dangerous Turn With Permitless Carry

After winning reelection in November with almost 60% of the vote, Florida Governor Ron DeSantis had political capital to spend on any number of priorities. Sadly, he's settled on one of the most ill-considered choices available: allowing the public to carry concealed firearms without a license.

The policy is as bad as it sounds. It removes any requirement for a gun owner to obtain a license or take a training course to carry a concealed weapon in public. (A license is still required to carry a firearm visibly.) The bill is advancing through the legislature, and given its Republican supermajority and the governor's backing, it's likely to become law. Florida would thus become the 26th state to legalize "permitless carry" (or "constitutional carry," as fundamentalists call it).

It's a disappointing turn only five years after the nation's worst high school mass shooting took place in Florida in 2018, when a 19-year-old armed with an AR-15-style semiautomatic rifle opened fire at Marjory Stoneman Douglas High School in Parkland, killing 14 students and three staff members and wounding 17 others.

Although a tragically familiar story, what followed was more unusual. Despite having a Republican governor and legislature, the state moved promptly to strengthen its gun laws: Less than a month after the shooting, Florida had raised the minimum age to purchase firearms to 21, imposed a three-day waiting period on the purchase of long guns, outlawed bump stocks (devices that allow a semiautomatic weapon to fire more rapidly) and authorized a red-flag law to allow authorities to temporarily confiscate the firearms of those demonstrating an intent to harm themselves or others.

Now, five years later, Florida is heading in the opposite direction—and for no good reason. Even with the post-Parkland measures, the state was hardly restrictive on guns. It was one of the first to pass a stand-your-ground law, which allows for using deadly force in self-defense even when there is no lethal threat; it has no universal background check requirement; and it already allows licensed owners to carry concealed firearms in public, a policy that itself leads to increased firearm homicides.

A permitless carry law will probably make things worse.

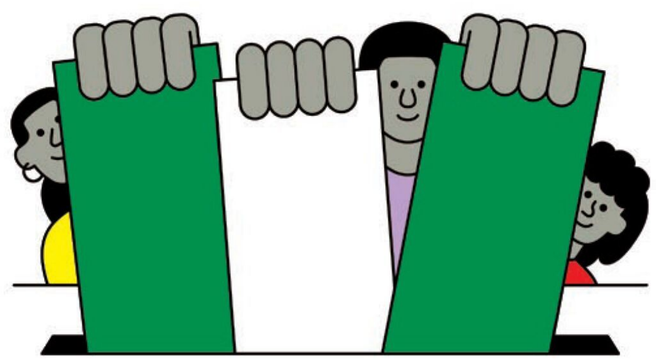
Much of the governor's agenda of late seems designed to check boxes most appealing to a national conservative audience

One analysis found that gun homicides increased by 22% on average in the three years after states passed such a measure. A separate study showed that permitless carry led to a 13% increase in shootings by police—perhaps explaining why law enforcement organizations have been some of the most vocal opponents of permitless carry where it is proposed.

Previous attempts to codify this policy in Florida have stalled in legislative committees. There was little to compel DeSantis to endorse the idea—except, maybe, for politics. Not unlike his crackdown on environmental, social and governance investing; his fight with Walt Disney Co.; and his vocal opposition to critical race theory, much of the governor's agenda of late seems designed to check boxes most appealing to a national conservative audience.

Alas, unlike those other policy choices, this one could well come with fatal consequences. *For more commentary, go to bloomberg.com/opinion*

■ AGENDA



► Nigeria Heads to the Polls

Africa's largest country holds its general election on Feb 25. Bola Tinubu, Atiku Abubakar and Peter Obi are running to succeed President Muhammadu Buhari, who's faced high inflation, a kidnapping crisis and an Islamist insurgency.

► The US Bureau of Economic Analysis releases its Core PCE Price Index on Feb. 24. The Federal Reserve weighs this gauge against Bureau of Labor Statistics estimates.

► Central bankers elsewhere are also closely monitoring inflation: Japan reports its year-over-year rate on Feb. 23, along with France on Feb. 28 and Germany on March 1.

► GfK Group publishes its Consumer Sentiment Study for Germany on Feb. 24. It's inched up every month since October, as Europe's economic outlook has gradually improved.

► Walmart and Home Depot report earnings on Feb. 21, Rio Tinto on Feb. 22, Alibaba and Deutsche Telekom on Feb. 23 and Dell on March 2.

► Works by Chagall, Kandinsky, Munch, Picasso, Richter and other masters of modern and contemporary art go on auction at Sotheby's London Sales on March 1 and 2.

► March 3 is World Wildlife Day. The UN says extinction threatens about 1 million species. Humans have significantly altered three-quarters of the Earth's land.

REMARKS

ONE YEAR LATER

When No

A year into Putin's war, the economic toll on Ukraine is obvious. But Russia is equally at risk

By Leonid Bershidsky

One Wins

● A destroyed Russian tank near the village of Dmytrivka, outside Kyiv, April 2022

SERHII KOROVAYNY

When a large country attacks a smaller, poorer one—with about a quarter its population and one-ninth its economic output—it's not unreasonable to expect some manageable financial strain for the aggressor and catastrophic devastation for the victim. A year into Russia's war in Ukraine, the economic fallout could indeed be described in those terms: Much of Ukraine has been reduced to rubble, with millions of citizens huddled in the cold and dark, while life in Russia, if you're not a soldier on the front lines, remains fairly comfortable.

But as the war enters its second year, it's becoming clear that the cost to both sides will turn out to be intolerably high. There's no outcome that looks good for anybody, and the longer the conflict lasts, the higher the economic toll will climb.

Russia's onslaught has obviously crippled Ukraine, and it's unclear what it will take for the country to recover in our lifetime. Gross domestic product fell more than 30% in 2022, the steepest decline since Ukraine gained independence three decades ago. Last year's budget deficit of almost 27% of GDP was plugged with foreign aid and debt that will almost certainly have to be restructured. Inflation officially hit 20%, but in reality it likely exceeded 30%. For poorer Ukrainians, it surely felt even worse. Prices for vegetables, for instance, have risen 85% as Kherson, the country's biggest vegetable producer, has been the scene of heavy fighting, and much of the region remains occupied.

The National Bank of Ukraine has imposed strict capital controls and a fixed exchange rate. In July it devalued the hryvnia by 25%, to 36.6 per dollar, but on the street the rate is closer to 43. Salaries are barely growing, and no wonder: The Warsaw-based Centre for Eastern Studies says the unemployment rate is probably about 40%. The forced emigration of millions of Ukrainians, mostly women and children, and the universal mobilization of men age 18 to 60 have moderated the social pressure. Both, however, pose risks. Refugees settling into new lives overseas and mounting military losses—which Ukraine doesn't disclose—will sap the potential workforce.

The fighting has taken a particular toll on the most important sectors of the economy. Heavy industry is concentrated in the east and south, where Russia has made the biggest gains and caused the greatest devastation. A September survey of infrastructure loss by the Kyiv School of Economics (KSE) put the damage to roads, bridges, homes, schools, hospitals and arable land at $127 billion. The KSE estimates the destruction of just the physical assets of Ukrainian businesses at $13 billion, while indirect damage, such as lost markets or distribution channels, exceeds $33 billion. Agriculture was strongest in areas of the fertile south that have seen intense fighting; the wheat harvest dropped from 32.5 million tons in 2021 to 26.6 million tons last year—and a quarter of that went to Russian occupiers.

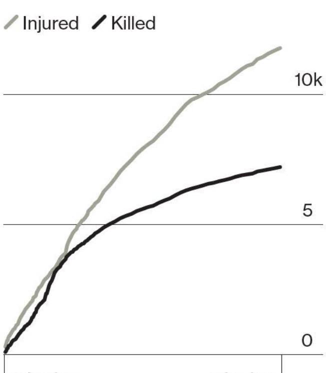
KSE's damage assessment survey, funded by allied governments, bears the optimistic name "Russia Will Pay." But it's unclear whether nuclear Russia will ever cough up reparations, even in defeat. And any payments from the country's reserves frozen in Western countries are legally complicated: Such a scheme—even a cautious approach recently proposed by the European Commission—would create a dangerous precedent for the global financial system.

The physical damage is compounded by Ukraine's deep corruption, which remains entrenched even as the war has rendered theft of public funds that much more morally reprehensible than it is in peacetime. Firings of procurement, customs and infrastructure officials have increased in recent weeks as President Volodymyr Zelenskiy tries to keep Western donors on board.

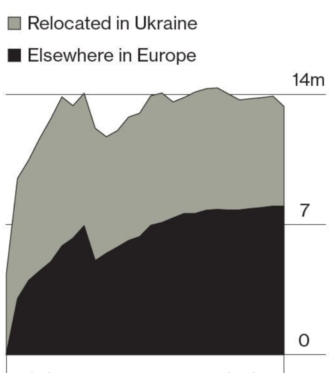
What about the economic consequences for Russia? The country's GDP dropped only 3% in 2022, according to the Bloomberg consensus estimate. Inflation, at 13.8%, was high but not dramatically worse than in some Western nations. At 2% of GDP, last year's budget deficit was manageable despite curbs on foreign debt issuance due to Western sanctions. And the official unemployment rate even went down, to 4%, from 4.8% last year, according to the Bloomberg consensus estimate.

Those numbers are misleading, though, and not just because official statistics likely paint too rosy a picture as the Kremlin seeks to prove its resistance, resilience and self-reliance in the face of Western sanctions. Before the war, Russia's economy was expected to grow at least 3% as it reopened after

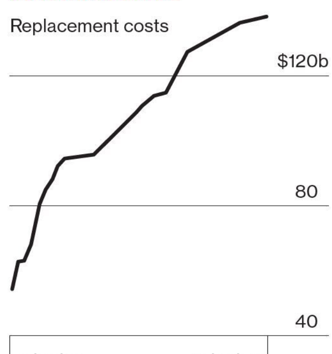
CIVILIAN CASUALTIES IN UKRAINE



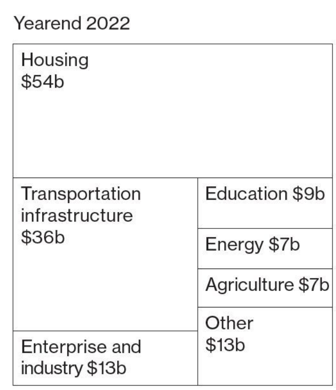
REFUGEES FROM UKRAINE



DAMAGE TO UKRAINE'S INFRASTRUCTURE



DAMAGE BY SECTOR



the pandemic, so the total decline in real production is closer to 6% of 2021 GDP of $1.8 trillion. In absolute terms, that's $108 billion—about half of Ukraine's 2021 GDP—meaning the drop in Russia's economic output tops Ukraine's.

Russia's economic losses also look deceptively small because the sanctions it faces, while unprecedented in their scale, have been imposed gradually. Early in the invasion, the country benefited when energy prices climbed as a result of the war. In recent months, the effects of more energy embargoes and a price ceiling on Russian crude have kicked in. The price differential between Brent crude, the traditional benchmark for oil in Europe, and the Russian Urals variety has widened. Russia's Ministry of Finance says the Urals price has fallen 42% in the past 12 months. For most of last year, oil and gas revenue bolstered Russia's federal budget by about 1 trillion rubles ($13.4 billion) per month. In November and December, that contribution declined to roughly 900 billion rubles. In January, it was 425 billion rubles.

Even as oil and gas revenue dwindles, the military and security establishment is getting hungrier. Federal defense spending increased 23% in 2022, to more than $66 billion, and it's slated to expand an additional 6% this year. At current levels, the Kremlin will give the military almost everything it gets from energy sales. That doesn't augur well for ordinary Russians, especially the half who work in the state sector.

As in Ukraine, the economic outlook in Russia is further dimmed by military losses. Verifiable deaths number more than 10,000, but the total number of dead and wounded is surely far greater—maybe 20 times as high, according to some Western estimates. And, like Ukraine, Russia is plagued by growing emigration, often of highly trained tech professionals fleeing mobilization. Estimates of this outflow vary wildly, but conservative appraisals put it at about 500,000 since the start of the invasion.

The Bloomberg consensus on Russia's GDP in 2023 is zero growth, compared with an expansion of 2% for Ukraine. That's because Ukraine has managed to keep its infrastructure running despite the fighting. And if it wins back some agricultural land and natural resources, it can increase exports, which for now have stabilized at about half their prewar level. Russia's prospects for economic improvement depend on the success of its efforts to replace imports with local products. Any such substitution is bound to happen slowly given Russia's extensive prewar dependence on foreign goods.

Verifiable Russian deaths number more than 10,000, but the total number of dead and wounded is surely far greater—maybe 20 times as high, by some Western estimates

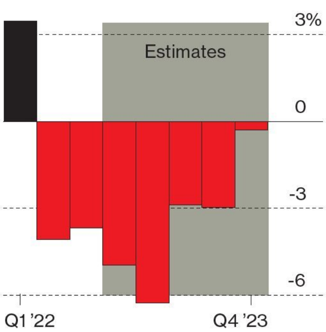
Ukraine's economic decline has been driven by horrendous physical destruction, which won't be repaired for years even if the entire Western world chips in and Russia is forced to pay reparations. Russia has suffered little physical damage, with any economic toll coming mostly from sanctions. Those could be lifted following some kind of peace agreement—in theory making it easier for Russia to recover.

But any deal easing sanctions will likely require hefty reparations. If Russia manages a decisive battlefield victory and imposes its own peace terms, Western economic restrictions are almost certain to stay in place, while the Kremlin will be saddled with a multibillion-dollar check for rebuilding occupied areas brimming with hostile residents.

Add it all up, and it's increasingly evident that neither side can emerge an economic winner—no matter what happens on the battlefield. Both will suffer crippling consequences long after the last shells fly. B

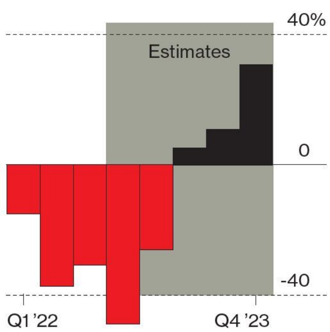
RUSSIA GDP

Year-over-year change

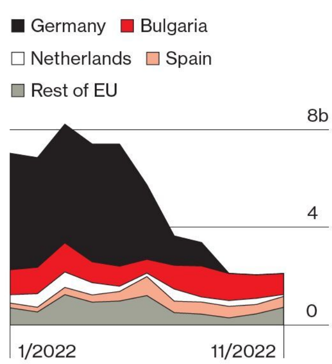


UKRAINE GDP

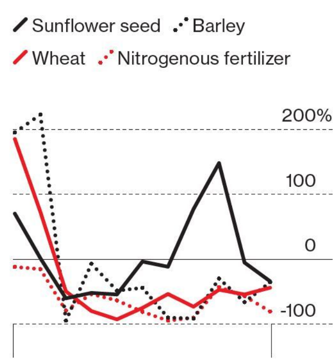
Year-over-year change



EU IMPORTS OF NATURAL GAS FROM RUSSIA, CUBIC METERS

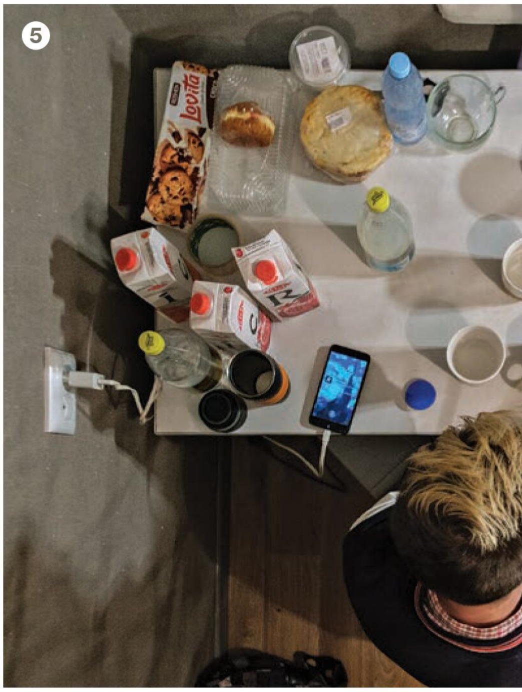


UKRAINE EXPORTS, YEAR-OVER-YEAR CHANGE



DATA: OHCHR, UNHCR, IOM, KYIV SCHOOL OF ECONOMICS, COMPILED BY BLOOMBERG (RUSSIA ESTIMATES ARE BLOOMBERG CONSENSUS, UKRAINE ESTIMATES ARE GOLDMAN SACHS), EUROSTAT, UN COMTRADE

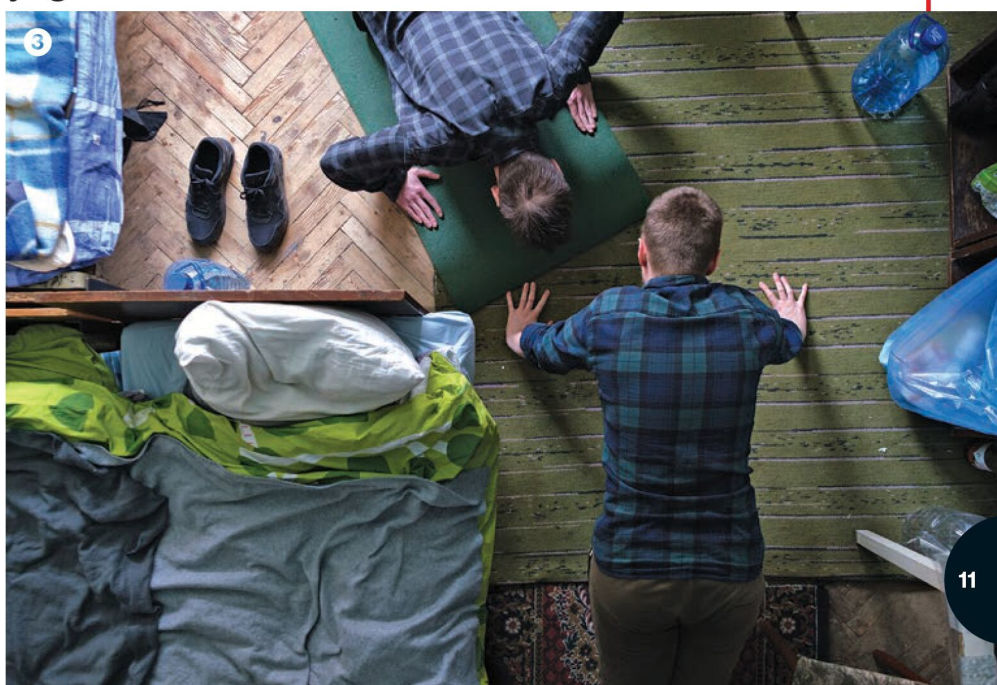
Taking Shelter



❶ Sasha and Nastia left Kharkiv after the Russian invasion and now live in a former student dorm in Lviv. Sasha, who'd worked in a cafe, spends his days watching the news or helping his dorm mates. ❷ Some of the 13 people, all from Kharkiv, who now share one apartment in Lviv hang out on the rooftop of their building. Some even sleep there.
❸ Ivan and Kostya, film students from Kyiv, exercise in their room in the dorm.

● Some 5.4 million Ukrainians were counted as internally displaced by the United Nations' migration agency in January. Of that number, 58% have been displaced for at least six months. Here's how a diverse group, mostly from Kharkiv in the northeast, are reinventing their lives in Lviv in western Ukraine.

● Photographs and story by Igor Chekachkov



❹ Katya, an actress from Kharkiv, plays with her children in a house outside the city. The owner opened his home to displaced Ukrainians after his wife left with their two kids for Poland. Some stay for a day before going abroad; others have lived there for months. ❺ Denis, pouring vodka, and Ivan prepare for a party with fellow refugees in a Lviv apartment. ❻ Sasha and Lina are roommates in the dorm. Lina, 16, had roomed with her mother and two brothers before she met Sasha.

A New Arms Race

● As the war drags on, both Russia and Ukraine are using more shells than they can buy or produce

● By Natalia Drozdiak

On an average day in Ukraine, the opposing armies lob as many as 30,000 shells at one another. That's more than 200,000 a week, almost 1 million a month—without including the bullets, land mines, hand grenades and other munitions being deployed as Vladimir Putin's invasion enters its second year.

While Russian troops typically fire about twice as many rounds as Ukrainian forces do, stockpiles on both sides are shrinking. Ukraine's ammunition use is "many times higher" than the current rate of production of its allies, NATO Secretary General Jens Stoltenberg told reporters in Brussels on Feb. 13.

That's set up a scramble to get more ammunition and weaponry to the front, making the war as much a battle of factories as of troops. Neither side is at risk of totally depleting its inventory, but dwindling supplies restrict an army's options, says Mark Cancian, a former US Marine colonel who's now an adviser at the Center for Strategic & International Studies in Washington. "At some point, that becomes a problem," he says. "If it becomes too constrained, you can't shoot at really good targets."

● Iowa Army Ammunition Plant assembly line in Middletown, Iowa

Some analysts say the conflict is showing uncomfortable parallels with World War I, when the combatants settled into entrenched positions and fired countless shells, hoping to break the stalemate. As the conflict dragged on, both sides suffered a shortage of artillery shells, and in 1915 Britain's government was driven from office after it failed to deliver enough ammunition in what became known as the "shell crisis."

Ukraine has managed to keep up because the more precise weaponry it's gotten from NATO countries allows it to use its ammunition more effectively than Russia does, according to officials from the alliance. And it can rely on factories in Europe, the US and Canada that have far greater potential capacity than that of Russia, which faces sanctions and has had to turn to North Korea and Iran for supplies. The US Army says that by this spring its production of 155mm shells, a NATO standard for artillery, will rise from 14,000 to 20,000 per month. In January, the Army said it would invest $2 billion in several of its ammunition plants across the US, as it aims to reach monthly production capacity of 90,000 shells as soon as next year.

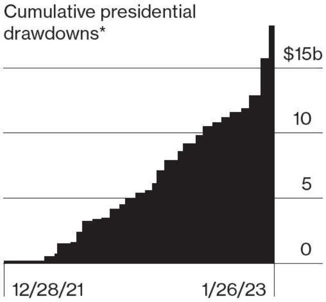
Germany's Rheinmetall AG is investing more than €10 million ($10.7 million) in a new production line near Hamburg to make ammunition for the Gepard antiaircraft guns Berlin has supplied Ukraine. ZVS Holding in Slovakia says it will quintuple its annual production of 155mm shells, to 100,000, by next year. France and Australia are teaming up to produce unspecified quantities of 155mm shells. And Ukraine says it's agreed with NATO members to produce various types of munitions in factories outside the country.

Although there's little public information on Russia's efforts to shore up its ammunition supplies, it's clear the Kremlin is focused on defense production. Government officials meet regularly with representatives of the industry to coordinate plans, and state television says armaments factories continued to work full tilt through the New Year holidays even as much of the rest of Russia took 10 days off. Defense Minister Sergei Shoigu has said that the military roughly doubled ammunition purchases in 2022 and that spending on weapons systems will increase 50% this year. "We have no funding restrictions," Putin told Ministry of Defense staff in December. "The country, the government will provide whatever the army asks for. Anything."

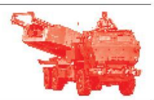
In February the state news agency reported increased output of Krasnopol guided artillery shells. The Center for the Analysis of Strategy and Technology in Moscow estimates production of combat aircraft jumped by half last year, though it was still 70% below the 2014 level. Uraltransmash, which makes self-propelled howitzers, has announced a big hiring push. And Uralvagonzavod, the primary manufacturer

FACTORY: LYNDON FRENCH/THE NEW YORK TIMES/REDUX. MILITARY: US AIR FORCE (1), US ARMY (5), US MARINES (1)

US SECURITY ASSISTANCE COMMITTED TO UKRAINE

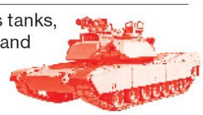


- 38 High-mobility artillery rocket systems (Himars) and ammunition

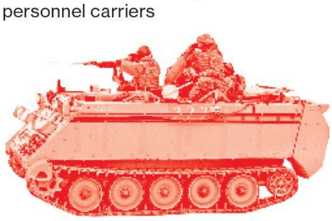


- 8 National advanced surface-to-air missile systems (Nasams)
- 1 Patriot air defense battery and munitions

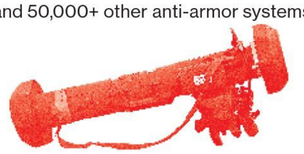
- 31 M1 Abrams tanks, 45 T-72B tanks and 109 Bradley infantry fighting vehicles



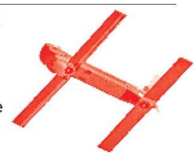
- 300 M113 and 90 Stryker armored personnel carriers



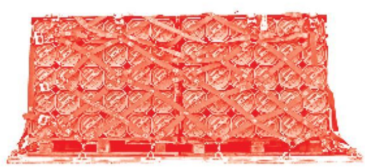
- 1,600+ Stinger anti-aircraft systems
- 8,500+ Javelin anti-armor systems and 50,000+ other anti-armor systems



- 1,800+ Phoenix Ghost tactical unmanned aircraft systems, 700+ Switchblade tactical UAS and other UAS

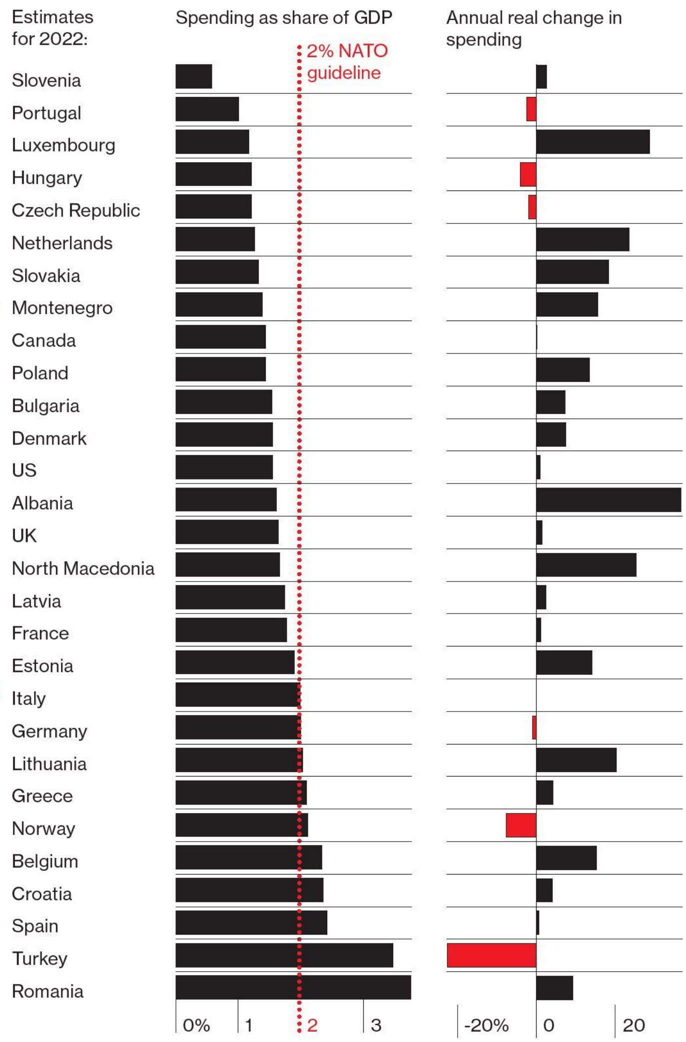


- 160 155mm and 72 105mm howitzers with more than 1.5 million artillery rounds
- 30 120mm mortar systems and 166,000 mortar rounds



- Remote anti-armor mine (RAAM) systems
- 2,590 tube-launched, optically tracked, wire-guided (TOW) missiles, high-speed anti-radiation missiles (HARMs) and laser-guided rocket systems
- 13,000+ grenade launchers and small arms
- Communications, radar and intelligence equipment

DEFENSE SPENDING BY NATO MEMBERS



*THE PRESIDENTIAL DRAWDOWN AUTHORITY ALLOWS FOR THE SPEEDY DELIVERY TO FOREIGN COUNTRIES OF WEAPONS AND SERVICES FROM DEFENSE DEPARTMENT STOCKS. DATA: CONGRESSIONAL RESEARCH SERVICE, NATO. ITEMS LISTED ARE ASSISTANCE COMMITTED FROM 2022 THROUGH JAN. 23, 2023

of Russian battle tanks, says it's operating 24 hours a day. "We have to modernize and produce thousands more tanks," former President Dmitry Medvedev, who now oversees weapons procurement, said during a visit to an armaments factory in the Siberian city of Omsk on Feb. 9.

Western Europe, by contrast, has been slow to ramp up output, says Tomas Kopecny, the Czech Republic's deputy defense minister in charge of industrial cooperation. Defense ministers from more than a dozen NATO countries met last summer to discuss the problem, but many governments haven't yet decided where or how to invest. "If we let the Russian economy turn fully into war production mode and we don't start these projects," Kopecny says, "they'll be producing more ammo than whoever is delivering to Ukraine."

European governments are boosting defense outlays, but that follows years of limited investment. The bureaucracy needed to direct spending has atrophied, so as money starts to pour in, there aren't enough staffers to vet contracts, says Lucie Béraud-Sudreau, who tracks arms production at the Stockholm International Peace Research Institute. "Companies know that money is coming," she says. "But they still lack contracts, and they want to make sure there is a return on investment."

One of the biggest impediments to higher production is a reflex among some NATO states to procure weapons and munitions on their own for homegrown systems rather than working with other nations, according to a senior European diplomat who asked not to be identified discussing sensitive matters. Bundling orders could speed up production while keeping a lid on costs, the diplomat says, and using the same type of ammunition would help ensure everyone gets what they need.

Until supply concerns ease, both sides will probably have to limit their use of ammunition, says Rob Bauer, NATO's top military officer. And that, the Dutch admiral says, offers lessons for the alliance in any broader conflict it might become involved in. "War is about stocks," he says, "about your ability to continue the fight as long as it takes." Ⓑ

● Chinese budget tour groups were unpopular before Covid. Now nations covet their cash

Before the pandemic, travel agent Zhao Ling spent much of her time helping Chinese clients visit Thailand and other parts of Southeast Asia cheaply. Based in the city of Deyang in Sichuan province, she organized inexpensive package tours that shepherded busloads of travelers through affiliated stores and restaurants—and steered customers away from other, locally owned businesses. Deriding the all-inclusive packages as so-called zero-dollar tourism because much of the money—lots of it spent before visitors left China—didn't filter throughout the local economies, critics blamed agents like Zhao for overcrowding beaches, temples and other popular sites, from Phuket's boisterous Patong entertainment district to Cambodia's Angkor Wat temple complex.

"Of course they don't like us," Zhao says. "No one does."

Chinese in recent years had become a major driver of the tourism industry globally, making 155 million trips outside the mainland in 2019, according to Ministry of Culture and Tourism data. The country's travelers accounted for 16% of global tourism spending that year, double that of 2010, according to Natixis SA. Many of them traveled on packages, which helped inexperienced Chinese tourists avoid language problems and logistics challenges. Still, criticism had been growing that the increasing dependence on Chinese visitors wasn't worth the disruptions that the low-spending throngs wrought. That simmering debate cooled when China shut its borders in 2020 to halt Covid-19's spread, a move that left tourism businesses shuttered across Asia and many hospitality workers unemployed.

With China now reopening, Asian countries that rely on tourism to create significant numbers of

Edited by
James E. Ellis

PHOTO: GETTY IMAGES. DATA: NATIXIS ANALYSIS OF DATA FROM WORLD TRAVEL AND TOURISM COUNCIL, WORLD BANK, WORLD TRADE ORGANIZATION, AND GOVERNMENT STATISTICS AND TOURISM BUREAUS

◀ Throngs of tourists mob the Angkor Wat temple complex in Cambodia, one of Chinese vacationers' favored foreign destinations, in 2018

jobs now face a choice: After so many years without any Chinese vacationers, can they afford to discourage zero-dollar visitors from coming back? While many in the industry want sustainable, responsible tourism, others argue "we just need tourists back, we need money," says Paul Pruangkarn, chief of staff at the Pacific Asia Travel Association in Bangkok. "That's the tug of war that's being played out."

That's certainly the case in Myanmar. Just 23,000 Chinese traveled to the land of Burmese pagodas and stunning scenery last year, down from more than 1.4 million in 2019, and Myanmar Tourism Federation Chairman Yan Win says about half of the country's businesses that focused on foreign tourists have closed. "Some locals have concerns that they won't benefit from Chinese tours, but in fact, something is better than nothing," says Sandar Kyaw, managing director of Yangon-based Oriental Rose Travel & Tours Co., which focuses largely on package tours for Chinese travelers.

Industry players will soon find out whether they can quit the cheap tourism drug. As part of its post-pandemic reopening, China on Feb. 6 began allowing group tours to 20 countries, including Thailand and six others in Southeast Asia.

One of Vietnam's top tourism officials made clear in January that the country needs to reduce its reliance on those low-spending travelers. About 5.8 million Chinese visited in 2019, accounting for one-third of international travelers there. But the chairman of the Vietnam Tourism Association, Vu The Binh, said the Southeast Asian nation should stamp out zero-dollar tours and "play a new game" to combat business fraud. "Chinese people are not poor," he said, according to Vietnamese state media. "It is necessary to provide high-end tourism services for Chinese tourists like we have already offered Americans, Japanese and Western Europeans to increase their spending."

Chinese budget tours used to make up almost all of the business for Hava Travel, a tour operator that specializes in visits to Danang and Nha Trang, Vietnamese destinations famed for their beaches and casinos. The average cost for a five-day tour, including flights, hotels and food, was only about 8 million dong ($340), with travelers then spending an average of as much as 4 million dong per day at the operator's designated stores. Independent tourists would typically spend 50% more, one reason Hava Travel now wants to develop services for higher-end visitors, says Deputy General Director Nguyen Ngoc Thien.

But saying no to zero-dollar tourists will be hard after as many as 30% of Danang's hotels closed during the pandemic. So travel operators there—including Thien—are preparing to welcome them back. The group tours "will flood into Danang and Nha Trang around end of March and early April," says Thien.

The issue has been widely debated in Thailand, where Chinese tourists made up more than a quarter of the 40 million visitors in 2019, contributing $17 billion in tourism revenue. As part of an attempt to crack down on abuses, the government took zero-dollar tour operators to court, alleging they overcharged and funneled money into hotels, restaurants and shops in Thailand that were also controlled by Chinese owners. But courts acquitted all 13 defendants in a series of rulings that concluded last year. Now, Thailand is aiming to revive its travel industry with a five-year plan focusing on attracting high-end visitors by promoting the country as a health and wellness destination.

Thailand is increasing fees, too. The cabinet on Feb. 14 approved a plan to charge foreigners ▶

▼ Projected spending by Chinese tourists after China's full reopening, as share of GDP

◀ flying into the country a fee of 300 baht ($8.90), with the money targeted to fund the development of attractions as well as an insurance program to cover health expenses for tourists who fall ill while in the country. That's unlikely to deter zero-dollar tours. Chinese entrepreneurs in Thailand will probably still push cheap tour packages, according to Wirote Sitaprasertnand, president of the Professional Tourist Guide Association of Thailand.

"We used to talk about how post-pandemic tourism quality should improve, but a familiar scenario would likely reoccur, because we barely had tourism income and arrivals during the past three years," Wirote says. "Authorities will likely turn a blind eye." —*Bruce Einhorn and Selina Xu, with Nguyen Xuan Quynh, Pathom Sangwongwanich and Khine Lin Kyaw*

THE BOTTOM LINE Countries that once worried about their economies' dependence on large Chinese tour groups are, after years without them, now eager for their return.

Air India Wants to Be The Next Emirates

● New owner Tata Group is likely spending $60 billion on jets to expand the carrier globally

India reached a milestone at the end of last year when it overtook China as the world's most populous nation. But that explosive growth is hardly reflected in the size of its commercial aviation fleet. Today the entire country has only about 700 aircraft—fewer than United Airlines Holdings Inc. alone—and just 50 widebody jets to transport its increasingly mobile 1.41 billion people.

Chinese carriers, by contrast, operate about 480 twin-aisle aircraft, and Emirates, whose base of Dubai has a fraction of the population of Mumbai, boasts a widebody fleet of 260 jetliners, according to figures from Cirium, which aggregates aviation data.

Now, Air India is making an expensive push to renew its fleet and expand its global presence. One year after conglomerate Tata Group bought the airline from the government for $2.2 billion, Air India on Feb. 14 announced an order of 470 aircraft, potentially marking the biggest deal in commercial aviation history with a list price value likely exceeding $60 billion. The global importance of the purchase was underscored by the three heads of state who participated in the announcement: Indian Prime Minister Narendra Modi, US President Joe Biden and French President Emmanuel Macron.

The order is split about evenly between archrivals Airbus SE and Boeing Co., including roughly 400 of the popular A320- and 737-family narrowbody jets and about 70 widebodies, plus options for more from either company. The new aircraft are meant to give Air India a fighting chance at competing with local budget carriers such as IndiGo as well as long-haul champions Emirates, Etihad Airways and Qatar Airways, which have built huge operations over the past two decades funneling millions of passengers through their Persian Gulf hubs.

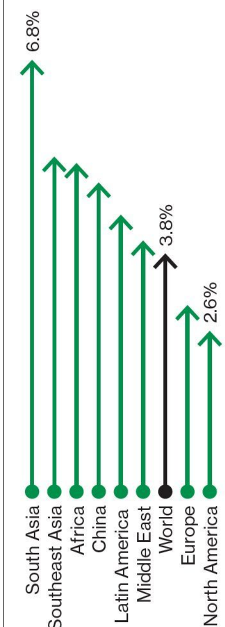
Air India, after decades of languishing under government control, may look like a latecomer to a market carved up by foreign airlines, but the former flag carrier offers a key advantage: time-saving travel, thanks to direct routes to and from an increasingly important destination. The airline operates nonstop flights to the US and Europe without having to transit in the Middle East. It also commands coveted slots at key airports, including New York's John F. Kennedy and London Heathrow.

A direct flight from Mumbai to New York takes as little as 16 hours, compared with 20 hours to the same destination via Dubai. Air India's nonstop service to San Francisco is almost half as long as the other available options, according to a search on flight-tracking app Skyscanner. "The ability to fly nonstop to and from India gives Air India a sustainable competitive advantage against Gulf airlines," says Shashank Nigam, chief executive officer of airline brand-strategy firm SimpliFlying.

Although the Indian state has ceded control of Air India to Tata, supporting a strong local carrier remains a priority for the government of the world's fastest-growing aviation market. Seeking to make India a world-class connecting hub as well as a destination for tourists and business, the government is encouraging airlines to increase long-haul fleets while it doubles down on airport expansion. In Mumbai, the country's financial capital, a second airport is set to open next year, potentially handling 60 million passengers annually, while Delhi will also see an addition, with a final capacity of 70 million travelers. Announcing his portion of the deal on Feb. 14, Airbus CEO Guillaume Faury said "the time is right for India to turn into an international hub."

Besides Tata, the airline has another powerful ally in Singapore Airlines Ltd., which is investing $250 million for a 25% stake in the enlarged group that will bundle together Air India and three

▼ Projected annual growth in revenue passenger miles, 2019-41



● Natarajan Chandrasekaran

ILLUSTRATION BY EDWARD CARVALHO-MONAGHAN. CHANDRASEKARAN: COURTESY TATA GROUP. DATA: BOEING COMMERCIAL MARKET OUTLOOK

others, including Vistara, an Indian full-service carrier that Tata and Singapore started in 2015. The companies' experience and pedigree will help Air India forge lucrative code-shares and alliances, crucial to expanding an international network at a manageable cost, says Rohit Tomar, managing partner at Caladrius Aero Consulting.

Air India's biggest challenge may be repairing its battered reputation. Created as the country's first airline in 1932 by aviation pioneer and former Tata Chairman J.R.D. Tata, the carrier was long famed for high-class service and attention to detail that included onboard ashtrays designed by surrealist Salvador Dalí, vintage Champagne service and commercials featuring Bollywood actresses. It was the first Asian carrier to operate jets, in 1960.

But the airline was nationalized in 1953, and years of mismanagement and poor on-time performance under state control have dented Air India's image. Instead, no-frills airlines have taken over large swaths of its domestic business, and Gulf carriers have chipped away at its overseas operations. The debt-laden carrier hasn't turned a profit in 16 years, kept afloat with taxpayer-funded bailouts.

"Air India has been the villain of the story for so long that it's going to take time for people to accept it as sort of a new hero," Tomar says. "When you're trying to make such a large change in the way people perceive you as a brand, you get only one shot."

The revived carrier will face stiff competition on short-haul routes. Budget airline IndiGo's fleet of about 300 Airbus A320 jets has given it control over more than half the local market. Upstarts such as Akasa Air are also pushing into the segment, creating an increasingly crowded field.

Even before the huge order, Tata Chairman Natarajan Chandrasekaran had embarked on a major transformation of Air India, from new uniforms for cabin crew to the latest seats and in-flight entertainment on existing aircraft. In total, Air India is investing more than $400 million to refurbish the interiors of its entire widebody fleet.

All those efforts notwithstanding, the carrier known for its Maharajah mascot still has some ways to go to reposition itself as a progressive brand rather than one that's holding on to its heritage, says SimpliFlying's Nigam. Gone are the days when people would fly Air India just because of national pride, he says. "While turning around Air India is difficult, if there's one firm that can do it, it's Tata," Nigam says. —*Ragini Saxena and Siddharth Philip*

THE BOTTOM LINE After placing what's likely the world's biggest-ever aircraft order, Air India wants to build a major connecting hub for long-haul international flights to rival the Gulf carriers.

TECHNOLOGY

ILLUSTRATION BY MICHELLE ROHN

Edited by
Joshua Brustein

A Social Media Case Tests The High Court's Tech Chops

● Justices aren't known for their digital savvy, but they have their ways of getting up to speed

As the Supreme Court considered a California law on violent video games in its 2010-11 term, clerks for Justice Stephen Breyer, then 72, set up a large-screen television in his chambers and hooked it up to a game console. Then Justice Elena Kagan came over to play *Grand Theft Auto*. "There we were, killing everybody left and right," Kagan said at a 2015 event at Harvard Law School, much to the audience's amusement.

Breyer "thought that it was all really horrible, really just disgusting and repellent," Kagan continued. "And I was like, 'Next round! Next round!'" Their legal conclusions eventually matched their gut reactions: Kagan voted with the seven-member majority to strike down California's law, which banned the sale of certain violent games to minors. Breyer dissented, citing studies that linked violent games to aggressive behavior, particularly among children.

Their gaming session highlighted a growing challenge in today's legal landscape. As technology seeps into every walk of life, an increasing proportion of Supreme Court decisions require at least a basic literacy in subjects that may not come naturally to the aging members of an institution that's still passing out souvenir quill pens to lawyers. All of the current members of the court are older than 50, and, as Kagan, now 62, has said, they're "not necessarily the most technologically sophisticated people."

The court's ability to weigh nuanced questions involving technology will again be tested on Feb. 21, when it hears arguments in *Gonzalez v. Google*. In the case, the family of a terrorism victim claims that the company's video site, YouTube, promoted Islamic State videos to people who'd viewed similar content, providing support to the extremists who carried out the attack. Depending on how the justices rule, the case could result in significant changes to the fundamental legal structure of the modern internet. The justices have had a courthouse full of people trying to get them up to speed for the entirety of the internet age. For a 1997 case, the court's library set up a computer to let the justices and their law clerks test how easily someone searching the web might accidentally end up seeing pornographic websites. The answer: not easily enough to justify provisions of a federal law that made it a crime to display adult-oriented material online in a way that children might come across them.

In a recent interview with *Bloomberg Businessweek* in the chambers he still keeps at the court, the now-retired Breyer discussed how he boned up on technical issues for important cases. He recalled a recent copyright dispute between Oracle Corp. and Alphabet Inc.'s Google centered on Java, Oracle's computer programming language. "It took a lot of time—reading about it, looking on the internet to how they teach students about it," he said. "And there are courses, and your law clerks spend the time, and I spend the time."

The attorneys arguing that case offered their own attempts at technical education, in the form of analogies intended to sway the justices to their side. The key question was whether Google used more of Java than necessary in its Android smartphone operating system. Likening Java to a file cabinet, Google said it needed to use Java's drawers but had organized the files inside the drawers in a different order. Oracle countered by saying Google was like a plagiarist who stole the characters and back stories from the *Harry Potter* book series.

A version of Google's metaphor made its way into Breyer's 2021 majority opinion, which—after a lengthy description of the Java language and how developers use it—said Google hadn't infringed Oracle's copyright. Breyer said he did something unusual once the opinion was released. "I don't usually look and see what the press says if I write an opinion, but I was curious, because I was hoping I would get it basically right on the technical part," he said. "And I think I did."

The outcome of the current social media case will hinge, at least in part, on how the justices sort through competing characterizations. The family of Nohemi Gonzalez, one of 130 people killed in coordinated terrorist attacks in Paris in 2015, is seeking to pierce a legal shield, Section 230 of the 1996 Communications Decency Act, that says social media platforms and other internet services can't be held legally liable for content posted by their users.

In Google's view, the algorithms YouTube uses are simply tools to organize information in a useful way—much like television networks running ▶

"There's always a risk that whatever the court does is going to straitjacket future technologies"

◀ Christmas movies during the holiday season—and they shouldn't be seen as creators of content on the service. Other companies have filed briefs supporting this view, arguing that YouTube's algorithms are fundamentally similar to those used for search engines, employment marketplaces and software development platforms. They say a ruling against Google could upend the internet. Gonzalez's relatives contend that YouTube's algorithms are more akin to book reviewers' recommendations, a distinction that they argue makes the company fair game for suits despite Section 230.

From a technological standpoint, some lawyers see this case as far simpler than the Google-Oracle copyright fight. The bigger challenge for the justices might be envisioning the practical implications of their decision on the future shape of the internet. "There's always a risk that whatever the court does is going to straitjacket future technologies in ways that were not anticipated by the court," says Mary Anne Franks, a lawyer for Cyber Civil Rights Initiative, which is backing the Gonzalez family. "Questions of evolving technology are tricky for the Supreme Court."

There's been widespread skepticism that public officials throughout the government possess the basic knowledge of technology required to address the subject. Congresspeople have been mocked for gaffes in public hearings, such as when the late Ted Stevens, a Republican senator from Alaska, described the internet in 2006 as a "series of tubes," or when Orrin Hatch, the late Republican senator from Utah, suggested in 2018 to Mark Zuckerberg, chief executive officer of Meta Platforms Inc., that he didn't understand how Facebook could make money without directly charging users.

Supreme Court justices, who've had plenty of opportunities to weigh in on technology-related issues, have gotten relatively higher marks than Congress for their grasp of technical issues. "At least in the cases that have come before them recently, they seem to, in their opinions, do a pretty good job of understanding the technology that's at issue," says Aaron Mackey, a lawyer with the Electronic Frontier Foundation, a civil liberties group backing Google in the social media case.

To the extent that the justices don't understand things, their instinct is to err on the side of caution, says James Stern, a former Supreme Court law clerk who's now a professor at William & Mary Law School. "They're keenly aware of their lack of expertise," Stern says. "And so they are very small-c conservative when it comes to doing anything because they are worried about screwing things up." —*Greg Stohr, with Emily Birnbaum*

THE BOTTOM LINE A challenge to crucial internet legislation could yield a Supreme Court decision with far-reaching impact on the shape of the internet.

◀ Breyer

Culture Wars Are Coming for ChatGPT

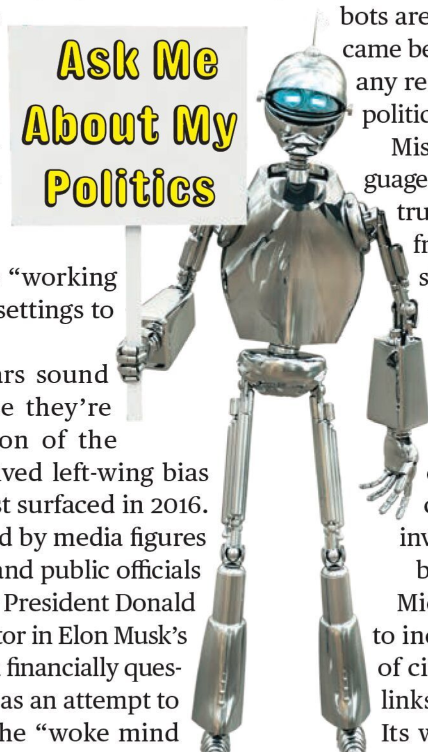
● Accusations of anti-conservative bias echo the long-running feud over social media

On Feb. 7, Microsoft Corp. Chief Executive Officer Satya Nadella declared the "first day of a new race" in Silicon Valley, after announcing that his company would integrate the artificial intelligence chatbot ChatGPT into its search engine. Tech pundits seem increasingly convinced that web searches won't produce lists of blue links and advertisements but, instead, human-sounding responses that artificial intelligence programs such as ChatGPT generate.

Many people marvel at the power of this technology, but right-wing commentators are distinctly unimpressed. They've been dredging up examples of what they see as pernicious liberalism hard-coded into the system. For instance: Why was ChatGPT willing to praise former CNN anchor Brian Stelter but not the conservative pundit Ben Shapiro? Why did it say, with confidence,

FROM LEFT: ILLUSTRATION BY MICHELLE ROHN. PHOTO ILLUSTRATION BY 731; PHOTO: GETTY IMAGES. DATA: IPSOS CORONAVIRUS CONSUMER TRACKER, FIELDED JAN. 18-19, 2023, AMONG 1,119 US ADULTS that children could be transgender, when that was an obvious affront to the right-wing campaign against trans rights? And, alarmingly (to them, anyway), why had it been programmed to avoid using the N-word?

The backlash to what the online right is referring to as "WokeGPT" is showing up on right-wing radio and even among members of Congress. Senator Ted Cruz of Texas, for instance, has called attention to conservative complaints that AI refused to write a song praising him, but it did so for Fidel Castro. In early February, Sam Altman, the CEO of OpenAI, the company behind ChatGPT, complained that his employees have been receiving hate mail from aggrieved users. Altman did acknowledge certain "shortcomings around bias," but he tried to assure critics that his company is "working to improve the default settings to be more neutral."



If the AI culture wars sound familiar, that's because they're essentially an extension of the debate over any perceived left-wing bias on social media that first surfaced in 2016. These grievances, stoked by media figures such as Tucker Carlson and public officials such as Cruz and former President Donald Trump, were a major factor in Elon Musk's decision to buy Twitter, a financially questionable deal he framed as an attempt to save civilization from the "woke mind virus." Musk has weighed in on ChatGPT with criticisms echoing his complaints about pre-Musk Twitter. In response to a tweet ridiculing ChatGPT's policy that it's "never morally acceptable to use a racial slur," Musk responded with a single word: "Concerning."

It's worth pointing out that the attacks on Silicon Valley's perceived political bias are largely being made in bad faith. Left-leaning critics have their own set of complaints about how social media companies filter content, and there's plenty of evidence that social media algorithms at times favor conservative views. Right-wing commentary such as Shapiro's podcast routinely outperforms mainstream and left-wing outlets on Facebook, according to the company's own internal metrics. Outside of social media, AI systems repeatedly have been shown to produce distorted results that aggravate long-running racial disparities in areas such as law enforcement. The new chatbots, meanwhile, may refuse to use slurs, but they've also shown a willingness to promote right-wing misinformation, such as the false idea that the school shooting in Parkland, Florida, was staged by "crisis actors."

What the social media culture wars do illustrate is how hard it will be for Altman and Nadella to address complaints about ChatGPT. Machine learning algorithms, such as those powering Facebook's news feed and ChatGPT, can't tell you why they arrived at specific results, creating an opening for activists to turn mistakes or clumsy responses into evidence of bias. If anything, the modern AI chatbots are even more opaque than products that came before them, allowing anyone to interpret any results they don't like through their own political lenses.

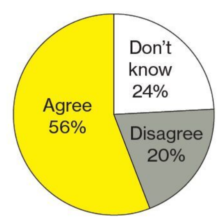
Mistakes are inevitable, because large language models don't have any inherent sense of truth. ChatGPT has a tendency, when confronted with a question it can't answer, to simply make something up. These "hallucinations," as AI experts call them, can be extremely convincing. Last year, Meta Platforms Inc. pulled down a large language model known as Galactica, which was supposed to be "a curated corpus of humanity's scientific knowledge," after critics pointed out it had a tendency to invent science behind queries such as "the benefits of eating crushed glass."

Microsoft's new Bing is also attempting to increase transparency by including a list of citations—essentially a list of traditional links—along with the AI-generated answers. Its website also offers a warning cautioning users that they may "see responses that sound convincing but are incomplete, inaccurate, or inappropriate." Google provided a firsthand demonstration of these pitfalls when it showed off its own search chatbot on Feb. 8. The new service, Bard, responded to a query about the James Webb Space Telescope by claiming, falsely, that the telescope had photographed the first exoplanet. The company's stock dropped 7% on that day, the largest decline in months.

A Google statement characterized the search engine as a work in progress and said the inaccuracy "highlights the importance of a rigorous testing process." Recent history suggests that Google may need more than technical rigor; it will need political savvy. —*Max Chafkin and Daniel Zuidijk*

THE BOTTOM LINE The opaque nature of modern AI systems and widespread suspicion of the tech companies that make them open the services up to criticism that is likely to linger.

▼ Survey respondents on whether AI-generated written work may contain biases or inaccuracies



Green's Gray Areas

Al Gore wants to show that sustainability is profitable, but his firm's results are complicated

Few have done more than Al Gore to galvanize public opinion on climate change. The former US vice president's documentary *An Inconvenient Truth* won an Oscar. He shared the Nobel Peace Prize for work on climate change. And he's trained tens of thousands of activists to raise awareness about the threat of a warming planet. Addressing the plutocrats gathered in Davos, Switzerland, last year, Gore thundered with the fervor of a Baptist preacher: "Who cares if our children and grandchildren curse us and ask, 'What in God's name were you thinking? You had the ability to stop this hell on Earth!' "

Less known is his effort over the past two decades to prove the compatibility of capitalism and sustainability. On a backstreet in London, behind the giant video screens and tourists swarming Piccadilly Circus, lie the offices of Generation Investment Management. The company Gore co-founded has quietly minted some of the biggest profits in sustainable investing. Last year was tougher, though. Its biggest fund slumped 28%—similar to competing funds—as markets reeled from Russia's invasion of Ukraine, supply chain shocks and inflation. (Gore calls it a "little blip" in performance for the sector.)

There's another, potentially more consequential issue: Despite Generation's focus on environmental, social and governance, or ESG, factors, companies that make up almost half the holdings of its largest, $26.4 billion fund have increased their planet-warming greenhouse gas emissions in recent years.

Generation got its start four years after Gore conceded defeat in the 2000 US presidential election, in which he won the popular vote but lost in the Electoral College after the Supreme Court intervened. His six partners, including former Goldman Sachs Group Inc. executive David Blood, settled on the name Generation after joking about calling it "Blood & Gore." Espousing a mantra of "sustainable capitalism," Generation says it aims to invest in businesses that support "an equitable, healthy and safe society" and minimize their contribution to global warming. Over time it became one of the largest such firms, managing a peak $39 billion in 2021 before assets dropped to $30 billion last year.

A recent report from researcher Morningstar Inc. ranked Generation highly among the funds most committed to sustainability. But last year's losses, along with the growing carbon footprint of some of Generation's holdings, highlight how messy sustainable investing can be—and raise an uncomfortable question: If Gore and his partners struggle to deliver on lofty environmental and financial goals, can anyone?

Generation, of course, seeks to invest in successful companies, and growth typically means greater emissions. That underscores the compromises and contradictions that make it tough to measure the effectiveness of ESG investing more broadly. The strategy's champions say it's a win-win that can make money while doing good. But getting there will almost certainly require trade-offs. Many companies, in one way or another, impose some costs

Edited by David Rocks and Pat Regnier

PHOTO ILLUSTRATION BY 731; PHOTO: BLOOMBERG on people and the planet, be it mining the metals for solar panels and batteries or relying on vendors with labor issues to make, say, organic-cotton clothing.

The ambiguity has generated growing criticism. Regulators globally have started cracking down on what they call "greenwashing," Republicans in the US have ridiculed ESG investing as overly "woke," and some early proponents of the idea have concluded it doesn't go far enough in addressing the planet's ills. "It's becoming too late in the day to maintain the pretense that a voluntary, market-led approach to sustainability can achieve enough change fast enough," former Generation partner Duncan Austin wrote in a LinkedIn post in June. (He declined to comment on Generation.)

Generation employs about 110 people. Its analysts parse data on things that aren't immediately reflected on corporate balance sheets—carbon emissions, employee training, female board representation—betting that performance on nonfinancial measures can help boost profit in the long term. Generation does deep dives on scores of companies it might someday want to buy. It once had someone take apart electric vehicles right down to their sensors and connectors so its analysts could better understand the technology. Such analysis is "a surefire formula for getting a more accurate view of reality," Gore says in Generation's San Francisco office, sporting a dark suit and black cowboy boots.

Like other sustainable investors, Generation presses companies it owns to move faster or do better on environmental and social matters. When real estate services company Jones Lang LaSalle Inc. first set a net-zero emissions goal, it envisioned getting there in 2050. Generation urged it to be more ambitious, and JLL soon moved the target to 2040.

Generation manages eight funds. Its biggest, a global equity fund, typically owns stakes in several dozen public companies and holds them for about five years on average. Its current roster includes Adidas, Charles Schwab and Microsoft. In its public updates, the firm says companies held by that fund emit roughly 75% less greenhouse gas per dollar of revenue than those in the MSCI World Index, a basket of more than 1,500 companies that Generation uses as a benchmark for its financial performance.

But a Bloomberg News analysis of emissions data for Generation's investments paints a more complex picture. Its Global Equity fund held 42 companies at the end of last year. For each of them, Bloomberg examined the emissions those businesses reported annually from 2015 to 2021. Eighteen of the companies, accounting for 46% of the fund's assets, showed increases from the first year of available data to the last. That was the highest of a dozen sustainable investment funds studied, but it was hardly an outlier. Ten of the other funds analyzed had allocated at least a quarter of their assets to companies where emissions were rising. This result can often be chalked up to growing sales, but even when looking at carbon output per dollar of revenue, about a sixth of Generation's portfolio is in businesses that have been ramping up emissions.

Generation points out that the headline numbers can obscure changes because of, say, acquisitions or new ways of analyzing data. Adidas AG, for example, showed an increase in 2021 because it included emissions from its retail stores for the first time. And Generation says it will invest in a company whose emissions are growing only if it's convinced the business helps reduce the overall carbon output in society. For instance, cloud computing is more efficient than millions of standalone PCs, but as individuals and companies have shifted to the service, Microsoft Corp.'s reported emissions have gone up.

Some companies in Generation's fund have reported lower emissions because they bought renewable energy certificates, which critics say do little to decrease overall carbon output. Generation says it expects companies to move away from such credits and procure renewable energy in other ways. When they do, it can muddy the numbers further. US medical device maker Becton Dickinson & Co., one of Generation's oldest investments, scaled back its use of those certificates three years ago, and its reported emissions jumped more than 20%.

Amazon.com Inc. is the biggest emitter in the fund, by far. Generation has owned the e-commerce giant off and on since 2010, sparking intense debate within the company as Amazon only started revealing its carbon footprint in 2019. "We just didn't really have the data yet, and we were a bit frustrated," says Miguel Nogales, one of Generation's founding partners. Amazon pledged that same year to go carbon neutral by 2040, helping persuade Generation to increase its investment. The company began "moving pretty fast and pretty impressively," Nogales says.

But Amazon has vigorously fought unionization efforts, and its emissions jumped by almost a fifth in 2021 as sales surged during the pandemic, tarnishing any do-gooder image it might enjoy (though when adjusting for growth in how much it sold, its carbon footprint shrank 2%). Anne Goodchild, a logistics expert at the University of Washington, says the question isn't only whether ordering from Amazon results in lower emissions than driving to the mall; also important is whether the ease of online shopping gets people to buy more than they would otherwise, and what people do with the time they save and how much greenhouse gas that creates. ▶

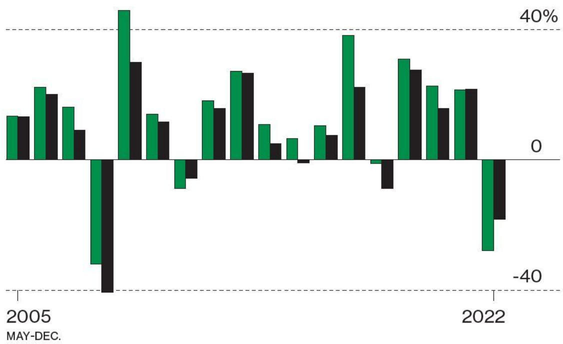
▼ Share of investment portfolio assets by net change in emissions between 2015 and 2021*

*INCREASE CATEGORY INCLUDES COMPANIES WHOSE ABSOLUTE SCOPE 1 AND SCOPE 2 EMISSIONS ROSE FROM THE FIRST YEAR OF REPORTED DATA IN THE PERIOD TO THE LAST. MARKET-BASED SCOPE 2 DATA ARE USED WHERE AVAILABLE. INSUFFICIENT DATA CATEGORY INCLUDES BONDS, CASH AND OTHER NONPUBLICLY TRADED SECURITIES, AS WELL AS COMPANIES WITH NO DATA OR ONLY ONE YEAR OF DATA. DATA: GENERATION (GLOBAL EQUITY HOLDINGS), BLOOMBERG (COMPANY EMISSIONS DATA AND HOLDINGS OF OTHER FUNDS)

After Outperforming, Gore's Fund Slips

Total return

■ Generation's Global Equity fund ■ MSCI World Index



DATA: BLOOMBERG REPORTING

◀ "We're not going to solve the climate problem through online shopping," she says. Generation says its research shows that e-commerce can be a lower-carbon way of shopping and that it doesn't spur overconsumption. Amazon says it's working to meet its carbon-neutral target by using more renewable energy, electric vehicles and alternative fuels.

Generation says it pushes executives to adopt targets to curb emissions aligned with international efforts to limit global temperature rise. About 60% of the companies in its biggest fund are part of an initiative to do so, compared with 42% in its benchmark. The company wants all the stocks it owns to adopt such goals and says it will start voting against corporate leaders that don't.

Still, money managers' embrace of climate targets may not be enough, says Lisa Sachs, director of the Columbia Center on Sustainable Investment. Avoiding high-emitting companies and setting net-zero emissions goals, she says, have minimal effect on overall carbon output. "Managers are incentivized to spin off or sell high-carbon assets," Sachs says, but the companies continue to pollute under new ownership "without any impact on decarbonizing."

None of Generation's efforts will be all that persuasive if it can't turn around its No.1 metric: making money. Generation serves wealthy people and large investors such as pension plans. Fees for its biggest fund—1% of assets managed and a 20% cut of profits that exceed its benchmark's performance—look more like those of expensive private equity and hedge funds than the mutual funds it compares itself to. But before losses by Generation's biggest fund last year—which were 10 percentage points worse than its benchmark—its clients prospered despite those fees. Its main fund has returned an annualized 13.7% since its inception in 2005, versus 8.6% for its benchmark, according to investors.

The recent performance slip points to a common pitfall of socially aware investing: It's easier to do well while doing good when high-growth but comparatively clean industries (read: technology) lead the market. That makes it difficult to assess whether an ESG fund's edge comes from its principles or because it's simply leaning into the right sectors.

In a letter to investors in January, Generation attributed last year's decline to its refusal to invest in fossil fuel companies, which surged with the price of oil, and to soft consumer demand that spurred a selloff of Amazon and Adidas. Still, while it forecasts a "significant" recession in many countries, Generation says it expects the companies it owns to increase revenue this year.

In 2021, as Generation produced record profit, its highest-earning partner got a payout of £84.7 million ($102 million), according to UK regulatory filings—a paycheck seemingly at odds with its goal of building an "equitable" society. Generation didn't name the partner, but Blood says that when clients make money, so does the company. He notes that Generation contributes a share of profit to a foundation it created to tackle climate change and inequality. "We're trying to make a difference," he says. "And since our clients have been successful, we, too, have been successful." —*Saijel Kishan and Noah Buhayar*

THE BOTTOM LINE The former veep's firm says it's pushing the companies it owns to operate more sustainably, but some have increased their emissions.

Crypto Is on Thin Ice With Regulators

● After the FTX scandal, digital-asset platforms face tough questions and wary banks

For years crypto seemed to escape strict regulation in the US. Those days may be ending. US watchdogs' aggressive posture since the collapse of crypto exchange FTX could push the industry to the fringes of finance.

"The regulators are effectively building a wall between crypto trading and the banking and the securities markets to prevent the types of systemic vulnerabilities that led to the 2008 financial crisis," says Todd Baker, senior fellow at Columbia University's Richman Center for Business, Law & Public Policy.

ILLUSTRATION BY DANIEL ZENDER. GENSLER: BLOOMBERG

US officials deny that there's some broad effort to crush crypto and say they want innovation that plays by the rules. But interviews with more than a dozen current and former regulators, industry executives and lobbyists paint a picture of a wide-ranging crackdown. Many requested anonymity to discuss the situation candidly.

Banks are getting the message that they should back away from many crypto endeavors. The Federal Reserve, the Office of the Comptroller of the Currency and the Federal Deposit Insurance Corp. on Jan. 3 issued a blunt declaration that said crypto-related risks that can't be controlled shouldn't be allowed to migrate to the banking system. "I've talked to banking executives and crypto CEOs, and they're telling me there's a highly coordinated move under way to try to ring-fence crypto, to cut it off from traditional finance," says Nic Carter, general partner at Castle Island Ventures, which invests in crypto-related businesses.

The world's biggest crypto exchange, Binance Holdings Ltd., is feeling the squeeze. It teamed with Paxos Trust Co. on a branded stablecoin—a token whose value is supposed to always be $1—called Binance USD. On Feb. 13, Paxos announced it had been directed by the New York State Department of Financial Services to stop issuing new BUSD tokens. The regulator said that Paxos had "several unresolved issues" in overseeing its relationship with Binance. Paxos says it also received notice from the US Securities and Exchange Commission that the agency is considering an enforcement action alleging that Binance USD is an unregistered security. Paxos said it "categorically disagrees" with the SEC and is prepared to "vigorously" litigate if necessary.

Traders and exchanges use stablecoins as a kind of cash substitute that facilitates moves from one crypto investment to another. The coins also provide a way to exit an investment without converting it to dollars. Their growing importance is drawing scrutiny from regulators concerned with financial stability. Michael Barr, the Fed's vice chair for supervision, has urged Congress to step in and make rules for the tokens he called "unregulated private money."

Changpeng Zhao, founder of Binance, said on Twitter that if courts rule that Binance's stablecoin is a security, it will have "profound impacts" on how the crypto industry develops in such jurisdictions.

Separately, Binance is suddenly having trouble getting a US bank to help with dollar transfers for customers. It said in early February that it was suspending deposits and withdrawals of US dollars using bank accounts. The move was a result of New York-based Signature Bank pulling back, according to a person familiar with the matter, who asked not to be named discussing confidential talks.

● Gensler

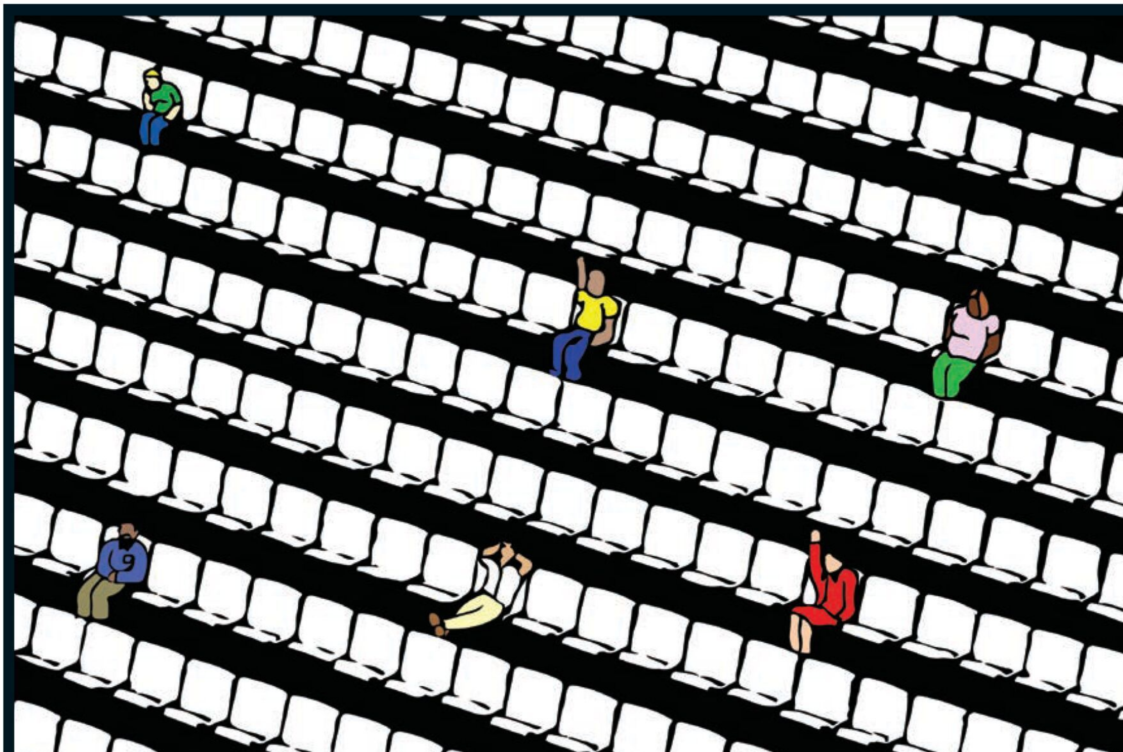
Binance is looking for options, but so far it hasn't secured a way to restart the feature, which is mostly used by institutional trading companies outside the US. Binance.US, a platform for American customers, hasn't been affected. Signature Bank declined to comment on its relationship with Binance. The lender has previously said that it's reducing deposits from digital-asset customers.

SEC Chair Gary Gensler has also stepped up his focus on crypto. The top Wall Street watchdog says that many trading platforms are rife with conflicts of interest and openly offer digital tokens that are actually unregistered securities. So far in 2023, the SEC has brought cases involving four major crypto companies.

One case may have widespread implications. In a settlement, the exchange known as Kraken agreed to pay a $30 million penalty and halted a program that let US clients earn yields for allowing their tokens to be used to facilitate transactions on a blockchain—a practice known as staking. The SEC said this program amounted to a security that should have been registered. Other exchanges offer similar programs. Coinbase Global Inc., the largest US exchange, said after the settlement that its staking service differs from Kraken's and isn't a security, and that it will continue to offer it.

"Many people in the industry see that the SEC is circling the wagons," says Aaron Kaplan, co-chief executive officer of Prometheum Inc., which runs the crypto trading platform Prometheum ATS. "The major players have to embrace regulation or die."
—Yueqi Yang, Katanga Johnson and Austin Weinstein

THE BOTTOM LINE As the SEC brings cases against major crypto platforms and banking regulators nudge lenders to be more careful, digital assets may be pushed further from the mainstream.



The Perils of Survey Fatigue

● Declining response rates threaten the quality of US economic statistics

Surveys. They're everywhere: at the end of every customer service call, on the bottom of your drugstore receipt and sometimes even on your way out of the airport restroom.

No harm will likely come from you declining to rate your dining experience or refusing to take part in an opinion poll. Where survey fatigue may pose a real threat is in government statistics that everyone from policymakers at the Federal Reserve to traders on Wall Street to C-suite executives rely on.

The pandemic has accelerated what's been a yearslong decline in response rates for many of the surveys US government agencies use to compile economic data—a worrying development in an age when markets can swing wildly on a jobs number that's just a few thousand figures higher or lower than expected.

Current and former officials say lower rates of participation don't necessarily mean less accurate data, but there is potential for error to creep in if the trend can't be arrested.

"If this continues forever, if you just stretch these lines out, we're going to be getting to a place where it's hard to think that there won't be some biases," says Erica Groshen, a former commissioner of the US Bureau of Labor Statistics. "I think any data user has to be always asking themselves, 'How good are these data I'm basing these decisions on?' "

Take the Job Openings and Labor Turnover Survey, or JOLTS, a monthly series that's closely scrutinized for evidence on whether the Fed is succeeding in its quest to chill the ultrahot job market. The response rate on the survey, whose sample currently encompasses some 21,000 business and government establishments, had been falling for years before the Covid-19 crisis, dropping about 10 percentage points from mid-2015 to early 2020. It plunged more sharply during the pandemic and has not recovered. The rate is now just under 31%.

Edited by Cristina Lindblad

ILLUSTRATION BY 731. DATA: BUREAU OF LABOR STATISTICS

The JOLTS numbers have been particularly volatile in recent months, with a December bounce catching markets by surprise. Observers have speculated that some of the wild ups and downs reflect, at least in part, a decline in response rates. "You always want to take month-to-month moves in series with a grain of salt," says Nick Bunker, head of economic research at Indeed Hiring Lab. "When it comes to JOLTS—especially pandemic-era JOLTS—you want a whole shaker of salt."

On Twitter, Julia Coronado, president of MacroPolicy Perspectives LLC, was more blunt, using the word *basura*, which means "garbage" in Spanish, to describe the data series.

The integrity of US government statistics rests in great part on the goodwill of individuals who volunteer their time to answer questions about topics such as employment status, income or demographics. It can get quite personal: One survey wants to know how much time you spend each day on child care or watching TV. Businesses, meanwhile, are asked to offer proprietary data such as sales volumes and head-count changes.

A few surveys legally require participation. The US Census Bureau's American Community Survey, which is used to determine the allocation of hundreds of billions of dollars in federal and state funds each year, is one of those. It typically has an annual response rate above 85%. A bureau analysis found that making the survey voluntary would cost more than $90 million annually; the likely decline in self-reporting rates would necessitate more households being surveyed and more in-person follow-up.

Some observers cite eroding trust in institutions and government as a factor in falling survey response rates. Others point to the rise of gated communities, caller-ID and the decrease in landlines. Automated answering services and remote work can also make it harder to reach the right person. And maybe people are overwhelmed by the proliferation of surveys across the private and public sectors.

"There's more fear also of negative consequences from responding to surveys," says Groshen, whether it's a question of privacy "or just weakening your competitive advantage."

The drop-off in business participation has worsened in recent years. The response rate for the Employment Cost Index, a pay measure closely watched by the Fed, has fallen from nearly 75% at the end of 2012 to below 50%. And the Current Employment Statistics survey, which informs payroll and wage metrics each month, has seen its response rate among employers fall from about 60% at the end of 2019 to just under 45% as of September 2022.

Agencies such as the BLS and the Census Bureau have attempted to stem the decline in a variety of ways, including keeping the surveys as short as possible, providing multiple ways to submit responses and, in some cases, offering financial incentives. "Had we not been monitoring response and implemented those interventions, it's very possible response rates would be even lower than they are now," says Douglas Williams, a senior research survey methodologist at the BLS.

Concern over declining response rates typically revolves around nonresponse bias. That's the idea that people not responding to the survey are systematically different from those who do, skewing the results.

Agencies such as the Census Bureau take great care to look for this type of imbalance and adjust for it, applying different weights to respondents to ensure statistics accurately reflect a population. But nonresponse affects statistics differently.

"The problem with the economic statistics is, we're interested in magnitudes from very skewed distributions," says Robert Groves, a former Census Bureau director and prominent survey expert. "And if you miss the big guys, you're in trouble." To expand on that point, he adds: "Imagine estimating retail sales if Walmart or Amazon refuses to provide their data versus the flower shop on 14th Avenue."

Williams describes a "vicious circle" that emerges when trying to boost response rates for something like the Current Population Survey, which informs statistics including the unemployment rate.

The telephone and in-person interviews for the monthly CPS are conducted in the calendar week that includes the 19th of the month, and respondents are asked questions about the previous week. If the government were to increase the survey period—something that could help boost response rates—not only would the data be less timely but the chance of error would grow because of the longer stretch from when a respondent is surveyed and the time period they're being asked about.

Theoretically, surveyors could put more effort into reaching nonresponding households. Doing so, however, would be costlier and potentially counterproductive. "If I knock on your door 13 times and you answer on the 14th time, you're probably not going to be all that happy about it," Williams says.

Williams and his colleagues at the BLS face a further constraint: a squeezed budget. Adjusted for inflation, BLS funding—excluding money for a long-anticipated office relocation—is down about 10% from fiscal year 2003, according to estimates from Steve Pierson, director of science policy at the American Statistical Association.

"If we attempt to live through the 21st century ▶

▼ Percentage-point decline in response rates, December 2012 through September 2022

Job Openings and Labor Turnover Survey	▼ 37.4
Employment Cost Index	▼ 26.7
Current Employment Statistics survey	▼ 18.2
Consumer price index, housing	▼ 17.7
Current Population Survey	▼ 16.9

"Imagine estimating retail sales if Walmart or Amazon refuses to provide their data versus the flower shop on 14th Avenue"

◀ with traditional survey methods producing our statistics alone, we're in trouble," Groves says, citing the drop in response rates as well as the "horrible cost-per-unit of gathering these data."

At the Census Bureau, the survey process is being modernized with an eye toward easing the burden on respondents. A key question guiding that effort, says Eloise Parker, assistant director for demographic programs, is: "What are other ways that we can be producing statistics that aren't so wholly dependent on the household being gracious, cooperative and willing to basically give up their privacy on our behalf?" The answer, in part, is third-party data.

Some statistics already use this blended model. The closely watched consumer price index, which relies in part on price data collected in person, also incorporates information from J.D. Power Information Network to measure changes in the prices of used cars and trucks.

Instead of laboriously collecting data on residential housing permits and construction, the Census Bureau is moving to a system whereby it receives data from third-party sources and uses satellite imagery to identify the stage of construction.

This blending of survey and nonsurvey data can lead to more detailed and timely information. "It's a big lift," says Groves. "But without that, I predict that five years from now, you're going to write another article about how statistics are so fallible that we can't believe anything." —*Reade Pickert*

THE BOTTOM LINE US agencies are struggling to arrest a decline in participation rates on surveys used to compile economic statistics. To compensate, some are using third-party data.

Japan's Money Printers Are Under New Management

● Incoming central bank governor Kazuo Ueda must attempt a monetary policy pivot that doesn't spook markets

A decade ago the Bank of Japan led the way with an unprecedented experiment in monetary stimulus. To support Abenomics, named after then-Prime Minister Shinzo Abe's aggressive bid to revive an anemic economy, the central bank massively increased purchases of government securities and eventually moved to cap yields on government debt. With the benchmark interest rate already negative, the combined effect was like having gigantic money-printing machines running constantly at full tilt.

Now, with inflation running well above the BOJ's comfort zone, policymakers are having to ponder how best to make a monetary policy pivot that doesn't spook markets.

This is the challenge facing Kazuo Ueda, who on Feb. 14 was nominated as central bank governor. A university professor and onetime BOJ board member, Ueda, 71, has publicly said he will stay the course charted by Haruhiko Kuroda, who's been in the post for a decade. Yet the expectation is that once installed in April, Ueda will move to end the policy of yield curve control, which sought to cap yields on longer-term government debt as a way to encourage banks to lend.

The combination of yield curve control and quantitative easing has turned the BOJ into the largest owner of stocks and government bonds in Japan, with a balance sheet of 735 trillion yen ($547 billion), equal to 130% of gross domestic product. Yet critics say that instead of reviving the economy's animal spirits, these policies have forced Japanese investors to go overseas to earn a noticeable return on their money.

Japanese money managers alone have more than $3 trillion invested in overseas stocks and bonds, with over half of that stashed in the US. The cohort—which includes the country's giant insurers and pension funds—owns more than $1 trillion in US Treasury securities and also hold bonds from Australia, France, the Netherlands and the UK.

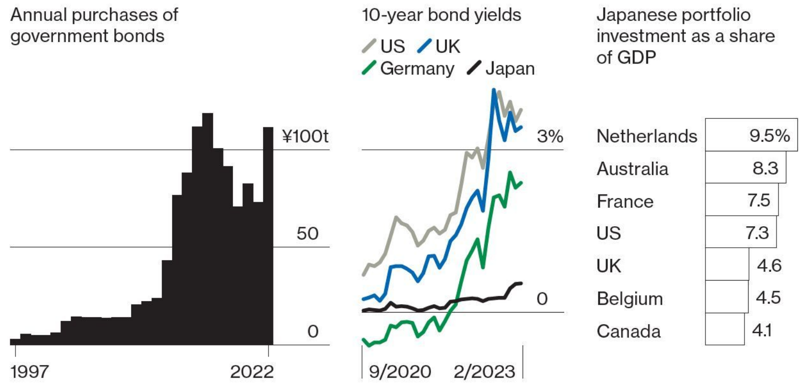
If the BOJ were to raise rates too quickly, a lot of that money could come rushing back to Japan. "Japan has employed ultraloose monetary policies longer than any other economy," says Rob Subbaraman, head of global markets research at Nomura Holdings Inc. "So the exit from these policies could lead to major structural

● Ueda

KYODO/REUTERS

Why Japan's Monetary Policy Matters

Offshore money will rush back to Japan if the central bank allows yields to rise further



DATA: BANK OF JAPAN, COMPILED BY BLOOMBERG

economic changes, such as the repatriation of a significant share of Japan's massive fixed-income investments overseas."

If Ueda defies expectations and sticks with easy money, that could lead to the reverse happening, with investors dumping Japanese assets. This would jeopardize the yen's longtime reputation as a safe haven currency, causing it to drop in value against the US dollar and other currencies.

Under Kuroda, the BOJ stuck with a loose monetary policy even as inflation ticked higher and global peers raised interest rates. The thinking in Tokyo was that the rise in prices was transitory—a byproduct of surging costs for imported goods such as food and oil—and would eventually moderate.

But inflation is proving stickier than expected, with consumer prices rising to 4% annually in December, double the BOJ's 2% target. Nominal wages in December rose at their fastest pace since 1997, and the current round of annual pay negotiations between companies and unions is being closely tracked for signs that Japanese workers will manage to extract larger-than-usual pay increases.

"My sense is that Japan is ready to move out of negative rates and [yield curve control]," says Alicia Garcia-Herrero, chief Asia-Pacific economist at Natixis SA. "The reason is simple: Core inflation is above the objective set by BOJ, and wages are increasing fast."

Evidence of the potential for market turmoil in response to a BOJ pivot was clear in December when the central bank decided to allow 10-year yields to rise to about 0.5%, up from a previous limit of 0.25%, while keeping both short- and long-term benchmark interest rates unchanged.

Kuroda said the move was aimed at improving the functioning of the market, but it was widely seen as laying the groundwork for an eventual unwinding of the yield curve control program. That perception has forced the central bank to make ever-larger purchases to prevent yields from surging past the new limit: In January alone, it spent a record 23 trillion yen.

Under these conditions, Ueda may find he has little choice but to dial down the money printers soon after he takes up his post in the spring. —*Enda Curran*

THE BOTTOM LINE Markets are betting that the newly appointed Bank of Japan governor will have to let yields on government debt rise to squelch the highest inflation in decades.

Chile's Green Hydrogen Ambitions

● The country has the potential to be one of the lowest-cost producers of low-carbon fuels

Visitors to Chile's Punta Arenas, one of the southernmost cities in the world, should beware: Winds of as high as 120 kilometers per hour (75 miles per hour) can easily topple the unwitting pedestrian.

Capitalizing on those powerful gusts is an important agenda item for President Gabriel Boric, who assumed office almost a year ago promising to green an economy dependent on fossil fuels and copper mining. Renewables already account for more than 50% of the country's electricity generation capacity, and that proportion is set to continue rising as the government works toward the goal of closing or repurposing all coal-fired plants.

Chile is seeking to lure private investors to harness the country's winds for commercial purposes, partly to cushion the blow from the energy transition on certain communities. "Because many of our industries, like oil in the south and coal in the north, are slowly dying in this green world, we need to give those communities an alternative to keep working and provide economic stability," says Energy Minister Diego Pardow.

Haru Oni, a $74 million pilot project about 40km north of Punta Arenas, is the fruit of these efforts. On a site surrounded by nothing but brush, a giant wind turbine towers over a collection of buildings, ▶

● Investment in the Haru Oni pilot plant in Patagonia

$74m

◀ one of which houses an electrolyzer, a machine that splits water molecules into oxygen and hydrogen. The oxygen is released into the atmosphere, while the hydrogen is captured and combined with carbon dioxide to make methanol, a gasoline substitute that burns more cleanly. Germany's Siemens Energy and Porsche, along with Enel, an Italian energy company, are partners in the venture, which became operational at the end of last year.

"Anything we do today with petroleum, synthetic fuels can do tomorrow. Whether that's plastic, chemicals or transport, we'll be able to replace fossil fuels with something that's synthetic and green and is made from renewable energy," says Clara Bowman, chief operations officer at HIF Global LLC, the project's lead developer.

Almost all hydrogen produced globally is what's known in the industry as "gray," meaning it's extracted from fossil fuels—primarily natural gas, but also coal. Diesel refineries and makers of fertilizers are among the main customers. In contrast, much of the excitement around green hydrogen centers on its potential as a substitute for dirty fuels used in transportation, including rail and shipping.

Chile has set itself the goal of becoming one of the top three exporters of green hydrogen by 2040. Analysts at BloombergNEF reckon the country has the potential to be one of the cheapest producers in the world, achieving a levelized cost as low as $1.09 per kilogram by the close of this decade, making it competitive with gray hydrogen. (Levelized cost is a measure that accounts for all the capital and operating costs of producing a certain type of energy.) "Chile's government was the first to set a hydrogen strategy in Latin America. This is a strong signal to developers and future clients," says BNEF analyst Natalia Castilhos Rypl. "Brazil may become the largest producer in the region, but Chile is leading the way right now."

Chile already has 41 green hydrogen projects under way. Haru Oni is the most advanced: The plant delivered its first batch of synthetic gasoline in December, with production slated to climb to 130,000 liters (34,000 gallons) by yearend. Its only customer at the moment is Porsche AG, which uses the fuel in demo vehicles. The plan is to eventually diversify the customer base to include shippers and airlines.

Barrels from the Haru Oni plant are transported about 35km by truck to a port for export, which avoids the need to build a costly pipeline infrastructure. "Because we're using liquid fuel, whether methanol or gasoline, we can use regular ships to move fuel around, so it's actually not that expensive," Bowman says.

▲ Workers at the Haru Oni fuel plant

TAMARA MERINO/BLOOMBERG

HIF Global says the plant has benefited the local community, with Punta Arenas residents making up more than more than 80% of its 250-person workforce. But not everyone has been welcoming.

Local environmental groups are voicing concerns about the large wind farms needed to produce green hydrogen at commercial scale. "All this region could be covered with windmills, and we don't know the migratory routes of over 60 species of birds that inhabit Patagonia," says Ricardo Matu, director at Leñadura Bird Rehabilitation Center. "We're trying to figure all this out in record time, but you cannot do this in a rush." It's not only birds such as the endangered Magellanic plover that could be affected. Populations of dolphins and whales could also suffer if the region experiences an increase in maritime traffic.

HIF Global and Enel SpA have hit pause on plans to set up a larger commercial green hydrogen plant in the area that would produce 66 million liters of fuel starting in 2026. "We realized there was still more dialogue to be had with the authorities regarding the standards they're looking for in these projects," Bowman says. "This is understandable given it's something that hasn't been done before."

Pardow says he's confident that the project will be able to move forward this year. The energy minister is well aware that projects such as these could become a test of how well the country's most leftist government in a half-century works with private capital. "We will keep the promises made to companies that have invested in Chile," he says, adding that more grants and loans are forthcoming, as authorities also work on easing land-use rules to attract more businesses to Chile's budding green hydrogen industry. —*Shery Ahn, with Eduardo Thomson*

THE BOTTOM LINE Chile aims to turn itself into a top-three exporter of green hydrogen. The country is home to 41 projects, with a synthetics fuels plant in Patagonia the most advanced.

WHAT GLAXO KNEW ABOUT ZANTAC

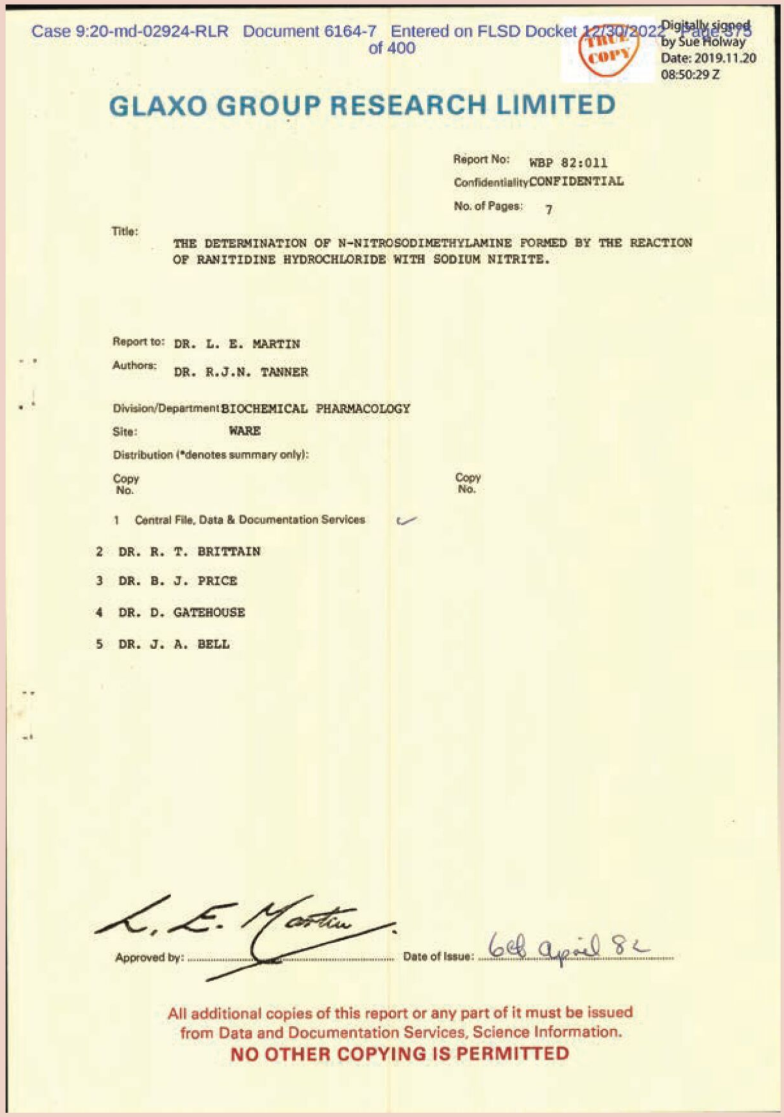
THE WORLD'S BESTSELLING HEARTBURN MEDICATION DIDN'T JUST CONTAIN A PROBABLE CARCINOGEN—IT CREATED IT. COURT DOCUMENTS SHOW THE DRUG'S MAKER DOWNPLAYED CRUCIAL INFORMATION FOR 40 YEARS

BY ANNA EDNEY, SUSAN BERFIELD AND JEF FEELEY
ILLUSTRATIONS BY IBRAHIM RAYINTAKATH

The small British company was sometimes called Glaxo University, because it conducted important pharmaceutical research that rarely resulted in profitable drugs. Then the scientists at Glaxo Laboratories created a molecule they called ranitidine, and in 1978 the company was granted a US patent. The molecule was new, but not novel. The scientists had, as scientists sometimes do, looked for a way to mimic the success of an established drug—in this case, one that healed ulcers and could be used to treat heartburn. They developed ranitidine quickly, and the US Food and Drug Administration reviewed it quickly. Glaxo gave it the brand name Zantac.

Glaxo marketed it as better and safer than the drug that inspired it, Tagamet, and before long, Zantac overtook Tagamet to become the world's bestselling prescription medication. For years, Glaxo counted on Zantac for nearly half of its sales and almost as much of its profit. The company won an award from Queen Elizabeth; the chief executive officer was knighted. Zantac created reputations and fortunes. It financed the modern version of Glaxo, which, after mergers and takeovers and spinoffs, ended up as GSK Plc, a company now worth some $73 billion. Among its most popular drugs are the antidepressants Paxil and Wellbutrin and the shingles vaccine Shingrix.

But not Zantac. In 2019 the drug was found to be tainted with high levels of a probable carcinogen. Not by chance or mistake in a few batches. The poison is created by ranitidine itself. Zantac's makers and health regulators around the world recalled the drug, and in the spring of 2020 the FDA forced it off the market altogether. No company could manufacture it; nobody should ingest it. The carcinogen, called NDMA, was once added to rocket fuel and is now used only to induce cancer in lab rats. The FDA says consuming minuscule amounts isn't harmful. But tests were revealing excessive amounts of NDMA in ranitidine—and a capacity to create even more over time. No version seemed safe.



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Report to: DR. L. E. MARTIN
Authors: DR. R.J.N. TANNER

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The Tanner report, which Glaxo kept under wraps for almost four decades

From the beginning to the end of ranitidine, Glaxo had been warned by its own scientists and independent researchers about the potential danger. An account of those four decades emerges in hundreds of documents, thousands of pages, many of which have never been made public. *Bloomberg Businessweek* reviewed court filings, many still under seal, as well as studies, FDA transcripts and new drug applications obtained via Freedom of Information Act requests. They show that the FDA considered the cancer risks when approving ranitidine. But Glaxo didn't share a critical study. Over the years, the company also backed flawed research designed to minimize concerns and chose not to routinely transport and store the medication in ways that could have eased the problem. Glaxo sold a drug that might harm people, tried to discount evidence of that and never gave anyone the slightest warning.

More than 70,000 people who took Zantac are suing the company in US state courts for selling a potentially contaminated and dangerous drug. The first of those trials is supposed to begin in late February in the California Superior Court in Alameda County but will likely be postponed until summer to accommodate the judge's schedule. Other companies that sold Zantac in later years, including Pfizer Inc. and Sanofi, are also part of the lawsuits.

In December, GSK won a favorable ruling in a separate group of cases in federal court. US District Judge Robin Rosenberg, in the Southern District of Florida, dismissed thousands of federal lawsuits that had been consolidated in her courtroom for pretrial proceedings. She declared that there is "no widespread acceptance in the scientific community of an observable, statistically significant association between ranitidine and cancer." GSK considers Rosenberg's the final word on those claims. "The court's view is consistent with the position that GSK and other co-defendants have taken throughout this litigation," Kathleen Quinn, a company spokesperson, said in

GABBY JONES/BLOOMBERG (2). REPORT: GSK; ZANTAC (RANITIDINE) PRODUCTS LIABILITY LITIGATION

a statement. "After more than three years of extensive study—including 13 peer-reviewed epidemiological studies conducted looking at human data regarding the use of ranitidine—the scientific consensus is that there is no consistent or reliable evidence that Zantac (ranitidine) increases the risk for any type of cancer." Lawyers representing those who brought the suits plan to appeal.

GSK does still have to fight the tens of thousands of cases waiting in state courts, where judges aren't bound by the federal court's ruling. The company said in a statement that it "will continue to defend itself vigorously, including against all claims in this litigation." GSK declined to comment further.

Every public-health agency, from the Environmental Protection Agency to the FDA to the World Health Organization, says NDMA likely causes cancer in humans. But proving that a particular person's cancerous cells were mutated by a company's drug is complicated. Glaxo's decisions suggest it never wanted to consider that possibility. The clues were there. The documents show that Glaxo preferred not to find them.

> Plaintiffs' lawyer: *At any time when Zantac had been on the market for almost 50 years, did Glaxo cause anyone to test for the presence of NDMA, a probable human carcinogen, in the product it was selling to American consumers known as Zantac?*
>
> Glaxo senior medical adviser: *Not to my knowledge.*
>
> —Deposition, June 2021

NDMA, which is short for N-Nitrosodimethylamine, is a yellow liquid that dissolves in water. It doesn't have an odor or much of a taste. It was first linked to cancer in 1956 and is most toxic to the liver. It's one of a group of chemicals called nitrosamines, which by the 1970s were considered the most potent carcinogens yet discovered. They caused cancer in every species of animal tested. A single dose of less than a milligram of NDMA can mutate mice cells and stimulate tumors, and 2 grams can kill a person in days.

William Lijinsky was working as a cancer researcher for the US government in 1969 when he determined that nitrosamines could form in the stomach. Nitrites, a common chemical found in cured and grilled meat and in beer and coffee and vegetables, could combine with another group of chemicals called amines, compounds found in many medications. Acid in the stomach created the ideal environment for the reaction. The amount of nitrosamine created at one time might be insubstantial but over time could be dangerous. Lijinsky published studies about nitrosamines. He testified before Congress. He thought the easiest way to minimize the problem was to limit how much sodium nitrite food manufacturers could add to preserve and flavor meat. Ham, bacon, pastrami, corned beef, sausage: foods that, it turns out, are common causes of heartburn and acid reflux.

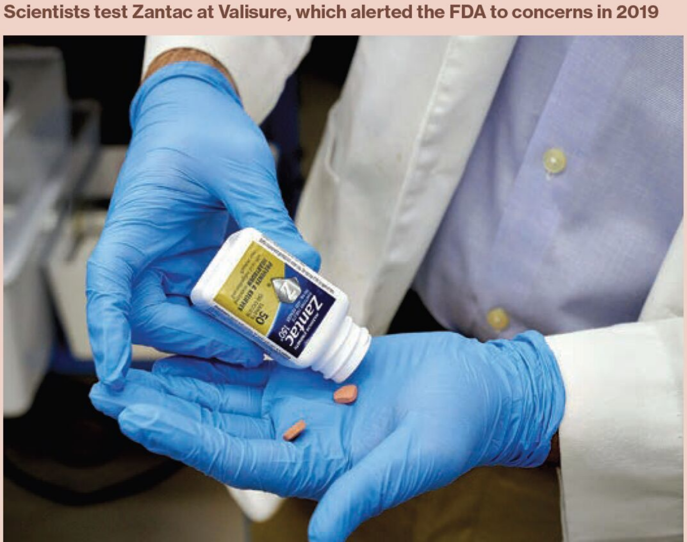
He also evaluated different amines, several hundred in all, to see which among them could form nitrosamines in simulated gastric conditions. They all could. Ranitidine didn't exist yet, but it too includes an amine structure. Lijinksy's research led in 1979 to an antihistamine commonly used as a sedative being taken off themarket because of its potential to cause cancer.

Rosalie Lijinsky, a genetic toxicologist who recently retired from the FDA, studied nitrosamines with her husband. "He thought they were the most important carcinogen," she says. But he lost federal funding for his research—largely, she says, because of pressure from the food and pharmaceutical industries. He died in 2004 after suffering a stroke, thinking his work hadn't been useful.

> *It seems to me that the regulatory agencies have been less than eager to act in the matter of nitrites and nitrosamines. There has been ample information available, if they had sought it. There is, of course, immense opposition by the manufacturing companies to any change.*
>
> —William Lijinsky, congressional testimony, 1977

In November 1980, a prominent pharmaceutical analyst at a well-known British investment firm sent investors a report titled "Glaxo, Ranitidine—Cause for Concern." Glaxo was preparing to seek approval from the FDA to sell ranitidine in the US. The analyst wrote that academic research in the US suggested that, under certain conditions in the ▶

Scientists test Zantac at Valisure, which alerted the FDA to concerns in 2019



WHAT IS AVAXHOME?

◀ stomach, ranitidine could form a potentially dangerous compound. The conditions were the chemical reaction that Lijinsky and others had described; the product, a chemical that might cause cancer. And the concern: the possible impact on sales. The analyst warned that until the debate about ranitidine's link to cancer was resolved, general practitioners in the US might be reluctant to prescribe the drug.

After the analyst's report came out, Glaxo's head of public relations, Geoff Potter, cautioned against overreacting. He wrote a memo to Paul Girolami, the CEO, who wasn't yet Sir Paul; the chairman of the board, Austin Bide, who was already Sir Austin; and other board members. In it Potter promised: "We will be watching the situation very closely with a view to proposing rapid defensive action should the position deteriorate." Later, in a deposition, the executive who was then Glaxo's associate director of clinical research would say that the board never asked him to test ranitidine to see if it might form a nitrosamine compound.

In one trial in Britain during the summer of 1981, 11 healthy men were given 150mg of ranitidine twice a day, in the morning and evening, for four weeks. Glaxo scientists were looking to see if long-term use of ranitidine could affect gastric bacteria, specifically bacteria that could create more nitrite, which could allow nitrosamines to form. They found that it could. And they concluded the importance of that wasn't clear. In a summary later reviewed by the FDA, Glaxo scientists wrote that yes, high levels of nitrite could form nitrosamines, almost all of which are carcinogens. But the animal studies conducted so far hadn't shown that ranitidine was carcinogenic, so the level of human risk couldn't be estimated. Also, patients weren't meant to take the drug for long. "Ranitidine is recommended only for short-term use," the scientists concluded, "and carcinogenic risk, if any, should thus be minimized."

Many people would end up taking Zantac for months, sometimes years, even decades.

James Goetz's case will be the first to go to trial in a state court

PHOTOGRAPH BY JESSICA PONS FOR BLOOMBERG BUSINESSWEEK

In October 1981, Glaxo announced plans to build a factory in North Carolina that could produce Zantac. The drug was already being sold in Britain and Italy. Researchers were studying it. Silvio De Flora, of the University of Genoa, published his results in the British medical journal the *Lancet* showing that when ranitidine was mixed with nitrite, the result was "toxic and mutagenic effects." De Flora didn't try to figure out the cause of the toxicity; he would later suggest that anyone prescribed Zantac limit their consumption of nitrite and take the drug well before or after a meal. Around the globe, instructions for taking Zantac to prevent heartburn would recommend using it close to mealtime.

Glaxo executives promptly got in touch with De Flora. "They tried to convince us of the safety of ranitidine," he said by email. "Pharmaceutical companies do not like this kind of study."

Five Glaxo scientists published a letter in the *Lancet* two weeks later to, they said, put De Flora's findings in perspective. They noted that De Flora had used concentrations of nitrite that would never be found in the human stomach. This would become Glaxo's standard argument. De Flora says researchers commonly use high doses of test compounds in lab experiments "because they evaluate a given effect in a short time as compared to the more common situation of being exposed to low doses for long periods of time."

In March 1982, Glaxo learned of another study revealing the potential dangers of ranitidine. The report, just a few pages long, was sent to the company by its rival, Smith, Kline & French, maker of Tagamet. Researchers there had also combined ranitidine with different concentrations of nitrite and had also observed the formation of a poison. They named it for Glaxo: NDMA.

Skepticism at Glaxo would be natural. A company had tested a competing product and found a flaw. Glaxo asked one of its scientists to conduct his own tests: Richard Tanner, who worked in the biochemical pharmacology division. He got the same results. He identified as much as

LESS THAN A MILLIGRAM OF NDMA CAN MUTATE MICE CELLS. TWO GRAMS CAN KILL A PERSON IN DAYS

232,000 nanograms of NDMA in some samples. When the FDA later deemed that a tiny amount of NDMA was acceptable in any drug, that amount was 96ng. Tanner didn't find NDMA when he used a lower nitrite level, which the company now says is closer to conditions in an actual human stomach. But back in 1982, court documents show, Glaxo kept the study secret. The associate director of clinical research in the US was never told about the Tanner report. The senior medical adviser for gastrointestinal research was unaware of it. So was the FDA.

Glaxo also knew of another potentially serious problem with ranitidine. It wasn't always stable. The drug was sensitive to heat and humidity, and when exposed to too much of either could degrade. This is what the FDA would later focus on: that in certain conditions, not necessarily extreme ones, sometimes normal room temperature, ranitidine starts to fall apart. That creates conditions for NDMA to form in the drug itself.

One exchange at the company in 1982 focused on preventing degradation of injectable ranitidine. Glaxo had just filed its application to sell ranitidine tablets and would soon seek approval for injections. John Padfield, the head of pharmaceutical development, had insisted that this version of ranitidine had to be kept chilled, at 4C (39F), as it was shipped from Britain, transported around the US and stored at regional warehouses. Not doing so, he wrote in March, would be "a very dangerous thing." A few months later, in a July memo, company executives wrote: "Refrigeration of the injection would not be acceptable to Glaxo marketing." Padfield was adamant. "The product is very sensitive to temperature," he wrote back. "It is imperative that the product is protected in the way we have discussed."

Things had moved rapidly in North Carolina. The first human trials of ranitidine in the US had begun only two years before Glaxo filed its new drug application in March 1982. But Fred Eshelman, who was the associate director of clinical research then, says the company was small and the staff young, they didn't ever compromise safety, and they didn't have to deal with a lot of bureaucracy. "Everybody thought it was a great drug," he says. "The quicker we could get it to market, the quicker patients could use it. We were all devoted to good things." Eshelman was among the many who should have seen the Tanner study but didn't. He doesn't want to comment on that now, but says: "If this drug were toxic in and of itself, we would have found out long ago."

Plaintiffs' lawyer: *It is completely unheard of in the industry to go that fast.*

Fred Eshelman: *Yes, sir.*

Lawyer: *So, would it be fair to say that the clinical development of ranitidine was done quickly at a frenetic pace that took a lot of work?*

Eshelman: *Fair enough.*

—Deposition, May 2021

In May 1982, Eshelman and a group of Glaxo scientists gathered in a room at the National Library of Medicine to present the case for Zantac to a panel of independent researchers and a group of FDA officials. The panel would recommend whether the FDA should approve the drug for sale in the US.

David Jack, who had helped discover ranitidine, spoke first. He noted that the company had carried out extensive toxicological studies on ranitidine and found nothing concerning. But that morning, he said, "we want to focus only on the part which raises the real problem in some people's mind, namely the possibility of carcinogenesis with drugs of this kind." He and other Glaxo scientists presented three studies that showed long-term use of ranitidine (over about two years) didn't cause cancer in rats or mice. "Ranitidine proved to be a singularly nontoxic compound," one of Jack's colleagues said. "No evidence of ranitidine being itself carcinogenic either in the stomach or for that matter anywhere else."

The Glaxo scientists disputed the idea that ranitidine could form a nitrosamine under any normal human conditions. They didn't mention the company's Tanner study. Richard Klein, who worked at the FDA for more than 40 years, including with drug approval teams (though not Zantac's), says that had the agency known about the Tanner study, it might have at least "inspired the FDA to ask more questions, to ask for more data. It might have raised FDA's suspicion."

As it was, the discussion moved past any concerns about cancer to specific dosing and the type of ulcers Zantac would treat. There wasn't much talk of how the drug needed to be transported and stored and what warnings, if any, should be on the label. The pace was brisk. Right before their lunch break, the outside experts voted to recommend the FDA approve the medication: 150mg twice a day for up to eight weeks to treat acute duodenal ulcers, the most common kind. The label would ultimately include instructions to store the pills at home in a dry place that didn't exceed 86F. A year later, in May 1983, the FDA granted Glaxo approval to sell Zantac. The *New York Times* wrote that the drug, which was already sold in 31 countries, was "several times more powerful than Tagamet and said to have fewer side effects, ▶

◀ though both drugs are considered so safe that physicians have prescribed them for a far wider range of gastric complaints than the companies have suggested."

Zantac's sales in the US that first year were about $125 million, which made it one of the best launches of a drug ever. "Fred Eshelman was the hero at Glaxo because of Zantac," says Joe Graedon, a North Carolina pharmacologist who co-founded the People's Pharmacy, a consumer health organization. "The head of Glaxo said, 'Zantac is the engine that pulls the train.' It was the moneymaker, the giant killer." Eshelman would go on to start his own firm, which conducted new drug trials for pharmaceutical companies. Several Glaxo executives would join him. He sold the business in 2011 for $3.9 billion and later donated $100 million to the pharmacy school at the University of North Carolina at Chapel Hill. It was already named after him.

> *It's safe. It works. The end.*
> —A plaque in Fred Eshelman's Glaxo office commemorating Zantac's approval

Glaxo's marketing campaign was a masterful effort to undermine Tagamet, then the world's bestselling prescription drug. Executives knew Zantac had more active ingredient in each pill than Tagamet did, so they marketed it as more effective. They knew that patients would be prescribed Zantac twice a day instead of four times. They emphasized to doctors that Zantac was more convenient. They knew some, not many, patients had suffered side effects with Tagamet—bad drug interactions, mental confusion. They marketed Zantac as safer. And Glaxo priced Zantac higher, some 15% to 25% higher, as evidence that it was superior to Tagamet. Smith, Kline & French responded with its own campaign for Tagamet, calling itself the ulcer expert.

Glaxo tripled its sales force by working with the Swiss drug company Hoffmann-La Roche, which at the time had a big staff but no big drug. They started marketing Zantac to gastroenterologists, as expected, then less expectedly began holding "educational symposia" for primary-care physicians, osteopaths and pharmacists.

Three years after Zantac was introduced in the US, the FDA reprimanded Glaxo for repeatedly making false promotional claims, most recently as it sought to become eligible for government reimbursement programs. "We apparently have had little success in achieving voluntary correction of these advertising and promotional practices on the part of your firm," the FDA wrote in a four-page letter in May 1986. It concluded with the threat of regulatory action. Glaxo replied that the agency had misinterpreted its actions.

That year, Tagamet became the first billion-dollar drug. The next year, Zantac overtook Tagamet.

In March 1988, Glaxo commissioned a Gallup Poll titled "Heartburn Across America." It found 44% of the adult population suffered heartburn monthly. Zantac could be prescribed for heartburn by then, but plenty of antacids were available that didn't require a prescription. Glaxo promoted the survey on television and in print. The ads noted that heartburn and other symptoms of chronic reflux could signal diseases such as ulcers and suggested seeing a physician.

A respected gastroenterologist in North Carolina conducted a study in the winter of 1988 that showed Zantac could help reduce heartburn in runners: a new group of potential patients with a newly named problem, runners' reflux. The study was small and never peer-reviewed, but the doctor's prominence—and Glaxo's public-relations agency—assured it received attention. The *New York Times* later reported that the doctor was a paid consultant to Glaxo. He said he didn't think Glaxo would capitalize on the study.

By 1989, Zantac was worth $2 billion. It accounted for half of Glaxo's sales and 53% of the market for prescription ulcer remedies.

In 1993 the FDA followed through on its threats regarding the marketing of Zantac. The agency said in a warning letter that Glaxo had undertaken a "repetitive course of conduct" to disseminate misleading information about Zantac being superior to Tagamet in advertising and promotions. The agency demanded that Glaxo write to US doctors and publish advertisements in 12 leading medical journals to correct any such statements. "Most firms don't make mistakes in promotional material," an FDA spokesman told London's *Sunday Times*. "This is a worst-case scenario." Two months later, Glaxo released its "corrective advertising" campaign.

Glaxo had lots of reasons to cooperate with the FDA. Among them was that it was working on developing lower-dose, over-the-counter versions of Zantac meant to treat heartburn. The FDA would have to approve. One of the other changes executives were considering for the new tablets was their color. During some stability tests, the tablets, which were white, were turning yellow and brown. Glaxo wanted to mask that. They settled on a pink coating, made of iron oxide, for the new pills. Discoloration is often a sign that tablets are degrading. In some cases, degradation can cause dangerous impurities to form. Glaxo said that wasn't the case with Zantac. "Color was used in the coat in order to ensure a uniform appearance of the tablets throughout their shelf life," Ian Winterborn, who was working on developing the over-the-counter version, said in a deposition. "There was no concern about degradation associated with the color change."

When Glaxo completed its application for over-the-counter

GSK FINALLY HANDED OVER THE REPORT, WHICH HAD BEEN TUCKED AWAY SINCE 1982

Zantac, Winterborn was one of many recipients of a congratulatory email. “This concludes what I believe to be a heroic effort from everyone involved in this project over the past two and a half years,” an executive wrote in late 1994. “I believe this to be one of the most significant accomplishments at Glaxo of all time.”

In the spring of 1996, Glaxo celebrated the introduction of the Zantac 75mg over-the-counter pill. It was pink and could be taken once or twice a day. Americans were already spending about a billion dollars every year for heartburn relief. Glaxo’s marketers were ready. Their catchphrase: “The Legend Lives On.”

There was nothing in Zantac’s elements that made it a billion-dollar drug. We made it that product.
—Paul Girolami, chairman of the Glaxo board, in the *Financial Times,* 1988

In 1995, Glaxo completed a hostile takeover of another British drug company, Wellcome. Five years later, in 2000, Glaxo Wellcome acquired its longtime rival, known then as SmithKline Beecham. It was the biggest merger in the industry’s history and created the biggest drug company in the world, GlaxoSmithKline.

By then James Goetz, an aviation engineer who lives in Southern California, had been taking Zantac for years: first prescription, then over-the-counter. After the FDA approved generic versions, he took those, too. John Russell, who lives near Los Angeles, was diagnosed with gastritis and started taking the medication in 2001, picking it up from local gas stations and drugstores.

Issues with discoloration of Zantac persisted. In 2010, Andrew Searle, who oversaw genotoxic risk assessments at GSK, was asked to probe why injectable versions of Zantac were turning yellow. Searle’s investigation tested for impurities that were known to cause such yellow discoloration. NDMA used in labs is yellow, but he didn’t test for it. The issue came up again in 2015 when a manufacturing site in China reported problems with discolored and degraded Zantac tablets. GSK sent doctors a letter stating that the company hadn’t been able to identify any specific impurities but couldn’t confirm that the brown discolored tablets met its safety standards. No one looked for NDMA. In a deposition, Searle blamed the issue on inappropriate storage.

Between those two incidents were two others, unrelated to Zantac, that created unwanted scrutiny for GSK. In 2012 the company agreed to plead guilty and pay a $3 billion fine for marketing drugs for inappropriate uses, disregarding safety data and cheating Medicaid. The drugs were among the company’s most popular after Zantac: Paxil, Wellbutrin and the diabetes drug Avandia. The US Department of Justice called it the largest health-care fraud settlement in US history and the largest payment ever by a drug company. Two years later, China fined GSK $500 million and deported a top executive for bribing doctors to prescribe its drugs. The company told the BBC it had “published a statement of apology to the Chinese government and its people.”

Plaintiffs’ lawyer: *Was it known that ranitidine would degrade under conditions of high temperature?*

Andy Whitehead, director of second-generation research and development: *It would have been known in the ’80s as part of the development.*

Lawyer: *And when was it known that ranitidine would degrade when subjected to moisture?*

Whitehead: *That would have been part of the original development work.*

Lawyer: *So that ranitidine could degrade under conditions of high temperature and moisture has been known for almost 40 years?*

Whitehead: *That’s correct because of the hydrolytic pathway that was investigated as part of the development.*

—Deposition, May 2022

Goetz was 60 in 2017 when he was diagnosed with bladder cancer. That in and of itself wasn’t too unusual; 60 is about the age this particular cancer is often diagnosed in men. Smokers get bladder cancer, but Goetz hadn’t smoked since he was 22. His job hadn’t exposed him to any potentially harmful chemicals. It was perplexing, but he had no reason to think his getting cancer was anything other than random. Unfortunate, terrifying, but random. His doctor scraped out the tumors and treated him with immunotherapy. Then they waited. Chances were the cancer would come back, and when it did it was aggressive. The doctor had to remove Goetz’s bladder and prostate and 20 feet of his intestines. Afterward, he suffered kidney stones and sepsis. Goetz will be the first of thousands to go to trial against GSK. Because of that, his lawyers declined to allow him to comment for this story.

In September 2019 the FDA received a 19-page document that made some alarming claims about ranitidine. Valisure, a private lab operating independently of the FDA, said it had found extremely high levels of NDMA in Zantac and several generic versions of ranitidine. Valisure had begun testing for NDMA the year before, when the FDA first recalled batches of the blood pressure medication valsartan because they were contaminated with it. This situation seemed worse. Valisure had found NDMA in every version of ranitidine it tested and concluded the problem was inherent to the molecule itself.

The FDA issued an alert but also questioned the testing method Valisure used. The agency said it would conduct its own tests with its own protocols. Within a month, at least two dozen countries pulled ranitidine from stores or halted its distribution. GSK, which by then had sold the rights to sell Zantac in the US, acted on its own to stop the supply of the drug. So did Sanofi, the French company that acquired the US rights in 2017 from Boehringer Ingelheim GmbH, and Pfizer, which had sold Zantac from 1998 to 2006.

“All, we have an urgent need to identify if the following ▶

◀ study report was submitted in the European Union and United States," a senior GSK executive wrote colleagues that November. She was talking about the Tanner report, and the answer was no, it hadn't been submitted as part of any new drug application. GSK then, finally, handed over the report, which had been tucked away since 1982.

The FDA made a rare and drastic decision in April 2020: It forced the makers of ranitidine—any version, any dose—to stop producing and selling the drug altogether. Ranitidine was finished. "NDMA levels increase in ranitidine even under normal storage conditions," the agency said. "And NDMA has been found to increase significantly in samples stored at higher temperatures, including temperatures the product may be exposed to during distribution and handling by consumers." Graedon, of the People's Pharmacy, calls this "the first example we have where storage conditions can have a profound impact on the quality of medicine, and the FDA has admitted that."

It wasn't until October 2021 that the FDA shared some specifics about what the agency had detected, and then it did so not in a published paper but during a monthly lecture series called FDA Grand Rounds. One tablet of a cool mint version of ranitidine, the agency said, contained 357ng of NDMA when it was initially tested—almost four times the FDA's limit in any drug—and 931ng five months later.

The FDA declined to comment on any of its interactions with Glaxo but said in a statement that it works to provide access to safe, effective and quality-made drugs, evaluating the benefits and risks "according to the science of the day"; that it requests the removal of a drug from the market when appropriate; and that "when new impurities are identified, new manufacturing processes used or when the science advances, the FDA works to improve the safety, quality and effectiveness and will continue to investigate emerging risks to patients' health." The FDA's decision to force ranitidine off the market was based on how NDMA forms in the drug, not the stomach. The agency says that once ingested, ranitidine doesn't cause more NDMA to form. Some scientists disagree.

In December 2020, GSK published the results of what's called a root cause analysis. It was inconclusive: The company's scientists couldn't determine exactly how the NDMA was forming in ranitidine and noted that back in the 1970s, when the drug was first developed, no one could have reasonably predicted that NDMA would ever form.

A year and a half later, the FDA made another rare and consequential decision. Even though it had found NDMA in ranitidine and even though ranitidine is a probable human carcinogen, the agency said there were "no consistent signals" that Zantac increases cancer risk. It did so on page 8 of a 10-page study examining NDMA levels in the urine of people who took ranitidine. The statement relied on seven papers by outside scientists. One showed a link between ranitidine and breast cancer, but the agency criticized its methods. A second raised concerns about liver cancer, though the authors said they didn't yet have enough data to confirm a link. It didn't seem as if the FDA's was the final word, but the statement is now a regular part of Glaxo's public-relations and, presumably, legal defense. "Guiltless by association" is what some scientists call this. Three studies since then have found a link between the drug and cancer, most notably bladder and liver cancers. The FDA says it stands by its statement, which critics say does also absolve the agency for allowing a dangerous chemical to lurk in a drug for decades.

> *"I just wish I had a better memory of all the issues and studies that were done when we were developing Zantac. There were concerns about nitrosamines at the time, and I know that there were lifetime carcinogenicity studies undertaken."*
> —Ian Winterborn, in an email read during a deposition, May 2022

After a while, the over-the-counter Zantac pills John Russell was taking weren't strong enough to ease his discomfort, and in 2017 a doctor prescribed a daily 300mg dose. A year and a half later, Russell noticed blood in his urine. A doctor found a 3-centimeter tumor in his bladder. Russell, like Goetz, was told the cancer would likely return, and it did. "It's like a weed," he says. His primary-care physician was baffled, Russell says. "I never smoked—that's the highest risk factor—I've never worked around chemicals or plastics. I have no hereditary connection. I had barely heard of bladder cancer." Every cystoscopy Russell has had since 2021 has revealed a tumor; he's had four surgeries in the past 18 months.

When he learned of Zantac's recall, he thought: "I've taken thousands of those pills." Russell played college football; working out used to be his hobby. But now, at 58, he's weakened from the surgeries and the worry. "I want the perpetrator," he says. Russell read about the federal judge's decision in December. "I would like to have my day in court," he says. "I would like a judge to tell me where they think my cancer came from."

James Goetz's kidneys are failing and soon he'll need dialysis, but he's able to work and expects to testify in the courtroom in Alameda County. When Zantac was recalled, he kept four bottles he'd already purchased. They're in the freezer in the office of one of his attorneys, Brent Wisner, as are leftover pills from Russell. Tests showed that one of Goetz's pills is contaminated with 3,000ng of NDMA, Wisner says; one of Russell's has more than twice as much. Wisner says he's invited GSK to test the tablets, but the company hasn't done so.

Boehringer, Pfizer and Sanofi settled Goetz's case in December; the amount of the settlement is being kept secret. GSK could settle, too. If it doesn't, Wisner and his partner in the case, Jennifer Moore, will be trying it in the same court where Wisner won a $2 billion verdict against Bayer AG on behalf of a couple who claimed the herbicide Roundup had caused their cancers. A judge later reduced the verdict to $87 million.

Moore also secured large verdicts for clients in the Roundup litigation. She says that with the weedkiller there wasn't scientific consensus over whether it was carcinogenic, while NDMA is acknowledged to be dangerous. "Here we have every scientific organization, every regulatory agency,

Wisner says an analysis combining epidemiological studies that contain bladder cancer data, including some considered by Rosenberg, shows "a statistically significant elevated risk if you take ranitidine."

It's fair to say that the science is unsettled. And it's likely that different judges—and juries—will come to different conclusions. GSK could face years of lawsuits in California, Delaware and other states, with the possibility of billions in damages. Estimates range from $3.5 billion to $17 billion. The company also disclosed in July 2020 that it was cooperating with a Justice Department probe related to Zantac.

Pfizer and Sanofi face similar legal claims about selling a potentially dangerous product. Like GSK, they dispute that Zantac poses any health threat. When asked for comment, Pfizer referred to a statement on its website that notes that the company last sold Zantac in 2006 and that it "has significant defenses to this litigation and there are significant legal and factual issues that remain to be addressed by the courts." A Sanofi spokesperson says: "Sanofi remains confident in our defenses across this litigation given the clear lack of scientific support for plaintiffs' claims."

Sanofi conducted its own investigation into how NDMA formed in Zantac tablets, hoping that would allow it to make some changes that would withstand FDA scrutiny and bring the drug back to the market. The company called the effort Project Churchill. It yielded an unwanted result, which led to an unprecedented decision. Sanofi couldn't find an acceptable way to make Zantac with the ingredient that defined it as Zantac, ranitidine.

Instead, in 2021 the company reformulated Zantac with famotidine, the active ingredient that has defined another heartburn drug, Pepcid. The new Zantac is in stores now. On its website, Sanofi describes this version of the drug as "building on the Zantac brand's established history and legacy."

all saying NDMA is a carcinogen in humans," she says. "And here we have our own client's pill showing there is a carcinogen at astronomical levels."

The Goetz trial has particular significance as the first after the federal ruling in Florida. There was a sense then, at the company and among investors, that the danger had passed. "Obviously, we were delighted with the outcome," GSK's chief executive, Emma Walmsley, said on a Feb. 1 earnings call.

In GSK's telling, Rosenberg's review of 13 epidemiological studies found no connection between ranitidine and any cancer. But that's not quite right: She reviewed 11 studies, and four of them found an association that the scientists said merited further research. Many of the studies Rosenberg evaluated had examined overall cancer risk.

"Wait a minute, you're telling me that they are marketing OTC famotidine and calling it Zantac? I'm obviously dumbfounded. I don't know what to make of that."

—Fred Eshelman in a deposition, May 2021 Ⓑ

Fear Made John

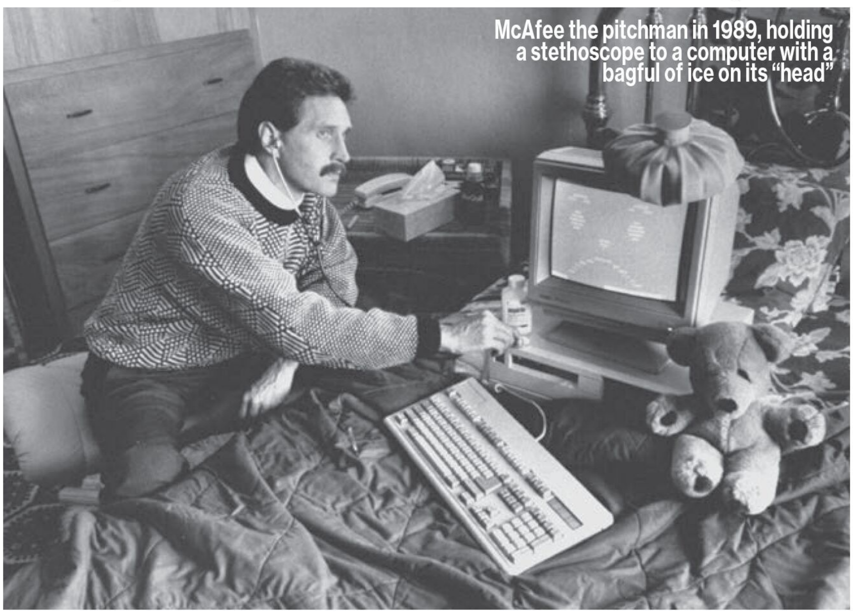
n McAfee Rich. IT ALSO RUINED HIM

The cybersecurity pioneer's long, strange saga started in Silicon Valley and ended in a Spanish prison

By Jamie Tarabay and Matthew Bremner

McAfee in Belize in 2012, when he was on the run from US authorities in connection with a wrongful death suit

The tattoo kind of said it all. In Cambrils, a beach community on the Spanish Mediterranean coast, Santiago Cuevas had already closed his shop, Scorpio Tattoo, for the 2019 holidays when a pushy customer talked his way in. The guy knew exactly what he wanted: a simple tat across the area just over his right bicep that read "$WHACKD." He said it symbolized a desire "to know that I'm alive." Cuevas and the man chatted amiably for the hour or so the job took.


McAfee the pitchman in 1989, holding a stethoscope to a computer with a bagful of ice on its "head"

"He never told me who he was," Cuevas recalls. "I found that out the following year."

This was John McAfee, the software pioneer and supposed centimillionaire who, by the time he was sitting in Cuevas's chair, had been broke and on the run for the better part of a decade. In the 1980s and '90s he was a computing entrepreneur mentioned in some circles in the same breath as Bill Gates and Steve Jobs. He largely persuaded the emerging personal-computing industry first to fear holes in its security, then to outsource its defenses to him. By the end of that period, he'd cashed out and turned to rich-guy vanity projects. In the 21st century, however, his life began to unravel. He was named in a wrongful death lawsuit. His fortune seemed to evaporate overnight. On the run in Belize, he faced accusations of rape and murder. And by the time he met Cuevas in late 2019, he'd begun his final run from the law.

McAfee was given to brash hype and to conspiracy theories. Besides the *hakuna matata* explanation he gave Cuevas, $WHACKD was both a reference to his cryptocurrency token and a signal to truther types that there was a plot afoot to murder him. McAfee compared himself to Jeffrey Epstein, the disgraced financier who died in jail awaiting trial on sex trafficking charges. "Know that if I hang myself, a la Epstein, it will be no fault of mine," he tweeted in October 2020. That same month, immigration officers at Barcelona-El Prat Airport arrested him on an international warrant for tax evasion and held him without bail. On June 23, 2021, several hours after being informed of his extradition to the US, he was found hanging in his prison cell. The Spanish authorities ruled his death a suicide. To McAfee's followers, Cuevas's tattoo became a totem, proof that powerful people had wanted to silence him and he wouldn't go quietly.

That was never McAfee's style. No matter how wild the other characters around him, he made himself the center of attention. Some of this was because of the mountains of drugs and alcohol he openly consumed, but he had an undeniable magnetism, too. "He always had an entourage around him, and people elevated him to this cultlike status," says Joy Athanasiou, a friend of and lawyer for McAfee's daughter, Jen.

McAfee also lied a lot, sometimes compulsively, making it tough to untangle his often bizarre final years. Loved ones and colleagues describe him as an enigma who could be lucid and urbane one moment, then paranoid and even psychotic the next.

"It was like working for Stalin or Hitler or something," says Jimmy Watson Jr., McAfee's former bodyguard and business partner. "He was always watching me and watching everybody."

"I never trusted him ever," says Barbara Doepke, McAfee's ex-fiancée. "We'd go to a restaurant, and he could be in the back with the waitress, f---ing her in the bathroom."

Jen McAfee says her dad was "not the type of person you want in charge of your own biography."

Everyone in McAfee's orbit who spoke to *Bloomberg Businessweek* for this story had a different theory about precisely who he was. But along with his penchant for hyperbole, the thread that runs through the good and bad times is paranoia. He built his fortune on it: The cybersecurity industry, worth billions of dollars a year, trades in fears that often prove to be exaggerated. McAfee is as responsible for that model as anyone.

McAfee was a Silicon Valley tycoon, a party animal, a spiritual guru, an international fugitive, a prophet of cybersecurity and Bitcoin and an alleged murderer and rapist. As his story grew darker, he also became a sort of beacon of QAnon-style misinformation and disinformation. At times, he said as much: that he was trying to create a whole alternate reality. No matter his wealth or charisma, though, there were some truths he couldn't outrun.

When McAfee told his own life story, he began with his father's violent alcoholism. "Nobody has an ideal life," he said in a 2017 interview with ABC News. "Even children." His dad was an American soldier based in southwest England during World War II. His British mother, Joan Williams, gave birth to McAfee about two weeks after V-J Day in 1945. The family soon moved to the US, settling in Salem, Virginia. McAfee described his dad as a mean drunk who abused him and his mom, right up until he shot himself when McAfee was 15. McAfee's first wife,

PREVIOUS SPREAD: ROBERT KING/POLARIS. THIS SPREAD: JOHN STOREY/GETTY IMAGES

Fran, says he was haunted by his father's abuse. "John had a tremendous volatile temper," she says. "It comes from what happened to him during those years."

From an early age, McAfee evinced a grandiose confidence in his facility with math, combined with a whatever-it-takes attitude toward life. He dealt cocaine in college, according to his ABC interview. He met Fran when he was in grad school for math. She was one of his 18-year-old students, and he was fired after their relationship became known. By the late 1960s, however, his career was on the rise. He'd worked for Xerox, Univac, Siemens, Booz Allen, Lockheed Martin and NASA. Later, he'd exaggerate his status and impact at more than one of these places. He claimed to have worked on satellite encryption and a key data processing project for the Apollo program. Other NASA veterans, including engineer Jim Cameron, say he did no such things.

Yet by the 1980s, McAfee had begun to make a name for himself in Silicon Valley. He became the head of research and development at Omex, an early data storage company, meaning he designed software for its operating systems. He stood out, recalls his boss, Rebecca Costa. "I remember looking out of my office window and seeing this guy drive up in a motorcycle with a black Michael Jackson-looking leather jacket," she says. "You might as well have introduced me to an alien." The day was already half over, so she noted that their meeting had been scheduled for 8 a.m. "And he said, 'Yeah, but I was hung over.' "

Costa says she couldn't trust McAfee to meet deadlines or budgets, but the work was worth it. "It took me all of 15 minutes in the R&D lab to realize he was brilliant," she says. "I didn't care if he set up a bar in R&D and drank all day long. If he could solve the kinds of technical problems he was solving, then he was my guy."

A couple of years later, McAfee left to seek greater fortunes. At McAfee Associates, founded in 1987, his chaotic style was built into the culture. He later claimed he created his eponymous antivirus software in a day and a half, as a way to fight an early virus that was on the rise, and that he had 4 million users within a month. Some of his reach came from stunts, like a truck he drove to customers' offices that resembled the *Ghostbusters* ambulance. But the antivirus software was also legit. "It was the gold standard," says Paul Ferguson, who's worked in cybersecurity for more than 30 years. "If there was a detection on McAfee, you pretty much could feel confident in the fact that it was not false positive."

At first, McAfee's software was free for home PCs, and he only charged businesses. To increase interest among both audiences, he became a media fixture, working the idea of computer viruses into the public consciousness. In 1992 a virus called Michelangelo was McAfee's big break. It was said to infect a computer but remain dormant until March 6, the artist's birthday, before erasing all data on the device. While peers estimated the number of infected machines in the thousands, McAfee told reporters the total could be as many as 5 million, representing tens of millions of dollars in losses. The lower estimates proved correct, but the public alarm sent sales of antivirus software spiking.

It's tough to overstate how ubiquitous McAfee antivirus software became in this era. Just about every time you logged in to a Windows PC, you'd see the Windows logo, then McAfee's software, scanning. That little shield was always running in the corner of the screen, as familiar to people of a certain age as modem bleeps and hisses or the words "you've got mail."

"I have not filed taxes in eight years. I will not file taxes again"

By then, though, McAfee was out of the company. He'd been relegated to the position of chief technology officer because venture capitalists were readying the company to go public. The adults brought in to manage the place had their fill of McAfee's office culture, which included sex-in-the-office competitions and parties that wouldn't have seemed out of place in *The Wolf of Wall Street*. "John was an amazing technical genius, but he wasn't a leader," says Andrea Nation, one of those adults. "He couldn't take the company to the next level." Nation, who recalls cleaning bodily fluids off of desks, says McAfee was ready to cash out. He stepped down as an employee in 1993 and as a board member in '95, walking away with cash disbursements and stock sales totaling at least $84 million. It wasn't enough.

In 2006, after some years on a Colorado estate that he'd turned into a yoga retreat, McAfee formed a club for a new hobby he called aerotrekking. It's the art of flying an ultralight aircraft really low to the ground. The planes have an engine but no cockpit, run on fuel and often have fabric wings. They're meant to be nimble enough to skim along canyon walls, treetops and mountainsides. They also leave the pilot entirely exposed.

McAfee spent about $11 million building an aerotrekking complex on his 157-acre property in New Mexico, created a business called Southwest Aerotrekking Academy and advertised rides. For a time the place, which had its own cafe, general store and movie theater, seemed like a fantastical, adrenaline-fueled oasis. But then one morning in November 2006, two aerotrekkers—including McAfee's nephew, one of the academy's instructors—crashed and died in nearby Starvation Canyon. In 2008 the family of the other aerotrekker sued McAfee, the academy and his nephew's father. A year later, McAfee sold off assets and fled to Belize. He spent years ignoring court orders and dodging process servers at tech conferences, and though the court awarded about $2.2 million to the dead aerotrekker's family, McAfee never paid them. "He was very arrogant and contemptuous of the process," says Frank Fleming, an attorney for the family.

In Belize, things got darker. McAfee bought conspicuous supplies of drugs and guns. He hired bodyguards and took up with teenage girlfriends. He hired a research biologist away from Harvard University to work on developing natural antibiotics and topical medicines, ▶

◀ but she quit and later alleged that he drugged and raped her. (McAfee denied this and was never charged.) An anti-gang police unit raided his compound, and though the raid didn't end in charges, it deepened his bouts of paranoia. In 2012, when Belizean authorities sought to question him about the murder of his American expat neighbor, he fled to Guatemala.

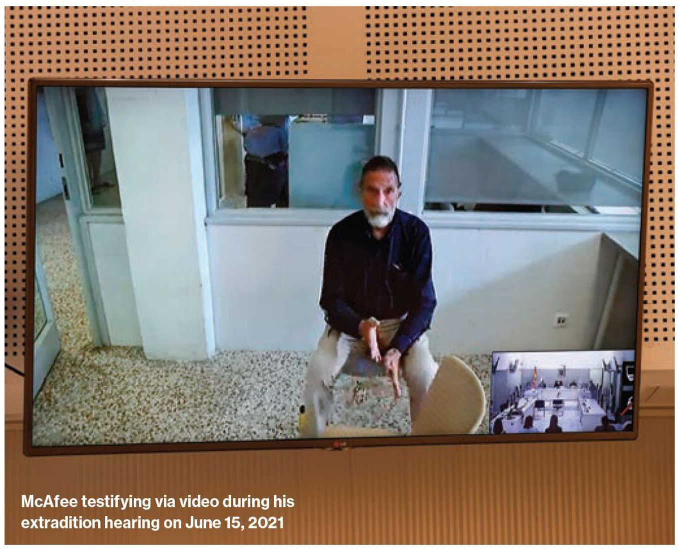
Jailed for entering Guatemala illegally, McAfee claimed to reporters, with zero evidence, that he'd been framed by the Belizean prime minister, who he said had ordered opponents' murders. For a while his allegations managed to overshadow the actual killing. Instead of being extradited to Belize for questioning, McAfee was deported back to the US. A Florida civil court ordered him to pay $25 million to the neighbor's family, but he didn't.

In the US, McAfee had a minor renaissance. He met his final wife, Janice McAfee, when she was a sex worker. (They later divorced but remained partners.) He made some money from speaking fees; became a brief YouTube hit with a video filled with guns, women and a snortable white powder; and ran for president in 2016, as a Libertarian. After that reentry to the national stage, he began hawking cryptocurrencies, which got him into trouble again.

Watson, his former bodyguard and business partner, says McAfee promoted crypto coins on Twitter for money. Although it's not illegal to do a sponsorship or a promotional deal with crypto companies, traditional securities require you to disclose those business relationships if you want to avoid fraud charges. McAfee would become a regulatory test case for treating crypto like a security subject to the same disclosure rules.

Separately, in late 2018, McAfee got word that the federal government was investigating him for tax evasion and planned to press charges. In January 2019 he and Janice sailed his boat from Miami to the Caribbean. He made this recording that was played to an audience on a crypto-themed cruise: "I'm very sorry I cannot be with you enjoying this wonderful cruise that you're on. The reason I'm not with you is, had I attempted to go, I would've been picked up by Interpol and carted off back to America to face charges for tax evasion. It is true, I have not paid taxes in eight years. I have not filed taxes in eight years. I will not file taxes again."

McAfee and Janice fled to the Bahamas, then the Dominican Republic, where they wound up in jail because their boat was loaded with guns, drugs, cash and bricks of gold. McAfee managed to use his dusty UK dual citizenship to get them deported to pre-Brexit Europe rather than the US. By October 2019 they'd made their way to Spain, where he gave a speech at the Barcelona Blockchain Week conference. In December one of his Twitter followers asked what he was doing in Catalonia. McAfee posted a photo of himself in the Mediterranean town of Salou. Over the ensuing months, he revealed his movements to careful observers via tweets.


McAfee testifying via video during his extradition hearing on June 15, 2021

McAfee made an uncharacteristically humble life for himself in Cambrils. He ate regularly at a sushi restaurant called Katori without bragging about his exploits to the staff. During Covid-19 lockdowns, however, when Spain was hit hard, he made a sport of defying restrictions. He tweeted videos of himself at a Cambrils beach and a park, as well as a photo of himself peeing in a McDonald's parking lot. Janice confirms he was staying about a mile outside town, at an abandoned hotel called Daurada Park.

The hotel last operated in an official capacity in 2017, according to TripAdvisor reviews. During a visit last year, the roof of the main entrance was falling down, but people were clearly still living there. On the balconies were tables with healthy plants and diligent mosquito netting. From at least 2018 to 2020, according to local news reports, Daurada was used as an unlikely crypto mine.

Janice, who's been moving around Spain, is cagey about her time there. She says she has worried for her safety, has been followed while shopping and doesn't know whom to trust. "I just don't want to go into details about Spain," she says. "The friends assisting John—there was an expectation of privacy." She says their collaboration with these associates dated to at least 2018, when he recorded the crypto cruise video. Watson, who also spent time with McAfee in Spain, is similarly tight-lipped about the experience. "I don't want to get too far into that, just to protect myself," he says.

In the summer of 2020, McAfee tweeted a video of two Russian speakers teaching him and Janice language basics at a bar. From what *Businessweek* could gather, though, these weren't powerful gangsters with connections in Russia. They just seemed to be trying to make some quick money from crypto.

The crypto operation gave McAfee enough cash to keep traveling—and tweeting angrily about Covid restrictions. He posted photos of himself wearing lacy women's underwear on his face instead of a mask. He introduced body doubles he claimed had been arrested for violating the rules. Google notified him and Janice that it had released data from their accounts in response to legal action from the US Internal Revenue Service, but he continued to post videos of himself playing the harmonica and whinging about US foreign policy or ex-girlfriends. Then, on Oct. 3, he was arrested on an international warrant for tax evasion.

McAfee was apprehended in Barcelona, where his passport was flagged when he tried to board a flight to Istanbul. He was remanded to a local prison, a sprawling complex of green-roofed barns. The US Securities and Exchange Commission also slapped him and Watson with a fraud charge that would eventually total $13 million. A federal judge later ordered Watson, who returned to the US and was arrested, to pay almost $400,000 in fines and banned him from trading digital securities.

McAfee hired several attorneys for the legal fight ahead. And, of course, he also kept tweeting. Janice says he was allowed to speak on the phone three times a day for eight minutes per call. She'd read him the news, and he'd dictate tweets. About three weeks after his arrest, she posted a lengthy audio recording he made from prison. "I love you all and I miss being able to share videos and photos with you," he said. "I may even get out on bail in a week or two, and if not, I will eventually be freed here."

Later messages were less rosy. In poetry he likewise dictated to Janice to tweet, he grew ruminative. "My body is confined," he said. "My mind has always been confined by fears, longings, ambitions, escapes from boredom. A prisoner of my own desires, circumstance, move me from one prison to the other. There's little difference."

Video of McAfee's extradition hearing on June 15, 2021, shows him speaking to the court through a translator. He says that he didn't pay taxes because the IRS is corrupt and that he ran for president to expose that corruption. He's lost weight and is hunched over. "If I am extradited to the US, please translate, I will most certainly spend the rest of my life in prison," he says. "I would ask the court to take all of these statements into consideration. Thank you." A week later the Spanish court granted the US extradition request.

Janice spoke to McAfee on the morning of June 23, just after he returned from court. She says that while he wasn't happy about the decision, he'd been prepared for it, and his lawyers were already working on his appeal. Yet that evening, according to the national press, guards opened the door to McAfee's cell and found him hanging from the window. He died soon after, at age 75. On Twitter, Janice posted the note that a prison officer reported finding in McAfee's pocket. It reads: "I am a phantom parasite. I want to control my future, which does not exist."

Several people close to McAfee say the note's handwriting and style are definitely his. The coroner ruled the death a suicide, as did a judge who reviewed the case. The circumstances, however, played perfectly to McAfee's conspiracy-minded fan base. He'd been saying for years he was wanted, that people were out to see him $WHACKD.

Janice says she believes someone drugged and strangled her partner and ex-husband. She wasn't allowed to see his body right away, and when she was, she was kept separated from it by glass. This was likely because of Covid restrictions, but it compounded her belief in a cover-up. "When they found him, he was breathing and he had a heartbeat," she says.

The Spanish authorities declined to comment for this story beyond the judge's ruling of suicide, citing the privacy laws that protect information related to McAfee's medical history in prison and the investigation of his death.

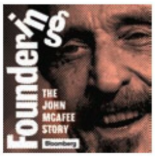
McAfee's body remains in a morgue in Barcelona. His Spanish lawyer, Javier Villalba, says Janice is appealing the judicial ruling of suicide to a higher court. As long as the case is open, his remains can't go anywhere for burial. Janice and the attorneys say he didn't leave an estate, but McAfee's indictment for tax evasion alleges he had a history of buying assets in other people's names. Janice says she's comfortable

Jen McAfee has said she has no interest in further investigation of her father's death or assets. She would, however, like his body laid to rest. Jen has been deluged by people telling her they've spotted McAfee in Texas. But she knew him longer than just about anyone, and she witnessed both his public and private self-destruction. "There were times in the last few years where they had conversations and it was apparent that he was not sober, and of course he could be very dismissive," says Jen McAfee's lawyer, Joy Athanasiou. "That's an effect of drinking and of addiction, sadly."

McAfee set out to defy the example his father set for him, but in the end, his drinking and substance abuse, his volatile temper, the strained relationship with his daughter—all seem to point to the same destination. It also fits that a man who believed he couldn't be made to do anything he didn't want to do went down for something as simple as tax evasion. And maybe the humiliating prospect of being forced to pay his debts and spend his final years in prison was something his arrogance couldn't tolerate.

Nearly every source for this story says they had at some point felt manipulated by McAfee, conned, betrayed. That he was the ultimate hype man who could sell anyone anything. Without him, software companies might've had to make their own products more secure and been better prepared for threats worse than dot-com-era viruses. But McAfee didn't thrive in a vacuum. Like so many founders who became very rich and very famous very quickly, he had many enablers who helped fuel his belief in his own hype and his life beyond the law. Together, they blurred the line between reality and the fantasy world where he ruled.

McAfee's final con was on his conspiracy-minded followers. He'd promised that a flood of embarrassing and dangerous information would be released upon his death, a so-called dead man's switch. No such data trove has ever emerged. The rumor did, however, keep his mythos alive a little longer—lingering like that little shield in the corner of the screen. — *With Hannah Miller and Shawn Wen*



This story is based in part on the new season of the Bloomberg podcast *Foundering*. For the full audio, visit bloomberg.com/foundering or your favorite podcast app.

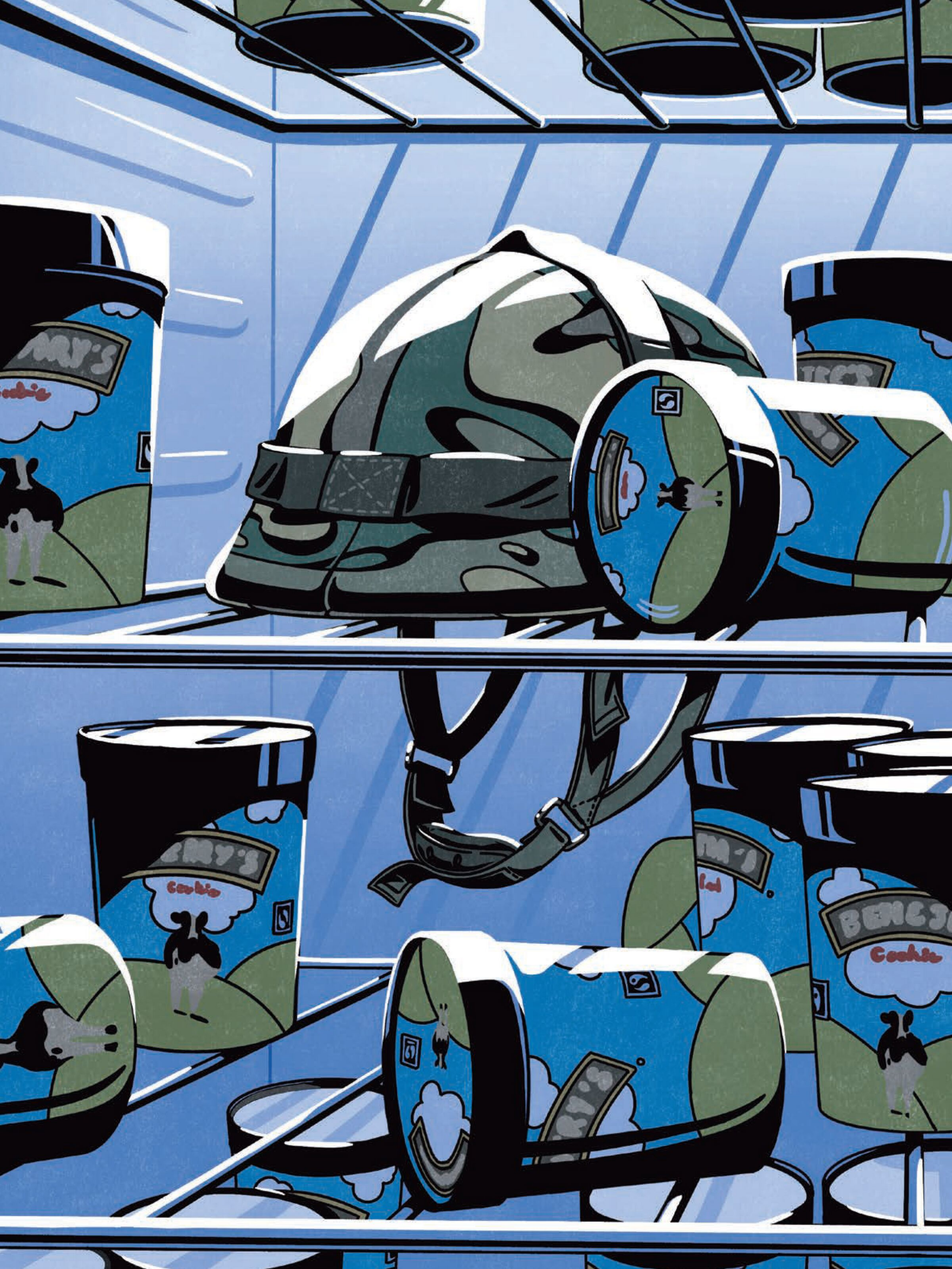
CHEMA MOYA/POOL/AP PHOTO

The Cold War at BEN & JERRY'S

The activist ice cream brand decided to pull out of Israel's occupied territories, setting off a legal battle with its owner, Unilever. What happens when a company sues itself?

Illustration By MAXIME MOUYSSET

By DEVIN LEONARD and DASHA AFANASIEVA



Anuradha Mittal was the kind of person large corporations tend to avoid at all costs. She'd been politically awakened as a college student in India, working as a volunteer in Bhopal, where a leak at a Union Carbine Corp. pesticide plant in 1984 killed thousands of the city's poorest residents. She considered becoming a lawyer or a judge there but instead moved to the US, where she spent almost a decade at an organization in Oakland, California, that combated, as she once wrote, "corporate control of our food system." In 2004 she founded the Oakland Institute, a think tank devoted to issues such as the environment and indigenous rights. She wanted her organization's name to invoke the birthplace of the 1960s-era Black Panther Party, and its research condemned what it referred to as "land grabs" by multinational corporations in Tanzania and Sierra Leone. The *Nation* deemed her "an essential commentator" who could school media outlets in the destructive role often played by "free-trade absolutists, international lenders and speculators."

So in 2007, Mittal was surprised to get a call from Jeff Furman, a member of the independent board of Ben & Jerry's, the ice cream company in Burlington, Vermont. Furman wanted her to join the board, which, she learned, was an anomaly in the corporate world: an in-house group devoted to pressing the company to take positions on issues that would make others blanch. The board was created in 2000 at the urging of the company's founders, Ben Cohen and Jerry Greenfield, when Unilever Plc, the Anglo-Dutch consumer products conglomerate, purchased Ben & Jerry's for $326 million. The board was primarily responsible for safeguarding the brand and making sure the company stayed true to its subversive roots by promoting its unabashedly progressive social mission. Furman was specifically interested in Mittal because of her unorthodox résumé. "I wanted someone who had a strong sense of social justice," he says.

Mittal joined the board thinking she wouldn't last long. Instead she became convinced that regardless of its corporate owner, Ben & Jerry's was serious about carrying on the company's radical legacy, like when the board endorsed Occupy Wall Street in 2011, and the company dished out ice cream at the protests. In 2018, Mittal replaced Furman as the board's chairperson, and Ben & Jerry's continued to patronize leftist causes, supporting migrant rights, opposing the Trump administration's "regressive" policies and calling for the dismantling of White supremacy after the murder of George Floyd. Its activism seemed to dovetail with the interests of Unilever, which has its own stated aspirations to be a force for good rather than merely a vehicle for shareholder enrichment. Unilever's chief executive officer, Alan Jope, even held up Ben & Jerry's as a role model for the company's brands, of which it currently has 400, including Hellmann's, Dove and Axe Deodorant Body Spray.

But in 2021, Mittal and other board members decided it was time for Ben & Jerry's to take a stand on another issue that was consuming some progressives: the Israeli-Palestinian conflict. For decades, Ben & Jerry's had been available in the West Bank, occupied by Israel since it was captured from Jordan in the Six-Day War of 1967, which displaced an estimated 500,000 Palestinians, according to the United Nations. Mittal wanted the company to stand up for the human rights of Palestinians.

So on July 19, 2021, the board at Ben & Jerry's announced that the company would be ending sales of its ice cream in Israel's occupied territories. For Mittal it was a thrilling moment. How did she feel when the vote was taken? "Liberated," she says.

By the time Jope found out that the Ben & Jerry's board decision had triggered an international controversy, it was hardly the only crisis he was managing. Unilever's stock price had been heading south, and Jope's obsession with infusing the company's brands with social purpose was seen as a mounting distraction. The board's newest crusade had come after Ben & Jerry's had been targeted by members of the Boycott, Divestment, Sanctions movement, best known for its campaign to persuade governments, companies, pension funds and charities to withdraw financial support from Israel, pressuring the country to loosen its hold on the Gaza Strip and the West Bank.

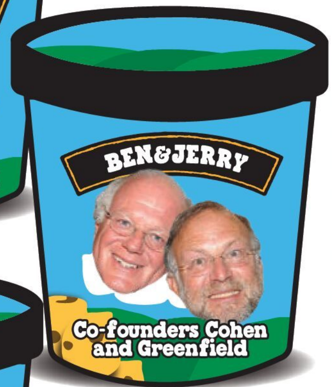
Proponents say BDS is the moral equivalent to the fight against apartheid in South Africa; many Israelis and their supporters around the world say that the real intent of BDS is to delegitimize Israel and that it amounts to antisemitism. Dozens of states in the US also have anti-boycott rules for their pension funds, and within weeks of the announcement from Ben & Jerry's, they started to unload Unilever shares. "I will not stand idly by as woke corporate ideologues seek to boycott and divest from our ally, Israel," declared Ron DeSantis, the Republican governor of Florida.

Initially, Unilever accepted the move by Ben & Jerry's. But when it tried to reverse the board's decision, Ben & Jerry's sued its owner for allegedly violating the 2000 merger agreement that gave the board say over its social mission. Unilever responded that it was the board's latest move that had actually tarnished the brands of both its corporate parent and Ben & Jerry's, the very thing it was singularly obligated to guard. "There is plenty for Ben & Jerry's to get their teeth into on their social justice mission without straying into geopolitics," Jope said in a call with reporters more than a year after the ice cream brand announced its withdrawal plan.

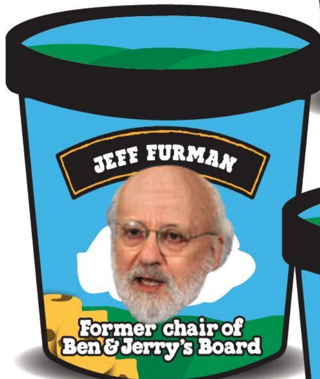
Many of the political positions of Ben & Jerry's over the years could be considered controversial, but not among progressives. The debate around Israelis and Palestinians was much thornier, and the brand taking a side on this divisive matter seemed to cross a line. As Ben & Jerry's and Unilever traded blows in court, the future of corporate activism—of which both companies had often been hailed as the leaders—seemed to hang in the balance.

PHOTO ILLUSTRATIONS BY 731; PHOTOS: BLOOMBERG (1); GETTY IMAGES (3); OPALE PHOTO (1); SHUTTERSTOCK (1); UNILEVER (1)

In December we flew to Oakland to spend the better part of the day with Mittal to discuss the bizarre new terrain Ben & Jerry's was in: one part of a conglomerate suing its owner. In her office at the Oakland Institute, she had a Free Palestine placard perched on top of a bookshelf and a framed poster hung on the wall of two Palestinian men embracing by what appears to be a barbed wire fence. It says "Support the Intifada" in Arabic.



But the interview that we expected never happened. That morning, Ben & Jerry's and Unilever had announced they'd settled the lawsuit, providing no details about the terms. Mittal patched in the attorney for Ben & Jerry's on speakerphone to monitor the discussion, which he told us would be off the record. Instead of a candid interview with a boardroom radical eager to speak truth to power, it might just as well have been a routine encounter with a corporate executive.



Five days after the meeting, one of Ben & Jerry's law firms issued a statement boasting that the suit had been "favorably" resolved. Yet, by almost any measure, it appeared the board had lost.

The saga of how Cohen and Greenfield, who founded Ben & Jerry's in an abandoned gas station in Burlington in 1978, has been told again and again, but how the ice cream brand made its way to Israel rarely figures into the lore. Its arrival there began with Avi Zinger, an Israeli running an appliance export business in New York, who first came across it while on a ski trip in Vermont in 1984. There was no ice cream like it in Israel, certainly none made with all-natural ingredients. "I figured, well, if I could bring such a good ice cream to Israel, it would be fantastic for everybody—and for me, of course," Zinger, now 70, told an Israeli TV station two years ago.

Zinger approached Cohen about licensing the brand. Cohen didn't see why not. "Without giving the matter a great deal of thought, Ben said go ahead," the founders wrote in their 1997 book, *Ben & Jerry's Double Dip: How To Run a Values-Led Business, and Make Money, Too*. "We'd never even contemplated the possibility of selling ice cream outside the United States." (Cohen and Greenfield, who are still on the payroll at Ben & Jerry's but are no longer involved in its operations or with its board, declined to comment for this article.)

Zinger dropped by the Ben & Jerry's factory, got its recipes, along with a list of suppliers, and returned to Israel. He rented equipment from another ice cream company, and in 1988 he opened his first scoop shop in Tel Aviv, playing tapes of Vermont radio shows to simulate the New England vibe.

The decadent ice cream wasn't cheap. One customer carped to the *Jerusalem Post* about the "pisher" servings, but people were willing to wait in line for 40 minutes. Within a few years, Zinger had opened 14 more shops throughout the country, including one by the Dead Sea, and was distributing Ben & Jerry's to supermarkets and convenience stores throughout Israel and the disputed territories. By the late '90s, according to Cohen and Greenfield's book, Zinger was doing business to the tune of $5 million a year, and he promoted his version of Ben & Jerry's social ethos by supporting local environmental and children's groups.

By 2000, Unilever was already the world's largest ice cream manufacturer. It had Good Humor and Magnum in its portfolio. Still, it didn't have a premium brand, so it bid high on the Vermont company and agreed to that bold request by Cohen and Greenfield: Ben & Jerry's would create a board with as many as 11 members, 9 of whom would be independent. The other two would be Unilever representatives, including the ice cream company's CEO, whom the conglomerate would select. According to the agreement, Ben & Jerry's would also have the right to sue Unilever if it ever violated the terms of the agreement. People who study companies that meld ▶

◀ purpose with profitability say they've never seen a business with these types of legal terms. "That has to be unprecedented," says Antony Page, dean of the Florida International University College of Law.

Zinger wasn't sure what would happen after the merger, but his relationship with the company survived, even as new management came in. "Ben & Jerry's popularity was so high in Israel," says Walt Freese, the company's Unilever-appointed CEO from 2004 to 2010. "Avi [Zinger] used to tell me that many people in Israel thought Ben & Jerry's was actually founded in Israel!"

The independent board was largely docile in the early years after the deal's closing, but by 2007, when Mittal joined, it was flexing its muscles. It almost sued Unilever after it discovered that the mother ship had changed the formula for Ben & Jerry's, lowering the product quality. After a surprise visit to London from Cohen and Greenfield, Unilever didn't just capitulate on the formula issue; then-CEO Paul Polman proved to be as big a promoter of stakeholder capitalism as the founders.

Under Polman's leadership, Unilever made moves that some would consider laudable and others might characterize as painfully contrived. It offered classes in proper hand-washing techniques to Vietnamese children and rewarded them with free samples of its Lifebuoy soap and P/S toothpaste. The company's workers installed toilets across India and Africa, both reducing the spread of infectious disease and increasing sales of its Domestos-brand toilet cleaner. But Unilever's stock rose under Polman's tenure, and the relationship between Ben & Jerry's and its parent flourished. By 2015, Unilever had scaled the heights of environmental, social and governance rankings, and the United Nations had awarded Polman the body's highest environmental accolade, Champion of the Earth.

In 2016, Wafic Faour was working out in a Burlington gym when he noticed that the guy sweating on the next elliptical machine was Greenfield. Faour, a Palestinian immigrant, belonged to a group that had been boycotting the company for allowing its ice cream to be sold in the occupied territories. He let Greenfield know how he felt about the presence of Ben & Jerry's there.

Greenfield was taken aback, explaining that Ben & Jerry's had started buying supplies from Palestinian farmers in an effort to defuse the issue. "He told me, 'What do you mean? We're buying Palestinian almonds. We're practically giving you what you want.' " Faour wasn't impressed. He told Greenfield he wouldn't be satisfied until Ben & Jerry's withdrew entirely from the West Bank. "We're not going to take it," he warned Greenfield.

After growing up in a Lebanese refugee camp, Faour came to the US in 1978 to attend Northeastern University and later moved to a town bordering Burlington. He fell in with a small organization known as Vermonters for Justice in Palestine that embraced the nascent BDS movement. His group didn't have to look far for an ideal target: Ben & Jerry's was right there in Burlington flaunting its social justice street cred. The group had discovered from activists in the occupied territories that Zinger was selling ice cream in what it described as Jewish-only settlements there. What was the social justice in that?

Such complaints touched a nerve with certain board members at Ben & Jerry's. Furman, the chairman at the time, had recently visited the West Bank with civil rights activists and wanted to figure out what to do about the company's presence there. So did Mittal. Not everybody, however, was eager to get involved in the conflict. The board, around this time, also included an ex-Coca-Cola executive and a former head of Unilever's European business. As a compromise, Ben & Jerry's announced the almond-buying plan and created a fund to support the peace process in the Middle East.

In 2018, Faour says he got a call from Furman, who told him he was stepping down as chair and his successor would be Mittal, who was sympathetic to the Vermont group's cause. (Furman doesn't remember this call.) Under her leadership, the board began pressuring the CEO of Ben & Jerry's, Matthew McCarthy, who was also on the independent board, to come up with a plan to stop selling ice cream in the occupied West Bank, where more settlements were springing up. With his overgrown beard and flowing hair, McCarthy didn't look out of place at Ben & Jerry's. But he was a Unilever lifer appointed by the company. As he tried to come up with a solution to satisfy Mittal, McCarthy was also praising Zinger, telling him he wanted to renew his contract in Israel, according to records that would later surface in court. (Ben & Jerry's declined to make McCarthy available for an interview.)

Zinger tried to explain to the company that most of his sales in the West Bank were to Palestinians and that pulling out of the disputed area wasn't so simple: Israel had laws forbidding

1978
Childhood friends Ben Cohen and Jerry Greenfield start Ben & Jerry's in Burlington, Vermont

1984
Israeli Avi Zinger discovers Ben & Jerry's while skiing in Vermont and later persuades the co-founders to license it to him to sell in Israel

2000
Unilever buys Ben & Jerry's for $326 million, agreeing to create an independent board, which is charged with protecting the brand's leftist stances

2007
Three years after starting the Oakland Institute, a think tank for economic and Indigenous causes, progressive activist Anuradha Mittal is invited to join Ben & Jerry's board

2011
Palestinian activist Wafic Faour in Vermont starts pressuring Ben & Jerry's to withdraw from Israel's occupied territories

2018
Mittal, a supporter of Palestinian rights, becomes chair of the board at Ben & Jerry's

JULY 19, 2021
Ben & Jerry's board announces the company won't be renewing Zinger's contract, ending sales of its products in the West Bank

COURTESY VERMONTERS FOR JUSTICE IN PALESTINE

Protesters marching past Ben & Jerry's in Vermont on Palestine Nabka Day in 2021

businesses from discriminating against customers based on where they lived. Still, he tried to come up with his own solutions. As the pressure grew, he created a flavor called Fruits of Peace, made with figs and dates purchased from Palestinian farmers. But the farmers stopped working with him when BDS activists objected. Then Zinger enlisted a Palestinian businessman to distribute his ice cream in the West Bank and Gaza. Unfortunately, his prospective partner saw a good money-making opportunity and wanted to increase the sales of Ben & Jerry's in the territories, not curtail them, which flew in the face of the board's agenda.

It didn't help Zinger's case that a new generation of activists who'd embraced the Black Lives Matter movement had taken up the Palestinian cause. In May 2021, Faour's group held its annual candlelight vigil in downtown Burlington commemorating the Nakba, an Arabic term meaning "catastrophe," referring to the creation of Israel in 1948 and its ensuing war with surrounding Arab countries that led to the exodus of numerous Palestinians. In the past, 5 or 10 people might attend. This time hundreds of younger demonstrators showed up to protest the Israeli army's shelling of the Gaza Strip as Islamic militants there fired rockets into the country, some of them reaching Tel Aviv.

Faour was elated and even more so when the newcomers focused their ire on the downtown Ben & Jerry's. "They stopped in front, and they started shaming them," he recalls in a Burlington coffee house in early December, leaning over from his bench. "They just started screaming, 'Shame, shame, shame!' " He was further delighted later that month when Ben & Jerry's inquired on Twitter if fans were up for a new flavor, Thick Mint, and BDS activists twisted it into a political moment. "I love mint, but I won't be buying any @benandjerrys until you stop sales in illegal Israeli settlements on the West Bank #FreePalestine," read one of the more temperate tweets.

With the company losing its credibility with social justice types, the board made its fateful decision, announced in July 2021, not to renew Zinger's contract. Doing so would halt any sales in the occupied territories. "We have informed our licensee that we will not renew the license agreement when it expires at the end of next year," Ben & Jerry's said in an announcement. "Although Ben & Jerry's will no longer be sold in the OPT [occupied Palestinian territory], we will stay in Israel through a different arrangement. We will share an update on this as soon as we're ready." The board also had the support of Cohen and Greenfield. "In our view, ending the sales of ice cream in the occupied territories is one of the most important decisions the company has made in its 43-year history," the co-founders wrote in an op-ed for the *New York Times*.

Zinger couldn't help but take the decision personally. "He viewed Ben Cohen and, honestly, Anuradha [Mittal] as family," says his lead attorney, Alyza Lewin, president of the Louis D. Brandeis Center for Human Rights Under Law in Washington. Many of the top people at Ben & Jerry's had personally liked their partner of more than three decades, but Mittal says the board decision wasn't about "individuals." She compares the situation to a South African businessperson whose livelihood was disrupted to make way for apartheid's demise. (Lewin says Mittal's comment about Zinger is "disingenuous" and that "comparing Israel to South Africa is a false analogy spewed by BDS supporters.") Zinger, it seemed, was collateral damage in the pursuit of justice.

On the day the board vote at Ben & Jerry's was announced, Gilad Erdan, then Israel's ambassador to the US, sent letters to 35 governors in states with laws that forbid them from investing in companies that boycotted his country, and he denounced the ice cream maker's decision. "We view this decision very severely as it is the de facto adoption of antisemitic practices and advancement of the delegitimization of the Jewish state and dehumanization of the Jewish people," he wrote. Many state officials in the US agreed, and not only in red ones such as Florida. Tom DiNapoli, comptroller in New York, said his state's pension fund was unloading $111 million worth of Unilever's shares because Ben & Jerry's was "engaged in BDS activities."

Mittal tried to dispel the idea that Ben & ▶

JULY 2021
Israel's ambassador to the US sends letters denouncing Ben & Jerry's decision to governors of 35 states with laws that forbid investing in companies that boycott Israel

MARCH 2022
Zinger sues Unilever and Ben & Jerry's, claiming they terminated his contract unlawfully

JUNE 2022
Unilever sidesteps the board, settles with Zinger and sells him the Ben & Jerry's business in Israel. He can sell anywhere in the country, including the occupied territories

JULY 2022
Ben & Jerry's sues its corporate parent, Unilever

DECEMBER 2022
Ben & Jerry's and Unilever announce they've settled

> **“A company which feels it has to define the purpose of Hellmann’s mayonnaise has in our view clearly lost the plot”**

◀ Jerry’s was practicing BDS. After all, the company had stated that it planned to remain in Israel, though it didn’t explain how. “We never talked about boycotting Israel,” she said during an August 2021 webinar that Americans for Peace Now was hosting. “That was never on the table.” Later that year, the self-described watchdog group StopAntisemitism crowned Mittal its “Antisemite of the Year.” Mittal says she was also subjected to death threats, along with racist and misogynistic emails and letters. A conservative group, the National Legal and Policy Center, asked the IRS to examine whether Mittal had improperly abused her position as a trustee and later vice president of the Ben & Jerry’s Foundation, a company-supported charity, to funnel more than $100,000 to her Oakland Institute in 2017 and 2018. “It’s horrendous what she’s doing,” says Tom Anderson, director of that group’s Government Integrity Project. Mittal at the time said “false allegations” were spread about the foundation and her institute. She and the IRS declined to comment.

Cohen and Greenfield found themselves being similarly denounced. “I mean, what, I’m anti-Jewish?” Cohen said in disbelief on an episode of *Axios* on HBO. “I’m a Jew. All my family is Jewish. My friends are Jewish, you know?” Greenfield, also Jewish, added, “I understand people being upset. It’s a very emotional issue.” But the co-founders struggled when pressed by *Axios*’s Alexi McCammond to explain why Ben & Jerry’s wasn’t also pulling out of Texas, where one of the country’s more stringent anti-abortion laws—which Ben & Jerry’s had called “racist”—had recently gone into effect. “I don’t know,” Cohen said. “You ask a really good question.”

In Israel, Zinger faced his own backlash. Vandals destroyed his company’s equipment. Competitors poached his drivers and pressured supermarkets to give them valuable freezer space that his products had enjoyed. His employees started to bail. Finally, in March 2022, Zinger sued Unilever and Ben & Jerry’s in federal court in New Jersey, saying his contract had been unfairly terminated because he refused to take measures that would have violated his country’s laws. (Zinger declined to speak to *Bloomberg Businessweek*. This account is based on a 17-page declaration he made in his lawsuit and on conversations with his attorney and others familiar with his business.)

Jope, who’d replaced Polman as Unilever’s CEO in 2019, was in a delicate position. The affable Scotsman had tried to go even harder than his predecessor on the socially conscious approach to business. Early in his tenure, Jope told *Businessweek* that if a Unilever “brand can’t find its purpose,” he’d consider putting it on the chopping block. Yet as the conglomerate’s share price wilted, Jope’s do-gooding became the subject of ridicule. “A company which feels it has to define the purpose of Hellmann’s mayonnaise has in our view clearly lost the plot,” said fund manager Terry Smith in January 2022.

That same month, news leaked of Jope’s botched attempt to buy the consumer health arm of GlaxoSmithKline for $68 billion had failed. Soon after, activist investor Nelson Peltz entered the picture. As chairman of the board of governors of the Simon Wiesenthal Center, a Jewish human rights organization, he’d already spoken to Jope about the Ben & Jerry’s decision. Now his hedge fund took a 1.5% stake in Unilever, and Peltz himself would join the board in July. Two months later, Unilever would announce that Jope would be retiring at the end of 2023.

Unilever stunned Mittal in June 2022 by informing her that it would settle the lawsuit with Zinger and sell him the Ben & Jerry’s business in Israel. The agreement stipulated that Zinger would be able to do pretty much whatever he pleased with the brand, the only caveat being that the Ben & Jerry’s logo couldn’t be in English, only Hebrew or Arabic. “The cow, the background, everything else remains,” a triumphant Zinger told the Israeli newspaper *Haaretz*.

Ben & Jerry’s factory in Be’er Tuvia, Israel, in July 2021

Unilever apparently considered the matter resolved. Not long after the deal with Zinger was announced, Tzipi Hotovely, Israel's ambassador to the UK, met with Jope and members of his team at the company's headquarters in London. Hotovely says the Unilever execs told her they were relieved that their company had extracted itself from politics, and they planned to keep it that way. "Unilever understands it's bad for business," she says.

The Ben & Jerry's board begged to differ. It voted for Ben & Jerry's to file a lawsuit against Unilever in the US District Court for the Southern District of New York. The dissenters, not surprisingly, were Unilever's two representatives. Attorneys for Ben & Jerry's argued in the complaint that the deal with Zinger breached the 2000 agreement because it had been struck without the approval of the directors who were the guardians of the Ben & Jerry's "brand and social integrity." Unilever's lawyers responded that it had the responsibility under the merger agreement for the "financial and operational aspects" of Ben & Jerry's and that included being able to conduct asset sales without the board's interference.

At a hearing in August, a lawyer for Ben & Jerry's argued that the ice cream maker's rich history of embracing causes was now in jeopardy. "There is customer confusion as to who owns Ben & Jerry's social mission," said attorney Joseph Ahmad. "We need relief from the court so that our customers know that Unilever cannot just unilaterally change our social stances." US District Court Judge Andrew Carter Jr. seemed unmoved. He denied the request from Ben & Jerry's for a preliminary injunction, saying it hadn't provided proof that consumers were bewildered.

Ben & Jerry's filed new claims, including one that Unilever was trying to undermine Mittal and her fellow independent directors by withholding their compensation. The board also ramped up its publicity campaign, disavowing Zinger's ice cream in a statement to Bloomberg News, saying "the sale of products bearing any Ben & Jerry's insignia in the Occupied Palestinian Territory is against our values." The implication was that without its social mission, his ice cream was nothing but a knockoff, not unlike an imitation Gucci bag. "The ownership of the brand is different, but the Ben & Jerry's product is no different to what's been enjoyed in Israel for many years," Unilever responded.

Then Ben & Jerry's and Unilever abruptly disclosed on Dec. 15 that they'd settled the suit. Unilever, which declined an interview with *Businessweek*, would say only that it respected the merger agreement and the board's primary responsibilities. The board was even less forthcoming, and its lack of transparency seemed out of character considering how it had previously reveled in publicly taking subversive stands.

But perhaps this response spoke volumes. Mittal and her fellow dissident board members seemed to have come up short. They'd tried to pull Cherry Garcia and Chunky Monkey from the West Bank only to be summarily overridden by Unilever, which had handed off the entire business in Israel to the guy who'd been selling it there all along. The Ben & Jerry's directors had invoked the supposedly sacrosanct merger agreement in the lawsuit seeking to overturn the deal, but it didn't change a thing. Unilever, it seemed, was in charge of the social mission of Ben & Jerry's after all. "Ben & Jerry's lost big time," says Hotovely, Israel's ambassador to the UK.

That didn't stop the law firm for Ben & Jerry's from releasing a statement several days later implying it was a victory. "This was a David versus Goliath dispute centering on respecting the parties' carefully negotiated merger agreement," said attorney Shahmeer Halepota. "The independent board's resolve to protect that agreement in the face of intense public pressure, salary freezes and personal threats was remarkable." (Mittal says the reference to a "favorable" resolution means that the settlement was amicable. The law firm has since removed the statement from its website.)

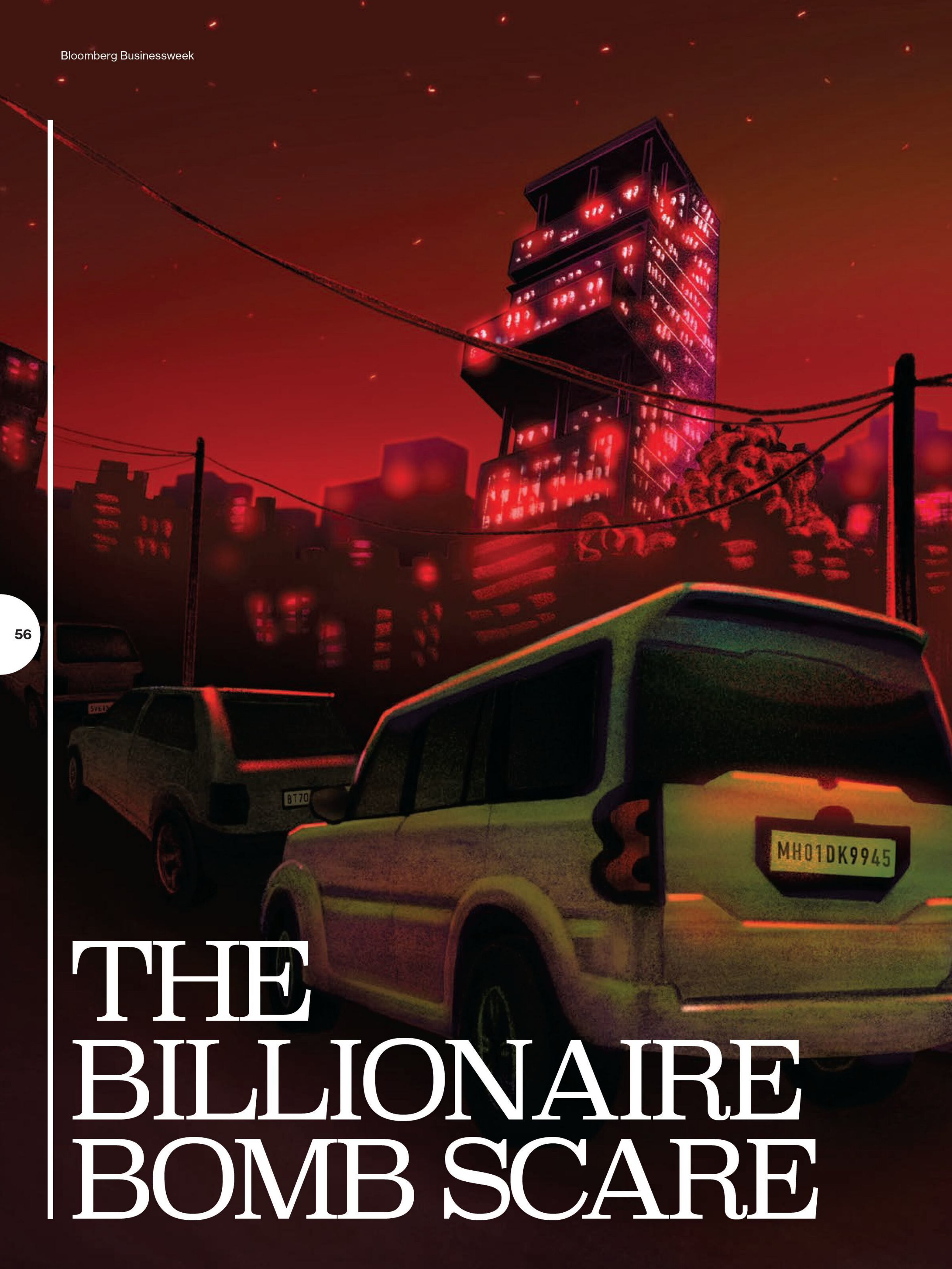
Was the statement simply a face-saving exercise? Perhaps not completely. Some legal observers suspect that Ben & Jerry's and Unilever settled because neither wanted to leave the case to be decided by a judge who might completely disempower the board. It was the board, after all, that gave the company its radical chic, which was as vital to the brand as its inventive flavors. "It's profitable up to a point for Ben and Jerry's to have that glow," says Ann Lipton, associate professor of the Tulane University Law School in New Orleans. "Unilever didn't want to nuke it entirely."

In January, Ben & Jerry's Twitter feed was pulsing with its typical calls for justice: reparations for Black people, halting America's addiction to fossil fuel, demanding reproductive rights. Noticeably absent was any mention of the violence between Palestinians and Israelis flaring up again, with Israel's new far-right government in power. By the end of the month, Jope would learn that his time at Unilever was coming to an end sooner than he'd planned. Rather than retiring at the end of the year, he would be replaced by Hein Schumacher, head of Dutch dairy group Royal FrieslandCampina NV, in July.

Schumacher may be less enamored by the prospect of dealing with the board at Ben & Jerry's and its willingness to embroil its parent in politics. Already, there's talk about a major restructuring of the unwieldy conglomerate with a possible sell-off of its food unit or less profitable ice cream division. "Big changes are on the table," says Tineke Frikkee, a fund manager at Waverton Investment Management.

What would Ben & Jerry's become under a new owner? Perhaps Mittal and her board allies could line up a wealthy buyer to take the company private or block the sale altogether. She wouldn't discuss either possibility. What seems more likely, though, is that Unilever will sell Ben & Jerry's to another large conglomerate less interested in indulging the brand's activist impulses. What would Ben & Jerry's be then? Just another brand like Good Humor? That's a future that former Ben & Jerry's CEO Freese doesn't want to contemplate. "It would be a tragedy," he says. Ⓑ

EMMANUEL DUNAND/AFP/GETTY IMAGES



THE BILLIONAIRE BOMB SCARE

When explosives were found outside Mukesh Ambani's home in Mumbai, the cops blamed terrorists. The truth—and the rot it exposed—was far more alarming

BY CHRIS KAY AND P. R. SANJAI
ILLUSTRATION BY MATT WILLIAMS

AT THE HEIGHT OF THE PANDEMIC, WHEN many people in Mumbai were staying home, Ramvinder Singh Gill noticed a strange car parked near the residence of the city's richest man. A 53-year-old ex-colonel in the Indian special forces, Gill held one of the most important bodyguard jobs on the subcontinent, overseeing a 300-person security force responsible for protecting the billionaire industrialist Mukesh Ambani and his family. The focus of their work was Antilia, the Ambanis' 27-story vertical mansion, equipped with three helipads, yoga and dance studios, and a "snow room" chilled to frigid temperatures. To avoid exposing their clients to Covid-19, bodyguards would spend 15 days quarantined at a nearby hotel before beginning monthlong shifts inside.

The car that piqued Gill's interest that day in February 2021 was a green Mahindra Scorpio, an Indian-made sport utility vehicle. Right away, Gill noticed that though the car was coated in grime, its license plate looked spotless, as though it had just been screwed in. When he ran the number, he found something even stranger: The plate matched the registration of a Range Rover used by Ambani's wife, Nita. Alarmed, Gill called the Mumbai police, who sent a team to search the vehicle. Inside a blue backpack branded with the logo of an Ambani-owned cricket franchise, they found a bag of industrial explosives. The explosives weren't connected to a detonator, but whoever placed them had left a chilling handwritten note. "Next time the wires will be connected," it read. "We have made arrangements to blow up your entire family."

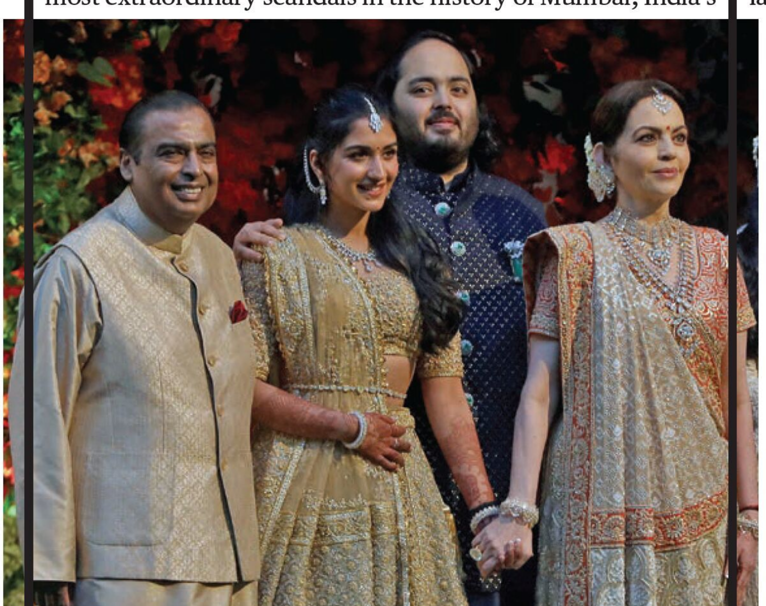
Ambani had accumulated his share of enemies while his sprawling conglomerate, Reliance Industries Ltd., built dominant positions in everything from petrochemicals to retail and made him a crucial partner for Narendra Modi, India's Hindu-nationalist prime minister. But it soon became apparent that Ambani hadn't been threatened by a business rival looking to shove him aside or a terror group enraged by his support for Modi. Instead, the events at Antilia were part of one of the most extraordinary scandals in the history of Mumbai, India's financial capital. One person involved has turned up dead; another, an elite detective named Sachin Waze (pronounced VAH-zey), is in jail awaiting trial for charges including criminal conspiracy, extortion and murder. The ensuing uproar claimed the career of the city's police commissioner, drove a senior state government minister into hiding and contributed to the diminishment of Shiv Sena, the political party that had dominated Mumbai since the 1990s.

The Antilia affair also exposed, in spectacular fashion, an uncomfortable truth about India's economy: The law enforcement bodies policing it are in many cases rotten. According to a 2019 survey by anticorruption group Transparency International, at least half of all Indians pay a bribe each year, and the police, who look to supplement their meager pay by extracting cash wherever they can, are among the most common recipients. Cops have their own bribes to cover; many take out loans to secure postings in lucrative locations. This pervasive graft poses a severe threat to the competitiveness of a country that investors are counting on to power global growth. Businesses large and small are routinely shaken down by corrupt officers, and even powerful international companies dread any trip through the sclerotic courts, which have a backlog of 40 million cases.

Various politicians have pledged to reform Indian law enforcement, in tandem with broader efforts to modernize the economy. Yet rooting out dirty cops, not to mention the officials who many citizens assume are profiting from their activities, might be a more complicated problem than building highways or power plants. "It's extremely politicized," says Devyani Srivastava, the head of the police reform program at the Commonwealth Human Rights Initiative in New Delhi. The Antilia case, she says, is "a classic example of the kind of corruption racket that's so entrenched."

MUKESH AMBANI TOWERS OVER THE BUSINESS landscape of Mumbai. His father, Dhirubhai, who founded Reliance in 1973, is a legend in India, one of the first private-sector entrepreneurs to tap the potential of the country's vast population. After taking control of the family empire in the 2000s, Mukesh continued to build on its traditional strengths in petrochemicals and textiles while leading an aggressive expansion into new sectors. Today, Ambani controls the world's largest petrochemical refining complex, India's top mobile network, a physical retail empire and a rapidly growing e-commerce and media business that's drawn investment from Google, Meta Platforms and Microsoft.

A threat to Ambani was, almost by definition, a threat to Mumbai and its economy. Only a few hours after Gill called the police about the suspicious car, the case was assigned to Waze, the head of the Mumbai force's elite Crime Intelligence Unit. At first it seemed the investigation would be brief. On the messaging app Telegram, an account purporting to represent a little-known jihadist group called Jaish Ul Hind claimed responsibility. But just a day later,



▲ MUKESH AND NITA AMBANI WITH THEIR SON ANANT AND HIS FIANCÉE the same organization denied any involvement, saying in a statement that it "has no fight with Indian business tycoons."

Waze's superiors wanted to see results, and they had every reason to expect he would deliver them. Then 52, Waze had joined the state police force of Maharashtra, which includes Mumbai, in his early 20s. Like many young officers, his first posting was to the hinterland—in Waze's case, a forested district called Gadchiroli. He was transferred after about a year to Mumbai, which presented a very different set of law enforcement challenges. With more than 20 million residents packed onto a crowded, claw-shaped peninsula, the city encompasses all of India's extremes. Billionaires' mansions sit a stone's throw from dense slums; on newspaper front pages, Bollywood award galas vie for column inches with religious ceremonies.

> "THE WHOLE DIRTY HARRY IMAGE HAD A STRONG, STRONG ATTRACTION.... AND I GUESS WHEN YOU WANT IT BAD ENOUGH, YOU GO AND GET IT"

As India began to liberalize its economy in the 1980s and 1990s, the new money tended to be made first in Mumbai, setting off a sustained boom. The city's underworld grew alongside its legitimate businesses, feeding the operations of crime bosses such as Dawood Ibrahim, a drug kingpin who was once one of the FBI's most-wanted fugitives. Businesspeople and politicians who refused to do their bidding could meet grisly ends. In 1995 airline founder Thakiyudeen Abdul Wahid was gunned down by hit men associated with another mobster, Chhota Rajan, who suspected Wahid of aiding Ibrahim.

Soon after arriving in Mumbai in 1992, Waze worked his way into a group of officers determined to take a harder line against criminality than was strictly permitted by law. They were known as "encounter specialists," a euphemism for cops who carried out what were, in effect, summary executions. Indian journalists extensively documented their tactics: After dispatching a target, they would often place a gun in his hand and scatter some shell casings, creating the appearance of a shootout that allowed them to claim they'd acted in self-defense. "The whole Dirty Harry image had a strong, strong attraction," says Shirish Thorat, a former officer who trained with Waze and became a close friend. "And I guess when you want it bad enough, you go and get it."

According to ex-officers, the killings were quietly tolerated by police brass, who were under pressure to contain organized crime. They also earned a degree of thanks from ordinary Mumbaikars. Gangs were a source of danger and fear for millions, and delays in the legal system meant the courts could do little to punish their members. With enough procedural maneuvering an accused killer could win bail, then drag out his case indefinitely. In that environment, some officers found that cutting corners—whether by gunning down a suspect in his living room or torturing him to death in a darkened cell—could even make them heroes of a kind. Daya Nayak, a musclebound detective who boasted of killing no fewer than 83 people, was the subject of three Bollywood movies and served as a consultant on several more.

Waze, who didn't respond to interview requests sent to his lawyer, has never denied being an encounter specialist. On the contrary: He's publicly claimed to have racked up 63 kills, and in 2011 he told the *Guardian* that "every one of them deserved to go." Friends and colleagues describe him as brooding and highly intelligent, with a ferocious temper that can drive him to acts of extreme violence. That was a useful quality for someone in his profession—at least until the early 2000s, when a series of scandals forced Mumbai's politicians to rein in police excesses. Waze was suspended indefinitely in 2004, following the death of a terrorism suspect in his custody. While he wasn't fired, he couldn't persuade his superiors to let him back onto the force. To keep himself afloat he wrote three books and attempted to break into the film industry. But according to one associate, who asked not to be identified describing private discussions, he found that "a lot of these things just didn't pay." Bollywood didn't need Waze to tap into the world he'd inhabited. Instead, "other people had lived off his life, his adventures, and had become, in his mind, hugely successful."

In 2020, 16 years after being taken off the streets, Waze got a lifeline: A review committee headed by Mumbai's chief of police offered him his old job back. Soon after accepting, Waze was appointed head of the Crime Intelligence Unit. His reinstatement was ostensibly because of a pandemic-related shortage of officers. The political context may also have played a role. Waze was a member of Shiv Sena, the right-wing party that governed Maharashtra. It was embroiled in a power struggle with Modi's Bharatiya Janata Party, and unlike many officers, Waze didn't hesitate to make politically charged arrests. In late 2020, for example, he detained Arnab Goswami, a popular pro-BJP news anchor, on charges of abetting a suicide. (Goswami was released on bail after his lawyer argued that the arrest was "a smokescreen to teach the man a lesson." Republic World, the TV channel he leads, didn't respond to requests for comment.)

The Antilia case landed on Waze's desk only a few months later. His return had been controversial, with the mother of the terror suspect who'd died under his supervision calling for charges to be filed against the police chief. Getting to the bottom of a crime involving Mumbai's most powerful citizen was a chance for Waze to prove that he deserved to be back—and that he was still one of the city's top cops.

According to legal filings, one of the first people he interviewed was Mansukh Hiran, the registered owner of the ▶

NIHARIKA KULKARNI/REUTERS

WAZE ARRIVING AT THE MUMBAI POLICE COMMISSIONER'S OFFICE IN MARCH 2021 ▶

◀ Scorpio found outside the Ambanis' home. A middle-aged car accessories salesman from the suburb of Thane, Hiran had no obvious connection to any criminal or terrorist group. When questioned, he informed Waze that his vehicle had broken down near an expressway one evening in mid-February. He said it had been late, so he'd hailed a cab home, intending to return the next morning to tow it for repairs. But when he came back, the car was gone. Hiran told Waze he had no idea how it had gotten to Antilia, about 25 miles away, and denied having anything to do with the threat to the Ambanis.

Waze's colleagues weren't convinced by Hiran's denials. In early March, a week after the Antilia incident, Hiran left home, telling his family he'd been called to a police station for another round of questioning. When he didn't return, they filed a missing person report. The morning after he disappeared, police found a bloated body in a creek not far from his house. The man's face was covered with a headscarf, and he had no wallet or other identifying documents. Six handkerchiefs had been stuffed into the back of his mouth, blocking his airway. A post-mortem examination confirmed that it was Hiran.

His death set off a frenzy. Waze, who'd built a large network of media contacts over the years, speculated to some of them that Hiran might have killed himself, driven over the edge by the pressure of being investigated. But Hiran's wife, Vimla, told detectives a different story. Her husband wasn't just a random citizen, connected to the events at Antilia only by his car, she said. In fact, he was acquainted with Waze, who she said had been regularly borrowing Hiran's SUV for several months prior to its discovery outside the Ambani home. Vimla was convinced that Waze was involved with Hiran's murder.

Waze's political allies rushed to his defense. Uddhav Thackeray, Maharashtra's then-chief minister, declared in the state assembly that "Waze is not Osama bin Laden." The allegations nonetheless made it impossible for Waze's superiors to keep him on the case. They transferred him out of Mumbai and handed the Antilia file to the National Investigation Agency, India's equivalent of the FBI.

As the suspicions about Waze grew, some of his colleagues noticed that he'd changed his status on WhatsApp, posting a cryptic statement that seemed to draw parallels to his 2004 suspension. "History is going to repeat," it read. "I think the time to say goodbye to the world is coming closer."

NINE DAYS AFTER HIRAN'S BODY WAS discovered, a team of NIA officers arrested Waze. Working from phone records and surveillance footage, they turned the focus of the Antilia investigation to the man originally charged with leading it. Everything about Waze's behavior before and after the bomb was found suggested to the NIA that he had something to hide. For one thing, he'd been using more than a dozen burner SIM cards to communicate with eight other men, including several current or former police officers.

On Feb. 17, 2021, the NIA found, Waze had picked up the keys to the Scorpio from Hiran. After fitting it with a forged license plate—the one that matched a car used by Nita Ambani—he drove south, into the heart of Mumbai. It was early in the morning when he reached the leafy streets of Cumballa Hill, entering an area known as Billionaires' Row. He parked by an apartment block on Altamount Road, about 1,000 feet from Antilia. Wearing personal-protective gear that obscured his face, Waze left the vehicle and its explosive cargo behind, then climbed into a white Toyota and drove away. In charging documents, NIA investigators said they believed that his primary motive was self-promotion: to stage a high-profile crime that only he could solve and thus regain his status as an "ace detective."

It appeared that Hiran was central to his strategy. As Waze's bosses pushed him to find a culprit, he told Hiran that he should take responsibility for planting the explosives. Hiran would get bail immediately, Waze claimed. After that, delays in the Indian courts would ensure he didn't face trial for many years, if ever. But Hiran said no. According to the NIA, his resistance made Waze nervous. Not only was Hiran refusing to take the fall; he knew what Waze had done.

Soon after Hiran's refusal, Waze got in touch with another former encounter cop, Pradeep Sharma. At a charity office in the city's eastern suburbs, he allegedly handed Sharma a bag stuffed with 500-rupee notes, worth about $6 apiece, and asked him to hire a crew to deal with Hiran. One of the men Sharma recruited contacted Hiran on the night of March 4. Posing as a police officer, he offered to help Hiran lie low until the Antilia case faded from the headlines. As Waze busied himself with a midnight raid on a local bar—a solid alibi, should one be needed—the accomplice called Hiran from a burner number and instructed him to head toward a water park.

There, according to the NIA, Hiran got into a white Volkswagen and was driven to a rendezvous point 5 miles away. He then entered another vehicle, a large red car. More of the group Sharma had assembled were waiting for him inside. One of them took Hiran's phone. While the driver cruised along Mumbai's darkened streets, they smothered Hiran to death, investigators found. Stopping on a bridge, they tossed his body into the polluted water below. It was found just over half a mile downstream.

The NIA tracked down and interrogated the man who'd procured SIM cards for Waze and the others, along with hundreds of potential witnesses. Analyzing WhatsApp chats and mobile phone location data, agents gradually pieced together the identities of the alleged culprits. By June 2021, three months after Waze had been taken into custody, they'd arrested Sharma and seven others suspected of involvement in Hiran's death. (All deny the charges, which include murder, criminal conspiracy, kidnapping and destruction of evidence.)

The case became a citywide scandal. Seeking to contain the damage, Anil Deshmukh, then the state minister responsible for law enforcement, removed the police chief who'd rehired Waze. But the chief, Param Bir Singh, didn't go

PRATIK CHORGE/HINDUSTAN TIMES/GETTY IMAGES

down without a fight. Singh publicly accused Deshmukh of being at the top of a major shakedown racket, which he said extracted as much as $3,600 a month from each of more than 1,000 bars, restaurants and other establishments. According to Singh, Waze was the central player in the operation, making sure every business paid up—or faced the consequences.

The allegations rocked Maharashtra's government, which ultimately fell apart after the BJP threw its support behind a group of breakaway legislators. Deshmukh, who denies wrongdoing, disappeared from public view for months. Waze is now a cooperating witness in a corruption case against him.

MUMBAI'S POLICE HEADQUARTERS ARE located in a gloomy Victorian building a short distance from the central train station. During a visit last year, reporters for *Bloomberg Businessweek* awaited an audience with the force's top officer in an airless reception area. Constables carrying Kalashnikov rifles roamed around; a sign forbidding the use of mobile phones was widely ignored.

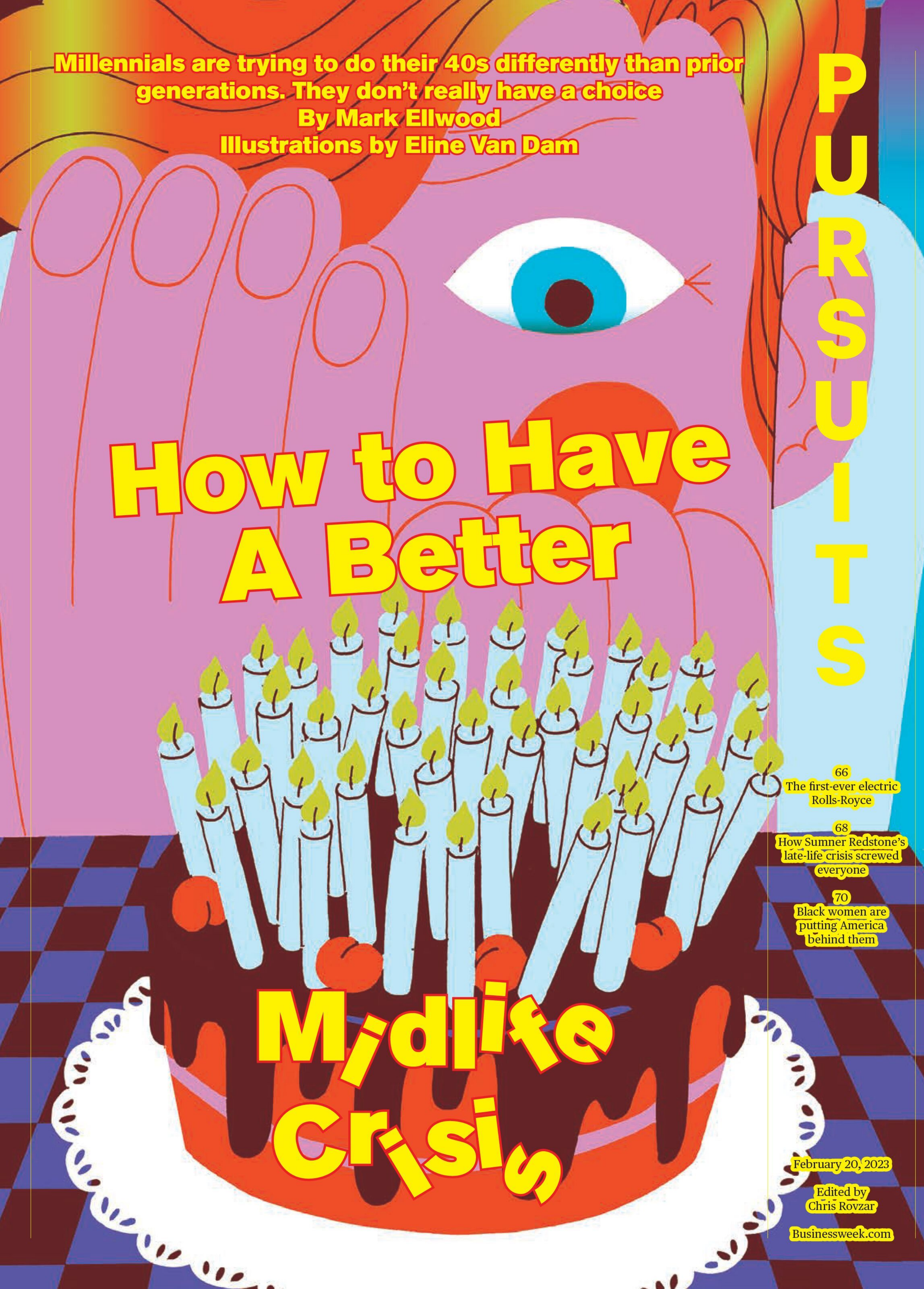
Policing a city as large and chaotic as Mumbai is a demanding job, and orderlies filed in continuously during a short interview with Commissioner Sanjay Pandey, requesting his signature on one document or another. He was the second person to hold the role since Singh, whose immediate successor had been moved to a different government job. A cop since the mid-1980s, Pandey explained that law enforcement priorities had changed dramatically. In today's Mumbai, he said, the main concerns are less about violent crime. Rather, the biggest problems are online scams and offenses such as property fraud, encouraged by a stunning increase in real estate prices.

The gangsterism that fueled the rise of the encounter specialists is now "not here at all," Pandey said, and those officers' very existence, along with scandals like the one that began at Antilia, should be seen as an "aberration." Mumbai police "don't have a license to kill," he said. "A few of them have acted in a manner that was not quite legal, so be it. That doesn't mean the 99% are not working within the law."

Pandey retired in June. Two months later, investigators in India's Directorate of Enforcement, which probes financial crime, made clear that they didn't see him as one of the 99%. They arrested him on suspicion of money laundering, in connection to a case involving the alleged surveillance of employees at the BSE stock exchange. Pandey is free on bail and didn't respond to requests for comment.

The Ambanis have never publicly commented on the controversy that briefly connected them to one of Mumbai's fiercest enforcers—except to say they were cooperating with police and to deny media reports that they were planning to relocate out of the city. The potential threats to their safety go beyond the Antilia explosives. In early October, a man was arrested after a hospital funded by Reliance received two phone calls threatening to blow up the facility, along with the Ambanis' home. Should they decide to spend more time elsewhere, they have options. In recent months the Ambanis have moved to set up a family investment office in Singapore and concluded Dubai's largest-ever residential property transaction, spending close to $250 million for a pair of beachfront villas. Reliance also made a $79 million deal to acquire Stoke Park, a vast golf course and estate outside London.

Waze's present circumstances couldn't be more different. Denied bail, he's been confined since his arrest to Taloja Central Jail, on the outskirts of the metropolis he once policed with ruthless zeal. He's tried to use the political controversy surrounding his arrest to his advantage, notably by agreeing to testify against Deshmukh. But in almost any scenario for what comes next, he'll spend years in detention before getting a chance to clear his name. As Waze knows better than anyone, the wheels of justice in India turn slowly. B



How to Have A Better Midlife Crisis

Millennials are trying to do their 40s differently than prior generations. They don't really have a choice

By Mark Ellwood

Illustrations by Eline Van Dam

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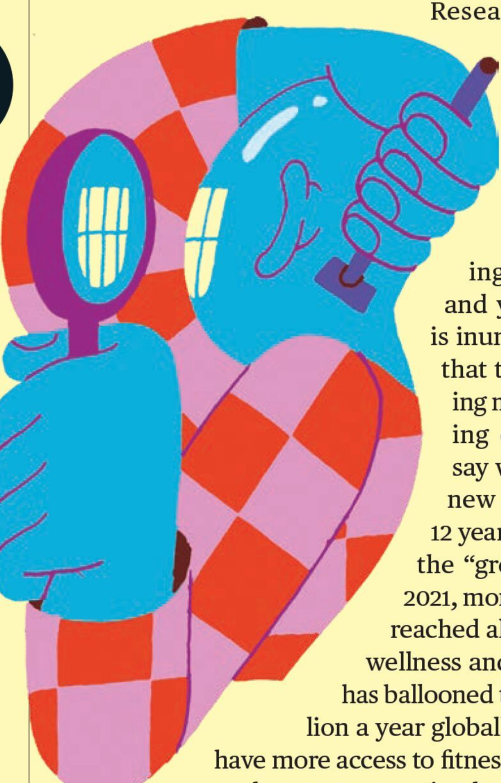
Edited by Chris Rovzar

Businessweek.com

In 2023, 3.6 million Americans will turn 40 and, if they haven't already, promptly freak out. This will be the third batch of millennials to hit the milestone. But this group probably won't rebel like their parents, who in their 40s and 50s bought flashy boats or booked flights to Bali after jumping off the corporate ladder. They aren't divorcing a spouse (they never had one) or getting a tattoo (they already have them). No, this generation is going to do the midlife crisis differently. They can't afford to do otherwise.

The Emerging Millennial Wealth Gap, a 2019 report from the nonpartisan think tank New America, shows that those born from 1981 to 1996 earn 20% less than baby boomers did at their age. And data from the Federal Reserve Bank of St. Louis say their assets average $162,000, versus $198,000 for Gen X at the same age.

Many factors have conspired to leave those midlifing millennials so much poorer than their precursors. Most prominent, the dot-com bust and subsequent financial crisis of 2008 shaped their early working lives. The National Bureau of Economic Research says individuals experience 70% of their overall wage growth during the first decade of their working life; if that period overlaps with a downturn, there's likely to be a 9% reduction long term. The Center for Retirement Research's 2021 report said millennials age 28-38 had a lower net-wealth-to-income ratio than any previous generation.



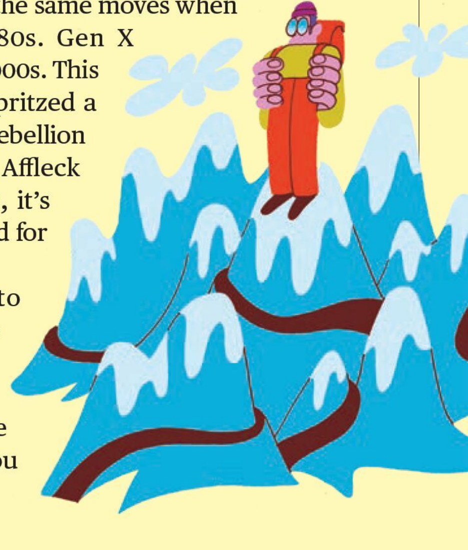
They are earning and saving less, and yet this generation is inundated with signals that they should be acting more boldly. A growing chorus of experts say we should all find a new career path every 12 years or so, and during the "great resignation" of 2021, monthly quits in the US reached all-time records. The wellness and self-care industry has ballooned to more than $4 trillion a year globally. But though they have more access to fitness tools and technology than any generation before, according to a study of 5,000 millennials by Technogym, many felt they had a "wellness deficit." Only 52% rated their overall level of wellness as "good" or "excellent."

"They feel trapped, and they're not happy with that, but they don't really have a huge number of options," says Steven Mintz, an historian at the University of Texas at Austin and the author of *The Prime of Life: A History of Modern Adulthood*. "They can't just write a check and walk away."

The "midlife crisis" is already over the hump itself—it turns 58 this year. This phenomenon, the much-mocked mashup of paunch and panic, was first introduced to the American public in 1965 by psychologist Elliott Jaques, in a paper depressingly titled "Death and the Mid-Life Crisis." Research by Jaques, then 48, showed that creatives such as composers and artists demonstrated precipitous declines or changes around the age of 35. At that point, per Jaques, humans swapped optimistic timekeeping for a pessimistic approach—rather than "time since birth," it was "time until death."

The paper he presented had an instant impact, launching books, television coverage and even a government task force to investigate suicides by men at midlife. The tropes of the phenomenon were established at the outset: It was a distinctly White, male and middle-class concern. Around the same time, widespread social upheaval made divorcing your wife to marry a younger woman less frowned-upon (from 1960 to 1969, the divorce rate climbed from 2.2% to 3.2%; it would peak at 22.6% in 1980), and unfettered commercialism was at a generational high. Buying a fast car was equal parts patriotism and posturing. Fittingly, Chevrolet's Camaro was introduced in 1966.

The first cohort to experience the midlife crisis as Jaques defined it was the Silent Generation, or those born in the 10 years or so before World War II; their offspring, the boomers, embraced many of the same moves when they hit 40 in the 1980s. Gen X claimed the title in the 2000s. This Nirvana-shaped gang spritzed a dose of their signature rebellion into the mix—had Ben Affleck turned 40 in the 1960s, it's doubtful he'd have opted for a full back tattoo.



Which brings us to today and the midlife millennials. "The road map of life has disintegrated," Mintz says. "The guidebook that told you what to do at 25, or at 35 or at 50? It has completely faded."

So how are these newly minted fortysomethings reconsidering life? By spending less, of course. Instead of buying a new car, they'll buy a bike and get out on the road—improving their health and increasing their longevity along the way. Instead of getting plastic surgery, they'll adopt an adventurous hobby. "There's an idea that you needn't be old in middle age," that you can stay young by exercising and traveling, says Mark Jackson, author of *Broken Dreams: An Intimate History of the Midlife Crisis*. Those pastimes come at a price, "but they're much less costly than buying a Porsche or a Ducati or having a mistress."

Thanks to pandemic-spurred flexible work protocols, the old trope of leaving your family behind has turned into uprooting the whole clan and moving everyone somewhere with a higher quality of life per dollar. "If you want to move to Alaska, that's not a fantasy anymore," Mintz says. "With a degree of remote work, you can do it now."

Instead of getting a divorce, many couples are rethinking monogamy and the way they share space. London-based interior designer Francis Sultana says a so-called snoring room, or second sleeping space, is now a regular feature of homes he designs for clients in long-term relationships. He and his own partner have had their own bedrooms for at least a decade. "It's a happy way to manage, especially if the cycles of your working or waking lives are different," he says. "And in the old days, separate bedrooms were quite the norm."

For many, the name of the game isn't aggressive change at all. Lucia Knight, who runs what she calls a "midlife career design consultancy" called Midlife Unstuck, explains it this way: "There are too many plates spinning now for you to just drop them" when you want to adopt a new path. "So you negotiate with each of the 10 plates of life to make it happen." She works with clients to progressively tweak their lives rather than implode them. One managing director at a bank, for example, turned crocheting, a hobby she'd developed to lower her anxiety, into a profitable side hustle. Another, a nurse, started working part time so she could take an upholstery course and mull a switch to furniture making. Knight says 40% of her clients are women. The phenomenon, she says, is "no longer very male."

"I don't think anyone bothered to look at a woman's midlife crisis back in the 1960s," says Annabel Rivkin, co-founder of the Midult, a site for women in midlife. "She just got left, so it was a reactive, not an active, one."

Rivkin prefers the term "midlife crossroads," hoping to help shift the dialogue around this life stage away from sex, separation or spending power.

Hitting midlife for a millennial needn't be a source of panic at all. Lacking money to blow up your life can actually be freeing, say some advisers. If a crisis is ultimately about reasserting control over your circumstances and destiny, there's one currency everybody has control over: their time.

Sarah Knight, the *New York Times* bestselling author of a series of manuals such as *The Life-Changing Magic of Not Giving a F*ck*, suggests we think of our time, energy and money as emotional cash and create a "f--- budget" around them. "Spend your 'f--- bucks' on things and people that make you happy—or at least on those that serve you in some way. And decline to spend them on stuff that doesn't," she says. Replace "Yeah, sure!" with "I'll think about it and get back to you!" Stop thinking you need to justify declining an invitation, date or job offer. You don't owe anyone an explanation beyond "No thank you." Don't worry so much about being perceived as nice: "If you're honest and polite, you've done nothing wrong," Knight says.

Midult's Rivkin calls midlife your "get s--- done" era, when women turn their backs on deference. "My pockets are not deep, and my life is very hungry," she says. "I think there's a new ability to say f--- it."

When the midlife crisis as a concept was first put forward, "it was very much seen as a time of depression," says *Broken Dreams*'s Jackson. But our expectations have changed dramatically. "We're used to changing jobs. We get married later and have fewer children, and at a later age. And we're living longer, so midlife has become extended."

Those longer timetables will also reshape the rhythm of the midlife crisis moving forward. Rather than a single table-flipping moment of life reinvention, Jackson suggests the new normal is a constant, quiet reassessment and iteration, allowing millennials and those who come later to recalibrate without upending their lives entirely.

The first Gen Zers will turn 40 in 2037. We might not even notice it then, says Rivkin. "Gen Z has an identity crisis every 30 seconds," she says. "So there aren't a lot of rules anymore about when we might look at resetting our lives." Ⓑ

The Rolls-Royce Spectre

A Rolls-Royce In Its Purest Form

With its first electric car, the Spectre coupe, Rolls ditches its famous V-12 engine and finds out who it really is

By Hannah Elliott

Not many cars can persuade my editor to buy me a rather expensive plane ticket and send me 10,000 miles around the world to drive it for one day. But when Rolls-Royce said I could be the first driver outside the company to test its first-ever electric vehicle, I started looking for my passport.

That's how I ended up in South Africa, behind the wheel of the 2023 Rolls-Royce Spectre. After rolling around its viridescent wine country, I found the estimated $500,000 coupe to be smoother, quieter and more powerful—not to mention better looking—than any of its V-12 predecessors. The 118-year-old brand has tied its mythology to its famously huge combustion engines, but this initial step into electrification is bold and sure-footed, a two-door titan that saturates its passengers in indulgence. It signals a smooth transition ahead.

The car I drove is a preproduction prototype, shipped way (way) down south for final hot-weather testing. When I laid eyes on it in an immaculately manicured vineyard, its grand stance—nearly 18 feet long and more than 6 feet wide—communicated a sense of occasion. This is what you get when money is no object but you still have a good British sense of restraint and refinement. Spectre's long fastback shape most approximates the rare Phantom Coupé made from 2008 to 2016, though this is a vehicle designed from scratch, not derived from anything else. (Rolls-Royce developed the battery and motors with parent company BMW AG, then refined them.)

I first put it to the test in the streets around Franschhoek, about 50 miles outside Cape Town. The car's chartreuse paint flecked with metallic flakes glittered in the African sun, and the yawning front nose and 23-inch wheels looked regal enough for King Charles III. The two doors are a whopping 1.5 meters (5 feet) long; an electric motor closes them when you press the brake, because you can't reach the handles. An elongated, illuminated grille looks hungry enough to swallow an elephant. Speaking of trunks, there isn't one in the front, as there is in other EVs. The consensus at Rolls-Royce seems to be that such a thing wouldn't have been dignified.

But the details cocooned inside make Spectre feel both outstanding—when compared with the interiors of any other EV on the market—and familiar, since it offers the same level of handiwork as every other Rolls-Royce. To wit: Spectre's polished wood and silver inlays may blow away the likes of (the much, much less expensive) Tesla and Rivian, but they'll feel unremarkable to fans of the brand. And don't expect huge entertainment monitors or virtual displays spanning the interior, either; you buy a Rolls-Royce because it's a sanctuary, not a mobile device.

"There is no need for some outstanding unseen super-funky digital features" in Spectre, Torsten Müller-Ötvös, chief executive officer of Rolls-Royce Motor Cars Ltd., told me between drives. "We, by intention, didn't encapsulate a monstrous screen. You have other cars for that in your garage."

My favorite interior touch is very old-world indeed: The steel vents got so cold when I ran the air conditioning during my drive that condensation formed on them like the droplets on a bottle of Champagne. That's a deliberate effect, by the way. It's lived in Rolls-Royces for decades, long before even the 1975 Silver Shadow I own, which does the same thing. Rolls owners love the continuity.

You'll recognize plenty of other touches: the umbrellas in those massive doors, lambswool carpeting so thick it'll hide your toes, plus thousands of pins of LED light covering the ceiling, which here appear on the doors as well.

Spectre also has the single most important thing Rolls-Royce owners expect: a powerful, smooth and hushed ride, made even more so because it's an EV. After navigating it up vine-laden hills and across the red-dirt countryside, I came to believe that Spectre is actually more Rolls-Royce than any previous Rolls-Royce. It's smooth, powerful and utterly silent. Its motor, with 577 horsepower and 664 pound-feet of torque, surged seamlessly as I pressed the accelerator. At 6,558 pounds, the car is indeed heavy, but it remained firmly planted around corners and behaved with balanced control when I asked it to sidestep slow-moving work rigs—and I passed plenty of those as I zoomed up the hills around Franschhoek. Zero to 60 mph is 4.4 seconds; top speed is 155 mph. Asking it to accelerate felt like commanding some sort of colossal gilded coach to levitate and fly; but then, it almost feels like it does. The only danger is that of unwittingly speeding: The three-digit range sneaks up on you in a car this quick and quiet.

I credit the active anti-roll-bar system, dampers and air suspension for creating the deception that Rolls-Royce calls its "magic carpet ride." Crawling through narrow, historic streets, holding my breath as I squeezed past towering commercial trucks and agricultural machines on side roads, I never questioned where exactly the car ended, never sweated the tight confines of sunbaked alleys. I did wonder: "Is Rolls-Royce crazy to have me piloting this Very Important Thing through farmland?" It definitely felt out of place. But the feedback through the steering wheel and brakes, the four-wheel steering and the visibility through its pillarless cabin told me precisely where I was in relation to the road.

That said, I did lose my sense of place once, when I pulled out of the vineyard and took a hard right, down a hill, to leave the entrance gate. The nose of the vehicle is so long that turning down steep inclines leaves you feeling like you're looking out into thin air at the top of a roller coaster; you can't see over the hood. My best advice: Rely on the parking cameras to alert you to objects and proceed slowly.

I didn't drive far enough to use much more than a small chunk of percentage points off the battery life—the total range is 260 miles, according to US Environmental Protection Agency estimates. Spectre will be able to charge from 10% to 80% full in 34 minutes on a fast-charger, according to preliminary data from the brand. That's slightly less than what's offered by the excellent EV entries from Mercedes-Benz, but most Rolls-Royce owners don't drive their vehicles more than 5,000 miles a year, or roughly 400 miles a month, says Müller-Ötvös. Plus, most will have someone else to worry about things like keeping the car charged.

Rolls-Royce's research shows the majority of prospective Spectre buyers already own an EV or three anyway. They have the necessary at-home charging equipment and, in some

> "You can't say, 'It'll be a better version later' ... We must deliver"

locations, generators needed to sustain electric power. There are plenty of posh peers from which to choose, too: Besides electric models from Audi, BMW, Mercedes and Porsche, smaller makers such as Rimac and Pininfarina are taking orders on some alluring EV hypercars. (Ultraluxury competitors Aston Martin, Bentley, Ferrari and Lamborghini, however, have yet to offer a full EV.)

If I sound effusive, it's because when you operate at this level of expense, time and labor, the results earn respect. That's what I want to underscore. Many consumers will accept misaligned body panels, finicky software and plasticky components on a new EV if it makes them feel like they're helping to save the planet. (Lucid, Rivian, Tesla, I'm looking at you.) But the kind of folks who spend half a million dollars on anything tend to expect perfection regardless of what's under the hood. This newly raised bar will influence more reasonably priced offerings, I hope. The battery technology we have these days is increasingly thrilling; the comforts and craftsmanship should match.

"We have the most demanding customers ever," Müller-Ötvös told me. "You can't say, 'It'll be a better version later; we are going to give an update.' We must deliver."

I predict the excellent Spectre will do well for Rolls-Royce. If you pay a $20,000 deposit now, Müller-Ötvös says, you can expect the car by 2024. Special-order clients can go directly to the factory in Goodwood, England, to pick it up—there are more than 44,000 exterior paint combinations alone to sort through. Start looking for your passport. B

Don't Let Grandpa Get a New Girlfriend (Or Two)

ILLUSTRATION BY KIMBERLY ELLIOT

And other lessons of paramount importance we can learn from the battle over Sumner Redstone's media empire. *By Max Chafkin*

To anyone who's struggling to put the finances of an older parent in order, or who thinks their family is a little bit messy, or who simply worries their enemy list might be a bit too long, consider the plight of Shari Redstone circa 2015.

Back then, Redstone was fighting for control of a media conglomerate created by her ailing father, Sumner, in which her primary adversaries were Sumner's much younger live-in girlfriend and his other much younger live-in girlfriend. There were also two public company chief executive officers allied with the girlfriends, Philippe Dauman (CEO of Viacom) and Les Moonves (CEO of CBS Corp.), plus one of Sumner's ex-wives and several of his additional romantic partners—one of whom was involved in a legal dispute with girlfriend No. 2 about nude photos on an allegedly stolen laptop. Bit players included the fiancé of girlfriend No. 2, a handsome but emotionally unstable lothario who'd spent time in prison, and a former Houston Oilers cheerleader who was a frequent visitor to the house (much to the chagrin of girlfriends Nos. 1 and 2). Got all that?

This was the state of play at the company that's now known as Paramount Global (market capitalization: $15 billion), as recounted by James Stewart and Rachel Abrams in *Unscripted: The Epic Battle for a Media Empire and the Redstone Family Legacy* (Penguin Press, $32). Their torrid account of the fight between Shari and the attendants, suitors and prospective heirs vying for control of Paramount from beside Sumner's sickbed doubles as an indictment of the moral rot within the entertainment industry and offers a subtle suggestion of what it will take to cut it out.

Sumner Redstone came to moguldom late, only entering the highest echelon of Hollywood in 1999 when, as CEO of Viacom, he agreed to pay roughly $40 billion to acquire CBS. The network became part of a media empire that also included MTV, Comedy Central and Paramount's movie studio, plus a chain of theaters inherited from his father. The same year, at age 76, Sumner divorced Phyllis, his wife of 52 years.

The divorce resulted in a settlement that allowed him to keep control of the business, but it also seems to have sent him on a reckless and, at times, abusive romantic binge. As Abrams and Stewart report, Sumner was both a serial sexual harasser and the world's least appealing sugar daddy. He "made a habit of harassing women on the corporate jets and then getting them fired," we're told, and he was constantly doling out enormous stock grants and Beverly Hills homes to prospective and former lovers. Manuela Herzer (GF No. 1) had known Redstone for years when he met Sydney Holland (GF No. 2) in 2010. Holland moved in in 2011; Herzer came two years later, when Sumner was 90.

As he was wheeled into his final decade, he lost the ability to eat or speak after accidentally inhaling food and developing pneumonia. His desire for sexual gratification, however, remained robust. It seems doubtful that Sumner—equipped, by that point, with a feeding tube—had the ability to follow through on his amorous intentions, but, according to the book, he never stopped trying. At one point, to distract Sumner from a rival, Herzer foisted him on her personal assistant, who's quoted (from court testimony) recalling five separate, failed attempts to "'engage' sexually with him," during which a nurse was "directing me and telling me what sex acts to perform." As Stewart and Abrams dryly observe, "It must have come as something of a shock that her job as Herzer's personal assistant

included ministering to the sexual appetites of a 92-year-old man.”

Herzer and Holland served as Redstone’s caregivers and, according to court documents and testimony from some of Sumner’s nurses, eventually became his abusers, isolating him from Shari, controlling whom he met and spoke with, including at the companies where he ostensibly worked. Throughout all of this, Sumner remained chairman of Viacom and CBS, getting paid tens of millions in salaries and bonuses.

That a succession battle more lurid than the one on HBO’s fictional *Succession* could continue for years, more or less in public, is perhaps more surprising than how it ended. Sumner, encouraged by his nurses and Shari’s allies, ejected the girlfriends from his home and cut them out of his will, setting Shari up to be named his successor. Herzer and Holland both sued, challenging Sumner’s mental capacity, and Sumner sued the women, alleging elder abuse. Both disputes were settled.

But Shari’s effort to take a leadership position was complicated by the men in Sumner’s life, Dauman and Moonves, and this is where *Unscripted* becomes most interesting. Viacom’s Dauman, who was so close to Sumner that Sumner treated him as a “surrogate son,” as the authors put it, showed up unannounced at his bedside in an apparent attempt to get him to agree to sell Paramount. After Sumner later fired him, Dauman used his visits to portray Sumner as a walking corpse who was incapable of leading the company. Moonves’s fight with Shari was initially more subtle, but it also ultimately ended in a messy lawsuit that was designed to strip her of any power at CBS. The younger Redstone prevailed against both and eventually merged Viacom and CBS into a single company, with her as the controlling shareholder and chair.

This, in the book’s telling, is a credit to her tenacity and intelligence, but it’s also the result of the failings of Dauman and Moonves, both of whom seem to have made a career out of deliberately overlooking Sumner’s most despicable impulses. At one point in the story, Sumner asks Dauman to give one of his new romantic pursuits a reality show on MTV. Dauman complies, and Moonves steps in to help, arranging for the show, *The Electric Barbarellas*, to be promoted on CBS. (To critics who’ve wondered why MTV descended into a Snookified hellscape in the late 2000s, there’s a possible answer buried here.) Moonves, according to Stewart and Abrams, also lined up an acting role for Herzer’s daughter in the CBS drama *Madam Secretary* and stayed out of the way as Sumner made huge personal cash gifts to Herzer and Holland (girlfriends Nos. 1 and 2—keep up).

Later, Moonves blows off Shari’s concerns when she complains about a board member, Charles Gifford, who grabbed her chin during an argument. Gifford explains that he would treat his daughter the same. “I’m not your daughter,” she tells Gifford, according to the book. “I’m the vice chair of the board you serve on.” (Gifford denied the chin-grabbing.) Throughout, it’s impossible not to sympathize with Shari and to feel outraged at her treatment by these small, self-important men.

Moonves attempted to minimize and cover up allegations that he, too, had sexually harassed and assaulted employees, which ultimately led to his departure from CBS. He presented these past transgressions as long-forgotten—he’d been married for more than a decade by this point—consensual and the inevitable consequences of a healthy sexual appetite. “I was never a predator, I was a player,” he’s quoted as saying.

It’s an excuse that the elder Redstone would have bought, and, depressingly, one that seems to have held water at CBS. Moonves almost kept his job, supported by a circle of board members, senior executives and aides. At one point, when confronted with Moonves’s apparent proclivity for propositioning his employees, a CBS board member acknowledges the issue and then dismisses it. “We all did that,” he says.

Paramount, like many other entertainment companies, saw its stock price drop in 2021 and 2022 when demand for streaming services slowed. But as Stewart and Abrams point out, the company’s struggles may result more from the legal battles and stasis during Sumner’s later years than from any shortcomings of Shari’s strategy. Under the younger Redstone, Paramount released *Top Gun: Maverick*, the top-grossing movie of 2022 in the US, and the company’s stock price has climbed roughly 30% so far in 2023. Still, that Shari spent years (not to mention huge sums of money in legal fees) to get to this point may be evidence that it doesn’t matter who your dad is: For women in corporate America, there’s no escaping the sexism embedded in “We all did that”—at least for now. Ⓑ

A New American Migration

Black women at midlife are seeking better worlds abroad

By Lebawit Lily Girma

In 2015, Stephanie Perry left her job as a pharmacy technician on the night shift and spent 12 months traveling across Southeast Asia, Australia and parts of Europe. "I felt like my life revolved around my work, but traveling around the world showed me that there is another way," says Perry, who is Black and in her 40s. "You can have a full life in other countries that we don't necessarily have in the US."

She wasn't alone. The past three years of Covid-19 and increased social upheaval in America have caused a small but significant exodus of Black professional women from the US in search of a better quality of life. They are packing up, some with kids in tow, starting businesses abroad and not looking back.

Michelle Wedderburn, now in her 50s, says she left Florida for San Miguel de Allende in 2018 with her now 10-year-old son primarily because she wanted to raise him to be bilingual, but also because she was concerned about school shootings in the US and the easy access to illegal drugs in South Florida. "I wanted his childhood to resemble a time when things were simpler," she says. "Mexico provides us with this."

Ashley Cleveland, a high-income tech professional working 60-hour weeks in Atlanta, got her third pink slip in five years in January 2020. After therapy for burnout and severe depression, the then-36-year-old realized she needed to change her environment. "I was living in a society that did not value the mental or physical wellness of Black women," she says. Cleveland moved to Tanzania with her daughters, age 2 and 11, before settling in South Africa a month ago.

Perry, house-sitting in Ajijic, Mexico

In September 2020, Perry co-founded the ExodUS Summit, a digital platform to help women determine how to leave the US. It featured talks on planning for long-term travel, finding house-sitting opportunities abroad and turning expertise into an online business. Perry thought a dozen women might sign up for the event, but more than 3,000 registered. In 2022 the third online summit hosted more than 4,500. A private Facebook group now includes almost 9,000 members who share relocation tips and host meetups in the US and overseas. Other groups have also formed since 2020, such as Blaxit Global.

"This is a movement," Perry says. "I think Black women have discovered that the American dream is not necessarily possible in America." A survey of 2020 summit attendees showed that 25% to 30% of members earned more than $200,000 a year and held graduate or professional degrees. The majority are also Generation Xers or baby boomers.

The first wave of Black women leaving the US could afford to move without needing to work, Perry explains. A second wave of working women is now looking for different ways to make money or find remote jobs. Perry and her business partner, Roshida Dowe, a former lawyer who retired early at 39 in Mexico City, offer coaching on turning ideas into online businesses and obtaining residency. They also bring in women to teach various freelancing skills and show them how to make money in real estate and investing.

Popular relocation destinations among Black Americans include Mexico, Portugal and the Caribbean. Some have settled as far away as Bangkok. "I

COURTESY SUBJECTS

Cleveland relocated her family from Atlanta to South Africa via Tanzania

Wedderburn moved from Florida to San Miguel de Allende in Mexico

expect there to be a time when we look back and say this was another Great Migration," Perry says. Many of these destinations have a lower cost of living.

Racist encounters aren't eliminated abroad, but life can be easier thanks to the privilege that comes with being an American. "Outside of the US, money often trumps anti-Blackness," says Dowe, though she recognizes the issue is fraught. (Whether richer immigrants are displacing local populations is a topic for another article.)

The wealth disparity between Black and White Americans has worsened in recent decades. As of 2019, Black Americans had one-sixth of the wealth of White Americans. More than half of Black Americans also say that overcoming wealth inequality is a struggle no matter how hard they work, according to a Pulse of Black America survey. Concerns over disparate health-care treatment and voting rights are also high, the report showed.

In Mexico, Wedderburn makes money by offering move-abroad consultations and selling "relocation tours"—weeklong stays to acclimate to San Miguel de Allende. Guests go on excursions, scout neighborhoods with a real estate agent and listen to presentations from medical insurance and immigration experts. Her guesthouse, Casa ELM, opened in 2022. She adds that she has more living space than she had in Florida, and her rent hovers around $600 a month for a three-story, three-bedroom home.

For Cleveland, the cost of living came to almost $10,000 a month in Georgia, but her budget in Tanzania—with two daughters, a full-time house helper, a driver, groceries and vacations—added up to only $2,500 a month.

Buying as a Black person in America "is not sustainable. It doesn't shelter you from racism and White supremacy," Cleveland says, citing recent allegations of discrimination by the Black couple who purchased Freedom Acres Ranch in rural Colorado. "So let's try something new. That's really all it is," she adds. Cleveland's company, BrandUp Global, helps Americans expand their businesses in Africa and invest there.

Perry has settled in San José, Costa Rica, for at least the next five years. She rejects the argument that Black women are abandoning a country they worked hard to build. "There are people who expect to magically get something from the United States that they have not gotten so far and that their parents have never gotten, and their great-grandparents," she says. "If what you want is a life of peace, a life of safety, a life of joy, you should have that, and it's much easier for Black women to have that in other countries." B

In the US, the Pandemic Was a Time for Sweets

By Justin Fox

In the early days of the Covid-19 pandemic, sugar demand plummeted as homebound consumers bought fewer soft drinks and restaurant desserts. Commodities trader Czarnikow Group Ltd. projected the first fall in global sugar consumption in 40 years and a slow recovery.

But then everybody started baking. Global sugar consumption did in fact drop in 2019 and 2020 (sugar markets run on an October-to-September fiscal year) but by less than 0.5%, according to the US Department of Agriculture. And since then sugar has been selling like, well, hotcakes.

The US, which is on a somewhat different sugar trajectory from the rest of the world, didn't experience any decline at all, with 2020 and 2021 seeing the first consecutive annual gains in per capita consumption of sugar and other caloric sweeteners since the 1990s.

US beet and cane sugar consumption peaked in the early '70s as high fructose corn syrup and other corn sweeteners gained favor among beverage and food manufacturers. The corn syrup boom ended abruptly in the early 2000s amid fears that it was causing the country's obesity epidemic, and overall per capita caloric sweetener consumption from 1999 to 2019 fell 17.5%.

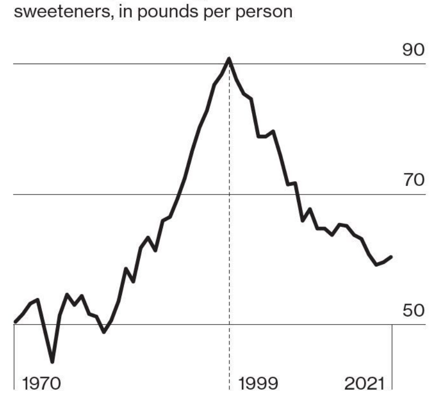
Corn sweetener consumption in the US kept falling in 2020 and 2021, but sugar's gains more than made up for it. Preliminary data indicate that these trends continued in 2022. Nutrition researchers have been shifting to the view that sugar and corn syrup are equally bad for us—just as sweetener consumption appears headed in the wrong direction again. Ⓑ —*Fox is a columnist for Bloomberg Opinion*

● SWEET TOOTH
The US was the third-highest per capita consumer of sugar and high fructose corn syrup in 2021 among countries tracked by the Organization for Economic Cooperation and Development and the Food and Agriculture Organization of the United Nations, behind Israel and Malaysia.

● UN-SALAD DAYS
Americans consumed
52.6%
more sugar and other caloric sweeteners per person in 2021 than in 1909, the first year for which such data are available.

● HOME SWEET…
Monthly consumer spending on sugar and sweets for home consumption in the US rose 13.8% in March 2020; it was about 4% higher than pre-pandemic levels as of December 2022.

US consumption of sugar and other caloric sweeteners, in pounds per person



● TEASPOONS OF SUGAR
US consumption of added caloric sweeteners came to 22.2 teaspoons a day per person in 2021, of which 12.1 tsp were sugar, 9.6 tsp corn sweeteners and 0.5 tsp honey and edible syrups.

ILLUSTRATION BY GEORGE WYLESOL. DATA: US DEPARTMENT OF AGRICULTURE; CONSUMPTION IS LOSS-ADJUSTED PER CAPITA AVAILABILITY

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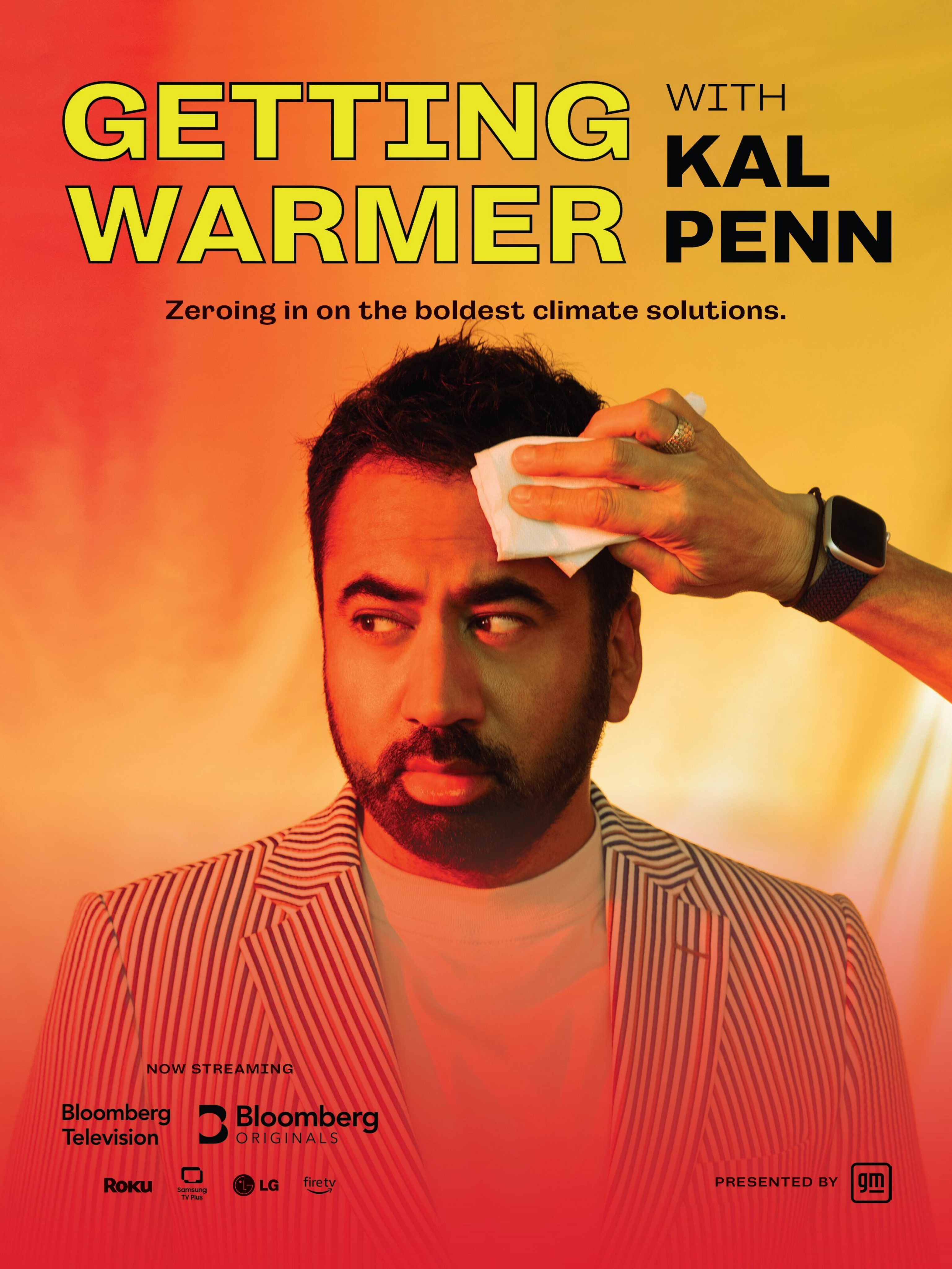
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