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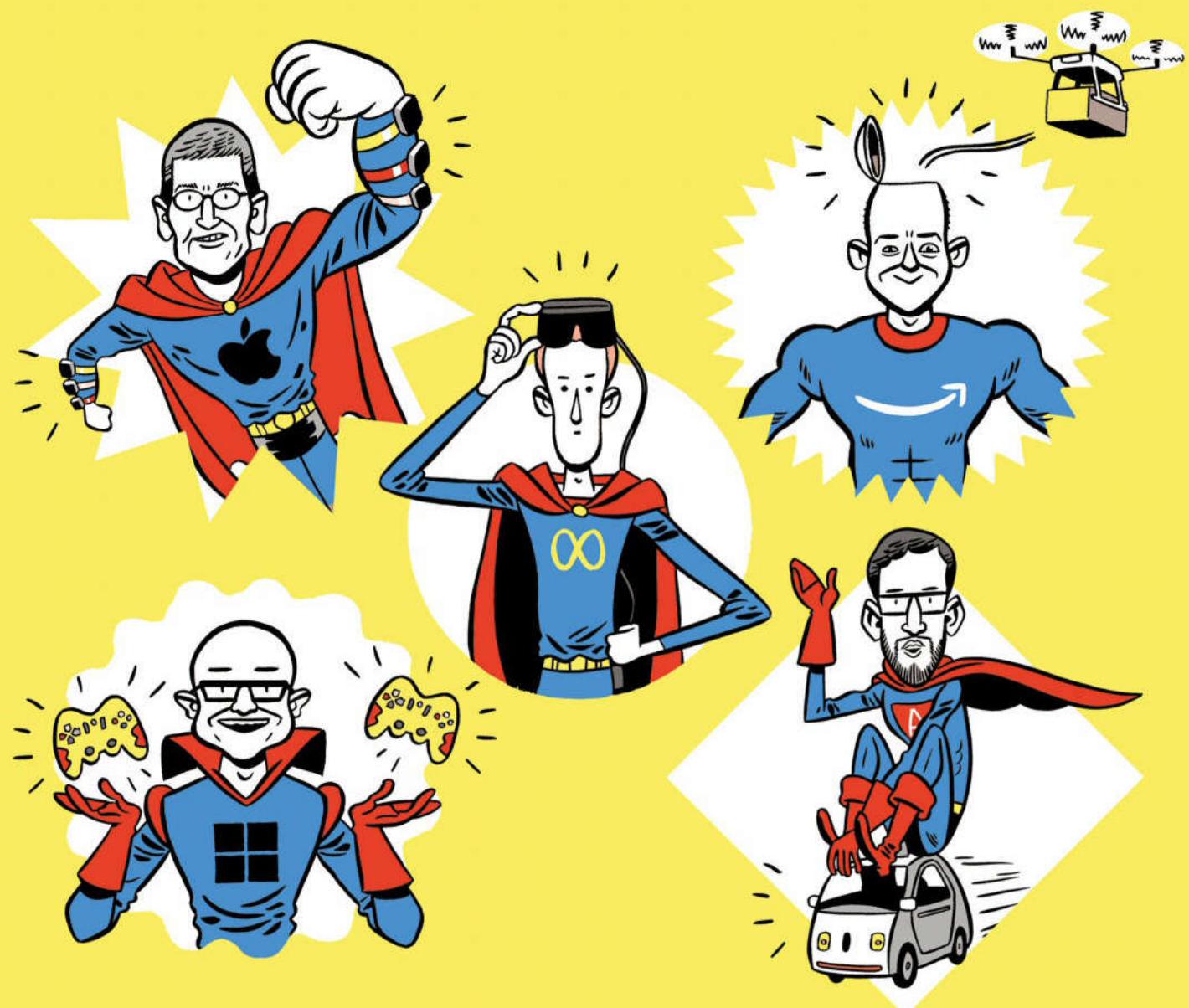
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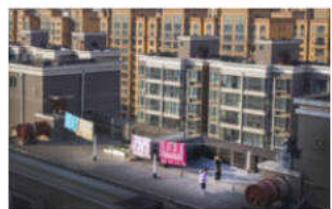
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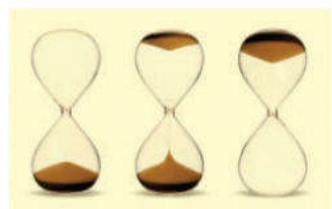
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Russia stepped up what looked like preparations to invade **Ukraine**. Its troops were deployed to Belarus, from which they could open up a second front and threaten Kyiv, Ukraine's capital. More than 100,000 troops have now massed on Ukraine's borders. A cyber-attack, allegedly from Russia, closed down Ukrainian government websites. President Joe Biden said Russia was ready to pounce and promised heavy sanctions if it does. America's secretary of state, Antony Blinken (pictured), was due to meet his Russian counterpart, Sergei Lavrov, in Geneva. Russian domestic television gave little hint that war might be in the offing.

France's President Emmanuel Macron called on Europe to build its own collective **security framework** in the face of Russian aggression. Atlanticists, especially in eastern Europe, are wary of the idea, which they fear could divide NATO. Mr Macron is hoping to be re-elected in April.

A raucous party

Boris Johnson clung to power, as more of his Conservative MPs called on him to resign. The British prime minister's convoluted explanations of why Downing Street held a party when the rest of the country was in a strict lockdown ("nobody told me" it was against the rules) have not gone down well. David Davis, a former minister, quoted words that saw off a premier in 1940 and the whole of Parliament in 1653: "In the name of God, go." A Conservative MP defected to Labour. This seemed to rally Tory support behind the prime minister, for now.

Houthi rebels in **Yemen** launched a drone attack on Abu Dhabi, the capital of the **United Arab Emirates**, killing three people. A day later, an airstrike by a Saudi-led coalition killed at least 20 people in Sana'a, the Houthi-controlled capital of Yemen. In recent weeks forces backed by the UAE and Saudi Arabia have pushed back the rebels.

Nigeria lifted a seven-month ban on people using Twitter after the social-media firm agreed to meet certain conditions, including opening an office in the country. Nigeria blocked people from using the service last year when Twitter removed a tweet by President Muhammadu Buhari that some saw as inciting violence.

Protesters against military rule in **Sudan** barricaded streets and forced shops to close for two days. The security forces reportedly killed ten people.

John Joël Joseph, a former senator in **Haiti**, was arrested in Jamaica. Mr Joseph has been accused by the Haitian police of being involved in the murder of President Jovenel Moïse in July last year. He denies it.

Ingrid Betancourt, a former senator in **Colombia**, said she would run for president in May. Ms Betancourt was captured by FARC rebels in 2002 and held for six years. She presents herself as a centrist. The front-runner is a left-winger, Gustavo Petro.

Cuba's Communist regime held closed trials for peaceful protesters, some as young as 16, who took to the streets last year to demand democracy and reliable electricity. Harsh penalties are expected.

A volcanic eruption in **Tonga** cut off communications with the archipelagic kingdom for days. Three deaths were confirmed, though the toll is expected to rise. The eruption caused a tsunami so large that two people drowned across the Pacific in Peru. Tongan islands were heaped with ash.

Australia deported **Novak Djokovic** after judges dismissed his challenge to the cancellation of his visa for a second time. The immigration minister revoked the unvaccinated tennis player's visa on "health and good order grounds".

Kazakhstan's former president, Nursultan Nazarbayev, appeared in public for the first time this year. He gave a televised address more than two weeks after nationwide protests flared up. He claimed there was no conflict with his chosen successor, Kassym-Zhomart Tokayev, who appears to have sidelined him.

The **FBI** shot dead a British man of Pakistani origin who had taken four people hostage at a **synagogue** near Dallas. Questions were asked about how the man, who had once been a "subject of interest" to British intelligence, was allowed to enter the United States. His family said he had been mentally ill.

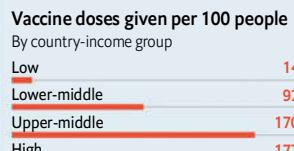
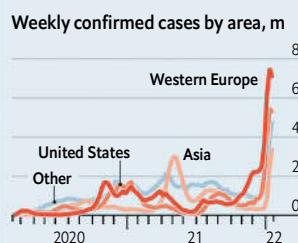
America's Justice Department laid the first indictments for **sedition** against some of the rioters who stormed Congress on January 6th last year. Eleven people, including the leader of the Oath Keepers, a far-right group, were charged with conspiring "to oppose by force" the transfer of presidential power (Congress was certifying the result of the 2020 election at the time).

In a day of drama in the American Senate, Democrats failed to pass measures that would standardise **voting procedures** across the country, and were also defeated in an attempt to change the filibuster rule that would have allowed the bills to proceed. Republicans were adamantly opposed, accusing the Democrats of exaggerating the effect of state changes to voting rules.

Joe Biden urged companies to implement their own **vaccine mandates**, after the Supreme Court struck down his order for them to do so. The court

Coronavirus data

To 6am GMT January 20th 2022



Sources: Johns Hopkins University CSSE; Our World in Data; UN; World Bank; The Economist's excess-deaths model

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found that the federal agency tasked with enforcing the mandate did not have such broad power to regulate public health. The decision opens the way for Republican states to outlaw companies' "no jab, no job" requirements.

COVAX, a scheme to provide covid-19 vaccines to non-rich countries, delivered its billionth dose. It still has a lot of work to do. Of the WHO's 194 member countries, 36 have inoculated less than 10% of their populations and 88 less than 40%.

Wait a minute Mr Postman

The **Chinese** government, which is hoping for a covid-free Winter Olympics in Beijing, urged people to wear gloves and masks when opening mail, especially foreign packages. It claims the Omicron variant may have entered China that way, after a woman tested positive and traces of the virus were found on a parcel she had received from Canada.

In what is by far the biggest-ever takeover in the gaming industry, **Microsoft** agreed to buy **Activision Blizzard**, the company behind the “Call of Duty” series and “Warcraft”, for \$69bn. Microsoft is hungry for new content as it seeks to develop a Netflix for games, which can be streamed from any device, such as phones, and not just its Xbox console. Gaming “will play a key role in the development of metaverse platforms”, stated Satya Nadella, Microsoft’s boss.

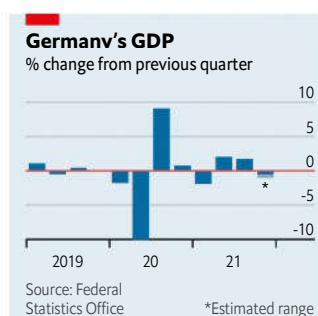
Unilever said it would not increase its £50bn (\$68bn) offer for **GlaxoSmithKline’s** consumer health-care business, which in effect ends its pursuit of a deal. Its ambitious play for the business, which includes such familiar brands as Advil, Nicorette, Panadol and Sensodyne, and in which Pfizer owns a 32% stake, didn’t go down well with Unilever’s investors. The conglomerate’s stock swooned when news of the bid was made public.

Better late than never
ExxonMobil laid out its strategy to reduce carbon emissions, with an aim to reach net-zero emissions by 2050 and a pledge to reduce them by a fifth by 2030 compared with 2016. But the plan counts only the company’s own greenhouse gases from its production of oil and gas, and not the broader category of “Scope 3” emissions, which are generated across a firm’s value chain, suppliers and customers.

Providing reassurance that pandemic restrictions really do apply to everyone, **António Horta-Osório** resigned as chairman of Credit Suisse after the bank’s board reportedly found that he broke quarantine rules, including on a trip to the Wimbledon tennis final in July. Mr Horta-Osório had held the job for less than nine months.

The global job market will take longer to recover from the covid-19 crisis than had been thought, according to the

International Labour Organisation. Its latest forecast estimates that there will be 52m fewer jobs in 2022 compared with 2019, and that a full recovery in 2023 “remains elusive”.



Another surge in covid and supply-chain bottlenecks caused **Germany’s economy** to shrink by up to 1% in the fourth quarter of 2021 compared with the third, according to an initial official estimate. For the whole year, German GDP rose by 2.7%, though output was still 2% lower than in 2019, before the pandemic.

The People’s Bank of China cut one of its main interest rates. The reduction was small, but a signal to markets that officials are prepared to act to stabilise the economy amid covid and difficulties in the housing market. The main lending rate for mortgages was also cut. **China’s GDP** grew by 4% in the

fourth quarter, year on year, the slowest pace since the depths of the pandemic. The economy officially grew by 8.1% for the whole of 2021.

Britain’s annual rate of **inflation** rose to 5.4%, its highest level in 30 years. Food prices are climbing at their fastest pace since 2008. Energy costs are also rocketing, and are expected to soar even higher when the regulator’s price cap is lifted in April. The number of households under “fuel stress”, spending at least 10% of their income on energy bills, is set to jump.

In some good news for the **British economy**, GDP rose above its pre-pandemic level for the first time in November. Although that was before Omicron struck.

Governments in the EU are also struggling to control the impact of higher energy costs. In France, **EDF**, an energy provider, saw its market value slump by a fifth after it said that the French government’s attempt to limit rises in electricity bills would hurt its earnings.

Meanwhile **oil prices** hit a seven-year high, as markets tried to assess whether demand will outpace supply this

year. Brent crude traded well above \$88 a barrel; the price has risen by 13% since the start of the year.

The **Bank of Japan** raised its inflation forecast for 2022 to 1.1%, low by international standards but uncommon in a country that has battled deflation for decades. Higher energy and food prices are feeding through to the economy, but with inflation still far below the central bank’s 2% target it sees no need to increase interest rates.

AT&T and Verizon again postponed their roll-out of **5G services** at some airports amid warnings that the cellular towers could interfere with aircraft navigation systems.

A squeeze on households

The price of orange-juice futures surged, after this year’s **orange crop** in Florida was forecast to be the smallest since 1945. The Sunshine State’s orange groves are plagued with tree lice. Orange prices are also sensitive to a drought in Brazil, which has hurt citrus production there. The overall demand for orange has lost some zest in recent years, as consumers switch to low-sugar drinks.



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Supersized ambitions

America's tech giants are spending heroic sums in an effort to stay on top. Good

IS THERE ANY limit to the ambition and hubris of big tech firms? In October Mark Zuckerberg renamed Facebook Meta and described humankind's new future in virtual worlds. On January 18th Microsoft, worth more than \$2trn, decided it wasn't big enough and bid \$69bn for Activision Blizzard, a video-games firm, in its biggest-ever deal. These decisions are part of a vast new investment surge at five of America's biggest firms, Alphabet, Amazon, Apple, Meta and Microsoft—call them MAAMA. Together, they have invested \$280bn in the past year, equivalent to 9% of American business investment, up from 4% five years ago.

Big tech wants to find the next big opportunity, and our analysis of deals, patents, recruitment and other yardsticks shows that cash is flowing into everything from driverless cars to quantum computing (see Briefing). The shift reflects a fear that the lucrative fiefs of the 2010s are losing relevance, and the fact that tech's titans are increasingly moving onto each other's patches (the share of sales that overlap has doubled since 2015 to 40%). So they are all looking to swoop into new territory.

They also have an eye on the history of technology, which is littered with once-dominant firms that were brought down not by regulators, but by missing the next big thing. Fairchild Semiconductor ruled in the 1950s but now exists only in books. In 1983 IBM was America's most profitable firm but eight years later was loss-making after botching the move from mainframes to PCs. Nokia, once seemingly invincible in mobile devices, fumbled the shift to smartphones. The MAAMAS spent the 2010s fortifying commanding positions, in business tools for Microsoft, e-commerce for Amazon, social media for Meta, and so on. The pandemic has boosted demand, from bored couch-surfers to startups in need of cloud computing. Apple and Alphabet are now larger than were US Steel and Standard Oil, the two mighty monopolies of the 1900s, measured by profits relative to domestic GDP. Yet past performance is not indicative of future results, and now all of them are limbering up for whatever comes next.

The problem is that nobody knows what it will be. But it will probably involve new physical devices that will supersede the smartphone as the dominant means of connecting people to information and services. Whoever makes such devices will therefore control access to users. This explains why Apple is planning a virtual-reality headset to compete with Meta's Oculus range and Microsoft's HoloLens. Alphabet, Apple and Amazon have also all placed expensive bets on autonomous cars. And vast sums are being spent on designing specialised chips, and pursuing new approaches like quantum computing, to provide the processing power for whatever new devices emerge.

The MAAMAS' other priority is creating software platforms that will allow them to extract rents, by drawing in users, and then relying on network effects to draw in even more. Hence Facebook's renaming and its \$10bn annual spending on immersive online worlds, known as the metaverse. Apple has been expanding the walled garden of services it provides to users of its devices, moving into areas such as fitness classes and television

shows. Buying Activision may help Microsoft provide a richer experience for its gaming customers, while Mesh, a platform for virtual 3D workplaces, is aimed at corporate users (see Business section). The cloud-computing platforms operated by Alphabet, Amazon and Microsoft literally charge rent to host computing environments for other companies.

Governments, rivals and billions of customers, who already fear these firms are too powerful, may be alarmed by all this. One view is that the companies' large customer bases, and control of pools of data with which to train artificial intelligence (AI), give them an insurmountable advantage. Won't the giants use that to squash rivals? Yet all these new areas look competitive for the time being. Many other firms are in the metaverse race, for example. "Fortnite", made by Epic Games, has more than 300m players worldwide, while Roblox has 47m gamers who spend 3bn hours a month on its platform. Nvidia, a chip firm, is moving into the space, too. Even Microsoft's Activision deal would raise its market share in gaming to only 10-15%—hardly a monopoly. In autonomous cars, big tech must contend with the likes of Tesla, GM and Volkswagen. Global startups raised \$621bn of venture funding in 2021, far more than big tech invested (see Culture section). And new rivals have emerged with unexpected speed in some areas, such as TikTok in social media.

Moreover, there is an outside chance that the new terrain will prove less prone to domination by centralised platforms. Deep-learning technology, the dominant form of AI today, relies on large amounts of data, but future forms of AI may not. Then there are the decentralised blockchain services owned and operated by users, loosely known as Web3. At the moment these have clunky interfaces, use up lots of energy and are not always as decentralised as they seem. But in one area—decentralised finance, or DeFi—rapid improvements are already under way (see Finance & economics section).

Nonetheless, the temptation is for regulators to clamp down pre-emptively. In 2020 Lina Khan, who is now America's top antitrust official, recommended that big tech firms be banned from expanding into adjacent areas. Some big antitrust cases may reach America's courts by 2023. And Europe may soon pass a sweeping Digital Markets Act, aimed at regulating big technology companies "ex ante"—that is, constraining such firms' behaviour upfront, rather than punishing them later with antitrust cases (Margrethe Vestager, the EU's competition tsar, explains all on our "Money Talks" podcast).

Yet a lighter touch is the best policy. Investment in tech is linked to rising productivity, and the share of cashflows the tech giants are reinvesting has almost doubled since a decade ago. Trustbusters will struggle to predict the technologies of tomorrow. What they can do is block firms from doing deals that give them a monopoly position in new markets today. That is not yet a danger. Indeed, history suggests that tech giants are most often brought down by failing to master emerging technologies. If today's giants want to spend billions trying to move into new areas to avoid that fate, so far there is no reason to stop them. ■



British politics

The parable of Boris Johnson

And what it says about the country he governs

IN EARLY SEPTEMBER Boris Johnson set out his vision for beating Margaret Thatcher's 11-year record, and so to become the longest-serving British prime minister of modern times. Like a bumptious schoolboy, he got far ahead of himself. In the coming days or weeks, he may be kicked out of office by his own MPs. More likely, he will cling on in 10 Downing Street under the permanent threat of eviction (see Britain section). Either way, he no longer controls the fate of his own premiership.

The immediate cause of Mr Johnson's diminishment is, on the face of it, laughably puerile. Downing Street indulged in routine late-night booze-ups while the rest of the country was under strict lockdown. The prime minister's disingenuous attempts to wriggle out of being blamed did him no good—indeed, they served only to reveal his and his wife's own carousing.

Tory MPs will measure the lapse in judgment of a serial transgressor against an 87-seat working majority that Mr Johnson conjured out of nothing, his success in bringing about Brexit, a world-class vaccine programme and a gift for making the political weather. Donald Trump still dominates the Republican Party, despite his part in the attack on Congress a year ago. Are sausage rolls and sauvignon blanc really a sacking offence?

For Britain's sake, they should be. One reason is that the relentless partying is evidence of Mr Johnson's sense of entitlement, which holds that there is one rule for him and his people and another for everyone else. Double standards at the top tend to corrupt the whole of public life. More important, it raises two other of Mr Johnson's attributes that plague post-Brexit Britain. They are traits the country needs to overcome if it is to thrive.

The first is Mr Johnson's childish lack of seriousness about the business of government.

Downing Street's fightback this week, supposedly under the title "Operation Red Meat", launched a fusillade of Tory-pleasing pledges to abolish the BBC licence fee and stop asylum-seekers from reaching Britain across the English Channel. The government says it will get the Royal Navy to police the seas and send applicants away, reportedly to be processed in Ghana or Rwanda. None of that bluster survived the briefest encounter with reality.

This lack of seriousness has infected the government. This week the Tories took credit for the fact that Britain has the fastest annual growth rate in the G7 and that output regained its pre-pandemic level in November, ahead of forecasts. But they have not grappled with Brexit's probable long-term hit to productivity, of about 4%. Over five years, Britain's growth rate has been poor. Inflation, which reached 5.4% in the 12 months to December, a 30-year high, means real average weekly pay is less than in 2007. Business investment is lower than before the referendum.

Mr Johnson's government has unveiled plenty of big economy-boosting ideas, including levelling up prosperity across Britain, tearing down planning restrictions and making Britain a science superpower. But the government is more interested in fanfare than fulfilment. The big ideas are either still slogans or have been quietly abandoned. At the same time, the Tories have pressed ahead with crowd-pleasing, illiberal bills that trample

civil liberties and restrict the rights of new citizens. It is a mark of Mr Johnson's unseriousness that he tosses aside his vaunted classical liberal beliefs as carelessly as an empty bottle.

You can trace this trivialisation of the business of governing right back to the referendum. To get Brexit done, Mr Johnson agreed on a customs border in the Irish Sea and then proceeded to pretend he hadn't. He argued that Britain would escape the regulatory straitjacket of the European Union, but he has avoided doing much deregulating—which, however swashbuckling it sounds in a headline, tends in real life to be unpopular. To prosper, Britain needs decent relations with the EU, its closest neighbour and biggest trading partner. But Mr Johnson relishes picking fights instead, because he likes to play to the gallery.

Treating voters as dopes to be bought off with bombast is a feature of the demagoguery that Mr Johnson rode to power. It is an example of the contempt with which populist leaders treat the people they govern. So, alas, is the other trait that has infected post-Brexit Britain: lying in politics.

Mr Johnson has crumbled because he repeatedly failed to tell the truth to Parliament and the nation about Downing Street's bacchanals. First he declared that his staff did not hold parties. When that was disproved, he denied knowing about them. When it emerged that he had been at one, he said he had not real-

ised they counted as parties. And when it was claimed that he had been warned they did, he seemed to suggest that he misunderstood the rules his own government had drafted. It is a pattern that stretches back to his time as a journalist, when he lied to his editors; to when he was an editor, when he lied to his proprietor; and to when he was a shadow minister, when he lied to his party's leader.

The untruths go beyond one self-absorbed man. Where populism thrives, it subordinates the facts to tribalism. That may be why, according to polling by Opinium released on January 17th, almost half of Conservative Party members still believe that Mr Johnson's account of Number 10's revels is true, compared with just 13% of all voters in a poll published a few days earlier. Again, you can trace the pattern to Brexit, when campaigners who knew better said that Turkey was about to join the EU, that the EU had more to lose from a breakdown in trade than Britain did and that leaving would free up £350m (\$480m) a week to spend on the National Health Service. It is no accident that, after the vote, Remainers' advice was rejected just because of who they were.

Democratic politics has always been about pleasing the crowd, as well as plugging away at policies. Brexiteers were right to sense that a run of technocratic British governments had lost touch with voters. But the excesses of Partygate have shown that the post-Brexit Tory party has lost touch with reality.

It is a strength of the parliamentary system that MPs can bring about a rapid change of direction. If the Conservative Party is to find its way, it will need a new leader. If reforms are to take root, they will need detailed planning and sustained application. If Britain is to make the most of the opportunities presented by Brexit, it needs to face up to the difficult choices ahead. ■



Russia and Ukraine

Momentum is building for war

Vladimir Putin is courting disaster for Russia's neighbour—and himself

THE FIRST WORLD WAR became inevitable once mobilisation orders had been issued in Berlin, argued A.J.P. Taylor, a British historian. The complexities of early-20th-century railway timetables, upon which troop movements then depended, made any alteration virtually impossible. Modern armies do not suffer the same constraints. But as Russia sends more and more units to Ukraine's borders, a grim momentum is building.

Last week's diplomacy yielded nothing. Some of Vladimir Putin's demands are impossible for NATO to accept, as he well knew. (Essentially, he wants NATO never to admit new members, and to remove its forces from any country Russia threatens.) On January 19th President Joe Biden said that he expects Russia to "move in" on Ukraine (see Europe section).

On January 14th hackers sabotaged Ukrainian government websites, getting them to display a poster of the Ukrainian flag and map crossed out, and warning Ukrainians to "be afraid and expect worse". Over 100,000 Russian troops are massed on Ukraine's eastern border, with field hospitals and fuel dumps. "Battalion tactical groups" have arrived in Belarus, a Kremlin client state north of Ukraine, in apparent preparation for a two-front attack that would divide Ukrainian forces and menace the capital, Kyiv. Only a trigger is lacking, and America says it has evidence that a "false flag" operation is planned to allow Russia to claim its men had been attacked by Ukraine. The odds of war seem perilously high.

Yet it is not inevitable. The view from a satellite looking down on Russia's tanks and guns is certainly alarming; the view presented to Russians on their television screens is anything but. The possibility of war is barely mentioned. This matters, because if Mr Putin is determined to invade Ukraine again, you would expect him to prepare the Russian public with a blaze of



propaganda, as he did before annexing Crimea in 2014. That he has not suggests, perhaps, that he has yet to make up his mind.

No one knows how Mr Putin assesses the risks and possible rewards of making war. But here are some things he should consider. First, if he invades Ukraine, it will hurt Russia economically. America and the EU have prepared a long list of financial and trade sanctions. Russian living standards will fall further, despite the government's hefty reserves to cushion the blow.

Second, Ukraine's forces are more than capable of giving Mr Putin a bloody nose. They cannot stop Russia's vastly superior forces from seizing a large portion of their territory, but they can make it a nightmare to hold it. Third, there is no support in Rus-

sia for a deadly war in Ukraine. For years, pollsters have found that most Russians prefer that their country and Ukraine would be friendly neighbours. Mr Putin's popularity rating has been declining, like the rouble. A quixotic quest to restore the Russian empire will not revive it, especially if lots of Russians are killed. Even autocrats have to worry about the public turning against them. (Not to mention the elite, whose

lives could be made uncomfortable by more sanctions.) A war that goes wrong could cost Mr Putin his grip on power—and all that goes with it. It would be a reckless gamble.

The West has no foolproof way to deter him from taking it. But it should try. America's secretary of state is due to meet his Russian counterpart on January 21st. He should offer to continue talks on topics where agreement is possible, such as missile deployments and limits on military exercises. He should rally the EU and NATO to present a united front against Russian aggression. And he should search for a face-saving way for Mr Putin to back down (while no doubt claiming victory on Russian news bulletins). War can yet be avoided, but time is running out. ■

China's economy

From hero to zero

Today's policies on property and the pandemic are becoming harder for China to sustain

NOT LONG ago China stood out for its economic resilience in the face of the pandemic. Today it is a \$17.7trn source of vulnerability in the world economy. A sharp slowdown in its most important sector, property, caused in part by a clampdown on financial excess, threatens growth. So does its zero-tolerance approach to covid-19, which requires doing whatever it takes to extinguish outbreaks. The spread of the Omicron variant, which was reported in Beijing for the first time on January 15th, makes that strategy ever harder and costlier to sustain.

Neither property woes nor the pandemic stopped the economy growing by more than 8% in 2021, according to official figures released this week (see Finance & economics section). Exports boomed as rich-world consumers, encouraged by stimu-

lus, binged on goods. In dollar terms GDP exceeded even pre-pandemic forecasts, thanks to a stronger yuan. Yet China cannot repeat the trick in 2022; it must confront its problems.

So far it is getting the macroeconomic policy response broadly right. A tough set of policies designed to clamp down on dangerous property excesses has been moderated, to avoid inadvertently causing a crisis. Its strict limits on borrowing pushed overextended developers—most notably Evergrande—into default. This spread unease among homebuyers, who worried that flats they had bought in advance might never be built. Recently, the government's rhetoric has become less hawkish, mortgages have become slightly cheaper and some cities have made it easier to purchase homes. ►

► At the same time Beijing has taken steps to revive the broader economy. It has sped up some of the “mega” public-investment projects outlined in its latest five-year plan and encouraged local governments to issue more infrastructure bonds. The central bank has also cut interest rates.

In contrast to its macroeconomic pragmatism, China remains zealously committed to its hardline approach to the pandemic. It celebrates its success as proof of its superior social model. That could prevent the fresh thinking it will need as the pandemic evolves. Even before Omicron arrived, the risks of a zero-covid strategy were clear. In December, after local officials in Xi'an, a central city of 13m people, failed to stop an outbreak of the Delta variant quickly enough, the entire city was placed in a lockdown so strict that it led to food shortages. Both Samsung and Micron, which make chips in the city, said output would be affected. China's sporadic restrictions have also inhibited consumer spending; after inflation, retail sales shrank in December, compared with a year ago.

The Omicron variant will make zero-covid ever harder to sustain. There will be more cases. Each case will put a wider circle of

people at risk. And infections may remain undetected for longer because more cases are mild or asymptomatic. Disruption, therefore, will become more frequent. Mass testing in the port city of Tianjin in response to an Omicron outbreak this month forced Toyota and Volkswagen to pause carmaking in the city.

China cannot ditch zero-covid overnight, but it ought to find a route out before the costs become extreme. It should abandon its vaccine nationalism and approve Western mRNA jabs that offer the most protection. It needs good antiviral drugs and to prepare a weak hospital system to cope with the wave of serious illness that will inevitably occur when a variant, even a milder one, eventually spreads through the population.

China's approach to both property and the pandemic reflect its “campaign style” of governing, which rallies cadres to enforce slogans and pronouncements from the top. Such campaigns can develop an unfortunate momentum of their own. In recent weeks the government has woken up to the danger that its overzealous efforts to restrain the property market might sink the economy. It should now come to the same realisation about how it is fighting the pandemic. ■

Culture and its discontents

Food for thought

Our new Culture section is a sign of the times

THEY TORE down the statue and rolled it into Bristol harbour, and none of them denied it. Yet this month a jury in England acquitted four people over the toppling of a likeness of Edward Colston, an English philanthropist and leading slave-trader who died in 1721. Part of the case for the defence was unusual for a courtroom, and revealing of the intellectual mood in Britain and beyond. The real offence, said the accused, was that the monument to such a monster was still standing. Facing criminal charges, they made an argument about art, and about history.

In an era of rising nationalism and seething partisanship, some borders—including those between countries and political camps—can seem to be hardening. But others are blurring, such as between politics and culture, statecraft and stagecraft. When the news vies for attention with entertainment, and is relished as meme and soap opera, entertainers have a political edge—and from France to Ukraine, television personalities have exploited it. Poets may no longer be the unacknowledged legislators of the world, but activist sports stars and outspoken children's authors have a pretty big say.

The substance of public debate has evolved with the personnel, not least in the erosion of another distinction, between the present and the past. Witness the saga of Colston, who splashed back into the news 300 years after his death. A decade ago, the idea that Conservative ministers might lambast the National Trust, staid steward of English country houses—as they have over its interest in slavery and colonialism—would have seemed outlandish. (So, to American voters, would one run for the White House by the star of “The Apprentice”, let alone two.) Whoever controls the past may indeed control the future, but from the streets of post-imperial Britain to the school boards of America, they have a fight on their hands first.

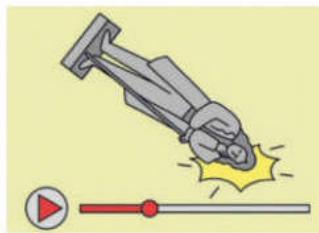
Disputes over whose history is told, how and by whom, in part reflect a struggle over claims on power and virtue today. Adherents of “cancel culture”, that dismal oxymoron, believe some people, living and dead, are too discredited to be heard at all. In these rolling culture wars, *The Economist* has no fixed side. But neither are we neutral. Our liberal principles suggest that controversial voices should generally be audible—and that some statues should come down.

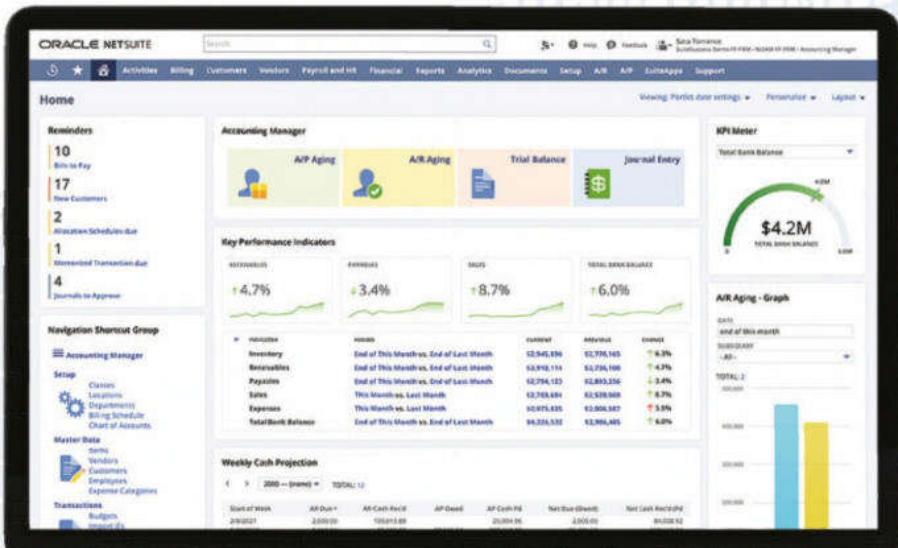
Keen-eyed readers of our contents page will notice a small token of this shift in the intellectual climate. Our Books & Arts section has been renamed Culture and enlarged: two signs of the breadth of subjects it aims to cover. We will still review books

and write about artists. But, even more than before, we will trace trends and draw out connections across the arts and beyond (including in Back Story, our new culture column).

Culture's role in politics is not the only way it has become more salient. During lockdown, stories on the page and screen have offered vicarious adventures, and a sense of solidarity in adversity, to people across the world. Even as theatres and galleries closed, the technology of culture has developed to match this craving. If covid-19 has coloured the experience of the arts, meanwhile, in time the reverse will also be true: writers and artists will shape how the pandemic is understood and remembered, and we will be watching.

Our Culture section will try to satiate another sort of appetite and crumble one final distinction. Cuisine embodies customs and change and is a vital aspect of culture—as our regular feature, World in a dish, will explore. As this week's morsel shows, food can be a solace even in bleak times, as can a newspaper. Or, as Herman Melville put it in “Moby Dick”: “If you can get nothing better out of the world, get a good dinner out of it.” ■





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SCAN ME

Elections in Hong Kong

I was appalled by your description of the swearing in of Hong Kong's new legislature as "a mockery of democracy" ("Pliant patriots", January 8th). The Legislative Council election was open, honest and fair, returning 90 legislators from different political backgrounds. It was facilitated throughout in the same way that other elections have taken place in Hong Kong since its establishment as a special administrative region of China in 1997. All of the elected legislators are committed to act in the interests of Hong Kong and the country. No country, by its constitution or ethics, would allow traitors, foreign agents or other forms of non-patriots to take part in its political system.

Your serious but baseless accusation that the polls were "rigged" is shameful. If anything was rigged it was the deliberately distorted image of Hong Kong that has been manipulated from the dark side of one's personal internal bias. Voters were and will continue to be free to cast their ballots and make their own choices. There is legislation specifically in place to prevent anyone from rigging polls.

The right to vote, stand for election, and the freedoms of speech and of the press are enshrined in the Basic Law. The exercise of these rights, as covered in the provisions of the International Covenant on Civil and Political Rights applied to Hong Kong, is well protected, provided that it is done within the confines of the law, such as not endangering national security. Any legal actions taken by the Hong Kong police are strictly based on evidence and in full accordance with the law.

No country has a monopoly on democracy. The democratic development of Hong Kong has been well defined under the Basic Law; it will be progressive and accord with the actual situation of Hong Kong, in adherence to the principle of "One Country, Two Systems". The violence and law-

lessness in 2019, fuelled by foreign interference, threatened not just the personal safety and security of Hong Kong. It also threatened Hong Kong's rule of law and judicial independence; judges were targeted for intimidation and courts damaged by petrol bombs. The National Security Law has swiftly and effectively restored stability and security.

JOHN K.C. LEE
Chief secretary for administration
Hong Kong Special Administrative Region

Political boundaries

Lexington captured the political challenges Chicago faces over political-ward maps, which should be a progressive and technical issue (January 1st). The Chicago Advisory Redistricting Coalition, an independent group, has developed a "people's map". Unlike the backroom gerrymandered maps drawn by the city's council members, the people's map is based on the input of residents across the city through commissions and transparent public hearings. It keeps neighbourhoods intact and in the same ward, strengthening the voice of communities. It also does away with the infamous "lobster ward" and other oddly shaped tracts. Adopting the people's map would be a welcome progressive act in the Windy City, where politics blows hot and hard, even in frosty January.

TIM SMITH
Chicago

Honeycombing for votes

As someone who has tried to introduce the Penrose square-root method of voting to an association of associations, I was intrigued by the concept of quadratic voting ("The public squared", December 18th). Experience, however, tells me that the system is likely to go the same way as that of Penrose because there is no simple way to explain it. Like the European Union and United Nations, the British Beekeepers Association looked at it and

decided not to adopt it. We struggled to find any significant organisation that had. Elegantly worked examples, of which we produced several, can explain the benefits of these voting systems, but change requires those who disproportionately benefit from the existing arrangements to agree to a new system that waters down their votes. As the saying goes, turkeys never vote for Christmas.

MARTIN SMITH
Past president of the British Beekeepers Association
Stoneleigh, Warwickshire

Looking down their noses

"A world of two halves" (December 18th) looked at north-south antipathies around the world. The power of these stereotypes is impressive. One factor is the dichotomy that up=higher and down=lower. It may also reflect an unconsciously anthropomorphic view of the world, mapping the body onto the Earth. So the north represents the head and mind, whereas the south is associated with organs of procreation and elimination.

RICHARD WAUGAMAN
Clinical professor of psychiatry
Georgetown University
Washington, DC

The perceived distinctions between north and south goes beyond international differences, such as the euro zone's frugal north versus its Club Med south, or even inter-regional ones, as in Belgium or Italy. It also applies within cities. In Chicago, for example, the North Side is seen as prosperous and safe in contrast to the South Side, so much so that a few years ago the French foreign ministry issued an advisory to French citizens visiting the city to avoid the latter. And when I lived in London years ago we rarely went south of the river, other than trips to Wimbledon and the National Theatre, as the attitude was that there was little worthwhile there.

ANIMESH GHOSHAL
Des Plaines, Illinois

Massachusetts definitely has this dynamic along the coast. Cape Ann is seen as serious, hard-working and no-nonsense, especially compared with Cape Cod, the quintessential tourist destination in New England. I also lived for a bit in California. In San Francisco I wasn't surprised to hear Los Angeles derided as a place of lazy layabouts. But in LA I was surprised at the contempt for people from San Diego. Angelenos thought it was they who lived in a hard-working city, whereas San Diego was the place for layabouts.

ALEX MASLOW
Boston

Virtual, not virtuous, reality

Arthur C. Clarke predicted the metaverse in "The City and the Stars" (Schumpeter, December 18th). The book describes an advanced but stagnant civilisation on Earth, where "sagas" provide "all that anyone could desire":

They were the inevitable end product of that striving for realism which began when men started to reproduce moving images and to record sounds...In the sagas, the illusion was perfect because all the sense impressions involved were fed directly into the mind and any conflicting sensations were diverted. The entranced spectator was cut off from reality as long as the adventure lasted; it was as if he lived a dream yet believed he was awake.

Once folks figure out how to connect directly to the human neurostructure, rather than through our present crude access of eyes and ears, we might expect a portion of the population to disappear into the electronic pipe dreams of metaporn and metadrugs. O brave new world.

PETER TURCHI
Santa Fe, New Mexico

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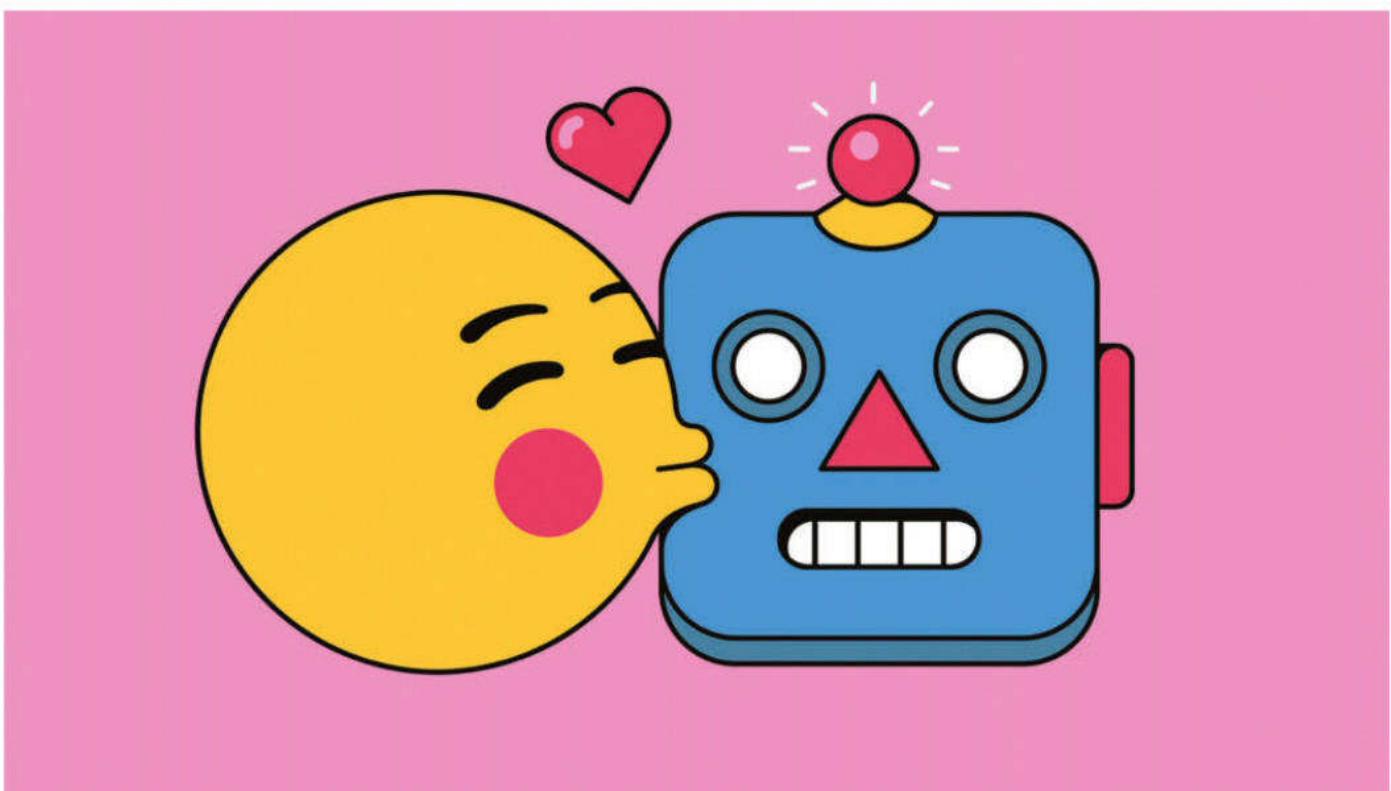
The Assistant Secretary-General is a member of the Secretary-General's Global Leadership Team, and as such, serves as a role model for the Organization's core values (Integrity, Professionalism and Respect for Diversity) and the desired behaviours of the United Nations System Leadership Framework.

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The United Nations Secretariat is committed to achieving 50/50 gender balance and geographical diversity in its staff. Female candidates are strongly encouraged to apply for this position.

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Big tech's private passions

SAN FRANCISCO

America's largest technology firms are investing a truly huge amount. We assess what they are trying to achieve

WHEN CORPORATE bosses want to impress investors they increasingly reach for the i-word. Mentions of “innovation” during the earnings calls of S&P500 firms have almost doubled in the past decade. And no other sector talks about it as much as the technology companies do. For Hewlett-Packard, a printer and personal-computer maker, innovation has on occasion become what location is to estate agents and education to Tony Blair: so important it has to be said three times in quick succession.

Do they protest too much? Throughout that decade some critics held that the technology sector was not delivering as much innovation as it should. When Tim Cook, the boss of Apple, said that 2020 was the firm's “top year of innovation, ever” thanks to the release of the new iPhone, Mac and other devices and services it was possible to feel he might be going some way towards making the critics' case for them. The things the products could do and the ease with which they did them represented a remarkable achievement. Yes, computing power kept increasing, and software

kept doing more. But where were the flying cars, robot footmen and headsets through which to meld minds?

In 2020 a report by an antitrust subcommittee in America's Congress argued that the dominance of big tech had “materially weakened innovation”. The giants, it said, accrue big benefits from the network effects which make having the most users the best way to add new users; they add to the protection such moats provide by preemptively acquiring potential rivals. Stamping out such “killer acquisitions” was one of the aims of President Joe Biden's executive order on increasing competition last year.

One counter-argument to this is that competition in tech is far from dead. It is hard to find a part of the industry where two or more of the “Big Five”—Alphabet, Amazon, Apple, Meta and Microsoft—are not facing off against each other. Another is that when it comes to technological innovation, competition is not necessarily the thing that matters most.

When the twin foundations of the computer age, the transistor and Claude Shan-

non's theory of information, came out of Bell Labs in the mid-20th century, it was not because the labs' owner, AT&T, was facing lots of scrappy competitors. It was because it wanted to make and own the future. Rob Atkinson, head of the Information Technology and Innovation Foundation, a think-tank, argues something similar is true today: the Big Five are “oligopolists which use their market power to win the next big thing.”

Having gone through exponential growth themselves, they are all well aware that missing the next transformative change could see them thrown out of the future-making game. To get a sense of their strategies *The Economist* has analysed a range of data on the Big Five's activities, including the technology focus of the companies they have recently acquired and of those they have taken minority stakes in, their employees' profiles on LinkedIn and their publications and patents. The work provides a sense of where this phenomenal spurt of investment is headed.

That America's big tech companies are spending a truly vast amount on R&D is not in doubt. In 2020 America's public and private spending on R&D added up to \$713bn. In 2021 the Big Five spent \$149bn, equivalent to roughly a quarter of that total (though some of that money is not spent in America). That is significantly higher than the largest single government R&D budget, that of the Pentagon.

A lot of that spending is in product development, and it is true that the tax re-►

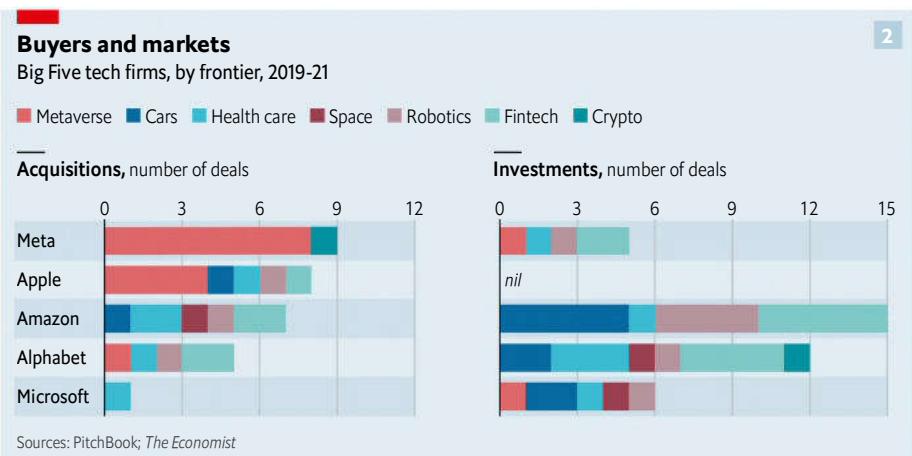
game encourages spending to be put down as R&D if possible, which can distort things. But that can hardly explain the 34% increase since 2019: the tax regime has been unchanged throughout that time.

Capital expenditure—which mostly goes towards data centres, but also in Amazon's case fulfilment centres—has also grown, to \$131bn a year. In the past 12 months the Big Five's share of cashflow from operations invested in R&D and capital expenditure was 53%. That compares to a median of 32% for all S&P500 firms.

One reason for truly vast spending is truly vast companies. The revenues of the Big Five, which have a combined market value of over \$9trn, almost tripled between 2015 and 2020. But though when expressed as a proportion of sales increased investment looks more modest, it is still real (see chart 1). Spending on R&D rose by a third over the same period, from about 9% of sales to 12%, and capital expenditure grew by more than a quarter, rising two percentage points to about 9% of sales.

But a crucial part of it is that there are specific goals the firms want to achieve that require a lot of R&D. Apple is on the lookout for the piece of hardware that will become the new iPhone, be it a car or virtual-reality (VR) headset. Amazon is relentlessly trying to improve the efficiency of its warehouses and delivery system and expand the range of industries making use of Amazon Web Services. For Meta, which has seen its main offering, Facebook, eschewed by younger people, a new big thing may be the only way to secure survival: its recent name change will be for naught without the new tech to back it up.

Researchers at the Big Five published over 16,000 scientific papers in the five years to 2019, and their topics provide some insights into what is going on. Core businesses are being burnished—a recent paper from Amazon discusses ways of “avoiding duplicates in the search results”—and some esoteric possibilities ex-



plored—a paper from a team with members in Google Research provides insights into a “human surgical sample from the temporal lobe of the cerebral cortex”. But different publication policies at different companies make it hard to put the data to quantitative use.

Alphabet is generous when it comes to publication, seeking to attract researchers who wouldn't join a company which required them to hide their light under a bushel. As a result Alphabet looks good in measures based on publications: it is the fourth-highest-ranked corporate institution in the current edition of the Nature Index, which measures the impact of academic research in the sciences (Roche, a Swiss health-care firm, tops the list). Apple is much stricter about publication. But that doesn't mean it is less innovative.

Cars, the metaverse and everything

Analysts reckon that somewhere between 5% and 20% of the tech giants' massive R&D spending goes towards what, for the purposes of this article, we are calling “frontier technologies”: the metaverse, autonomous vehicles, health care, space, robotics, fintech, crypto and quantum computing. (Artificial intelligence, AI, is now so ubiquitous that we are not counting it as a frontier in itself.) We looked at acquisitions, investments and employment data to see which of the companies seemed most interested in what.

Over the past three years the Big Five have acquired 110-odd companies, according to data from PitchBook, a research outfit (these data do not include the \$69bn acquisition of Activision Blizzard by Microsoft announced this week, which is reported on in the Business section). There is a limit to how much these data can reveal. In most cases the deal size was not made public and many smaller acquisitions are treated as recruitment and so not in the data. Believers in “killer acquisitions” may see some of these deals as attempts to hinder innovation rather than accelerate it. But even if that is the case, they show

where the companies are focused.

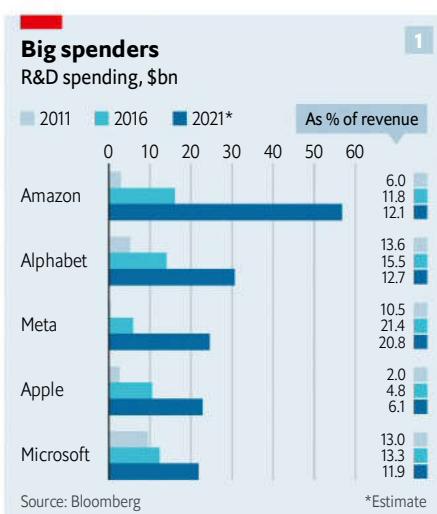
Of the 40-odd deals that came with figures attached, the total valuation was roughly \$50bn. Over a quarter of the firms acquired specialised in AI or in crunching vast data sets. Perhaps a quarter of them were developing frontier technologies (see chart 2 for a breakdown).

Microsoft is the big spender. In April it agreed to buy Nuance Communications, a health-care-focused cloud and software provider, for \$19.7bn, in the largest acquisition for which we have data in the past three years. It has also bought startups which facilitate cloud services, such as Mover.io, which helps businesses shift data to the cloud, and CloudKnox, a cyber-security firm. Google, which lags behind Microsoft and Amazon in its cloud offering, snapped up three cloud-based startups, including Actifio. It also bought three wearables firms, including Fitbit, on which it spent \$2.1bn, reflecting its growing interest in health care.

In terms of single-mindedness, the clearest signal is Meta's pursuit of all things metaverse. Of the 13 firms that work in augmented reality (AR) or VR which were bought for a public price, Meta bought eight, including BigBox VR and Downpour Interactive. Apple bought another four, including NextVR and IKinema. But its highest priority by this measure was AI. Of its 22 purchases since 2019 more than half have been AI-related startups.

Another window into the priorities of four of the five companies is where they choose to take minority stakes. Of the 101 companies in which PitchBook data show the firms investing over the past three years more than a third are active in frontier technology. The exception here is Apple, which makes very few such investments, none of which have been in the frontier areas.

Here, too, the choices are revealing. Take the five investees that make cars. Amazon invested in two, Aurora and Rivian. The latter, in which it has a 20% stake, went public in November and is valued at ►►



► \$67bn. On top of this, last year Amazon bought Zoox, which like Aurora focuses on autonomous vehicles, for \$1.3bn.

Analysts suspect Amazon's immediate interest in the sector lies in the possibility of making its delivery service cheaper and more efficient—it has already ordered 100,000 delivery vans from Rivian. The investment may be comparable to the company's purchase of Kiva Systems, a robotics firm, in 2012. Kiva's technology now helps Amazon's warehouses run smoothly.

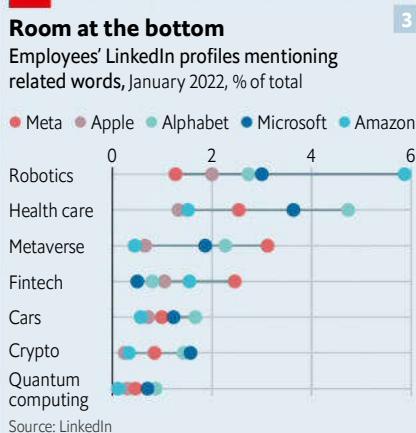
Google also invested in two self-driving-car companies: Waymo, a firm originally spun out of X, the tech giant's in-house "moonshot" unit; and Nuro, an autonomous-delivery company. Apple, which in 2019 acquired Drive.AI, a self-driving-car startup, is mostly working on its self-driving cars in-house. Its Project Titan aims to launch a vehicle in 2025. This week Microsoft joined the race, with an investment in Wayve, a London-based self-driving-car firm.

Overall, 9% of the investments made by the big tech companies are in cars and mobility, compared with just 2.4% for the venture-capital industry. Indeed, all of the frontier technologies except for crypto boast a share of Big Five investment higher than that for vcs in general. Overall 37% of big tech investments, by number, were on the frontiers, as opposed to around a quarter for venture investors in general.

Alphabet, Amazon and Microsoft also all have separate investment subsidiaries. Since 2019 Alphabet's venture-capital arms (Gradient Ventures and gv) and its private-equity unit (CapitalG) have cut about 400 deals. Around 100 of those have been for firms that work in life sciences or health care—an area tech firms see as appealing in part because of AI's increasing applicability to biology. You can now "write RNA structure on a computer like it's a piece of software," says Tom Slater of Baillie Gifford, a large asset manager that invests in tech firms. Google's venture-capital investments include Editas Medicine, a genome-editing company, and Adagio Therapeutics, a drug-discovery firm.

Another 45 investments from Google's financing arms have been in fintech firms such as Botkeeper, an automated bookkeeping service. Other tech firms are making similar moves. Apple acquired Mobeewave, a payments startup, in 2020 to turn iPhones into mobile contactless payment terminals. Last year Amazon bought Perpulse, an Indian fintech firm, and is working with Goldman Sachs to expand the company's loan offering.

Perpulse and a number of other fintech firms are part of another trend: of the 101 firms the tech titans have taken a stake in since 2019, 24 hail from India, more than any other country except America. Amazon has built up a stake in BankBazaar, a



Chennai-based online financial marketplace. In 2020 Google said it planned to invest \$10bn in Indian tech firms over the next five-to-seven years. Overall big tech looks far more willing to invest in India than American vc firms are.

Another way to gauge where technology firms are placing their bets is to look at the people they employ and those whom they want to employ. *The Economist* examined the LinkedIn profiles of employees at the Big Five for the most-used keywords (see chart 3). Again, the data from Meta are very metaversal. We found some experience of working with AR or VR in 2-4% of the profiles associated with Meta's employees, more than with any other firm.

Quantum of employment

According to Thinknum Alternative Data, a research firm, the tech giants are looking to hire in these areas too. Among the Big Five job listings mentioning AR or VR jumped from about 75 in August 2020 to 567 today. Meta and Amazon are posting about 200 such jobs each at the moment—a striking fact given that Amazon employs 20 times as many people as Meta does. A similar uptick can be seen in car-related listings. Some hires are high-pro-

file. In June Apple hired Ulrich Kranz, formerly a senior executive at BMW's electric-vehicle unit, to beef up Project Titan. It has also snapped up two executives from Tesla.

There is growing interest in quantum computing, if from a low base. On average around 0.5% of staff at Big Tech firms refer to quantum on their LinkedIn pages. Amazon and Alphabet are mentioning it more when advertising vacancies. In July Google announced a big step in quantum error suppression, vital if the technology is to be commercialised. Kevin Scott, chief technology officer at Microsoft, sees investment in quantum computing as a necessity for the company. "If such a [quantum-computing] machine were to exist in the future it would be important that Microsoft has one," he says. Such fears of missing out can drive huge research projects.

Other forms of data support much of what our research suggests. Take patents. Microsoft, Amazon and Google have all recently applied for quantum-computing-related patents. More than half of Meta's patent applications since 2019 mention AR or VR. On earnings calls Meta, unsurprisingly, bangs on about the metaverse; Microsoft and Google are much more likely to talk about the AI which will underpin most of the new tech frontiers.

None of this is to say that Mr Atkinson's oligopolists are investing in a way likely to maximise innovation itself, let alone the economic and social benefits it can bring. It is hard not to believe that the sheer size of these incumbents constitutes some sort of block on radical attempts to reinvent the world. But though each company has its particular interests, our picture of their priorities shows that in many sectors there really is significant competition.

And for all that innovation is an easy word to throw about, throwing huge amounts of money and resources at it is much harder. Far better that big tech should do that hard work than just sit on its backside maximising its rents. ■





Labour shortages

Help wanted, now and in the future

WASHINGTON, DC

Even as the pandemic ebbs, the pool of potential workers in America may be permanently smaller than once assumed

FOR NEW truck drivers in Portland, Oregon, a \$30,000 signing bonus. For new recruits in the army, a \$50,000 bonus. Route closures for public buses from Texas to North Dakota. An end to automatic daily housekeeping at most Hilton and Marriott hotels. Offers by Amazon and Walmart to cover college tuition for their employees.

The thread that runs through all these snapshots—a tiny sample of such stories—is a remarkable imbalance between the need for workers and their availability in America today. The economy has surged beyond its pre-covid-19 level of GDP. Companies in just about every industry, from hospitality to finance, are desperate to hire people to keep up with demand. But the numbers willing to work for them are way down: America has about 3m fewer workers now than on the eve of the pandemic, a 2% contraction in the labour force.

That is great news for jobseekers. It is easy to find work. Wage growth (at least in cash terms) is strong, especially for those on low incomes. For America as a whole, though, it is a bigger concern. If the popu-

lation is near to full employment—meaning that just about anyone who wants a job can find one—then economic growth is already straining at its upper limits. An overheated jobs market would add fuel to the inflation already spreading through the economy, making it that much harder to stabilise prices.

For much of the past two years, a fair assumption was that as the pandemic ebbed, people would go back to work in droves.

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That looks less plausible today. Some of the decline in the number of workers appears likely to be permanent. This, in turn, could constrain America's economic potential, since a shrinking labour pool will be a drag on growth, says Marianne Wanamaker, an economist at the University of Tennessee. "I think that we have shifted to another plane here, unfortunately," she says.

Those who have left the jobs market can be divided into three broad groups: people in their prime working years who, for various reasons, would rather be at home; older people who were heading towards retirement and have speeded up their departures; and immigrants, whose flow through legal channels has dried up.

It is easiest to be optimistic about prime-age workers. Every month brings more of this group—those aged between 25 and 54—back into the jobs market. At the current pace, their participation rate in the labour force will return to the pre-pandemic level of 83% by the end of this year.

The resumption of in-person schooling since last summer has freed up parents, which is especially important for the women who have been carrying out extra child-care duties. (The Omicron wave, which has led some schools to go back to remote learning, is a setback, but a temporary one.) The expiry of generous unemployment benefits, provided at the height of the pandemic, has also helped to coax people off the sidelines. As more Americans eat into their pandemic savings, pressure to ➤

► find work will only increase.

Those retiring early may prove harder to budge. Had older Americans, aged 55 and up, continued to work at their pre-pandemic level, the country would have nearly 2m additional workers today.

One factor explaining their reluctance may be the surge in property prices and stocks, according to economists at the Federal Reserve's branch in St Louis. Those on the cusp of retirement with ample savings may now feel less of a need to punch the clock. There may also be a more troubling explanation. Older people have been hit harder by covid, and ill health, or the threat thereof, could deter them from working, says Betsey Stevenson, an economist at the University of Michigan. Either way, the longer older people stay out of work, the harder it will be for them to get back in.

A decline in immigrants compounds that. For all the attention to illegal border crossings from Mexico, the bigger story is missing foreigners in America. There are about 2m fewer working-age immigrants than there would have been had pre-covid trends continued, according to Giovanni Peri and Reem Zaiour of the University of California, Davis. Roughly half would probably have had university degrees, so their absence hurts high-skill and low-skill industries alike.

An end to the pandemic would ease the backlog in America's visa system. But shifting political winds—a reluctance to admit as many immigrants as in the past—may cap the inflows. An industry with a 10% higher dependence on foreign workers than another industry in 2019 typically had a 3% higher rate of unfilled jobs in 2021, calculate Mr Peri and Ms Zaiour.

One major reason why the Fed had been reluctant to raise interest rates, despite surging inflation, was its view that the economy was far from full employment. But with labour-force participation staying stubbornly low, it has changed its tune. Last week, Jerome Powell, the Fed's chairman, said America's best hope of boosting the workforce over time would be to have a

Gone for good?

United States, labour-force participation rate
January 2018=100



long, steady recovery. For that, it needs price stability; hence the imperative to rein in inflation, which hit 7% in December, a four-decade high. Most economists think the Fed will raise rates for the first time since the pandemic in March, with at least two further rate increases this year.

The pandemic adds to uncertainties because of its impact on where people work. When restaurants slashed staff, Amazon and the like swept them up. One commonly expressed hope is that as consumer demand returns to services, away from goods, pressures on prices will ease. That, though, is far from given. "Without a rise

in labour-force participation helping to meet the demand, inflation in the second half of 2022 might be fuelled by rising prices for services," warns Ms Stevenson.

Still, the odds are that the job market will be a little calmer by the end of the year, thanks to a combination of slower economic growth, a fading pandemic and more prime-age Americans resuming work. But the extreme tightness today will have offered a glimpse into the future as ageing depletes the pool of potential workers. Ms Wanamaker describes the prospect as a "perpetual labour shortage". Getting by with less help will be the new normal. ■

Guaranteed-income programmes

Money, money, money

HUDSON, NEW YORK

The pilot schemes look promising. Scaling them up will be harder

JAHED MIAH no longer worries about rent. For much of his time at the State University of New York at New Paltz, the 23-year-old lived on a tight budget. When he needed textbooks, he asked his brothers for cash. But since October 2020 Mr Miah has received \$500 a month through a guaranteed-income programme in Hudson, New York. He puts most of it towards housing costs, but he can also now afford to donate to his mosque and take his nieces and nephews for ice cream. "I'm not a financial burden on my family," he says.

Hudson's is one of more than 80 such schemes across America. They provide direct cash payments in fixed amounts that people can spend as they choose. Most are small and of limited duration: Hudson's involves just 75 residents for five years.

Results from pilots already under way show that the payments, unsurprisingly, improve the lives of participants. After one year recipients in Hudson reported greater emotional and physical well-being as well as better relationships. Critics fear that unconditional cash transfers may put people off working. So far, Hudson and a similar experiment in Stockton, California, have found the opposite—perhaps because the payments give people the flexibility to spend time on training or job applications. The Centre for Guaranteed Income Research at the University of Pennsylvania is assessing several of the programmes, and hopes to publish more findings later this year.

Unlike a universal basic income, which would give money to everyone, guaranteed-income programmes generally target poor people. Hudson's pilot selected participants based on factors



such as gender and race. One in Chicago focuses on former prisoners.

Scaling up across America would be hard. Permanent programmes could well affect the willingness to work. And finding the money for bigger schemes could prove impossible. Some cities, including Pittsburgh and Minneapolis, used federal funds from the American Rescue Plan, the stimulus bill passed last March, for their experiments. But most programmes have relied on charitable gifts. Jack Dorsey, who founded Twitter, for example, contributed \$15m to Mayors for a Guaranteed Income to help fund pilots.

For now, supporters can celebrate the positive effects for people such as Mr Miah. He plans to move to New York City with his brother and work as a medical assistant. He will continue to receive the cash payments for the next four years. Instead of asking his older sibling for money to cover books, Mr Miah will help him pay the mortgage. "We can support each other," he smiles.

Gun-owners

Annette gets her guns

LOS ANGELES

Concerns over safety lead more women and minorities to arm themselves

PICTURE A GUNSLINGER and Annette Evans probably does not spring to mind. She is Chinese-American, lives in the suburbs of Philadelphia and identifies herself as socially liberal—not the archetypal conservative, rural white man. Yet she owns over a dozen rifles, pistols and shotguns (“one for every occasion, like purses or shoes”) and teaches self-defence courses to women. Her race and gender put her at risk, she says. “It may be a low chance that I’ll run into someone who will kill me, but without a gun, I’ll die.”

More gun-owners, especially new ones, look like Ms Evans. Of the 7.5m Americans who bought firearms for the first time between January 2019 and April 2021—as gun-buying surged nationwide—half were female, a fifth black and a fifth Hispanic, according to a recent study by Matthew Miller of Northeastern University and his co-authors. The share of black adults who joined the gun-owning ranks, 5.3%, was more than twice that of white adults. That is new: in a previous survey, in 2015, new buyers skewed white and male, though they were more politically liberal than long-standing ones. Overall, today’s gun-owners are still largely white (73%) and male (63%). But they are diversifying.

Gun culture has broadened its appeal. Decades ago most people bought guns for hunting and recreational shooting. Now they mostly do so for self-defence, which is a universal concern. People who feel vulnerable to crime or hold less faith in the police are more likely to arm themselves.

Rising murder rates in 2020 and 2021 heightened those anxieties (blacks are the likeliest victims). Membership of the National African American Gun Association grew in 2020 by more than 25%, to 40,000. Blacks have a long history of owning guns: Harriet Tubman toted them, Martin Luther King kept them at home. But this tradition was long “surreptitious”, says Aqil Qadir, a third-generation shooter who runs a firearms-training centre in Tennessee.

Many of the newer gun-owners see firearms as an equaliser—a remedy for the vulnerability they feel. The Pink Pistols, an LGBT group, proclaims “armed queers don’t get bashed”. “God made man and woman, but Sam Colt made them equal,” goes a markswoman’s maxim. Women’s gun-ownership has always trailed that among men: women tended to shoot because men in the family did. But Robyn Sandoval, boss



Arms and the woman

of A Girl and a Gun, a shooting group, increasingly sees women buying guns on their own initiative: a third of new joiners to her organisation in 2021 said they were the only shooter in their family.

The broadening tent is good for manufacturers and bad for gun-control advocates. Owners are more politically active around gun issues than non-owners. Already it may have had an effect. According to polling by Gallup, in 2021 support for stricter laws dropped by five percentage points, to its lowest in seven years. ■

Flags and free speech

Pole dance

NEW YORK

The Supreme Court looks askance at Boston’s refusal to fly a Christian flag

WHEN BOSTON opened its new city hall in 1969, the building’s Brutalist style prompted both cheers and jeers. On January 18th another dispute involving the site landed at America’s Supreme Court. *Shurtleff v City of Boston* asks whether Boston infringed an organisation’s freedom of speech when a bureaucrat refused to fly its flag depicting a cross. A lopsided majority of the justices seems to think the city violated the First Amendment.

The plaza in front of Boston’s city hall is typically graced by flags of the United States, Massachusetts and Boston. But since 2005 the city has occasionally swapped its flag for that of a foreign country to mark anniversaries or honour visitors. It has also hoisted flags celebrating gay pride, Malcolm X and the battle of Bunker Hill. But in 2017 it turned down a request from Camp Constitution, a group

dedicated to the appreciation of America’s “Judeo-Christian moral heritage”, to raise what it called a “Christian flag”.

It was the first time Gregory Rooney, the commissioner in charge, had rejected an application. Boston had a duty to keep government separate from church, he reasoned. Other flags may have included religious symbols—such as Portugal’s, with its representations of Christ’s wounds—but no group had described its flag in religious terms when seeking airtime.

Camp Constitution sued and lost in two lower courts. The First Amendment “restricts government regulation of private speech in government-designated public forums”, the First Circuit Court of Appeals wrote, but “such restrictions do not apply to government speech”. Since Boston owned and managed the flagpoles, any messages from the pennants were, the judges reasoned, those of the city itself.

This premise did not get a friendly reception among the Supreme Court justices. They seemed to agree with the flag-raisers that, in light of “284 flag-raising approvals, no denials, and usually no review” over a 12-year span, Boston had created a public forum. Balking only when the city discovered a religious point of view behind Camp Constitution’s flag is “viewpoint discrimination”, the group’s lawyer argued—anathema to the freedom of speech.

None of the six conservative justices accepted Boston’s defence that the flagpole has served as a megaphone for the city’s point of view. “Does the mayor of Boston really approve of the Montreal Canadiens?”, Chief Justice John Roberts asked, referring to a week in 2014 when Boston flew the rival hockey team’s flag. Well, that was the mayor honouring a bet, Boston’s lawyer explained; if the Boston Bruins had beaten the Canadiens, the Bruins’ flag would have flown over Montreal.

Boston’s lawyer faced critical questions from the liberal justices, too. It is understandable why Mr Rooney thought flying the Christian flag would fall foul of the separation of church and state, Justice Elena Kagan said, but his decision hinged on a misunderstanding. A permanent cross on city hall might be forbidden, but “in the context of a system where flags go up, flags go down, different people have different kinds of flags”, there’s no real worry.

With prospects of prevailing in *Shurtleff* close to nil when the court rules in the spring, cities may yet have a way to turn away swastika flags while accepting others. If the city exercised more control over each application and brought an official to every flag-raising, Justice Amy Coney Barrett explained, it would be kosher for Boston to say it is “happy to celebrate and communicate pride in Juneteenth”, for example, but decline “to participate in a flag-raising for the Proud Boys”. ■

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Voting rights and wrongs

One mistake after another

WASHINGTON, DC

Joe Biden's push for a voting-rights law was futile—and the proposals misguided

WHAT BETTER way to chase one humiliating setback and waste of political capital than with another? That seemed to be President Joe Biden's strategy after the failure of his signature climate-change and social-policy bill last month. The White House and Democratic leaders in Congress pivoted to campaigning for a voting-rights package which stood no chance of passing. On January 19th, a majority of the Senate blocked the bill, as expected. As expected, too, a majority of senators failed to agree to limit the filibuster.

As a matter of politics, it all might seem underwhelming. But at the level of policy, the legislation, which Democrats described as essential to prevent democratic catastrophe, was not tailored to meet the actual threats to the country.

When a party has unified control of government, as Democrats do now, gridlock should be surmountable. But the filibuster, which requires a supermajority of 60 votes to do most business in the Senate, limits what can be done. An implacable Republican minority (and a few dissenting Democrats) can block the party's agenda.

How the voting-rights package would escape these realities was never clear. The ten Republican votes needed to surmount a filibuster were never in sight. Neither was the unanimous Democratic support necessary to modify the rules governing the filibuster using a simple majority. Mr Biden seemed to hope that stridency alone would suffice to unblock the bill. On January 11th he gave a speech in Atlanta warning darkly of a Republican plot to "turn the will of the voters into a mere suggestion".

It is true that Republicans across the country are attacking democratic norms. They have embraced Donald Trump's lie that the last presidential election was stolen. State legislatures have tightened photo-identification and postal-vote rules, which Democrats fear will suppress minority voters that the party relies on. Most worrying, Republicans are mucking with election mechanics like vote certification. Legions of enthusiasts for Mr Trump's "Lost Cause" movement are now running to be chief elections officers in states.

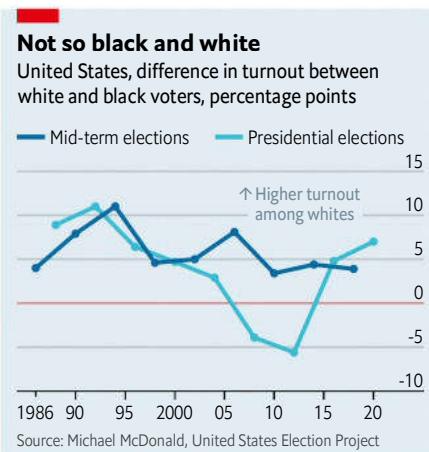
In an endorsement video that was released in the race to be elections supervisor in Pennsylvania, the ex-president proudly said, "We have to be a lot sharper the next time when it comes to counting the votes... Sometimes the vote-counter is more im-

for states with a history of discriminatory laws to seek approval from the Justice Department for any changes to their voting procedures. The other had some laudable goals—like establishing a minimum number of early-voting days and eliminating gerrymandering—but devoted much of its attention to campaign-finance reform.

However, fears of significant voter suppression may be overblown. Black turnout remains quite high. When Barack Obama was at the top of the ticket in 2012, it even exceeded white turnout. Some cite the growing black-white gap in 2016 and 2020 as evidence of suppression, yet there appears to have been no change in the racial turnout gap for mid-term elections (which you might expect would be even more pronounced as these generate less enthusiasm than presidential contests).

When Enrico Cantoni and Vincent Pons, two economists, examined all voter-ID laws enacted between 2008 and 2018 and their effect on turnout, they found that "the laws have no negative effect on registration or turnout, overall or for any group defined by race, gender, age or party affiliation." There is still an argument for federal prophylaxis. Republicans are plainly trying to create a voting regime that will skew to their benefit—they just have not yet found one that works all that well.

As with other culture-war issues in America, the parties have little capacity for self-examination over voting issues. ►



portant than the candidate."

Yet the Democrats' proposed solution, which would have imposed minimum federal standards on the hotch-potch of state voting rules, was unfocused. Two bills had been combined to form their voting-rights plan. One aimed to reinstate requirements



Heroic Barbie

More than half a century before Rosa Parks refused to give up her bus seat, Ida B. Wells was removed from a train for refusing to move into a segregated carriage. Wells, a journalist born into slavery in 1862, later exposed the horrors of lynching and co-founded the National Association for the Advancement of Coloured People. She was posthumously awarded a Pulitzer prize in 2020. Now Mattel is honouring her in a Barbie doll. The doll clutches *Memphis Free Speech*, the newspaper she co-owned. Other women Mattel is honouring include Sally Ride, an astronaut, and Maya Angelou, the author who this week became the first black woman to appear on the quarter coin.

Among Democrats, you are either for “voting rights” or against democracy. Yet an inconvenient truth is that the overwhelming majority of Americans, including majorities of African-Americans and Hispanics, think photo-ID should be required to vote. Among Republicans, you are either for “election integrity” and Mr Trump, or you risk excommunication from the party. That is despite the complete lack of evidence of voter fraud.

Mr Biden's legislative stunts seem not to have bought all that much goodwill with party activists, who still blame him for focusing on economic stimulus over voting rights for months. Hours before being vot-

ed down in the Senate, in apparent anticipation of failure, Mr Biden could only lamely offer the assurance that, “We've not run out of options yet”.

There is little chance of change. This is illustrated by a recent visit by Mr Biden to Capitol Hill to plead his case to Senate Democrats. Before his arrival Kyrsten Sinema, a Democratic senator from Arizona, reiterated her opposition to eliminating the filibuster, in essence removing the point of the jaunt. While there, Mr Biden went to the office of Mitch McConnell, the Republican Senate leader, intending to deal with him directly. He found that there was no one there for him to negotiate with. ■

Evaluating America The worst or the best?

WASHINGTON, DC

Biden pessimists v Trump optimists

WHEN IT COMES to boosterism, Americans are often second to none. Yet new polling from YouGov/The Economist suggests that among Democratic voters, pessimism about their own country is exceptionally rife.

Among some 1,500 people asked at the end of 2021, nearly a quarter of those who voted for Mr Biden in the 2020 election said that on matters of gay rights America ranks towards the bottom compared with the rest of the world. Only 8% of Trump voters placed America so low. Their view would seem closer to reality: a 2021 study from the Williams Institute, a gay-rights think-tank at the University of California, Los Angeles, ranked America in the top 15th percentile for LGBT acceptance among 175 countries surveyed, ahead of Italy, Austria and Japan.

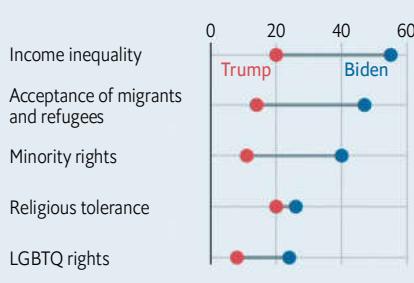
Biden voters are even gloomier about other social issues. Some 40% say America is among the world's worst on minority rights (only 11% of Trump voters thought so). Nearly half of Biden voters, against 14% of Trump ones, are similarly damning of America's acceptance of migrants and refugees (see chart). Gallup polling from 2019 suggests Americans are actually quite sympathetic to migrants. On a composite measure of migrant acceptance, America was the sixth-most-welcoming country out of 145.

If some Democrats tend to hold excessively dismal views of their country, many Republicans do the opposite. For example, 40% of Trump voters ranked America among the best on income inequality, ignoring the growing inequality that places it well below the worldwide median.

Patriotism is part of the Republican brand. But why do Democrats gravitate to

The gloomy left

Share of voters that rank US “worst/near bottom” globally on selected issues*
By vote in 2020 election, %



gloom? Some progressive students say it helps to propel their activism.

Asking Americans, or anyone for that matter, to reflect on “the rest of the world” is thorny. People anchor themselves to what is familiar—countries they've been to or cultures they can relate to. Though Republican voters are sometimes caricatured as provincial, many Democratic voters seem unaware of their comparative good fortune. Even if Biden voters answered our poll with only other rich democracies in mind, this suggests a parochial view of the world that Democrats typically ascribe to their opponents.

In balancing America's relative faults and virtues, self-identifying independents tracked much more closely with Republicans than with Democrats. Since elections tend to hinge on the votes of independents, this suggests that Democratic pessimism may be self-defeating. On matters of American exceptionalism, some blue voters could do with more shades of grey.

Political humour

Funnier than thou

LYNCHBURG, VIRGINIA

As Christian conservatives take to satire, some are missing the joke

CHRISTIAN CONSERVATIVES do not have a reputation for being funny. The language of the right has more often been outrage, while liberals dominated comedy through shows such as “Politically Incorrect” and “The Daily Show”. But some are poking fun at the left's pieties with satire.

The prime example is the Babylon Bee, created in 2016 by Adam Ford, a cartoonist, as a Christianised version of the Onion, a popular satirical news outfit. Seth Dillon, an entrepreneur, bought it from Mr Ford in 2018 and, by further politicising it, has turned it into one of the most popular conservative sites after Fox News, claiming as many as 25m readers a month at its peak.

Mr Dillon says its mission is to “ridicule bad ideas” from a conservative Christian worldview. Readers love it because it lampoons the left. “Biden warns Russia that if they invade Ukraine, America will evacuate haphazardly and leave \$86bn in weapons behind”, it announced last month.

But it does not spare the right. In 2019 it poked fun at Donald Trump for boasting that he had “done more for Christianity than Jesus”. The article went viral, leading Snopes, a fact-checking outfit, to label it as satire after some people believed it was a real story. Then, last September, Mr Trump actually said in an interview: “Nobody has done more for Christianity, or for evangelicals, or for religion itself than I have.” The Bee now frequently tweets its original satire side by side with a real media headline that fulfilled it.

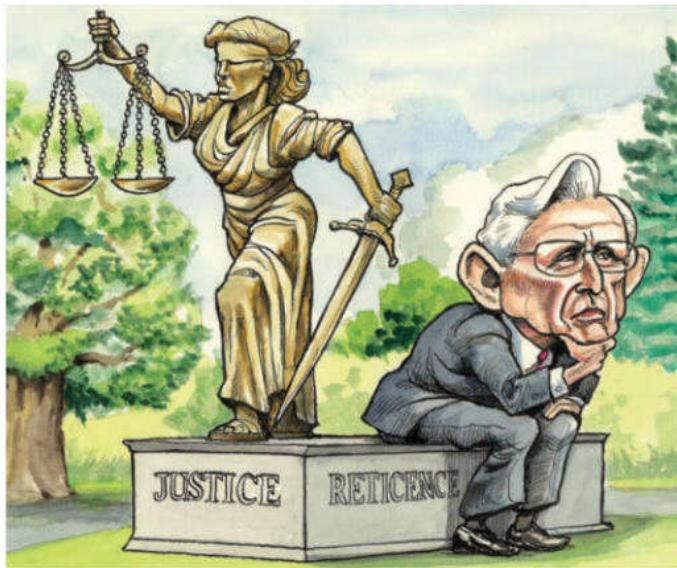
The jokes court controversy. Some play on covid-19. (“Liberal feels sad for man dying of covid, then happy after hearing he wasn't vaccinated, then sad again because he was an illegal immigrant.”) The Bee recently compiled a sardonic list of “ten fun ways to celebrate” the anniversary of the January 6th insurrection.

To the glee of the editors, many in the mainstream media do not seem to get it, fact-checking glaringly bogus headlines. USA Today once listed 15 sources to disprove that the “Ninth circuit court overturns death of Ruth Bader Ginsburg”.

Yet many Christians feel that, like American evangelicalism itself, it has become too political. Terry Lindvall, author of “God Mocks: A History of Religious Satire from the Hebrew Prophets to Stephen Colbert”, warns that Christian satire runs the risk of going awry if it does not love those it pokes fun at. ■

Lexington | Merrick Garland and his critics

The attorney-general needs to bolster the Department of Justice's defences against Trumpism



IT IS HARD to pinpoint a moment at which the Republicans abandoned democratic norms for the end-justifies-the-means power politics that connects Mitch McConnell's Senate leadership to Donald Trump's demagoguery. Yet Mr McConnell's refusal in March 2016 to hold confirmation hearings for Merrick Garland, an appeals-court judge nominated by Barack Obama to the Supreme Court bench, is a top contender. Though both parties had hitherto been culpable of eroding the Senate's traditions of compromise and restraint, Mr McConnell's ploy raised the damage to a new level. It suggested he would press for maximum partisan advantage at every opportunity, whatever the institutional cost.

When President Joe Biden named Mr Garland as his attorney-general, with prime responsibility for restoring the rule of law and Americans' faith in it, the symbolism was obvious. No institution was more politicised by Mr Trump than the Department of Justice (doj). Under Bill Barr, a culture warrior and for two years Mr Trump's legal consigliere, its leadership resembled the former president's personal defence team. Mr Barr effected this with McConnellite tactics. Too canny to break laws, he subverted the unwritten norms that enshrine the doj's independence—such as a custom that attorneys-general do not interfere in criminal investigations to get the president's cronies off the hook. Also like Mr McConnell, although Mr Barr did not go along with Mr Trump's effort to steal the election, one or two of his underlings, schooled in his hyper-partisan tactics, were instrumental in it.

Even setting aside the symbolism of his appointment, Mr Garland looked a good choice to right the ship. The owlish 69-year-old is a doj veteran who led celebrated investigations of the Oklahoma City bombing and Unabomber cases in the 1990s. There and on the Washington, DC, appellate circuit, which he also led, he was known for his intellect, moderation and discretion. He promised to be the least political attorney-general since Janet Reno, three decades before. And ten months into his tenure he has lived up to that billing. He has been methodical in handling the Capitol-riot investigations and taciturn to the point of inscrutability. doj insiders are relieved to have him. "It was abhorrent the way Barr politicised what we do," one says. "Garland does things by the book."

Outside the department he faces more scepticism. Left-wing

activists, who want a reckoning at the doj, not a return to normality, have criticised him for failing to reverse some of his predecessor's decisions. Mr Garland's doj has, for example, continued to defend Mr Trump in a defamation suit brought by a journalist, E. Jean Carroll, who claims to have been raped by the former president. Why, asked the *Nation*, is he "carrying water for Bill Barr?" After the department began charging small-fry insurrectionists, but no political bigwig, the sniping from the left increased. Some rule-of-law experts, led by Jack Goldsmith, a conservative scholar at Harvard Law School, have added to it. They fear Mr Garland is not fortifying his department against the next rule-bending attorney-general—as one of his heroes and predecessors, Edward Levi, did in the aftermath of Watergate. The common thread is that the attorney-general, for all his qualities, is suspected of being too conventional to recognise or act upon the threat that America still faces from the Trumpist right.

Much of the criticism seems overwrought. If Mr Garland reversed all of his predecessor's actions he would not be the impartial arbiter the department requires. And he is hardly holding back on the Capitol riot. The doj has charged more than 750 insurrectionists. And it is standard practice in such cases, as Mr Garland explained in a speech this month, to round up the minor actors in search of evidence against the major ones. Last week the department duly charged 11 followers of a far-right militia called the Oath Keepers with "seditious conspiracy" to stop the transfer of power. By far the most serious charge yet levelled over the riot, it is a devastating rebuke to the revisionist Republican view of it as a legitimate protest that got out of hand.

Whether it presages the charges against Mr Trump and his associates that some Democrats crave is unclear. There are no signs that the department is investigating them. But it might yet. Or maybe it sees no cause to. The First Amendment is exceptionally accommodating, notes Benjamin Wittes of the Brookings Institution: "You can give a speech inviting people to riot and keep your hands clean." And Mr Trump's critics do have a history of exaggerating the legal peril he faces.

The concern that Mr Garland is not shoring up his department's defences against a renewed authoritarian assault seems more solid. Mr Goldsmith and his co-author Bob Bauer have proposed many ways to do so, some of which were included in a capacious reform bill passed by the Democratic House. It would compel the doj to police presidential pardons for corruption, for example, and it would also require the attorney-general to record all communications with the White House. Other suggestions, which typically involve codifying the unwritten norms that Mr Barr flouted, would not require legislation. Yet there is little progress on any of them. The House bill has been sidelined. The Justice Department has made no discernible effort to make its norms harder to contravene. And it has actively resisted calls to beef up its watchdog, the inspector-general.

Merrick ah be brave

Mr Garland could again confound his critics. The insurrection and many smaller course corrections—on policing, environmental policy and so forth—are dominating his to-do list. And his reticence makes him hard to second-judge. Yet the signs are not promising. Like Mr Biden, who declared American democracy to be in grave danger but then pivoted to economic policy, he appears oddly complacent about the threat of a renewed Republican assault on the system. He of all people should know better. ■



Covid-19

Omicron comes to Mexico

MEXICO CITY

A country that never really shut down has already seen 600,000 excess deaths

A FEW DAYS after Andrés Manuel López Obrador, Mexico's president, caught covid-19 for the second time he was back in person at his daily press conference, extolling the virtues of Vicks VapoRub, an ointment, for treating his *covidcito* (mini-covid). Such a blasé approach to the virus is showing in the data. Mexico's official caseload, which is undercounted, has risen more than tenfold since December. Tests are so scarce that people have been told to assume they have the disease.

According to *The Economist's* excess-death tracker, 600,000 more Mexicans have died since March 2020 than would normally have been expected. This is a much higher proportion than in the United States or Brazil, where the anti-lockdown president Jair Bolsonaro has refused to get jabbed (see chart 1 on next page). Over 4,500 health workers have died, possibly a greater number than anywhere else.

Now Omicron is sweeping through the country. Officials say the rising caseload is not leading to more hospitalisations or

deaths. It is too early to tell on the latter; the former is not true. Between mid-December and mid-January hospital admissions have risen. Some 179 facilities are reporting that over 70% of their beds are full, up from 75 a month ago.

Relatively high levels of prior infection and vaccination, as well as Omicron's apparently milder effects, may help make this wave less terrible. But Mexico uses a range of vaccines. Some, such as China's Sinovac and Russia's Sputnik V, offer lower protection against the virus.

Mexicans are vulnerable because, although they are on average quite young, some 75% of those over the age of 15 are

overweight. And the government has a poor record of tackling covid.

In some ways, Mexico offers lessons on how not to deal with a deadly virus. It only shut down for two months at the beginning of the pandemic. Half the population work informally; the government lacked the funds to pay everyone to stay at home. Instead it emphasised personal responsibility. That has worked in some parts of the country. Masks are not compulsory, but people largely wear them in cities, even outdoors. In 2020 67% of Mexicans said they wore masks regularly, compared with 63% of Americans.

Interest groups such as the teachers' unions had more sway over policymaking than epidemiologists. For most of the past two years people could cram into gyms or restaurants. But schools were shut for 17 months. Children, especially poor ones, lost a lot of learning, and will presumably find it harder to succeed in later life.

Keeping most things open suited Mr López Obrador, a fiscal hawk. Mexico spent less than any other emerging market on pandemic-related support, according to the IMF. The government spent 0.65% of GDP on handouts, compared with 9% in Brazil and 4% in India (see chart 2 on next page). This may have placed Mexico in a better fiscal position. At the same time, many businesses went bust, and in the first year of the pandemic nearly 4m people fell into poverty (using a measure ➤

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30 Cuban protesters are sent to jail

30 Protecting the Galapagos islands

— Bello is away

► includes government transfers and non-cash income).

The country never shut its borders. Visitors could come and go without having to brandish a negative covid test or proof of vaccination. Mexican officials claim, with some justification, that it would be hard to seal its porous frontiers. The government also wants to encourage tourism, which generates almost 9% of the country's GDP.

The government tried to increase hospital capacity. Wards were converted to boost the number of beds available. More ventilators were bought, and more nurses hired. The expansion helped, reckons Nora Martínez Gáatica, a doctor. But she adds that the focus should have been on prevention, not least as the health-care system is already in poor shape (see next story).

Similarly, an attempt early in the pandemic to teach medical staff how to deal with covid-19 petered out. Protective clothing was lacking. Jaime Sepúlveda, a former health official who wrote a scathing report for the World Health Organisation on Mexico's response to covid-19, says more beds were not enough. He thinks the high mortality in Mexico was due to poor training and lack of equipment.

The government's focus has now switched, quite sensibly, to vaccination. Around 60% of the population has been double-jabbed, a share which rises to 80% for over 18s. Some 51% of the elderly have had booster shots. Mr López Obrador initially seemed unsure about whether he would get the jab, but then got it in April.

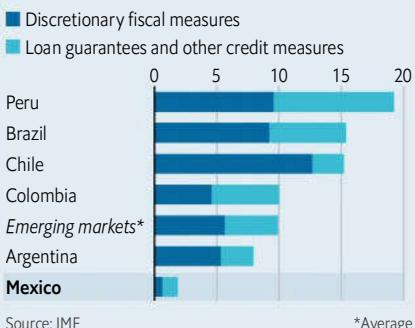
With the arrival of Omicron, authorities in some parts of the country are moving away from Mr López Obrador's laissez-faire strategy. The state of Jalisco has made it compulsory for bars and other indoor spaces to request proof of vaccination or a negative test. In Tlaxcala people must show proof of vaccination to go to the supermarket. Ecatepec, a poor area on the outskirts of Mexico City, has brought in a fine of 864 pesos (\$42, or five days of the minimum wage) for people not wearing a face covering (one man has been arrested).

Años de los muertos
Covid-19, cumulative estimated excess deaths per 100,000 people



Miserly Mexico

Governments' fiscal response to covid-19
To Sep 27th 2021, % of GDP



Source: IMF

2

*Average

Some museums have once again shut their doors in Mexico City, while some states have delayed pupils returning to school.

"Mexico showed its face with the pandemic," says Laura Flamand, a health researcher at El Colegio de México, a university, who points to the lack of universal health care and a social safety net in the country. More Mexicans may be masked, but they are not safe yet. ■

Health care in Mexico

Bills be damned

MEXICO CITY

Mexico's president tries to improve treatment without paying

WHEN MARÍA FERNANDA, a 15-year-old in Tlaxcala, developed a lump next to her right eye, her family assumed it was a mosquito bite. A few weeks later, when it had not gone away, doctors diagnosed rhabdomyosarcoma, a rare cancer. The family's woes deepened when the hospital she was referred to, four hours from her home, lacked the chemotherapy drugs to treat her. Eventually a charity stepped in to help buy the medicine. "I don't understand why [the government] does not want to invest in the health of children," says Briselda, her mother.

For the past three years public hospitals in Mexico have repeatedly run short of drugs, including those to treat cancer, high blood pressure and diabetes. In November President Andrés Manuel López Obrador scolded health officials for the shortages. Yet they are caused by his policies.

Mexico has long had a fragmented health service, with public provision generally tied to health insurance gained through employment. Previous governments have tried to make health care more accessible, particularly to those with informal jobs. In 2003 Seguro Popular (or Popu-

lar Insurance) was introduced to cover roughly half of Mexicans. It was lauded as an example of how developing countries could provide health services to the poor.

When Mr López Obrador came to power in 2018 he vowed to replace this system with one that was both universal and free, similar to Britain's. He scrapped Seguro Popular and created the Institute of Health for Wellbeing, which he said would cover everyone and every treatment. He also said he would root out alleged corruption. The finance ministry became responsible for buying and distributing drugs.

The reality has not lived up to the hype. Despite the president's promises, the new system does not cover all treatments. Although the new system had "terrible luck", in that it came into being at the same time as the pandemic, it also has "terrible management", says Carlos Magis Rodríguez, a doctor and former bureaucrat. The first person in charge of it was an archaeologist with little experience in public health, but who is friendly with the president.

What is more, the finance ministry lacks experience in buying, storing and distributing drugs. It bought some 1.2bn items in 2020 when Mexico needs more like 1.7bn each year, reckons Enrique Martínez Moreno, an analyst. Drugs were bought at the last minute, at higher prices, even though the new system is underfunded.

Mr López Obrador's reform was "budgetary suicide", says Julio Frenk, a former health minister who was behind Seguro Popular. Spending on health care rose under that scheme, but within clear parameters to avoid nasty fiscal surprises. The government was obliged to allocate a set amount for each person enrolled. The law also set up a fund for "catastrophic" expenses not covered by the scheme, such as cancer treatment. By contrast, funding for Mr López Obrador's system is ad hoc.

Mexico spends just 5.4% of GDP on health care, less than Uruguay, Argentina or Venezuela before its economy collapsed. The budget for 2022 includes an increase in health spending of 15%, compared with 2021. But this comes after several years of austerity.

The result is a system that is creaking. The country has fewer doctors, nurses and hospital beds than the average in the OECD, a club mostly of rich countries. Many have turned to private care: 41% of total spending on health comes from Mexicans' own pockets, the highest proportion in the OECD. According to Ipsos MORI, a pollster, Mexico is the only country it surveys where trust in doctors declined between 2019 and 2021, from 71% to 66%.

In December Mr López Obrador declared he would put the army in charge of distributing drugs. But even if the soldiers prove logistical wizards, they cannot magic pills out of thin air. ■

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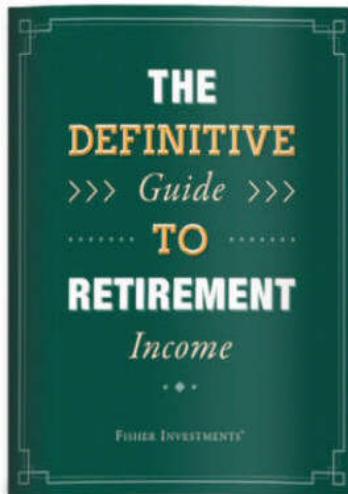
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Cuba

Clamping down

The Communist regime charges pro-democracy protesters

EMILIO ROMÁN, a resident of La Güinera, a poor neighbourhood in Havana, is the father of three children, all of whom are currently behind bars. His two sons and daughter, aged 18, 23 and 25, were detained on July 14th last year, after taking part in protests which brought thousands of Cubans out onto the streets. There they demonstrated peacefully against rampant inflation, power outages, and shortages of food and medicine. They also denounced the Communist regime.

That regime has responded with trumped-up charges which will no doubt lead to harsh punishments. As *The Economist* went to press, the state was holding a series of closed trials. Some 60 protesters are charged with such crimes as public disorder, resisting arrest, robbery, sabotage and sedition. Mr Román's youngest son has been told that he may face up to 15 years behind bars, though because of his youth his sentence could be reduced to seven. His older son is looking at 25 years.

Miguel Díaz-Canel, the president, has claimed with a straight face that "there are no political prisoners in Cuba." In fact there were more than 800 at the end of 2021, according to Prisoners Defenders, a Spanish human-rights organisation. Over 1,000 people were detained after the protests in July. Probably most are still in cells.

Before the protests last year, most political prisoners were well-known activists and dissidents. By contrast, those being charged this month are welders, art historians, biologists, athletes, taxi drivers and small-business owners. At least five are as young as 16. Laritza Diversent, the director of Cubalex, a charity that provides legal advice to the families of detainees, noticed a surprisingly high number of schoolteachers and doctors, two professions that tend to support the government.

The regime is clearly spooked by last year's display of discontent. It is clamping down on any fresh sign of dissent with a new ferocity. A follow-up protest, planned for November, was squashed before it began. Protesters are followed, their phones are tapped and observers are stationed outside their houses. Some have fled abroad to escape such persecution.

The sentences being doled out this month are unusually harsh and long, even for a one-party state. The idea is to make detainees feel helpless, says Ms Diversent. Sadly, it is working. ■

Ecuador

Protecting the deep blue sea

PUERTO AYORA

Guillermo Lasso's balancing act between conservation and cash

FEW DOUBT the scientific importance of the Galapagos islands. Situated in the Pacific Ocean, they pullulate with iguanas, giant tortoises and sea lions—indeed, after visiting the islands in 1835 Charles Darwin developed the theory of evolution. Since 1998 a marine reserve has been in place to protect the waters around the islands. On January 14th Guillermo Lasso, the president of Ecuador, created a new reserve to expand the protected area by around 50%.

The announcement follows on from an agreement struck in November at the UN summit in Glasgow between Mr Lasso and the leaders of Colombia, Costa Rica and Panama to create a vast protected area spanning the four countries' territorial waters. Iván Duque, Colombia's president, has claimed that the new reserve will "guarantee the survival" of 40% of the world's marine species. The deal also suggests that South America's centre-right governments are trying to burnish their green credentials.

A marine corridor stretching up to the waters of Costa Rica's Cocos island will now be patrolled by the boats of the Galapagos national park, with a member of the Ecuadorian navy on board. The new reserve of 60,000 square kilometres (23,000 square miles) will be enforced in six months. Fishing is completely banned across the main migration route within the reserve and longline fishing—a method that often ensnares turtles and dolphins—is forbidden throughout. This should protect endangered

species like the green turtle, says Sylvia Earle, a marine biologist.

The importance of the new reserve stems from an undersea mountain range that links the Galapagos with the waters of Costa Rica and Panama. "These underwater mountains are the key for marine life," says Gustavo Manrique, Ecuador's environment minister. This is because they divert currents—and the nutrients they carry—towards the surface, allowing plankton and the food webs it sustains to flourish.

Ecuador is discussing long-term funding to monitor and patrol the area with potential lenders or donors, according to Simón Cueva, the finance minister. Germany has announced \$70m in aid. The four presidents have also been working with Chile and Peru to safeguard the waters off their shores from industrial fishing fleets, mostly from China.

Despite the recent announcement, many green types are wary of Mr Lasso. Ecuador has large reserves of oil, copper and gold in rainforests that are home to jaguars, monkeys and tropical birds. Mr Lasso, an ex-banker, inherited a crippling national debt from the previous authoritarian regime. Part of his plans for recovery include doubling oil production and boosting mining projects. Many indigenous Ecuadorians oppose these plans.

Indeed Mr Lasso, whose approval ratings have fallen since he took office, says that the balancing act between profit and preservation keeps him awake at night.



Not all that is golden glitters



Health

Battling the superbugs

Drug-resistant infections kill close to 1.3m people a year. To see why, look at South Asia

RUMINA HASAN peers at a sample of bacteria taken from a three-day-old baby suffering from fever and fits. What she sees in her laboratory in Karachi, Pakistan's largest city, is alarming. The bugs causing the illness—*Serratia marcescens*—are resistant to every antibiotic available. Meanwhile at a hospital in Dhaka, Bangladesh's capital, Jobayer Chisti struggles to save a one-month-old from pneumonia caused by drug-resistant *Klebsiella*. This bug would be remarkable in Britain or America, where most cases of bacterial pneumonia are easily cured by antibiotics. But 77% of the infections treated by Dr Chisti's team between 2014 and 2017 involved drug-resistant bacteria.

Antimicrobial-resistant infections are now a leading cause of death around the world, according to a report released by the *Lancet*, a medical journal, on January 20th. In 2019 almost 1.3m deaths directly resulted from illness caused by drug-resistant bugs. The highest tolls by far were in sub-Saharan Africa, where 24 deaths per 100,000 were the result of antimicrobial resistance, and South Asia, where it was 22 deaths per

100,000 (see chart on following page).

When antibiotics, which kill bacteria, and other new antimicrobial drugs, including antifungals, became widely available in rich countries during the 1940s, they revolutionised medicine. Microbe-busting drugs also boosted industrial farming in the second half of the 20th century. Antibiotics not only guard against diseases, which are rife on factory farms; they also help to fatten livestock.

By 2018 South Asia's 1.8bn people were taking a quarter of the world's antibiotics, according to data published last year in the *Lancet*. (For comparison, sub-Saharan Africa, where around 1.1bn live, consumed just

over 10%.) India is the world's biggest guzzler of antibiotics for humans. Their greater availability has saved lives, says Direk Limmathurotsakul of Mahidol University in Thailand. But it has also created the perfect conditions for resistance to thrive. The more that microbes come under attack from antimicrobials, the more the former evolve to become resistant to the latter. The overuse of antimicrobials creates superbugs that these drugs cannot treat.

In most of South Asia antibiotics are easy to obtain. They can be bought in a pharmacy or even at a market—no need for a prescription. As the region grows more prosperous, more people can afford them. And the drugs themselves are getting cheaper. India's thriving drug industry churns out truckloads of low-cost generics. A course of antibiotics may cost as little as 50 rupees (\$0.67), says Kamini Walia of the Indian Council of Medical Research, a government agency. Many doctors overprescribe them, grumbles Dr Chisti. Some are sloppy because they lack training or oversight. Others give patients what they want because they are paying customers.

It is not only rising prosperity that leads to the overuse of antibiotics. Poverty can too. Antibiotics are sometimes used to compensate for poor sanitation and health care, says Ramanan Laxminarayan of the Centre for Disease Dynamics, Economics & Policy, a research institute with an office in Delhi. People who drink dirty water get sick and reflexively pop a pill, which is cheaper than a visit to the doctor.

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▶ Lousy infrastructure also helps drug-resistant infections spread. For example, water sources around Hyderabad, a drug-making hub in southern India, are full of antibiotic and antifungal residue, says a recent study in *Journal of Infection*. As a result, microbes in the surrounding area have developed resistance.

Covid-19 has made things worse, because many people wrongly believe it can be treated with antibiotics. A recent study from a team led by Giorgia Sulis of McGill University in Canada looked at how sales of antibiotics for adults increased in India during the first wave of covid-19. They estimated that nervous Indians gobbled down 216m excess doses. An open letter from doctors on January 14th lambasted the country's health authorities for the "wanton" and "unwarranted" use of antimicrobials in response to the Omicron variant. Antibiotics treat bacterial infections, not viruses like SARS-CoV-2.

The economic burden of superbugs is growing. In 2016 British government scientists predicted that, if no serious effort is made to check antimicrobial resistance, it could kill more than 10m people a year globally by 2050. They also estimated that it might reduce global output by a cumulative \$100trn over that period. Such numbers are highly speculative. What is clear, however, is that treating a patient with a drug-resistant infection is costly—between three and four times more so than treating one with an infection that responds to antibiotics, estimates Dr Walia.

So far, efforts to avoid nurturing superbugs have been patchy. In 2020 India's environment ministry proposed limiting antibiotic residue permitted in wastewater released by drug factories. Last year it quietly reneged on this promise. Several antibiotics have been barred for use in livestock in Pakistan, India and Bangladesh. In 2019 over-the-counter sales of antibiotics (for humans) were banned in Islamabad, Pakistan's capital.

Rules are often not enforced, however, says Professor Hasan. Restricting sales is

also tricky. While many South Asians take too many antibiotics, others suffer or even die because they have too few, says Dr Walia. More widely available cheap diagnostics would prevent doctors from prescribing the wrong drugs, says Dr Chisti. But this will only help so much. Hard-up labourers would rather go straight to a shop and buy cheap antibiotics than fork out first for a doctor's appointment and tests.

Better sanitation and health care would reduce demand for antibiotics. Better medical training would curb overprescription. All this would slow the spread of antimicrobial resistance, making millions of South Asians healthier and more able to work. It would also cut medical bills. Fighting superbugs may be costly, but failing to do so is even costlier. ■

Tonga's volcanic eruption

A kingdom cut off

WELLINGTON

The scale of the damage remains unclear

WORD CAME at last. Three days after Hunga Tonga-Hunga Ha'apai volcano in the Kingdom of Tonga erupted on January 15th, the prime minister's office released a statement. The eruption was an "unprecedented disaster" for the archipelago and three deaths were confirmed. The blast created a vast ash cloud and led to a tsunami (two people drowned across the Pacific ocean in Peru). Explosions of volcanic gas were audible more than 2,000km away in New Zealand and plumes of gas rose more than 20km into the sky. In a biblical flourish, pebbles rained down on the Tongan capital, Nuku'alofa, located some 65km south of the volcano.

The eruption was driven by subduction, a process whereby one of Earth's tectonic plates (in this case the Pacific one) sinks beneath the edge of another (in this instance the Indo-Australian one). Hunga Tonga-Hunga Ha'apai sits within the "Ring of Fire", a geological fault line encircling the Pacific. Tongans call the islands afflicted by the region's frequent earthquakes those which "jump back and forth".

The volcano is 1,800 metres tall (measured from the sea floor) and takes its name from the two parts of the rim of its crater, or caldera, which, before the latest blast at least, rose above the sea: Hunga Tonga and Hunga Ha'apai. Shane Cronin, a volcanologist at Auckland University, reckons that the latest eruption probably came from the caldera itself.

An eruption in December 2014 filled the gap between the volcano's two islands with

ash, joining them. "The island's formation also probably seeded its destruction," says James Garvin, chief scientist at NASA's Goddard Space Flight Centre. "As it rose from the sea, layers of liquid magma filled a network of chambers beneath it." When the magma in those chambers erupted on January 15th, the vast explosion in the seas and skies seems to have been coupled with an implosion in the rocks below as some of those chambers collapsed, undermining the caldera and its rim. Satellite images now show that only a chunk of one of the former islands remains visible.

The true number of deaths among the country's 100,000 people is unknown. So is the extent of damage to crops, villages and livelihoods. Communication with Tonga was possible only by satellite phone initially; the submarine cable that connects it to Fiji and thence to the outside world was severed. Repairs could take weeks as the closest repair vessel is 2,500km away. Flights in and out of Tonga were suspended at first, owing to ash on the international airport's runway. Flights carrying aid are now arriving.

New Zealand and Australia have sent surveillance flights over the archipelago to assess the damage. Reports suggest that roads and bridges have been destroyed, though the airport is intact. Grim satellite images show heaps of ash smothering entire islands. Emergency workers are handing out food, water and tents, according to the prime minister's office. Water is particularly vital: many Tongans capture fresh rainwater from their roofs to drink. Ash has probably contaminated it.

Navy ships carrying aid from Australia and New Zealand are on the way. The hope is they do not also carry covid-19. Tonga's only case so far was caught at its border; one disaster must not lead to another. ■



Paradise lost



South Korea's presidential election

Mud on mud

Voters do not think much of either of the two main candidates

ALL OF SOUTH KOREA's past presidents have been tainted by corruption investigations. Both of the surviving ones have served time in prison for corruption. Park Geun-hye was pardoned only last month, for health reasons; Lee Myung-bak remains in his cell. Even Moon Jae-in, the current president, who prides himself on his probity, has seen a close ally imprisoned for violating electoral law and has lost a justice minister to an influence-peddling investigation (the case is ongoing).

Politicians usually manage to get elected before becoming mired in scandals. That precedent may be overturned by the candidates vying for the presidency in an election slated for March 9th. (Mr Moon cannot run again, as South Korean presidents are limited to a single five-year term.) Both Lee Jae-myung of the ruling Minjoo Party and Yoon Seok-youl of the conservative opposition People Power Party (PPP) have been accused of serious wrongdoing since the campaign began. The pair deny any misdeeds. Yet each camp has tried to find advantage in the other's adversity. With just six weeks to go, the campaign has been heavy on mudslinging and light on serious debate.

Mr Lee's biggest potential headache is an investigation into allegedly corrupt land deals in Seongnam, a middle-class suburb of Seoul, while he was its mayor. He denies any involvement and has survived a parliamentary audit into the matter. So far the opposition's calls for an independent probe into the scandal and his role in it have gone unheeded. Two officials who were indicted on corruption charges in the case committed suicide in December. That reduces the chances that the full tale will ever come to light.

Even so, the furore reflects poorly on Mr Lee, whose job it was to oversee the local development corporation at the centre of the case. He stresses his working-class origins and carefully cultivates an approachable image. The opposition portrays him as a gangster, playing up alleged links to organised crime and berating him for defending men who had killed their partners when he was a lawyer.

Banging on about Mr Lee's shortcomings is a good way to distract voters from Mr Yoon's. The PPP's candidate—a former chief prosecutor who resigned last year after tangling with Mr Moon's justice minister—has proved himself a loose cannon

since entering politics last summer. His campaign has been marred by infighting. He lost his campaign manager and was embroiled in a weeks-long spat with Lee Jun-seok, his party's chairman, over appointments and the campaign's direction. The two men reached an uneasy truce earlier this month.

Meanwhile, prosecutors are investigating claims that, as chief prosecutor, Mr Yoon abetted an underling who allegedly helped the PPP file criminal complaints against Minjoo party lawmakers in the run-up to elections in 2020 (he denies the allegations). Mr Yoon's numerous gaffes include claims that "poor or uneducated" people do not feel the need for freedom and that those fighting against South Korea's military dictatorship in the 1980s did

not really care about democracy.

Mr Yoon's family is an additional liability. His mother-in-law has received a three-year prison sentence for medical fraud. His wife, Kim Keon-hee, has admitted that she forged most of her cv when applying for jobs as an art curator. This is particularly awkward given that Mr Yoon oversaw the investigation that led to the jailing of the wife of Cho Kuk, Mr Moon's disgraced justice minister, for forging documents to help her daughter's university application. Ms Kim also caused outrage among young women in particular after claiming that South Korean left-wingers had experienced more #MeToo cases than conservatives because conservatives "make sure they pay" the victims.

With the candidates' campaigns fo-

Cricket in India

A captain walks

SINGAPORE

Virat Kohli, India's most successful Test cricket captain, steps down

FEW POSITIONS in India confer as much prestige as captain of the country's Test cricket team—or as much weight. Carrying the hopes of a billion cricket-mad Indians requires a very broad back. For them it is not enough that the skipper be an exceptional sportsman and inspire a winning team. He must also project a sense of national self-confidence to a world which, some feel, is wont to belittle India.

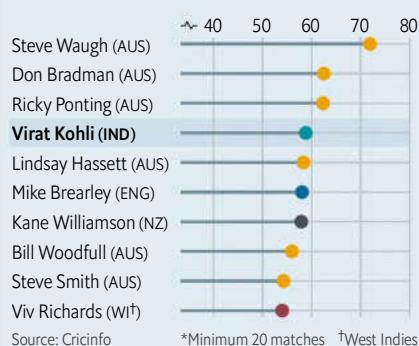
That is exactly what Virat Kohli, who resigned from the post on January 15th, managed to do. Even though his team had just lost to South Africa, Mr Kohli was comfortably India's most successful cricketing leader ever (see chart). Under his guidance India's team jumped to the top of the Test rankings. For a while he was also considered the best batsman in the world.

On the pitch he was pugnacious, sometimes riling opponents who were more used to Indian teams with less bristle. He was obsessed with assembling a battery of snarling fast bowlers, something the team had lacked for decades. Mr Kohli, who hails from Delhi, a city known for its abrasiveness, believed this to represent the new India. His teammates absorbed his vision. Many now resemble him in everything from his brash demeanour to his tidy beard.

Mr Kohli's brazen nationalism also aligned well with the country's political mood. When an Indian fan on Twitter told him he preferred watching English and Australian batsmen, Mr Kohli told him to go "live somewhere else", a retort straight from the ruling Hindu

Challenging royalty

Top ten men's Test cricket captains*
Since 1877, by share of wins, %



nationalist government's handbook. The player made no secret of his admiration for Narendra Modi, India's prime minister. When he was re-elected in 2019, Mr Kohli gushed that he would take the country to "greater heights".

All of this has made him enormously popular. On Twitter he has around 46m followers, more than any other athlete in the world bar footballers Cristiano Ronaldo and Neymar, and basketball star LeBron James. But the adulation is hardly unconditional. When his form dips, he has to endure abuse online. His wife, Anushka Sharma, a Bollywood actress, sometimes cops it worse. And when he leapt to the defence of Mohammed Shami, a teammate who had received anti-Muslim insults, the response from Hindu chauvinist trolls was vitriolic. In their view, at least, he was not aggressive enough for the new India.

cused on one another, their modest policy plans have faded into the background. Mr Lee made his name by advocating a universal basic income, but his most memorable current policy is a promise to include hair-loss treatment in health insurance. A video of Mr Lee claiming he was “the best candidate for your hair” in the style of a hair-product ad went viral earlier this month. Meanwhile, the closest Mr Yoon has come to a policy announcement in recent weeks was a remark in favour of a potential first strike against North Korea. Neither candidate has proposed compelling plans to dispel voters’ concerns about the pandemic and spiralling housing costs (The average price of a flat in Seoul has risen by nearly 50% since Mr Moon took office in 2017).

None of this has been lost on the electorate. Mr Yoon led polls for two months, probably thanks to his political novelty. Since December, however, neither candidate has managed to take a decisive lead. Both continue to be outshone by Mr Moon, whose approval rating remains above 40% in all polls, a share that neither of the two men who hope to succeed him has managed to sustain for any length of time. A majority of voters say they want to see a new party in power, but that is hardly out of enthusiasm for Mr Yoon. In one recent poll by Realmeter, a pollster on the right, conservatives said they would prefer an alliance between the PPP and the small People Party, with Ahn Cheol-soo, a colourless conservative, as president.

This suggests that Mr Yoon will have a hard time convincing even his own camp to vote for him, let alone sway moderates. Messrs Lee and Yoon still have a little time to get serious. But if they don’t, whoever manages to fill the headlines with the other side’s scandals just before election day probably has the best chance of success. ■



Australia

Because I say so

SYDNEY

Novak Djokovic's deportation sets a troubling precedent

IT DREW A bigger crowd than can sit in the centre court at the Australian Open. On January 16th more than 80,000 people tuned in to a live feed from the federal court to see whether, after a lengthy scuffle with Australia’s government, Novak Djokovic would be allowed to stay in the country. It was not the result that the world’s best tennis player wanted: the court’s three judges agreed unanimously to dismiss his challenge against the federal government.

Most Australians cheered as the unvaccinated Serb was sent to the airport. According to one poll, 71% of them agreed that he should be deported. But even those who were glad to see him go might have cause for concern about the way in which the case unfolded.

First, he was granted a visa. Then, on January 6th, the conservative coalition government cancelled it, saying that he did not have an exemption to bypass Australia’s travel rules. A court overturned that decision on January 10th, so the government changed tack. Mr Djokovic had not broken any rules by flying to Australia, it conceded, but his presence in the country might “foster sentiment against vaccination”. Alex Hawke (pictured), the immigration minister, then revoked his visa on “health and good order grounds”.

An Australian immigration minister has vast powers of discretion. So vast, in fact, that the incumbent in 2008 declared that he had “too much power”. Those pow-

ers have grown since then. Immigration ministers can personally grant or cancel visas if they think it is “in the public interest”, as Mr Hawke did in Mr Djokovic’s case. They can also deport foreigners on “character grounds”, overturn a person’s refugee status, or put asylum seekers into detention indefinitely—and they often do.

The Melbourne hotel in which the tennis star was detained holds 25 refugees and seven asylum-seekers. Because they tried to reach Australia by boat, they are not allowed to resettle there. One of the refugees, Mehdi Ali, an Iranian, has been locked up by Australia for nine years, since he was a boy of 15.

The strict regime is popular with many voters. But views on legal immigration are not one-sided. Polling conducted in 2019 by the Lowy Institute, a think-tank, found that 67% of Australians believe that immigration has a positive impact on the economy—down from 73% in 2016. Even so, 47% feel that immigrants are a burden on the welfare system.

Politicians “like to use their personal powers in cases where they get political mileage”, says Greg Barns, an Australian barrister. The government’s decisions can be extremely difficult to appeal against. “It is dangerous”, Mr Barns believes, “because it is designed to try to sidestep the courts.” Take Mr Djokovic’s case. The federal court could rule only on whether Mr Hawke was within his rights to cancel the Serb’s visa, ►►



Mud-wrestlers in disguise

► not on whether his reasons for doing so had "merit". The government did not need to show that Mr Djokovic's views on vaccination were a threat to public safety, only that they "might" be so. "The bar does not get any lower than that," says Mr Barns.

The case could set a worrying new standard. Recent Australian governments have locked out rabble-rousers and conspiracy theorists. (Katie Hopkins, a British right-wing pundit, was deported in 2020 after she attempted to "frighten the shit" out of hotel quarantine guards, by opening her door naked, and without a face mask.) Un-

like them, Mr Djokovic has not "incited violence, flouted quarantine or engaged in hate speech", says Michael Stanton of Liberty Victoria, a civil-rights group. The athlete has seldom discussed his views on vaccination publicly. The government claimed they were "widely understood". His "perceived" opinions, not just his expressed ones, could fire up anti-vaxxers, it said. On those grounds, Australia could lock out anyone it says might stoke public discontent, says Mr Stanton. "That is a precedent which will be used to stifle legitimate political expression."

Most Australians seem to have little interest in joining anti-vax groups; 82% of citizens have received at least one covid-19 jab. Yet certain members of the government still try to court anti-vax votes. Gerard Rennick, a Liberal senator, has posted accounts of alleged vaccine side-effects on Facebook. George Christensen, a renegade MP belonging to the coalition's smaller National Party, has told parents not to jab their children. The difference, claims the prime minister, Scott Morrison, is that they are Australians. So they have a right to talk bull's wool. ■

Banyan Year of the absent tiger

Asia is reopening to foreign tourists, but Chinese ones are staying away

Giant red lanterns and long streamers adorn the foyers of Phuket's resort hotels: the upcoming Chinese (lunar) new year is not to be marked by half-measures. Thailand's paradise island on the edge of the Andaman Sea went out of its way to reopen to foreign holidaymakers—tour parties of mainland Chinese, above all. Last July it pioneered the use of the "sandbox": tourists who were jabbed, tested and insured, and who had a bottomless appetite for form-filling and a readiness to submit to two further covid-19 tests, could enter Thailand without quarantine provided they had a resort hotel to stay at for a week. After that, they were free to travel to all other parts of the country.

In Phuket airport staff and health officials are models of polite efficiency. Guests are indeed showing up at the huge hotel at which Banyan is staying, albeit fewer than half as many as before the pandemic. There is no shortage of Europeans, Russians and South-East Asians. But for all the new-year decorations, not a single Chinese holidaymaker, says a manager, has booked to stay. Before the pandemic, in 2019, Chinese made up 12m of Thailand's 39m international arrivals. The Thai authorities' prediction in July that 2m foreigners would visit Phuket in the second half of 2021, generating \$3.4bn, was predicated on a huge influx of Chinese tourists who never arrived.

Although Omicron has set back plans, much of South-East Asia remains committed to reopening to holidaymakers. Travel and tourism accounted for over 12% of the region's GDP before the pandemic. Yet Chinese tourists will remain the rarest birds, for a simple reason. The government in Beijing has a zero-covid policy. When a few infections crop up, it



locks down whole cities to contain them. It discourages travel abroad (mandating that international flights be cut to 2.2% of pre-covid levels for the winter season) and imposes strict and lengthy quarantines on those returning home. This approach is driven by politics as well as health. The government wants the (spectator-free) winter Olympics to go off smoothly next month. Later in the year the Communist Party holds a crucial five-yearly congress at which President Xi Jinping's already considerable powers and personality cult will be elevated further. Not even a pesky germ may cross him.

It is the last straw for the region's already troubled tourist industries. Before the pandemic, Chinese were the most numerous visitors in nearly every Asian country. Japan, Singapore, South Korea, Thailand and Vietnam were among their top ten destinations worldwide.

For richer economies, the impact is less severe. In Japan domestic travellers spent over four times the ¥22trn (\$192bn) disbursed by foreigners in 2019. On South Korea's balmy southern island of Jeju,



Koreans holidaying close to home have replaced hordes of Chinese. Still, some businesses are in pain. Chinese visitors to Japan multiplied more than sixfold in the seven years to 2019. When they vanished, over a dozen shops closed in one newish mall alone in Ginza, Tokyo's ritzy shopping district. Myeongdong, its equivalent in Seoul, is deserted.

Elsewhere, busloads of Chinese once could not get enough roast duck and fried rice in Singapore's (overpriced) Chinatown food street. Now it has shut down. In Bangkok's Or Tor Kor market, tables once groaned with durians for Chinese buyers; now stallholders have to borrow to stay afloat. In Cambodia the temples of Angkor Wat are eerily empty. Like tiny Laos next door, which saw nearly 900,000 Chinese visitors in 2019, Cambodia badly needs Chinese income, not least to help service its growing infrastructure debts to China.

The Chinese absence is not universally regretted. Chinese tour parties have appalled locals with their poor etiquette. In Thailand and Vietnam shouting matches have erupted as holidaymakers raid hotels' seafood buffets. In Seoul Chinese tourists would stride unbidden into university libraries, photographing the students working there. In Kaohsiung airport in Taiwan one mother notoriously let her child defecate on the floor rather than take him to the nearby toilet. And the tourism authorities in Hokkaido in northern Japan, which is famous for its onsen (hot-spring baths), were so concerned about visitors belching, farting and talking loudly on their mobile phones that they published a guide in Chinese on good behaviour. These days some onsen operators are missing Chinese visitors so much they might even tolerate a few bubbles in the bath.



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Art and party

How propaganda became watchable

Patriotic blockbusters are so entertaining people willingly buy tickets

IN 2021, THE year after China overtook America to become the world's largest film market, "The Battle at Lake Changjin" became the highest-grossing film in Chinese history, and the second-highest of the year worldwide. It made over \$900m, just behind "Spider-Man: No Way Home".

The eponymous battle took place in 1950 during the Korean war and saw Mao Zedong's army inflict a heavy defeat on America. The film, which was directed by Chen Kaige, a leading light of the "fifth generation" of film-makers who sprang to global prominence in the 1980s, has been especially popular among young Chinese. Social-media users have posted gushing reviews. Fans posted videos of themselves eating frozen potatoes and fried flour, like the soldiers in the film, in tribute to the hardships of that generation.

But the film is important for another reason. It was made in close co-operation with the Communist Party's propaganda organs. All films in China must pass party censors, but until recently, it has been market-driven comedies and dramas that have been most popular. Films specifically

aimed at drumming up support for the party have been notable for their dullness. In 2009 "The Founding of a Republic" was the first of a trilogy released for the 60th anniversary of the founding of Communist China. It was such a flop that Douban, a film-rating website, disabled voting. Now, after a decade of collaborating with serious film-makers, the party has worked out how to make propaganda more like entertainment that people actually want to watch.

The government still corrals audiences and limits choice. In 2021, to celebrate the 100th anniversary of the party, it ordered every cinema in the country to schedule at least two screenings each week of films that are "patriotic" (and which, as usual, conflate patriotism with support for the party). Full houses were ensured by bringing in officials and party members and by discounting ticket prices, according to a policy directive. For "The Battle at Lake Changjin", schools booked out cinemas for their pupils. A Chinese journalist famous for his investigations into official corruption was detained after he criticised it.

But such measures are now needed less.

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Patriotic films and television shows, known in Chinese as *zhu xuanlu*—"main-melody" films—often score hundreds of thousands of high ratings on Douban. A nationalistic flick from 2017, "Wolf Warrior 2", ranked higher than two-thirds of other action films. Almost half of all viewers of the 45 new "main-melody" television shows in the first ten months of 2021 were aged 18-24, says Endata, a research firm.

The party wants to build on these successes. In November the China Film Administration, which determines whether, when and how a film is released, published a new five-year plan for 2021-25. China will become a "strong film power" by routinely releasing "masterpieces that manifest Chinese spirit, values, power and aesthetics", it said. This will require the country to release "ten major films" each year that are "critically acclaimed and popular" and 50 that make 100m yuan (\$16m) or more. Domestic films should account for over 55% of total annual box-office receipts.

This should be easy. Local titles accounted for 89% of releases in 2021, according to Dengta, an online-ticketing platform. The country, which had just 2,600 screens in 2005, now has 82,000 (twice as many as America, where the number has not grown for a decade). So patriotic films are likely to grow in number.

Historical films generated around 15% of ticket sales in 2020 and 2021, up from 1-2% in the preceding several years, according to Dengta. Main-melody films dominated discussions in forums at both the Bei- ►►



► jing and Shanghai International Film Festivals in 2021. Government support seems bottomless. "The Battle at Lake Changjin", like many such flicks, was subsidised out of a special fund that takes 5% of national box-office revenues and redistributes them to domestically made films.

The casting of some of China's most famous film stars, spanning several generations, helps. Many of the most popular young actors and musicians also serve as faces of the party. Jackson Yee, who starred in "The Battle at Lake Changjin", is one of China's hottest celebrities. Originally a boy-band member, he has the sort of androgynous appeal the party has, in other contexts, recently condemned as "abnormal". But he is also a standing-committee member of the national student union, which is controlled by the Communist Youth League, a branch of the party. A hashtag promoting Mr Yee's role in "The Battle at Lake Changjin" has been viewed almost 13bn times on Weibo, a microblog.

To clear the way for flag-waving local fare, China keeps out most American films. A quota system allows up to 34 Hollywood movies to be screened in theatres each year. In 2021 only 19 were permitted. Worsening tensions between America and China, coupled with the pandemic, which has made China more insular, may explain the reduction. The authorities often hold up foreign blockbusters for months to help a domestic rival sell more tickets.

Films from Marvel Studios, owned by Disney, have had a particularly rough time. No Marvel titles were approved in 2021, no matter how hard they tried to avoid upsetting censors. Not even "Shang-chi and the Legend of the Ten Rings", a superhero film set in China, made it. The party may have punished Marvel after nationalist trolls dug up remarks that were critical of China, made by the film's Chinese-born star, Simu Liu. The same happened with Chloé Zhao, the Beijing-born director of "Eternals", whose previous film, "Nomadland", was banned as a result.

It is not just Hollywood; flicks from

Regional cinema

Speaking in tongues

BEIJING

A film in Shanghai dialect is a surprise hit

THERE ARE several reasons why "Ai qing Shenhua", a new film released on Christmas Eve in Chinese cinemas, has surprised movie buffs. One is that the movie, whose English title is "B for Busy", is a tender portrayal of relationships among a group of middle-aged Shanghai urbanites, yet stars Xu Zheng, a veteran actor more famous for raucous comedies. Another is that such a film, produced on a tiny budget and heavy on dialogue, with not a car chase or gunbattle in sight, has succeeded at the box office, so far earning 242m yuan (\$38m). The biggest surprise of all is that the film is shot almost entirely in Shanghai-dialect, a language spoken by just 14m people. It is one of the Wu languages of eastern China, many of which are mutually comprehensible, with 80m speakers altogether. But that still makes the film unintelligible to people outside the region, necessitating subtitles in Mandarin, the official national language. This runs against a national policy promoting Mandarin and limiting the use of what China's government insists on calling "dialects", but which many linguists consider separate languages.

That policy has been implemented unevenly, and a small number of non-Mandarin films have been made since the 1990s. In 2016 David Moser, an American linguist, wrote in his book, "A Billion Voices: China's Search for a Common Language", that authorities "had never really resolved the long-standing question" of whether Mandarin should displace regional dialects. Today, he says, occasional films do sneak through, but

leaders' actions suggest "they want the dialects to die out eventually". Such actions include restrictions on using dialects on prime-time television, as well as enforcement of Mandarin-only rules in schools. People live-streaming on social media in Cantonese have had their accounts temporarily blocked and been asked to "please speak Mandarin". Officials say their pro-Mandarin policies foster national unity and widen access to education. Maybe so, but many people fret that local languages and cultures may wither as a result. By 2020 81% of China's population spoke Mandarin, a rise of 28 percentage points from 20 years before.

Though their use is declining among young people, Cantonese and Shanghai-dialect are what linguists call "prestige dialects", spoken in influential regions and so less vulnerable. Languages spoken by ethnic minorities, such as Tibetan, Mongolian and Uyghur, are more at risk. Many speakers resent Chinese rule. Efforts to assimilate them, linguistically and otherwise, are often coercive and have less to do with improving opportunity than with crushing their spirits.

"B for Busy" has been a rare bright spot for local languages. Fang Xu, of the University of California, Berkeley, author of "Silencing Shanghai: Language and Identity in Urban China", says schools taught many subjects in Shanghai-dialect into the 1990s. "I memorised the periodic table in Shanghai dialect," she recalls, but says schools wanting to preserve it now need permission to teach it as an extra-curricular subject.

anywhere foreign are being squeezed out (see chart). Only 11% of films released in 2021 were imported. Political tensions have stymied the release of movies from India, South Korea and Japan.

A boom in genuinely popular patriotic television shows is also under way. A 23-part series called "Min Ning Town", chronicling the party's poverty-alleviation programme, scored 9.2 out of 10 on Douban, outranking "The Queen's Gambit", a Netflix series about chess. The "Age of Awakening", about the founding of the party, made with the support of propaganda organs, was another of the most popular television shows in 2021, scoring 9.3 on Douban among almost 400,000 voters. Many viewers were surprised by the quality of such "red thematic" dramas, as the genre is known.

Wherever there is culture, the party is getting more involved, especially if there is a chance to win the loyalty of the young. In November, a few weeks after a Chinese team won the world championship for League of Legends, a video game, one of its members, Ming Kai, joined the party. Official podcasts, such as a recent series on party history, now sound as well produced as their viral American rivals. And the party is getting into LARPING—"live action role-playing"—in which enthusiasts don costumes and act out scripts in a fantasy world. People in China spent an estimated \$2.7bn on the fad in 2021. Authorities are promoting patriotic scripts about the Sino-Japanese war instead of the usual murder mysteries. Never has party propaganda been so frighteningly attractive. ■

Chaguan | Egalitarianism revisited

The Communist Party tries to keep the stressed middle class onside



CHINESE NATIONALISTS and fans of liberal democracy do not often agree. Still, early this century, both groups sounded convinced of the subversive power of affluent Chinese buying American coffee. In 2007 a state television anchor growled that a Starbucks branch in the Forbidden City “trampled Chinese culture” (the branch closed the same year). In 2004 a *New York Times* columnist declared the Communist Party revolution “finished” once Starbucks entered China, because: “No middle class is content with more choices of coffees than of candidates on a ballot.”

Both groups were mistaken. Nationalists should have been more confident about China’s cultural power. With 5,400 outlets in China today, Starbucks thrives by adapting to local tastes, offering such items as the Lychee Ruby Chocolate Tea Latte. For their part, Western liberals have to date been proved wrong when they drew neat links between expanding consumer choice, individual spending power and, they assumed, a clamour for political freedoms and democracy. Four decades after the Communist Party embraced market reforms and opened to foreign investors, China’s middle class has never been larger. Its members can choose where to live, work and how to spend their days in ways that would have been unthinkable 40 years ago. Yet under President Xi Jinping, the Communist Party exerts more control over more aspects of society and the economy than it has in decades.

One explanation for this puzzle lies in the party’s ability to spot sources of mass discontent and present itself as the solution to them. Often, this involves depicting the party as the defender of a broad majority against a hostile, deviant or corrupt minority. Western liberals imagined that an empowered middle class would demand respect for their rights and dignity as individuals. Instead, Mr Xi, a canny populist, has a knack of spotting when a bit of repression may be welcomed by a public that feels overwhelmed by rapid changes in society or unbearable competition, and will cheer a powerful state cracking down in the collective interest.

Education policies unveiled in 2021 offer a revealing example. These respond to a real problem: unequal access to a small number of excellent schools and universities. Mr Xi prescribed a dose of egalitarianism, at a strength that shocked the education sector. The policies ban homework for the youngest pupils, abolish some

early-years exams and promote practical and vocational learning, heeding Mr Xi’s view that education should not focus too much on academic scores. In the name of equality as well as stress relief, China banned for-profit tutoring services for students in the nine years of compulsory education. Mr Xi had scolded private tutors for overburdening parents, who worry that others’ children are learning more. Officials linked that pressure to China’s plunging birth rate, which reached record lows in 2021. Tutoring firms are now allowed to register as non-profit enterprises, which means lowering prices by 80% or more. Even then they may not teach primary- or middle-school pupils at weekends or during holidays. Many have simply stopped teaching the core curriculum.

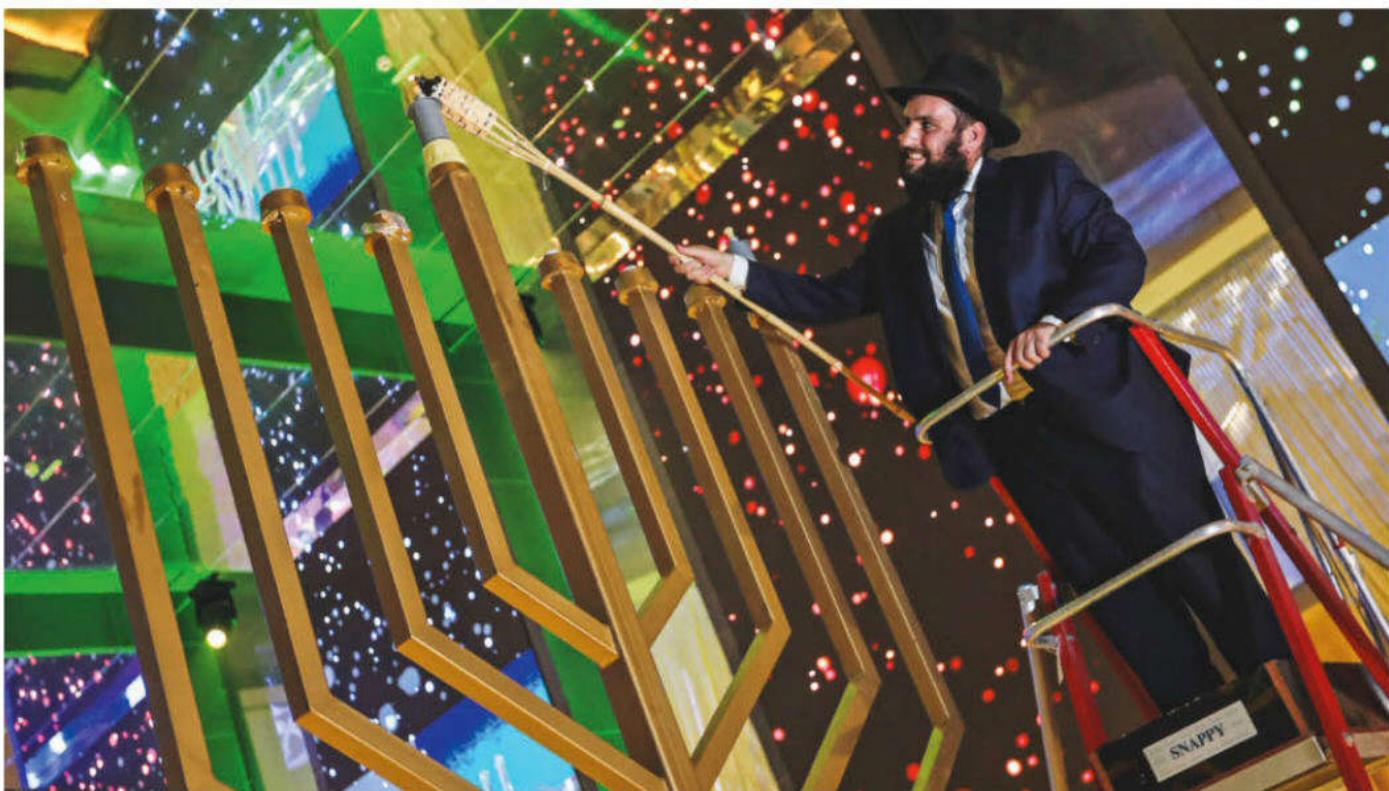
There will be losers. New Oriental, a big education firm, announced that it has laid off 60,000 of its 110,000 staff. If the whole industry follows suit, 6m tutors, most of them young graduates, will need new jobs. Then there are parents who hired tutors to help children struggling in schools where classes of 50 pupils are the norm. The government has told schools to provide low-cost evening classes instead, but their staff are already overstretched. “It’s not practical to give special attention to one kid,” says a veteran schoolteacher, who understands why many parents worry about the new policies, though he calls them “well-intentioned”.

Middle-class parents do protest if they feel that they have been thrust, unfairly, into a disadvantaged minority. In 2019 parents at a school in the eastern city of Nanjing expressed outrage when staff eased off on exam preparation and homework as part of an experiment, while rival schools remained sternly academic.

Chaguan spoke to parents at a Beijing sports complex on a recent weekend, and found them focused on remaining in a protected majority. An affluent bunch, they had used tutors in the past. They acknowledge that individual choices are being curbed. That might logically make them oppose the policy. But they welcome a break from exhausting, inter-family competition. As long as the government stops everyone hiring tutors, says one father, none of his friends see the need to employ them. Prod a bit, and this lofty talk is qualified. A father watching his 13-year-old son take an American-football class confides that, before his child takes school-leaving exams, he will probably hire a (now illegal) tutor “to tackle his weak points”. A mother says that she supports policies that stop children studying key planks of the curriculum with tutors long before taking them at school. But not all pressure can be eliminated, she adds: tough public exams will plunge children into “fierce competition” one day.

It will take more than a ban on tutors to make China equal

In Haidian, a university district, people in the tutoring business echo the egalitarian mood. The co-founder of a tutoring firm recalls how parental demand drove the industry’s wild expansion. “Sometimes we felt a bit afraid about how fast it was growing,” she says. Her firm hopes to make non-profit classes pay, subsidised by for-profit courses in drama and public speaking. Still, it may not survive. An education-technology expert now sells steaks online, citing government calls to help rural areas. “You need to go with the tide,” he explains. Chaguan visits a new café opened by a 24-year-old English tutor. The image of a trendy urban professional, he teaches part-time at a school but craves variety too much to work at a school full-time. Profit is not his motivation, he declares: “We should not judge a company by how much money it makes, but by its contribution to society and the nation.” In middle-class China, his tone of conformist individualism fits right in. ■



Jews in the Arab world

Welcome back

ABU DHABI

Why Arab autocrats are encouraging a Jewish revival

THE SLOGAN of the Houthi rebels, who control northern Yemen, is blunt. “Death to Israel, curse on the Jews,” it reads in part. So it was no shock when the group chased Jews out of its area of control. What might be surprising is where some of those Jews ended up. Yusuf Hamdi and his extended family were rescued in a mission organised by the UN, America, Qatar and the United Arab Emirates (UAE) in 2021. Mr Hamdi and company then passed up a chance to go to Israel, instead becoming the first Yemenite Jews to settle in the UAE.

The UAE offered inducements: a rent-free villa, fancy car and monthly welfare cheques. It is all part of an effort to seed new Jewish communities in the country. Since the government declared 2019 the year of tolerance, and officially recognised the existence of Jews in the UAE, new kosher restaurants and a Jewish centre have sprung up. During the festival of Hanukkah last year the state erected large menorahs in city squares (pictured). It plans to open a state-financed synagogue later this year. “Jews are back in the Middle East,” says Edwin Shuker, an Iraqi Jew who fled to

Britain, but resettled in Dubai last year.

From Morocco to the Gulf, a surprising number of Arab countries are welcoming back Jews and embracing their Jewish heritage. The reasons vary. The failures and excesses of Arab nationalism and Islamism have forced many countries to rethink chauvinist dogmas. Modernising autocrats have jettisoned communal tropes and pursued multicultural agendas. And the Israeli-Palestinian conflict is no longer seen as a priority in the region. “The Arab world has too many problems to still care about Palestine,” says Kamal Alam, an expert on Syria and its Jewish diaspora. “Instead they begrudgingly look at Israel and Jews as models for running a successful country that feeds itself without oil.”

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Before the establishment of Israel in 1948, more Jews lived in the rest of the Arab world than in Palestine. At least a quarter of Baghdad’s population was Jewish. So was Iraq’s beauty queen in 1947. But after the creation of Israel and its displacement of Palestinians, Arab rulers turned on their Jewish subjects. Many were stripped of their citizenship and their property. State media and school textbooks promoted anti-Semitism, and the sermons of Muslim preachers fanned the flames. Arab states chased away all but a few thousand of the region’s non-Israeli Jews.

In recent years, though, the mood has drastically changed. Most Arabs have no memory of the big Arab-Israeli wars of last century. Milder opinions have been encouraged by leaders who see the Jewish state as a potential trade partner and ally against Iran, and who seek more acceptance in the West. The rulers of Egypt, Saudi Arabia and the UAE, for example, host multicultural gatherings and often muzzle clerics who step out of line. Sympathetic portrayals of Jews have appeared in Arab films and TV shows; documentaries have explored the region’s Jewish roots. Some Arab universities have opened departments of Jewish history. Such is the change in attitude that when four Arab countries—Bahrain, Morocco, Sudan and the UAE—agreed to normalise relations with Israel in 2020, there were no big protests.

Saudi Arabia has not formally made peace with Israel. But the kingdom—once one of the world’s most closed and intolerant

► ant countries—now welcomes Jews, even Israelis (if they are travelling on foreign passports). Hebrew can be heard at fairs and festivals. An Israeli psychic performed at a recent royal party. Anti-Jewish calumnies have been culled from Saudi textbooks. To the consternation of some, an Israeli rabbi called Jacob Herzog is a frequent visitor to Riyadh, the capital. He sits in cafés wearing ultra-Orthodox garb and distributes prayer books. Sometimes he posts pictures of himself dancing with merchants in the bazaar. “Jews used to be afraid of saying they were Jews in the kingdom,” says Mr Herzog, who calls himself the chief rabbi of Saudi Arabia. “Now we’re getting embedded.”

This goes hand in hand with Muhammad bin Salman’s push to attract tourists and investment. The crown prince and de facto ruler of Saudi Arabia has defied the clerics by sponsoring archaeological digs of Jewish sites in the hopes of one day attracting Jewish sightseers. In November an Israeli opened Habitas, a luxury hotel in Al Ula, an ancient rock city. Prince Muhammad has located one of his pet projects, a planned \$500bn high-tech city called Neom, on the kingdom’s north-west coast—the better to attract Israeli expertise, say his advisers. “Saudis are becoming closer to Jews than to Palestinians and Lebanese,” says Sultan al-Mousa, the author of a best-selling Saudi novel about a Jewish revolt against the Roman Empire.

In Egypt the government of Abdel-Fattah al-Sisi is renovating Jewish cemeteries and what was once the biggest synagogue in the Middle East. This may, in part, be an effort to charm America, which gives Egypt heaps of aid. Elsewhere, the motives are clearer. The blood-soaked regime of Bashar al-Assad in Syria is restoring synagogues and has reached out to the many Syrian Jews in New York, hosting a delegation of them in Damascus. “Syria is engaging with its Jewish exiles in order to buff up its image as a protector of religious minorities and to connect with communities who might possibly give it some political leverage in Washington at a time when it has very little of it,” says David Lesch of Trinity University in Texas.

Mizrahi Jews from Israel are also driving change in the region. With roots in the Middle East, many of them feel marginalised in Israel, where schools tend to focus on European Jewish history. Large numbers of Mizrahim have gone to Morocco, some hoping to build a new housing complex for Jews in Marrakech. Others pack dozens of flights each week between Tel Aviv and Dubai. Those who stay put are more open about their heritage. In contrast to their grandparents, who listened to Umm Kulthum, an Egyptian diva, in secret, young Mizrahim blast Arabic music in public. In 2015 three sisters of Yemenite

origin released Israel’s first Arabic chart-topper. “Coldness is turning to curiosity about the region,” says Liel Maghen, who runs the Centre for Regional Initiatives, a think-tank in Jerusalem. “There’s an Arabisation of Israeli culture.”

Some take a cynical view of all the bonhomie. “I’ll imprison you [Palestinians] at checkpoints. And then take a selfie in [Dubai’s] towers,” croons Noam Shuster-Eliassi, an Israeli comedienne, in her satirical song “Dubai, Dubai” (which is in Arabic).

Others fear Jews could be targeted in the event of a popular backlash against the region’s despots. But the trajectory of Morocco suggests that the improvement in relations could endure. The kingdom began reaching out decades ago. Jews of Moroccan origin are able to reclaim their citizenship. The country has a Jewish museum and a new Jewish study centre and has restored dozens of old Jewish sites, notes Avraham Moyal, a rabbi of Moroccan descent. “We’ve smashed the taboo.” ■

Human rights

Torturers on trial

DUBAI

Despots won’t prosecute their own henchmen. So victims seek justice abroad

IT WAS JUSTICE on a microscopic scale. On January 13th Anwar Raslan, a former Syrian intelligence officer, was sentenced to life in prison for crimes against humanity. The verdict followed more than 100 court sessions at which witnesses told of beatings, electrocutions and rapes in Branch 251, the prison Mr Raslan ran for two years. At least 27 detainees were killed and 4,000 tortured during his tenure.

Horrific as it was, the testimony covered one small corner of a sprawling security apparatus. Bashar al-Assad’s regime is responsible for numerous atrocities in a war that has killed perhaps 500,000 people and displaced more than half of Syria’s pre-war population of 22m. Yet Mr Raslan is the first official convicted for taking part (a low-ranking employee was jailed last year). The wheels of justice turn slowly.

They only turned at all because Mr Raslan was prosecuted in Germany. Courts in the Middle East tend to offer a mockery of

justice. Mr Assad will not hold his own torturers to account. Nor do international efforts give much hope. The tribunal that investigated the assassination of Rafik Hariri, a former Lebanese prime minister, worked for 11 years to secure one middling conviction. A growing number of high-profile Middle Eastern cases are instead being heard in foreign courts, a trend that raises legal and diplomatic questions.

An obvious problem is catching alleged abusers. Mr Raslan had his day in court because he defected from Syria and was granted asylum in Germany. On January 19th a court in Frankfurt began hearing a similar case, that of a Syrian doctor accused of torturing injured detainees. He moved to Germany in 2015. But Mr Assad and his circle tend to avoid any jurisdiction that might hold them to account.

Even trying people in absentia can require co-operation from unco-operative governments. Take the case of Giulio Regeni, a student whose mutilated body was found in a ditch outside Cairo in 2016. He had been detained by Egyptian police, who are accused of subjecting him to days of torture. The authorities are suspected of organising a hasty cover-up, saying Mr Regeni was in fact abducted by a gang that preyed on foreigners. The gangsters were conveniently killed by police and are thus unavailable for questioning.

Unlike most victims of Egypt’s dictatorship, Mr Regeni was an Italian citizen. Urged on by his family, Italian prosecutors have charged four Egyptian officials with his murder. But a judge halted the trial in October, saying she had no proof the defendants were aware of the charges, and sent it back to preliminary hearings.

Politics are another complication. A Turkish court is trying 26 Saudis in absentia for the murder in 2018 of Jamal Khashoggi. ■



Finding justice in Germany

▶ oggi, a Saudi journalist butchered at the kingdom's consulate in Istanbul. Recep Tayyip Erdogan, the Turkish president, was once enthusiastic about the case. But his enthusiasm has waned in recent months as he pursues a rapprochement with the Gulf states. He is expected to visit Saudi Arabia next month and meet Muhammad bin Salman, the crown prince, who is widely accused of having ordered Khashoggi's murder (the prince denies this). The trial has now stalled, and is unlikely to resume until summer.

Prince Muhammad himself faces two lawsuits in America, one filed by Khashoggi's widow, the other by Saad al-Jabri, a former Saudi intelligence official who accuses the prince of plotting his murder. Both invoked a 1991 law that allows American courts to hear civil suits against alleged foreign torturers.

Heads of state can assert sovereign immunity. That does not help Prince Muhammad, though: he is the de facto ruler but does not yet hold the top job. His lawyers have sought to shield him on other grounds, including "conduct-based immunity", which protects officials acting in their official capacity. It sets up a curious paradox. Prince Muhammad has said that he did not order Khashoggi's murder. To claim immunity he must argue that, if he did order whatever he denies ordering, he did so on behalf of the state.

Not every case is so dark. Depositors in Lebanon have found themselves largely locked out of their foreign-currency accounts since October 2019, when the country slipped into financial crisis. They have begun to sue Lebanese banks abroad to seek restitution. Banks insist they have no jurisdiction. In at least two cases, however, judges have ruled that European consumer-protection laws do grant standing to sue (though none of the claimants has yet recovered any money).

There is some hypocrisy to all of this, of course. Western courts tend to be less diligent about prosecuting their own citizens for crimes they commit in the Middle East and Africa. There have been no serious convictions over the CIA's torture programme. Former President Donald Trump pardoned soldiers and contractors accused of wartime atrocities.

UN investigators say Erik Prince, the founder of Blackwater, a security firm, has repeatedly violated the arms embargo on Libya, sending guns and mercenaries to a warlord there. He has not been charged with anything and denies the claims. There is not total impunity in America, though. On January 13th the Justice Department announced that two Florida men who worked at a dive shop had been sentenced to jail time for trying to export rebreathers (a banned item) to Libya. The wheels of justice turn slowly indeed. ■

Bahrain

Full of tension

MANAMA
Sunnis and Shias remain as far apart as ever

THE DEATH in 2020 of Khalifa bin Salman al-Khalifa, the world's longest-serving prime minister, prompted mourning in Bahrain, but also a ripple of excitement. His nephew, Salman bin Hamad al-Khalifa, was slated to take his place. Prince Salman, who is first in line to the throne, was seen as a potential bridge between the kingdom's ruling Sunnis and its oppressed Shia majority. In 2011, when the authorities, backed by Saudi and Emirati forces, crushed Shia protests, he called for a dialogue between the sects. Shia leaders, who have endured prison and torture, hoped Prince Salman would free those in jail, give followers of their faith equal rights and perhaps even pass a law against discrimination.

None of that has happened. The main Shia opposition group, al-Wefaq, was banned in 2016 for creating "a new generation that carries the spirit of hatred"—though it would be easy to implicate the government in that crime, too. Al-Wefaq's leader, Ali Salman, and hundreds of lowlier members remain behind bars. But without some kind of deal with the Shias, the kingdom will flare up again, predict both officials and critics of the government. Some fear a worst-case scenario, in which violence in tiny Bahrain (an island 48km long and 16km wide, with a population of 1.8m) spills over into the Eastern Province of Saudi Arabia, which is just 20km away, and home to both restive Shias and big oilfields.

Improving Sunni-Shia relations in Bahrain was always going to be difficult. The king, Hamad bin Isa, is surrounded by people who prefer that he rule with an iron fist. One such figure is Prince Salman's younger brother, Nasser, the national security adviser and reportedly the king's favourite son. Two prominent cousins—Khalid, the minister for the royal court, and Khalifa, a military man—also take a hard line with the Shias. Then there are Bahrain's neighbours, Saudi Arabia and the United Arab Emirates. They treat the kingdom as a client and oppose any hint of democracy. Western powers, meanwhile, have stopped pressing hard for reform.

The Shias themselves are divided. Ayatollah Isa Qassim, the spiritual leader of al-Wefaq, moved from London to Qom, Iran's holiest city, a few years ago. He seems intent on turning the group into a cat's paw of Iran. Some Shias paint the al-Khalifa clan as foreigners, although

A portrait photograph of Prince Salman bin Hamad al-Khalifa. He is wearing traditional Bahraini attire, including a white agal and ghutra, and glasses. He is seated and looking directly at the camera with a neutral expression.

Busy realising ambitious goals

they arrived from the Arabian hinterland centuries ago. Others are more willing to talk with the regime. Abdullah al-Ghuraiji, a Shia cleric, had a meeting with the king last year. But such moderates are often branded as traitors.

Prince Salman (pictured) could certainly do more. He has excluded Shias from serious jobs and seems unenthused about leading parliament, which last year voted to curb its already limited powers still more. According to his Twitter feed, the prince chairs weekly cabinet meetings, though it is not clear what is discussed. The "vision" section of his website reads simply: "Bahrain will continue to realise its ambitious goals, benefiting all in the Kingdom."

But the fiscal picture is bleak. Ordinary Bahrainis have suffered the pain of austerity in recent years—most of all Shias, who have gained little from the aid of other Gulf states. "Hunger and limited opportunities could ignite another wave of protests," says a Shia businessman in Manama, the capital.

Prince Salman has won praise for rolling out covid-19 vaccines to all Bahrainis, regardless of sect. Some prisoners have been freed and the authorities are said to be torturing less. But even his courtiers say the prince needs a jolt. He spends much of his time in his palace. Meanwhile, his failure to soothe Sunni-Shia tensions is setting Bahrain up for trouble. "The sectarian divide from a decade ago hasn't healed," says the businessman. "For now the island is quiet, but we're used to a lull before the storm."

Coal in South Africa

Soot, loot, reboot

JOHANNESBURG

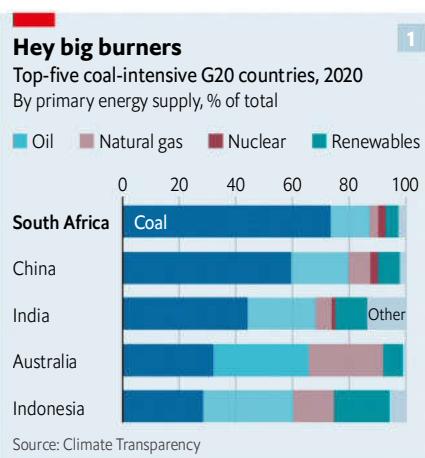
Weaning the country off its main energy source is proving tricky

TRAVEL EAST from Johannesburg—South Africa's economic capital—and dusty industrial towns line the road to the city of Emalahleni (“place of coal” in the local language, Tswana). The flat veld is dotted with mines and the smokestacks of coal-fired power stations.

This is South Africa's coal belt. Here, miners dig up about three-quarters of the coal that fuels one of the world's most coal-fired economies. The sooty stuff provides 27% of the world's energy, but no less than 77% of South Africa's (see chart 1). That includes almost all of its electricity and—uniquely—28% of its petrol and diesel, which it synthesises from coal using a process perfected during an oil embargo in the 1980s aimed at ending apartheid.

The fuel that once helped preserve apartheid continues to cause problems for the party that eventually supplanted it, the African National Congress (ANC). Diversifying away from coal would help end South Africa's decade-long energy crisis, and with it a period of economic stagnation, marked by flat or falling incomes. The brewing political battle over whether to do so may also determine the fate of Cyril Ramaphosa, South Africa's timidly reformist president, who hopes to secure the ANC's nomination to run for a second term in 2024 at a party conference later this year.

The case for shifting away from coal is straightforward. South Africa is windy and sunny. It can produce renewable energy by building new wind turbines and solar farms far more cheaply than it can by dig-



ging up coal and shovelling it into power stations that have already been built. (What's more, many of these coal plants are old and will soon have to close.) Since wind and solar farms can be built quickly, they are well-suited to help end a desperate power shortage. The national utility, Eskom, has rationed electricity by scheduling regular power cuts every year since 2018, making it harder to run almost any kind of business.

The winds blowing through international capital markets are pushing in this direction, too. Although Eskom is broke and unable to service its debts without help from the government, private investors are keen to put money into renewable projects. So are Western governments. At the COP26 climate conference in Glas-

gow last year, a group of rich countries including America, Britain, France and Germany pledged \$8.5bn in grants, cheap loans and investments to help finance South Africa's shift away from coal. South Africa, for its part, published ambitious new climate commitments to start cutting greenhouse-gas emissions from 2025, a decade earlier than previously planned.

The COP deal places special emphasis on supporting the workers and areas set to be hurt by the phasing out of coal. That is no small consideration: the industry employs roughly 200,000 people, directly and indirectly, and props up the regional economy around Emalahleni. Such concern is typical of the conciliatory approach to politics of Mr Ramaphosa, once a hard-charging mining-union boss who these days prefers compromise over conflict and consensus over rapid change.

Take the latest version of South Africa's Integrated Resource Plan, which maps the future of energy infrastructure. The document, approved in 2019, proposed decommissioning 35,000 of the 40,000 megawatts (MW) of coal-power capacity currently in operation by 2050. Most new capacity is to come from wind and solar. But little has happened since, largely because of resistance from mining unions, populists and politicians who have grown rich selling overpriced coal to Eskom.

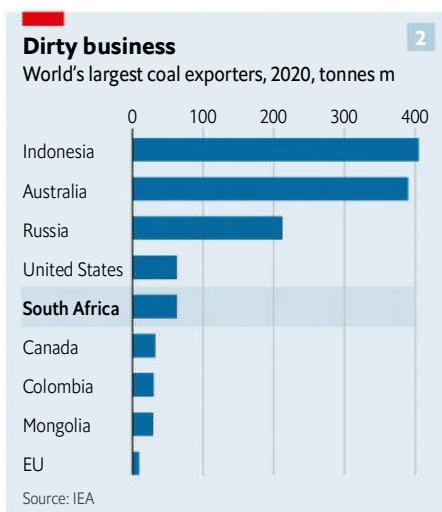
Among the most prominent advocates of coal is Gwede Mantashe, the minerals and energy minister and a former mine-worker. In the 1980s, when Mr Ramaphosa was running the National Union of Mineworkers, Mr Mantashe co-founded and led the union's branch in Witbank, as Emalahleni was then known. He later rose to the top of the union.

Although once a close ally of Mr Ramaphosa, Mr Mantashe has tried to thwart the president's plans to ease the power shortage by attracting private investment in renewable generation. Regulations used to make it practically impossible for big businesses such as mines to generate their own power, since private generation capacity of more than a megawatt required unobtainable licences. Mr Mantashe doggedly resisted efforts to raise the cap to 50MW, despite pleas from power-starved firms. In an act of uncharacteristic boldness, Mr Ramaphosa overruled him last year and raised the cap to 100MW.

The episode has done little to chasten Mr Mantashe, who is continuing to lobby for new coal-burning plants, even as he drags his heels about approving deals by private investors to build wind and solar farms. He has also seemed determined to award an expensive 20-year contract for “emergency” electricity to Karpowership, a Turkish operator of floating power stations. That deal has been blocked by environmental regulators and also faces a legal ►►



Not going gently into that good night



► challenge from a losing bidder, who alleged in papers before the courts that he had been asked to pay bribes to have his bid considered. Mr Mantashe has said the tender was "correct, above board and transparent". Karpowership has also denied any wrongdoing. Yet until the case is resolved the banks whose loans are needed will stay well away from the deal.

Time is of the essence for Mr Ramaphosa, whose rivals within the ANC are already lining up to challenge him for the leadership of the party at its next five-yearly conference in December. Although national elections are more than two years away, the party has a habit of defenestrating sitting presidents. It booted out two of Mr Ramaphosa's predecessors, Thabo Mbeki and Jacob Zuma, before their presidential terms were up.

Mr Mantashe may well stand with Mr Ramaphosa against the pro-corruption wing of the ANC—as he did in 2017—though some pundits reckon he may also be considering knifing the president to make his own run for power. In either case he will want the backing of the country's two main industrial trade unions, representing miners and metalworkers, which between them muster some 650,000 members. Both unions back coal, a big export (see chart 2), and have opposed renewable power, which has become a touchstone for the political left: Floyd Shivambu, a leader of the populist Economic Freedom Fighters party, thinks renewable energy is "a colonial takeover engineered by the West".

While the ANC is focused on its internal power struggles, many South Africans will see the national elections in 2024 as an opportunity to express their views on energy policy. The start of Mr Ramaphosa's campaign for the party's presidential nomination provides a fitting metaphor. As he was addressing a fundraising gala in Polokwane, a city in the north, the power cut out, leaving him, and the assembled ANC grandees, fumbling in the dark. ■

Nigeria's sex industry Potions for prudes

ABUJA

Nigeria's conservative north is overflowing with aphrodisiacs

BESIDE THE food-sellers at a street market in Abuja, a man in a flowing white kaftan holds a brown leather bag in one hand. In the other, well, is a baby crocodile, which he holds out to a potential customer. "Do you want to touch it?" he asks in Hausa, a language spoken in northern Nigeria and surrounding countries, before offering far more than a fondle of a ferocious reptile: medicines for a cold; for chest pain; for a sore back; and to improve sexual performance.

A protracted haggle ensues. Details are discussed. Instructions are issued. Money changes hands, as do powdered herbs wrapped in paper. The trade in aphrodisiacs in northern Nigeria is old and pervasive. Herbs are sold in markets, shops, the grounds of mosques, and now on social media. How odd. This is a region that is seen as culturally and religiously conservative. States enforce sharia on the Muslim majority. Women here, who are often garbed in body-length hijabs, are thought of as sexually repressed.

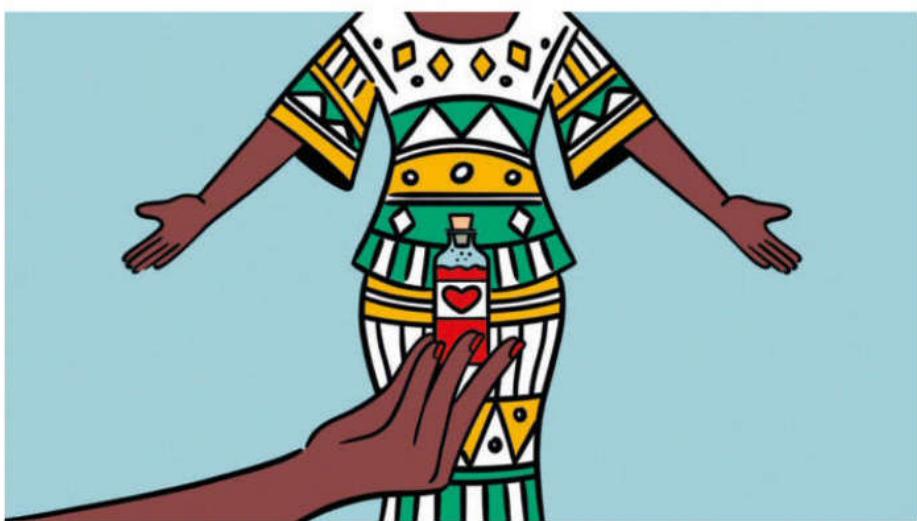
In the movies and literature of the region, mostly in Hausa, physical contact between men and women is frowned upon. Two popular television shows were banned by the government of Kano, the most populous state in the north, because of a scene in which three men held a woman in an auto-rickshaw. Since they were unmarried, the scene offended the region's "norms, culture, values and religion", said the head of the censorship board. (That the men were trying to abduct the woman seems to have been less concerning.)

But this seeming prudishness does not extend to the marital bed, perhaps because people believe God would like them to procreate more. Imams may preach against adultery. But when the call to prayer ends on Fridays, a voice booms out over another set of loudspeakers advertising a somewhat earthier elevation.

"It is everywhere now," says Muhammadu Sani, a customer. "Even practitioners of Islamic medicine now sell them." Some draw their formula from the recommendations of Islamic texts and practices of early Muslim scholars. Their shops are often neat, with shelves stacked with bottles of herbs and decoctions.

Women are not overlooked. The trade in *kayan mata* (literally "women's things" in Hausa) is an old one, though it has been engorged of late by claims that *goron tula* (the "snot apple" fruit) boosts libido and fertility. Among those promoting its powers is Hauwa Saidu Mohammed, popularly known as Jaruma, an entrepreneur and sex therapist who boasts that her clients include the wives of government ministers and state governors. By offering doorstep delivery and a suave service, she has helped turn *kayan mata* into a major export from the north to cities in the south such as Lagos, the commercial capital.

More than a million people follow Jaruma on social media. Many women are there for the scandals. In some posts she has shamed politicians who she claims bought her goods but did not pay up. In others she offers salacious gossip about celebrities whose marriages were consummated (or wrecked) with the help of her potions. Others just want to buy her tonics, which include: "Divorce is not my portion" (500,000 naira, or \$1,200); "Love me like crazy" (250,000 naira); and Ecstasy (65,000 naira). In a country where many people earn no more than the minimum wage of 30,000 naira per month, such prices may arouse passion, even if the products themselves do not. ■





Russia and Ukraine

The guns of January

As war looms larger, what are the Kremlin's military options?

“WHAT STANDS in front of us, what could be weeks away, is the first peer-on-peer, industrialised, digitised, top-tier army against top-tier army war that's been on this continent for generations,” warned James Heappey, Britain's junior defence minister, on January 19th, pointing to Russia's build-up of over 100,000 troops on Ukraine's border. “Tens of thousands of people could die.” Estonia's defence chief echoed the warning. “Everything is moving towards armed conflict,” he said.

Sergei Lavrov, Russia's foreign minister, is due to meet Antony Blinken, America's secretary of state, in Geneva on January 21st. But the prospects for diplomacy are dim. On January 19th Sergei Ryabkov, one of Mr Lavrov's deputies, said that even a 20-year moratorium on NATO membership for Ukraine would not satisfy Russia. In recent weeks, Russia has mobilised reservists and dispatched troops and missiles from as far away as the North Korean border.

Western countries are bracing for the

worst. On January 17th Britain began airlifting thousands of anti-tank missiles to Ukraine. Days earlier Sweden rushed armoured vehicles to the island of Gotland as three Russian landing craft passed through the Baltic Sea, destination unknown. The same day, Ukraine was struck by cyber-attacks which defaced government websites and locked official computers. Meanwhile, the White House said it had intelligence showing that Russia was planning staged acts of sabotage against its own proxy forces in eastern Ukraine to provide a pretext for attacking the country.

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Such an attack could take many forms. One possibility is that Russia would simply do openly what it has done furtively for seven years: send troops into the Donetsk and Luhansk “republics”, breakaway territories in the Donbas region of eastern Ukraine, either to expand their boundaries westward or to recognise them as independent states, as it did after sending forces into Abkhazia and South Ossetia, two Georgian regions, in 2008.

Another scenario, widely discussed in recent years, is that Russia might seek to establish a land bridge to Crimea, the peninsula it annexed in 2014. That would require seizing 300km (185 miles) of territory along the Sea of Azov, including the key Ukrainian port of Mariupol, up to the Dnieper river.

Such limited land-grabs would be well within the capabilities of the forces mustering in western Russia. What is less clear is whether they would serve the Kremlin's war aims. If Russia's objective is to bring Ukraine to its knees and prevent it from joining NATO or even co-operating with the alliance, simply consolidating control over Donbas or a small swathe of land in southern Ukraine is unlikely to achieve it.

To do so would require imposing massive costs on the government in Kyiv—whether by decimating its armed forces, destroying its critical national infrastructure or overthrowing it altogether. One option would be for Russia to use “stand-off” ➤

▶ weapons without troops on the ground, emulating NATO's air war against Serbia in 1999. Strikes by rocket launchers and missiles would wreak havoc. These could be supplemented by more novel weapons, such as cyber-attacks on Ukrainian infrastructure like the ones which disrupted the country's power grid in 2015 and 2016.

The problem is that such punitive campaigns tend to last longer and prove harder than they first appear. If war comes, stand-off strikes are more likely to be a prelude and accompaniment to a ground war rather than a substitute for it. "I don't see a lot between them and Kyiv that could stop them," says David Shlapak of the RAND Corporation, a think-tank.

The aim would probably be to hurt Ukraine, not occupy it. The country is as large and populous as Afghanistan, and since 2014 over 300,000 Ukrainians have gained some form of military experience; most have access to firearms. American officials have told allies that the Pentagon and CIA would both support an armed insurgency.

Russia might consider what America's army calls a "thunder run", says Mr Shlapak, a swift and deep assault on a narrow front, intended to shock and paralyse the enemy rather than seize territory. And an attack need not come solely from the east.

On January 17th Russian troops, some from the far east, began arriving in Belarus, ostensibly for military exercises scheduled for February. Russia has said it will also send a dozen warplanes and two S-400 air-defence systems. An attack from the north, over the Belarus-Ukraine border, would allow Russia to approach the Ukrainian capital from the west and encircle it.

"Once they're within rocket range of downtown Kyiv," asks Mr Shlapak, "is that a situation the Ukrainians want to live with?" Even if Volodymyr Zelensky, Ukraine's president, is willing to tolerate a siege, Russia may gamble that his government will simply collapse—and it may use spies, special forces and disinformation to hasten that process.

Wars, though, unfold in unpredictable ways. Russia has not fought a large-scale

offensive involving infantry, armour and air power since the climactic battles of the second world war. Countries under attack can just as easily stand firm as fall apart. Ivan Timofeev of the Russian International Affairs Council warns of a "long and sluggish confrontation" that would be "fraught with destabilisation of...Russia itself".

Even victory would be costly. "The Ukrainians will fight and inflict major losses on the Russians," says Peter Zwack, a retired general who was America's defence attaché in Moscow during the Kremlin's first invasion of Ukraine in 2014. "This is going to be hard for Russia—and they are basically alone." Coupled with the threat of heavy sanctions being prepared by America and its European allies, and the apparent absence of any domestic support for a new adventure, all this may, even now, be giving Mr Putin pause for thought. ■

France and Europe

An ever-closer union

PARIS

Emmanuel Macron's rivals are less Eurosceptic than before

FIVE YEARS ago, when Brexit prompted fears that the European Union would unravel, Emmanuel Macron put Europe at the heart of his political identity. Supporters at his rallies enthusiastically waved the EU flag. So it was no surprise that, with France in charge of the rotating six-month presidency of the Council of the EU since January 1st, the French president headed on January 19th to the European Parliament in Strasbourg to renew his vows.

The EU, declared Mr Macron, represented democracy, progress and peace at a time when each was under threat. Faced with rising authoritarian powers, breaches of the rule of law within the EU and the menace of war on its doorstep, "European civilisation" needed to be upheld and cherished. He pleaded for a "new security order" in Europe. Resolute Atlanticists, especially in eastern Europe, hate the idea, which they think undermines NATO, but it is an abiding French passion. France had hung the EU flag alone under the Arc de Triomphe to launch the French presidency, noted the president—a decision met with howls of protest by his domestic opponents. "I'm proud of that," he declared.

The French opposition MEPs in the chamber, however (including a presidential candidate, the Greens' Yannick Jadot), did their best to turn the event into a campaign debate. And miffed as Mr Macron was made out to be, the exercise struck a distinctly domestic note. For the presi-

dent, expected shortly to confirm that he is running for re-election, is hoping once again to use Europe as a political football.

In some respects, only a brave politician seeks to put Europe at the forefront of a French electoral campaign. The country may be co-architect of the post-war project, but in 2005 the French voted in a referendum against a draft EU constitution. In 2017 48% of the first-round vote at the presidential election went to candidates, such as the nationalist Marine Le Pen, who are Europhobic or Eurosceptic. Last year a poll found that only 53% of the French were optimistic about the EU, compared with 67% of Germans.

France is split over Europe. Hostility to the EU characterises the political extremes. This includes the radical left, whose candidate, Jean-Luc Mélenchon, is better placed than any other on the left. And it marks the hard right, including Ms Le Pen and Eric Zemmour, a polemicist running on a viscerally anti-immigration platform to "rescue France".

In contrast, there is a broad pro-European consensus among the mainstream candidates. It reaches from Mr Jadot and the Socialists' Anne Hidalgo via Mr Macron to the Republicans' Valérie Pécresse. This broadly reflects what the French call *Gaullo-Mitterrandisme*: a general continuity in foreign policy between Charles de Gaulle, on the right, and François Mitterrand, on the left, over the need for France to retain an independent voice, while remaining a Western ally, notes François Heisbourg of the Foundation for Strategic Research. To this end Europe is a way for France to enhance its voice, not dilute it.

Yet this underlying division over Europe is less clear now than in 2017. Mr Mélenchon no longer promises to tear up all EU treaties, although he still wants France out of NATO. Ms Le Pen maintains that her vision of Europe is the "antithesis" of Mr Macron's, and wants to pull France out of NATO's integrated military command. But she has now dropped all talk of Frexit, and no longer vows to take France out of the euro, a policy that proved unpopular. Instead, by promising to protect the French constitution from EU law, her strategy is to try to undermine the union from within, like her friends in Poland and Hungary.

Mr Macron's most credible challenger, Mrs Pécresse, holds pro-European views that are not so very different from his. She has had to nod to the nationalist wing of her party. She denounced the solo flying of the EU flag, and backs the idea of building barbed-wire walls to funnel migrants on the EU's external border to reception points. But her underlying sympathies are with the EU as a political project. In short, nobody is quite as enthusiastic about Europe as Mr Macron. But nor are the differences quite as stark as before. ■



Vaccine mandates

Must you be jabbed?

BERLIN

Arguments over compulsory covid-19 vaccination are raging across Europe

EARLIER THIS month President Emmanuel Macron said he wished to “piss off” those who had chosen not to be vaccinated against covid-19. France’s 5m unjabbed people will soon be barred from restaurants, theatres and long-distance trains, among other things. Yet they might consider themselves lucky. Italy and Greece have passed laws making vaccination obligatory for all residents over 50 and 60 respectively. Austria has just done so for all adults, and Germany may follow suit.

Most European countries have already excluded unvaccinated people from large swathes of public life, to varying effect (see Graphic detail). In many places jabs are a condition of employment in hospitals and care homes. But facing a stubborn wall of vaccine scepticism, some governments have gone one step further. “I would have preferred to go another way. But...we need to take this drastic step,” said Alexander Schallenberg, Austria’s then chancellor, announcing the plan in November. Austria and Germany have some of the lowest vaccination rates in western Europe.

Many feel queasy at the prospect of governments ordering them to have needles stuck in their arms. Proponents counter that the unvaccinated erode the freedom of other citizens by swamping health-care

systems and making new lockdowns more likely. Either way, compulsory vaccination carries several potential risks.

Start with the legal and logistical problems. Austria’s law, which will apply to 7.4m people—all residents over 18 bar pregnant women and those with medical exemptions—will take effect on February 1st. From mid-March the unjabbed face fines of at least €600 (\$680), with further checks and fines applicable every quarter. But the agency responsible for the vaccine registry says it will not be ready until April. (Spot-checks will apply before then.) The legal system could buckle if many refuseniks opt for fines over jabs. Germany, where parliament will debate vaccine mandates next week, does not even have a registry, making enforcement look yet trickier.

Moreover, constitutional courts will frown on mandates that look premature or disproportionate. Many reckon European governments could do more to balance the stick of restrictions with the carrot of better outreach. Rather than simply impose top-down measures, they could find vaccination champions in communities with large numbers of unjabbed people, including some minority groups.

A second concern is epidemiological. The German and Austrian mandates were proposed when the Delta variant was dominant. But laws may not prove as adaptable as the SARS-CoV-2 virus. What if the next variant requires a modified vaccine, or a fresh booster? For Janosch Dahmen, a German Green MP and doctor, uncertainty surrounding the behaviour of future variants is a strong reason to press ahead with (well-designed) compulsory vaccination now. Others disagree. A leading Austrian virologist urged the country to rethink its plan in the face of the widespread immunity the Omicron wave will confer.

A third worry is backlash. Most Germans support compulsion. But although moving from nudges to mandates may induce some sceptics to get the jab, others may become implacable foes. Anti-vax protests, many of them fuelled by the far right and prone to violence, are spreading rapidly. A vaccine mandate will surely swell them further. To avoid creating social “fissures” the Czechs recently scrapped a plan to oblige over-60s to get jabbed. (The age-limited mandates in Greece and Italy have proved less contentious.)

No one knows if compulsion will work. One Austrian panel found that roughly two-thirds of the 1m remaining unjabbed adults were unlikely to get vaccinated at any cost. But such surveys have their limits. The French, for example, turned out to be more relaxed about jabs than polls had once suggested. As other countries grapple with their vaccine hold-outs, they will be watching the experiments in the German-speaking countries closely. ■



The Nordic left

Back in charge

STOCKHOLM

What do the now ruling Nordic Social Democrats want?

THESE ARE happy days for the Nordic left. For the first time since 2001, they are running all four big Nordic countries—all five, counting tiny Iceland. Four of the five leaders are women: Magdalena Andersson, a Social Democrat, became Sweden’s first female prime minister in November. The Nordic model envied by foreign left-wingers (though not always understood) is having a moment.

So one might have expected a satisfied mood among the members of Byggnads, a construction trade union, who met at a *folkhuset* (community centre) in Stockholm in December. Instead they were angry. The LO, Sweden’s trade-union confederation, had just struck a deal with the employers’ association and the government that would reform labour law to make it easier to fire workers. In exchange the state will pay more to retrain them.

“This is only for the benefit of the company owners,” said Felix Gravel, who installs insulation. He fears the proposed law will let firms bully their employees. Byggnads opposes the reforms, and Mr Gravel is questioning his allegiance to the Social Democrats: “Do they stand up for me? I’m just a dirty worker.”

Nordic Social Democrats are winning elections, but they lack their old clear vision of the future. After decades of liberalisation, welfare states are less generous and inequality has risen. Fears of immigration and crime have boosted populists, ►►



forcing centre-left parties to move right on those issues, especially immigration. Meanwhile, young woke urbanites are turning to more radical left-wing parties.

Denmark's Social Democrats have shifted most on immigration. In 2019 Mette Frederiksen became prime minister pledging asylum rules even stricter than the previous centre-right government's. She is implementing "ghetto laws" to break up neighbourhoods where high rates of immigration and crime coincide. That sucks the air out of the populist Danish People's Party: its vote halved at the election in 2019.

Ms Frederiksen has also introduced popular leftist policies such as a plan to triple construction of social housing. But while her anti-immigrant turn has won over people who fret about foreigners, it has lost some urban progressives. In municipal elections in November the Social Democrats' vote share in Copenhagen fell by ten points; the Red-Green Alliance

gained ground. Pelle Dragsted, a former Red-Green MP, says young people consider the Social Democrats uncool.

In Sweden Ms Andersson is copying some of Ms Frederiksen's moves. Sweden took in huge numbers of refugees during the migrant crisis of 2015-16. Gang wars, often involving immigrants, have raised the gun-murder rate, though it is still low. After taking over from Stefan Lofven, the previous Social Democratic prime minister, Ms Andersson vowed to deport more immigrant criminals. It later turned out a company she hired had employed an illegal immigrant to clean her house.

It may be too late to win back many working-class voters. The Sweden Democrats, who began as a neo-Nazi party but are now less extreme, hold 18% of the seats in parliament. The centre-right Moderates once shunned them, but now collaborate with them. Lisa Pelling of Arena Idé, a progressive think-tank in Stockholm, co-

wrote a book about neighbourhoods where the Sweden Democrats do well. It is tough reading for leftists. "Voters may suffer from service cuts or bad schools, but they see their problems entirely through the lens of crime and immigration," she says.

In their heyday, Nordic Social Democrats used to win 40% or more of the vote. Now they are lucky to get 30%. That forces them into fragile coalitions: when Ms Andersson negotiated on pensions with the socialist Left party, the Centre Party retaliated by voting down her budget. Its leader, Annie Loof, said Ms Andersson was betraying the "broad centre". Ms Andersson was forced to resign after seven hours in office. She returned a few days later heading a minority government, but the opposition passed its own budget in the confusion. She is now stuck with it.

Voters who move right over immigration often become more economically conservative, too. In Finland the populist Finns Party, which once backed more progressive taxes, has turned laissez-faire. Leftists worry that Sanna Marin, Finland's popular young Social Democratic prime minister, appeals mostly to hip elites. It did not help when in December she missed a phone alert that a colleague had covid-19; she was out nightclubs with celebrities.

The left's new vision revolves partly around climate change. Curiously, green parties do poorly in Nordic countries; other leftists take their votes. When Labour won Norway's election in September, the country's Greens won just three of the 169 seats in parliament. Yet social democrats' climate policies are not always ambitious. In their coalition agreement, Labour and Norway's Centre Party said they would let companies explore for more oil and gas in the country's vast offshore fields.

Inequality may be a more promising issue. Nordic post-tax incomes are relatively equal for rich countries, but have grown less so since the 1990s. There are sharp rural-urban disparities in health care. In Sweden the Left party's new leader, Nooshi Dadgostar, the daughter of Iranian immigrants, has mostly ignored identity politics in favour of class issues such as eliminating for-profit private schools.

The clearest vision of the Nordic model's future is in northern Sweden, where hydroelectricity is powering climate-friendly industries. The huge Northvolt factory will supply batteries for much of Europe's electric-vehicle industry. The town of Lulea, where a coalless "green steel" plant has just opened, is building 5,000 new homes. Green jobs and public housing are good terrain for the left. Elsewhere the Nordic left's programme is a bit of a *smorgasbord*, but its politicians are optimistic. "We have been on the defensive for maybe 30 years," says Mr Dragsted. "We are going on the offensive now." ■

Friedrich Merz

A not very new broom

BERLIN

Angela Merkel's old foe takes over as leader of Germany's Christian Democrats

ANGELA MERKEL'S lethargy covered Germany like a "carpet of fog", raged Friedrich Merz in 2019. There was never any love lost between Germany's ex-chancellor and the man she forced out of a top job in the conservative Christian Democratic Union (CDU) in 2002. Tucked between his legs, Mr Merz left the Bundestag in 2009, only to re-emerge nine years later to compete for the party leadership Mrs Merkel had vacated. His candidacy thrilled CDU members seeking conservative red meat. But moderates found his arrogance off-putting. His bid flopped, as did another last year.

But in September the winner of that second contest, Armin Laschet, led the CDU and its Bavarian sister party to electoral defeat. Now licking its wounds in opposition, the CDU has finally turned to Mr Merz, who takes over as leader this weekend. Once known as a macho tax-cutter with a taste for teasing the politically correct, Mr Merz, 66, now presents himself as a moderate. He promises to court women, gay people and young voters, and to pursue social justice.

Will this convince the sceptics? CDU centrists seem willing to hold fire, though some MPs so distrust the ultras around Mr Merz that they have discussed leaving the party. Right-wingers want him to smite the woke. "We need a self-confident civic policy that...clearly positions itself against identity-politics excesses," says Christoph Ploss, a young

CDU MP who has long supported Mr Merz. The new leader's first test comes in several state elections this year.

At the next federal election in 2025 Mr Merz will hope to lead the conservatives' bid to unseat Olaf Scholz, the chancellor. For now he will focus on bread-and-butter issues like jobs, industrial change and inflation, now at a three-decade high. Mr Merz says the European Central Bank must follow the Federal Reserve and prepare to raise rates. That the ECB is independent does not matter. Mr Merz wants to dispel the fog.



If at first you don't succeed...

Charlemagne | The noisy union

A cacophony of national policies stands in the way of Europe's geopolitical aspirations



WHEN EASTERN EUROPEAN countries about to join the EU in 2003 spoke up in favour of America's invasion of Iraq, France's president at the time, Jacques Chirac, haughtily declared they had "missed a good opportunity to shut up". Their furious response suggested they thought the same of him. Europe likes to stress its collective power, born of an ever-closer union that includes joint foreign-policy ambitions and dreams of an EU army. Yet each country also wants a licence to pursue pet diplomatic forays. While sometimes these policies are sound (like opposing ill-fated invasions in the Middle East, it turned out), occasionally they end up dragging the entire bloc into fights it would rather avoid. If Europe wants geopolitical relevance, it cannot allow every member to foment its own crises.

The EU's foreign-policy grandees are currently upset and divided about Ukraine. Russia and America, in their stand-off over the country, seem to think of Europe more as a convenient place to meet than as a partner to be included, prompting France's President Emmanuel Macron to this week renew his calls for greater European autonomy. Germany is at odds with its partners over how to respond to Russia. Fortunately for underemployed wonks another, less-noticed, superpower spat is brewing. China is trying to throttle the Lithuanian economy. The clash pits the world's most populous country against the EU's 21st-biggest member. Lithuania is being punished mainly for having allowed Taiwan (which China considers part of its own territory) to use the word "Taiwan" to describe its unofficial embassy, rather than "Taipei Representative Office", as it does elsewhere at China's insistence.

Retribution has been swift. In a novel form of bureaucratic assault, Lithuania suddenly disappeared as an option on Chinese customs forms, thus blocking all imports from the Baltic minnow. This was inconvenient, to be sure, but generated little more than muted sympathy in European capitals. What support there was came more out of habit than conviction. Privately diplomats echoed Chirac: Lithuania had piped up out of turn. What on earth did it think it was up to, anyway? Other EU countries had lived for decades with the Taipei fudge.

Perhaps luckily for Lithuania, China's ire soon morphed into grotesque overreaction. Insults flew in state media. In November

Lithuania's embassy in Beijing was summarily downgraded to a lowlier diplomatic status. Staff, fearing for their safety, had to be evacuated. That left diplomats from other EU countries (and probably beyond) wondering whether they might be next. Then companies from across Europe whose exports to China merely contained Lithuanian components were also targeted for bureaucratic harassment. This was felt—or at least could be construed—as amounting to an attack on the bloc's vaunted single market. That it inconvenienced German car-part makers probably helped get the attention of politicians there, and thus beyond.

China's short fuse has helped fire up Lithuania's claim that the spat is a test case for the rules-based international order, and thus one that the rest of the EU has to get behind. This is happening, albeit with still-grudging enthusiasm. The European Commission, which deals with the EU's external trade, is diligently putting together a case that China is breaching its obligations as a member of the World Trade Organisation. This might (one day) generate the faintest of blushes in Beijing. The boss of the EU's foreign-policy apparatus, Josep Borrell, on January 14th promised solidarity and to iron things out at a proposed Europe-China summit in March.

The big member states, whose diplomatic heft underpins the EU's, have now waded in. France is promoting an "anti-coercion" plan that it hopes would deter bullies such as China, which it wants to push in its six-month stint chairing meetings of EU ministers. (The plan is nowhere near ready, nor agreed.) A German minister visited Lithuania to express support, but Olaf Scholz, Germany's new chancellor, did not raise the issue in a get-to-know-you call with China's president, Xi Jinping, in December.

Nobody can hear EU scream

Much of foreign policy involves responding to crises. But Europe makes the job all the harder for itself if those crises are conjured up from within. Blaming Lithuania for the headache now borne in part by its allies is hardly fair: it is China's ghoulish reaction that is the problem here. Standing up for Taiwan is laudable; arguably a more forceful defence of the place would be sensible EU policy. Yet the manner in which it has had to be done—or not quite done—hardly inspires confidence. In so far as European allies have had to step in, decisions made by one member state have in effect been made on behalf of the whole, yet without their say. Grand strategic planning this is not.

Europe has ambitions to use its limited means to nudge China into changing its ways. An investment agreement both sides were keen on was shelved last year after a flurry of sanctions and counter-sanctions over human rights in Xinjiang. The push and pull of careful diplomacy is constantly at work. But China, like others before it, has found it easy to divide Europe at its convenience. Many eastern European countries a decade ago cosied up to it in a format designed to circumvent the EU's own structures, known as "16+1" (which Lithuania left last year and which seems to be fading). That now looks a lot like some countries treating the EU as just another club that helps them further their interest—while expecting solidarity when things go wrong.

Lithuania will survive its scrape with Chinese fury. The containers turned away from Chinese ports have been snapped up by Taiwan, which now has enough Lithuanian rum to last a lifetime. The Baltic country has been promised sizeable investment from Taiwanese microchip firms. So it has piped up and avoided catastrophe. Good news, it might feel. But it is also another reminder of just how hard foreign policy is for a club of 27. ■



Boris Johnson

The price of survival

Boris Johnson may cling to office, but his premiership has been broken

BORIS JOHNSON wagged his head in a show of boredom and looked at his watch. He jabbed his finger and slapped the despatch box. Gone was the man who had sighed, shuffled and looked at his shoes in a television interview the day before. He did not give the appearance of a prime minister about to be deposed at all, but one game for an election.

Fifteen minutes before the weekly prime minister's questions on January 19th, a coup had begun. Christian Wakeford, the Conservative MP for the marginal English seat of Bury South, had defected to the Labour Party, declaring the prime minister incapable of leadership. Little matter, Mr Johnson boomed: the Tories would win the seat back at the next election, "under this prime minister". A few minutes later David Davis, a backbencher first elected to Parliament when Mr Wakeford was just two years old, read to Mr Johnson the words of Leo Amery to Neville Chamberlain, the prime minister in 1940. "You have sat too long here for any good you have been doing...In the name of God, go." A smile flickered across Mr Johnson's lips.

Over the past six weeks revelations about parties in Downing Street during England's covid-19 lockdowns have pushed Mr Johnson's administration to the brink of collapse. The details seem designed to offend: one raucous gathering was held during a period of national mourning for the Duke of Edinburgh, prompting an apology to Buckingham Palace. Tory MPs decid-

ed to act. Some have submitted letters of no confidence in Mr Johnson, seeking to trigger a leadership ballot.

As *The Economist* went to press, Mr Johnson was hanging on. No other MPs had followed Mr Wakeford across the floor, nor had the threshold of 54 letters required to trigger a contest been reached. (Letters are sent anonymously and the running tally is a secret, encouraging bluff and rumour-mongering.) Mr Johnson's staff said he would fight any leadership ballot, in which he would need the support of half the party to win. Judging by the roars on the benches behind him, he has a good chance. The plotters disagree over when to oust Mr Johnson and have no obvious candidate or policy agenda to rally around.

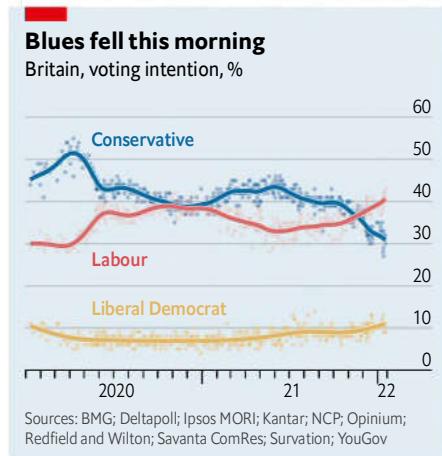
But if Mr Johnson survives, he will have paid a high price. From the beginning, his government sought to banish memories of Theresa May's enfeebled premiership. The cabinet was packed with loyalists who barked slogans written by his office. Parliament, filled after the election of 2019 with young MPs like Mr Wakeford who owed their jobs to Mr Johnson, would be akin to a printer for the executive. When the Conservatives won the constituency of Hartlepool, a poor town in north-east England, in a by-election in May 2021 Mr Johnson's allies boasted he would govern for a decade.

All that has crumbled. "The imperial premiership is over," declares a former cabinet minister. Like Mrs May, Mr Johnson will be a caretaker prime minister, diminished in a cabinet preoccupied with ►►

→ Also in this section

52 Bagehot: Boris's naughty children

— Read more at: Economist.com/Britain



► the race to succeed him. His MPs have the upper hand. The Conservative Party, which was already fractious and disparate, will become even harder to lead.

Many MPs have heeded Mr Johnson's pleas to wait for a report by Sue Gray, a civil servant, into the parties before deciding whether to submit their letters. Mr Johnson and Dominic Cummings, his former aide turned tormentor, will be interviewed. The critical question is whether Ms Gray accepts Mr Johnson's defence that he was unaware that a drinks gathering in the Downing Street garden in May 2020 breached the rules. The ministerial code, of which Mr Johnson is the ultimate adjudicator, states that ministers who knowingly mislead Parliament should resign.

The public appears to have made up its mind about that. Mr Johnson's electoral performance has been flagging for some months: his party lost by-elections in the formerly safe seats of Chesham and Amersham in June 2021 and North Shropshire in December. Now it has collapsed. The Labour Party enjoys a ten-point lead, while Mr Johnson has a net favourability rating of -52, below Mrs May at her lowest. He is a drag on MPS in seats the Tories gained in 2019 (see charts).

Should they refrain from toppling Mr Johnson, MPS will extract a price. Once Ms Gray's report is published he will be forced to gut his Downing Street operation. Dan Rosenfield, his chief of staff, and Martin Reynolds, his principal private secretary who sent the email inviting staff to the "bring your own booze" garden party, are likely to go. Some MPS want far deeper cuts, to remove the knot of 20-something special advisers, many of whom went straight from university to the Brexit referendum campaign and who turned the prime minister's office into a junior common room.

Power will shift to the cabinet. That could produce more deliberative government, or it could herald a return to the divided, leaky days of Mrs May, says a senior Tory. Liz Truss, the foreign secretary, and Rishi Sunak, the chancellor, are vying to replace Mr Johnson, and were slow to offer support. The prime minister now relies on the support of unimpressive ministers such as Nadine Dorries, the culture secretary, and Priti Patel, the home secretary.

Parliament has been proving difficult to manage for months, and it will become harder. Tory MPS are weary and squabbling after 12 years in power. In an age when rebellions can be organised by WhatsApp, a large majority can behave like a hung parliament. Last year Mr Johnson faced bruising rebellions from every quarter of the party on covid policy, free school meals and foreign aid. For as long as he clings on, they will exploit his vulnerability to advance their pet causes.

"It will be much easier for him to sur-



Didn't we all

vive if he starts greasing the wheels of parliamentary politics a bit better," says one serial rebel, cheerily. On January 19th Mr Johnson tried to mollify his MPS by announcing the restoration of "our ancient liberties" and an end to mask mandates and covid passports. Tory backbenchers clustered around the Covid Research Group want him to go further, by scrapping mandatory vaccinations for NHS workers and dismantling the government's testing infrastructure. Others want planned tax increases to be postponed to help constituents hit by inflation, which rose to 5.4% in the year to December.

Placating backbenchers will not be easy, however. That was demonstrated by the reception of Operation Red Meat, as Downing Street staff dubbed a series of populist announcements earlier in the week. The Royal Navy was given control of anti-migrant boat operations in the English Channel, and asylum-seekers would be sent to Ghana, or perhaps Rwanda, for processing, ministers told newspapers. The BBC's li-

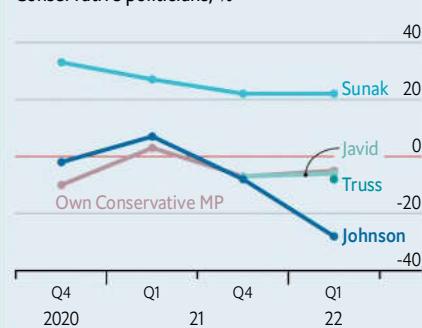
cence fee would be frozen for two years and eventually scrapped. Yet the plans quickly disintegrated. The navy has the wrong boats for "pushback" operations, ministers admitted; the government of Ghana crossly repudiated the briefing. Ms Dorries admitted she had no idea for a rival BBC funding model. The bigger problem is that the Conservative Party is badly fragmented. Plenty of MPS find red meat rancid, treasure the BBC and resent the use of the armed forces as political props.

It is an unforgiving landscape through which to pilot new legislation, which Mr Johnson hopes will help him win the next general election. He proposes new criminal-justice measures and changes to electoral rules and the planning regime. But Nikki Da Costa, Downing Street's former director of legislative affairs, now at Flint Global, a consultancy, reckons that a third of legislation was already behind schedule before this week's rebellion. Important bills such as a new anti-espionage regime are yet to be published. As bills run into the end of the parliamentary session in summer, MPS' leverage to extract concessions will grow, says Ms Da Costa. Mr Johnson's weakness will mean more giveaways.

A weak prime minister also makes for an emboldened House of Lords. On January 17th peers gutted a series of measures in the Police, Crime, Sentencing and Courts Bill, a draconian law that would make it easier to break up protests. Among those voting against the measures were a handful of Tory grandees, together with Labour and Liberal Democrat peers. In Mr Johnson's prime, when he threatened to relocate the Lords to York and railed against out-of-touch elites, they might have thought twice about defying him. But these days he is a diminished figure, whose threats and cajoling carry little weight. ■

The view from the red wall

Britain*, net positive feeling about selected Conservative politicians, %



Source: JL Partners

*Poll taken in 45 seats gained by the Conservative Party in 2019

Bagehot | Children of Boris

Rebellious MPs are built in the image of their prime minister



SIGMUND FREUD would have loved to put the modern Conservative Party on the couch. When Theresa May emerged as the runaway leadership contender in 2016, MPs of a certain age developed the unnerving habit of calling her “mummy”. Margaret Thatcher opened a speech at a Conservative conference in 2001 with a joke about that summer’s blockbuster: “The Mummy returns”.

Under Boris Johnson, the party has developed daddy issues. In happier days aides briefed that Mr Johnson wanted to be a “father of the nation” figure. Friendly newspapers went through a stage of portraying the portly prime minister as a fecund strongman. Unfortunately for Mr Johnson, Conservative MPs have developed another Freudian urge towards their father: they want to kill him.

It is precisely those MPs built in Mr Johnson’s image who are most enthusiastically trying to do him in. In a “Pork Pie Plot”, so-called because one member’s constituency includes the snack’s home, around 20 new MPs representing everywhere from “red wall” seats in County Durham to coastal Dorset pledged to bring down the prime minister. They do so not because they are radically different from the prime minister but because they are so similar. They are unashamedly populist, transactional, disloyal and unconstrained by the usual rules of politics. And they want to ditch Mr Johnson, a man who fulfils all these traits and brought them into the world.

Those leading the charge against Mr Johnson are not Remainers out for revenge over Brexit. Only true Brexiteers, or the fully converted, had a chance of being selected for the Conservative Party at the last election. Mr Johnson’s promise of post-Brexit big-state Conservatism goes down well with MPs for areas of the country that felt overlooked by central government.

Under Mr Johnson, the Conservatives stood on a populist platform of smashing a Parliament determined to thwart the will of the people over Brexit. The MPs first elected in 2019 still adhere to this code. Rather than Burkean representatives, deciding issues how they see fit, they are tribunes directly channelling their voters’ wishes. When their constituents raged at the thought of a prime minister hosting lockdown-busting parties, their MPs raged with them. Once atop the system, Mr Johnson lost some of his revolutionary verve. But the MPs he brought with him still want to

smash it. If that means smashing Mr Johnson too, so be it.

Relationships for Mr Johnson are transactional, as they are for the MPs who arrived in 2019. Majorities across the red wall are slim: if Mr Johnson’s popularity dips, many of that intake are doomed. Even now, only three of a sample of 45 seats won by the Tories in 2019 would stay blue at the next election, suggests JL Partners, a pollster. Mr Johnson’s camp thought the new MPs were beholden to the prime minister. This was the case when he had a unique popularity, whereas now the prime minister conjures only contempt. Loyalty has a price and Mr Johnson no longer pays it.

A streak of ruthlessness pervades younger MPs that Mr Johnson, possibly the biggest cynic ever to become prime minister, would admire. Christian Wakeford, the MP for Bury South, personified this more than most when he defected to Labour on January 19th. Until his defection, Mr Wakeford’s main contribution as a Conservative MP was his frank abuse of a fellow Tory in the division lobby. (He later blamed the outburst on “anger and codeine”.) But it is the message that matters, not the messenger. Some MPs think the game is up.

Mr Johnson and his political offspring also share a contempt for the usual way of doing things in Parliament. The prime minister took an unorthodox path to the top of politics, hurling himself into Downing Street via the London mayoralty and the Brexit referendum, with only a brief, botched stint as foreign secretary. Likewise, most young MPs spend their first years in Parliament sucking up. This crop are different. In the patronising discourse of Westminster, the new MPs have not been “housebroken”. Until they are, expect them to keep wee on the carpet.

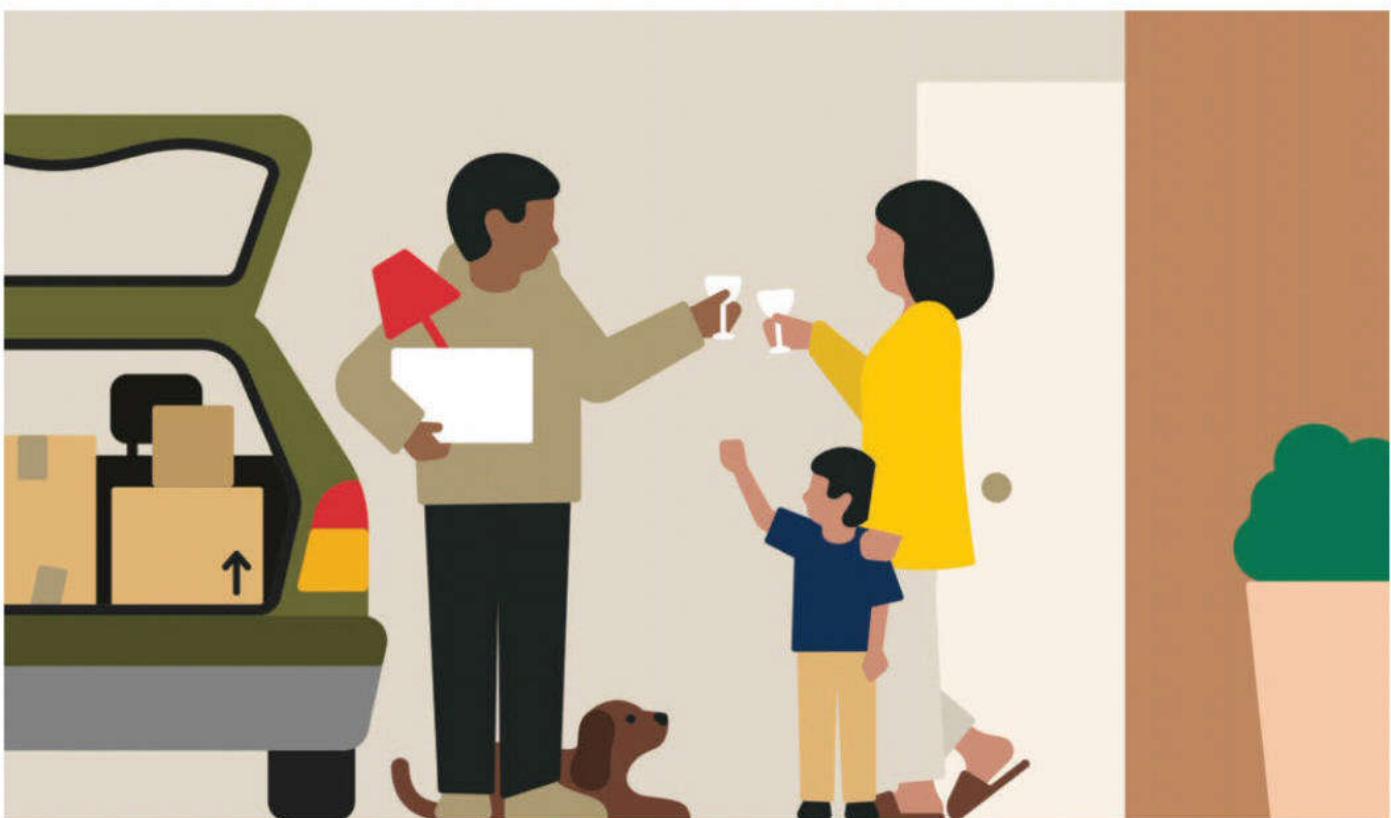
Indeed, Mr Johnson and his newest MPs are bound by a stunned disbelief that they have ended up where they are. At the start of 2019 Mr Johnson was written off as a failed foreign secretary. Now he is prime minister with a big majority. It is much the same for the rebellious newbies. The sweeping Conservative victory at the last election resulted in a heap of 30-something councillors and oddballs winning seats no one expected. It is hard to be a Westminster careerist if you never planned on that career.

Those leading the charge against Mr Johnson have little to lose. Launching a coup only a few years after winning seats has a certain chutzpah. If Mr Johnson stays in his job, many of those plotting will lose their seats; if he goes, they may survive. Knowing when to gamble has also been the hallmark of Mr Johnson’s career. If they were not trying to murder him, Mr Johnson would approve.

Wars of succession

Should the coup fail, the Conservatives will not become a happy family. Its MPs want different things. Those in recently conquered territory desire “levelling up”, which boils down to redistribution, with heavy investment in small towns that have seen better days. But if rich Tories in south-east England truly wanted to see their taxes spent in the north and Midlands, they could just vote Labour. Keeping southern and northern MPs satisfied is a tricky task for any Conservative prime minister.

Instead, the Conservative party will start to resemble an episode of “Succession”, an HBO drama about a family of unhappy billionaires. In the show, Logan Roy, the patriarch, faces repeated attempts by his own children—a damaged bunch—to force him out. They do so partly because they think he is not up to the job. But also because he raised them that way: all they know is how to kill. Mr Johnson has shaped the Conservative family in his own image. It will take a lot of therapy to fix. ■

**Divorce in the rich world**

Breaking up is less hard to do

SYDNEY

Ending a marriage is getting quicker, cheaper and a bit less adversarial

SCOTT AND his then wife, who live in Australia, had a vile but not unusual divorce. Their lawyers, he said, “fired off affidavits and legal letters at each other” for eight months. Their children were put on a federal police watchlist so they could not be taken overseas. The couple reached an agreement before going to court but Scott still spent A\$35,000 (\$25,000) on legal fees. Had they gone to court, there would have been little money left to divide. It was “like playing a game of poker,” says Scott. “You never show your full hand.” The combatants were forced to be devious. Like so many divorces, it was bitter and costly.

Several years later, Scott and his ex began fighting again—over custody. This time it was less nasty. They used a government-funded mediation service. Mediators and counsellors provided a neutral setting, suggesting ways to soften the arguments. “It may sound cheesy, but the mediators really did just give me a lot of positive and practical advice,” says Scott. He stopped aggressively using the word “you” when bickering and learned how not to

provoke defensive responses. The mediation cost a few hundred dollars. When a close friend decided to get divorced, Scott advised him to go straight to a mediator to save time, money and anger.

No one pretends that divorce is ever sure to be amicable. But in the rich world it is gradually being treated more as a relationship problem, less as a legal one. Alternatives to adversarial court battles are becoming more common. Fewer countries require blame to be apportioned. All this makes the process a little less ghastly, for couples and their children.

Last year the government in England and Wales (Scotland and Northern Ireland have separate jurisdictions for family affairs) handed out £500 vouchers (worth \$683) to subsidise mediation in divorce. In April this year couples in England and Wales will be able speedily to untie the knot without assigning blame and without having to live apart for at least two years or five years (depending on whether both halves of the couple agree to split). Previously one spouse had to accuse the other of

unreasonable behaviour, adultery or desertion. In 2019, 54% of English and Welsh divorces were granted on the grounds of adultery or unreasonable behaviour.

Sweden got rid of the need to blame one spouse in 1915. Australia ditched it in 1975. In 1969 California became the first American state to do so, New York the last, in 2010. The trend is proceeding elsewhere. In “no-fault” jurisdictions the state does not need to know why a marriage is ending, though many countries still require a cooling-off period before the break is formally complete. In many jurisdictions that have waived fault, couples can file for divorce together. “Psychologically, that’s huge,” says Samantha Woodham, a British barrister. Ending the blame game means couples start their divorce in a less rancorous way.

Since 1990, divorce has become easier in at least 30 of the 38 members of the OECD, a club of rich countries. Alternatives to litigation are spreading. In mediation couples seek an agreement with the help of a neutral referee. In Norway and Australia most divorcing couples with children must at least try it. In England they must listen to information about mediation, unless violence has occurred. The Dutch seek mediation without recourse to a court in 41% of divorces.

“Collaborative divorce” is another option. Each partner has his or her own lawyer. But the couple sign an agreement that they will not go to court. Should they fail to reach a deal, they must find new lawyers. ►

This creates an incentive to settle. At least 20,000 lawyers have been trained to help divorcing couples this way, says the American Bar Association.

Australia has won plaudits for trying to make divorce less bitter. In 2006 its federal government began funding "family relationship centres", mostly run by charities, offering free and cheap mediation. They help families adjust to their new lives. Parents take classes on how divorce can affect their children. Clueless fathers have even been offered cooking lessons. The centres began as an alternative to the legal route. Ireland and some Canadian provinces also offer free or cheap mediation.

Businesses are getting in on the act. *DivorceHotel*, a firm from the Netherlands with branches in America and elsewhere, offers a "concept based on mediation to ensure a professional, fast and affordable way of divorcing...We see your separation not just as the end of your marriage, but also as the beginning of a new phase in your life." Couples stay (in separate rooms) at a luxurious hotel where mediation lasts over a weekend; you can have a massage or game of golf between sessions.

Another firm, *It's Over Easy*, offers divorcing American couples online legal advice on filling out forms, co-parenting, and changing surnames. Some law firms are marketing themselves as advisers to both halves of divorcing couples, not just to one battling spouse. This has been practised in France, Italy and the Netherlands and is spreading to England.

I bet you're hiding it

In an adversarial system, lawyers spend much time and energy sussing out "what's in the pot," with each side frequently disputing the answer. Such rows tend to be less ferocious when the couple gets the same advice from a single law firm. The parting couple are more likely to honour terms they have both voluntarily agreed to, rather than ones ordered by a judge.

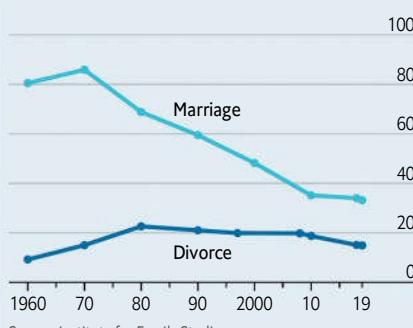
Five years after Australia set up family relationship centres, the number of dispute cases linked to children in courts had dipped by 32%. When the centres were created, 32% of those getting separated and involved with children had a "conflictual or fearful relationship" with their ex. Three years later that had fallen to 15%.

Collaborative approaches save money, too. Therapists and mediators tend to be cheaper than lawyers. Paying one legal team instead of two plainly slashes costs. In an adversarial divorce, lawyers usually charge hourly rates, which creates an incentive to drag the battle out. So the process is getting quicker. Many of the non-adversarial systems have fixed prices.

Even when the division of money is the most contested issue, as it often is with the rich or childless, progress towards less bit-

Happily ever after?

United States, marriage and divorce rates
Per 1,000 people, each year



ter outcomes is being made. In the 1960s alimony was awarded in roughly a quarter of American divorces. It has since dropped to around 10%. Between the mid-1990s and mid-2000s, alimony in Switzerland fell from roughly one-half of cases to one-third. In Germany and several American states the length of time it is awarded can be limited; once an ex-husband has shelled out for, say, seven years, his obligation is over. In England spousal maintenance can be awarded indefinitely, but that is becoming rarer, too. In the Nordic countries hardly anyone pays alimony—the default assumption, rooted in high levels of equality between the sexes, is that both parties are capable of supporting themselves. Judges across the West are getting keener on clean breaks.

Attitudes are shifting throughout the rich world. Big-scale divorce litigation, says Ms Woodham, is "becoming a bit embarrassing". Celebrities tout the benefits of "consciously uncoupling". More divorced families are "birdnesting": the children live full-time in one home, while their parents flit back and forth, like birds taking turns to watch their eggs. The parents may even jointly own a flat, where the off-duty one can reside. A British survey by Co-Op Legal Services found that 11% of divorced or separated British couples have tried to

birdnest. "Splitting up Together", an American sitcom based on a Danish one, depicts a family trying to make it work.

Divorced fathers are spending more time with their children. In Sweden in the mid-1980s only 1% of children with separated parents regularly lived with both; usually they stayed with the mother. Now around 40% do. Other rich countries are witnessing the same trend. Fathers are getting custody more often than before. Some interior-design firms now specialise in decorating their homes. Children who spend at least 35% of their time with each parent after divorce tend to do better emotionally, finds Linda Nielsen of Wake Forest University in North Carolina.

Laws in Australia, Sweden and some American states require judges to consider splitting custody time more or less down the middle. That too marks a cultural shift: more mothers work outside the home and more fathers are involved in their children's upbringing. Shared custody can be hard, though. Buying two sets of everything is expensive. Parents must find jobs in the same city. Those who make it work are typically richer and better educated.

The misery of winner-takes-all

In Japan, where divorce is far rarer than in Europe and America, many people think shared custody is disruptive for children. Courts don't award it, though families may privately agree to it. Many divorced fathers are allowed to see their children for only three hours a month. Kizuna Child-Parent Reunion, an advocacy group, estimates that 58% of Japanese children with divorced parents lose contact with the one they are not living with. This winner-take-all system leads to furious divorce battles.

In Scandinavia there are fewer battles over money between divorcing couples. In Sweden the rules over assets are so clear that few couples fight over them: they are divided equally. Courts assess child maintenance, with a monthly minimum of around \$185. Shared parenting is the norm. Lawyers are rarely involved.

The divorce rate in most rich countries has dipped or stayed about the same since 1990 because fewer people are getting married in the first place (see chart 1). In the EU 18% of babies born in 1993 were out of wedlock. By 2019 that had risen to 43% (see chart 2). The Scandinavian figure is 53%. But arrangements for children whose parents' non-marital partnerships fail are getting more co-operative, too.

Across the world, divorce still involves copious tears, regrets and vituperation. But the removal of the judicial allocation of blame and the trend towards speedier, cheaper and less adversarial ways of ending marriage are surely lightening the burden of unhappiness, especially on children caught in the middle. ■

The frayed knot

Births outside marriage, % of all births





Artificial intelligence

In search of mastery

HONG KONG

China wants to create a world-beating AI industry. Don't hold your breath

SOUTH OF THE Huai river few geese can be seen through the rain and snow.” In classical Chinese this verse is a breakthrough—not in literature but in computing power. The line, composed by an artificial intelligence (AI) language model called Wu Dao 2.0, is indistinguishable in metre and tone from ancient poetry. The lab that built the software, the Beijing Academy of Artificial Intelligence (BAAI), challenges visitors to its website to distinguish between Wu Dao and flesh-and-blood 8th-century masters. Anecdotal evidence suggests that it fools most testers.

The system, whose name means “enlightenment” and which can emulate lower types of speech, derives its power from a neural network with 1.75tn variables and other inputs. GPT-3, a similar model built a year earlier by a team of researchers in San Francisco and deemed impressive at the time, considered just 175bn parameters. As such Wu Dao represents a leap in this type of machine learning, which tries to emulate the workings of the human brain. That delights fans of classical literature—but not as much as it does the Communist au-

thorities in Beijing, which have put AI at the heart of China's technological and economic master plan first set out in 2017. It spooks Western governments, which worry about AI's less benign applications in areas like surveillance and warfighting. And it intrigues investors, who spy a huge business opportunity.

On the face of it, the plan is off to a good start. The logistics arm of JD.com, an e-commerce group, operates one of the world's most advanced automated warehouses near Shanghai. In May Baidu, China's search giant, launched driverless taxis in Beijing. SenseTime's “smart city” AI

models—urban surveillance cameras that track everything from traffic accidents to illegally parked cars—have been deployed in more than 100 cities in China and overseas. China has been deploying more AI-assisted industrial robots than any other country. And in 2020 it surpassed America in terms of journal citations in the field.

The five most prominent listed Chinese AI specialists are collectively worth nearly \$120bn (see chart 1 on next page). The biggest of them, Hikvision, has a market value of \$60bn. SenseTime, which went public in Hong Kong on December 30th, is worth \$28bn. Two more are expected to list soon. In 2020 investments in unlisted AI start-ups reached \$10bn, according to the AI Index compiled by researchers at Stanford University. In its prospectus SenseTime forecasts that revenues from AI-assisted image-recognition and computer-vision software, the most mature part of the market, could hit 100bn yuan (\$16bn) by 2025, up from 24bn yuan in 2021 (see chart 2).

Look beyond the headlines or Wu Dao's elegant verses, however, and things look more complicated. Yes, China has made progress on AI, and even the occasional big splash like Wu Dao. But it almost certainly still lags behind America in terms of both investment and cutting-edge innovation. In 2020, three years into the master plan, privately held Chinese AI firms received less than half as much investment as their American counterparts. And a lot of the public and private money pouring into the sector may end up being wasted.

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▶ China's five-year-old AI master plan set out a number of goals. For example, by 2025 the country is to create an industry with global revenues of 400bn yuan, achieve "major breakthroughs" in technology and lead the world in some applications. Five years later it is to dominate the industry (by then worth \$1trn in sales), having written its ethical code and set its technical standards, just as Europe and America defined the contours of the Industrial Revolution.

Elements of the Communist Party's approach are characteristically prescriptive. The Ministry of Science and Technology has instructed China's tech giants with existing ventures in certain subdisciplines of AI—Tencent in medical image recognition, Baidu in autonomous driving—to double down on these. That said, the plan is less hands-on than some of the country's other development projects, observes Jay Huang of Bernstein, an investment firm. In the words of Huw Roberts of Oxford University and five co-authors, the blueprint acts chiefly as a "seal of approval" which "de-risks" assorted AI initiatives championed by central-government entities, local authorities and the private sector.

In practice, the derisking involves doling out lots of public money. Some of this takes the form of tax breaks and subsidies, as in the "little giants" programme to nurture 10,000 promising startups across various sectors, including AI. Local governments, even in poor rustbelt provinces such as Liaoning in the far north-east, have also dangled similar incentives in front of AI-curious companies.

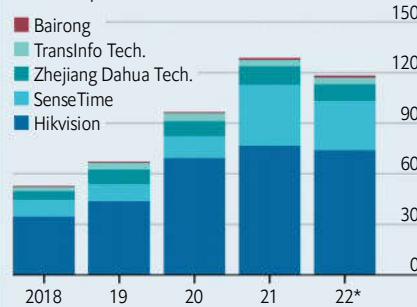
Another type of support comes from government procurement. Firms do not disclose how much revenue they derive from public-sector contracts. But the share is likely to be significant. Central and local authorities use SenseTime's surveillance technology. Megvii, which also specialises in image recognition, has extensive dealings with state-owned enterprises.

The state is also investing in AI companies directly. The central government runs several tech-investment vehicles. Local governments are increasingly creating their own, often armed with billions of dollars. Tianjin, a coastal metropolis, announced a \$16bn AI fund in 2018.

Government capital is increasingly helping plug a gap left by foreign investors scared away by American sanctions against some of China's AI darlings, which are seen as being too close to the Communist Party. A fund run by the Cyberspace Administration of China, a regulator, has acquired an undisclosed stake in SenseTime, which last month was hit by another round of American sanctions over its alleged involvement in government repression of the Uyghur ethnic minority. (SenseTime says that the sanctions are based on a

Intelligence gathering

China, selected artificial-intelligence companies
Market capitalisation or valuation, \$bn



Sources: Refinitiv Datastream; PitchBook; Stanford University

Private investment[†] in artificial intelligence



*January 19th †Into unlisted companies

"misperception" of its business.) A separate vehicle, the Mixed-Ownership Reform Fund, accounted for \$200m of the \$765m that the firm raised in its initial public offering (IPO). Local governments chipped in another \$220m.

Lost in translation

State dosh, combined with access to plentiful public data, has helped turn Chinese AI firms into powerhouses in certain niches. According to Bain, a consultancy, by last June the cloud division of Alibaba, China's e-commerce behemoth, was offering 62 AI-enabled services, from voice recognition to video analytics, compared with 47 from its closest Western rival, Microsoft. SenseTime and Megvii mass-produce computer-vision software and hardware that can be adapted to and installed in individual factories. Despite being locked out of most Western markets by the American sanctions, SenseTime raked in 762m yuan in overseas revenues in 2020, compared with 319m yuan two years earlier, mostly from South-East Asia.

For all these successes, though, China's AI industry trails the West in important ways. Despite leading America in the overall number of AI-related publications, China produces fewer peer-reviewed papers

that have academic and corporate co-authors or are presented at conferences, both of which are typically held to a higher standard. It ranks below India, and well below America, in the number of skilled AI coders relative to its population. These shortcomings are likely to persist, for three reasons.

First, capital may not be being allocated efficiently. It is unclear, for example, how much of Tianjin's \$16bn kitty has actually been deployed. More damaging, Beijing has created a system for rewarding local officials that favours debt-fuelled spending and seldom punishes wastefulness.

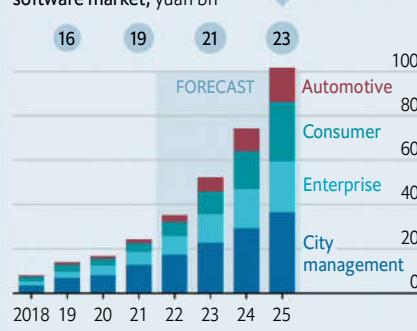
Many state AI investments have been "reckless and redundant", says Jeffrey Ding of Stanford University. Zeng Jinghan of Lancaster University has documented the rise of firms that falsely claim to be developing AI in order to suck up subsidies. One analysis by Deloitte, a consultancy, estimated that 99% of self-styled AI startups in 2018 were fake. Such boondoggles not only burn through public cash, Mr Ding notes, but also consume scarce human capital that could more usefully have been deployed elsewhere.

China's second problem is its inability to recruit the world's best AI minds, especially those working on high-level research. A study in 2020 by MacroPolo, a Chicago-based think-tank, showed that more than half of top-tier researchers in the field were working outside their home countries. America and Europe look more appealing to such footloose brainboxes, including many Chinese ones. Though about a third of the world's top AI talent is from China, only a tenth actually works there. A shortage of non-Chinese researchers further handicaps China's capabilities, notes Matt Sheehan of the Carnegie Endowment for International Peace, a think-tank in Washington.

Even more problematic for the party, its master plan ignored the cutting-edge semiconductors that power AI. Since its publication Chinese companies have found it ever more difficult to get their

Eye robot

China, computer-vision software market, yuan bn
% of world total



Source: SenseTime

hands on advanced computer chips. That is because virtually all such microprocessors are either American or made with American equipment. As such, they are subject to restrictions on exports to China put in place by Donald Trump and extended by his successor as president, Joe Biden. It will take years for Chinese companies to catch up with the global cutting-edge, if they can do it at all.

These challenges will continue to devolve all of China's high-tech industries for years to come. It could leave its AI businesses stuck in a rut—successfully rolling out relatively unsophisticated products while trailing Europe and America in paradigm-shifting developments of greater financial and strategic value. Consider Wu Dao 2.0. Although it was a huge improvement on GPT-3, it did just that—improve an existing technology rather than break new ground. No amount of Chinese taxpayers' money is likely to change that. ■

Video gaming

High score

Microsoft places a \$69bn bet on the future of entertainment

EVEN FOR Microsoft, which boasts a market value of \$2.3tn, \$69bn is a lot of money. On January 18th the firm said it would pay that sum—in cash—for Activision Blizzard, a video-game developer. It is by far the biggest acquisition in the video-game industry's history, and the largest ever by Microsoft, more than twice the size of its purchase in 2016 of LinkedIn, a social network (see chart). The move, which caught industry-watchers by surprise and propelled Activision Blizzard's share price up by 25%, represents a huge bet on the future of fun. But not, perhaps, a crazy one.

Gaming was a big, fast-growing business even before the pandemic. Lockdowns bolstered its appeal—to hardened gamers with more time on their hands and bored neophytes alike. NewZoo, an analysis firm, reckons revenues grew by 23% in 2020, to nearly \$180bn. That growth has attracted the attention of other tech titans, including Apple, Netflix and Amazon, all of whom have dipped their toes into the market in recent years.

Microsoft has been in the business for two decades. It earns \$15bn a year from games, mostly thanks to its Xbox console. It has made a string of gaming acquisitions since 2014, when Satya Nadella, its chief executive, took the reins. Assuming it is not blocked by regulators, who are watching big tech with a beady eye, this deal

would cement its position. Once completed in 2023, it will make Microsoft the third-largest video-gaming firm by revenue, behind only Tencent, a Chinese giant, and Sony, Microsoft's perennial rival in consoles.

Big acquisitions are always risky. Like most companies, Microsoft has a spotty record. Activision Blizzard's share price slid by around 40% between a peak last February and the deal's announcement, as it was embroiled in a sexual-harassment scandal. Player numbers have slipped from 530m a month in 2015 to 390m, and some recent games have had mixed reviews. Pessimists could argue that the company is overvalued. Optimists, who see annual revenues of \$8bn and net profit margins of around 30%, might counter that it is cheap.

Most important, Activision Blizzard has lots of content—and in video games, as in all of media, content is king, says Piers Harding-Rolls of Ampere Analysis, another research firm. Like the movie business, where "Star Wars" films, even bad ones, are reliable money-spinners, video games rely increasingly on "franchises"—popular settings or brands that can be squeezed for regular instalments. Activision Blizzard offers, among others, "Call of Duty", a best-selling series of military-themed shoot-'em-ups, "Candy Crush", a popular pattern-matching mobile game, and "Warcraft", a light-hearted fantasy setting.

The deal may help Microsoft broaden its reach beyond consoles, says Julianne Harty of NewZoo. King, a mobile-focused unit of Activision Blizzard, boasts around 245m monthly players of its games, most of whom tap away at "Candy Crush". It is also a strike against Sony, whose share price fell by 10% on news of the deal. If Microsoft controls the rights to "Call of Duty", it can decide whether or not to allow the games to appear on Sony's rival PlayStation machine. When Microsoft bought ZeniMax Media, another gaming firm, for \$7.5bn in 2020, it said it would honour the terms of ZeniMax's existing publishing

agreements with Sony, but that Sony's access to ZeniMax's new games would be considered "on a case-by-case basis".

It also fits Microsoft's long-term ambition to become the dominant player in a gaming market that it hopes still has plenty of room to grow. (Mr Nadella, inevitably, gushed about the virtual-reality "metaverse".) The firm is bundling content and pushing the "Game Pass" subscription service, which offers console and PC gamers access to a rotating library of titles—which usually cost \$40-60 each—for \$10 a month. Adding Activision Blizzard's catalogue to the service could boost its appeal.

In the longer term, Microsoft hopes to use its Azure cloud-computing arm to do for video games what Netflix did for films and TV. In 2020 it launched a game-streaming add-on to Game Pass that beams high-end games across the internet to a phone, TV or desktop. Running a game's code in the cloud removes the need to own a powerful, pricey console or PC. The technology is tricky. Still, Microsoft hopes that as it matures, it will draw in more players, especially in middle-income countries where smartphones are common but consoles rare. Although other firms, including Sony, Amazon and Nvidia, offer similar services, none looks as well-placed as Microsoft. The software giant combines a strong content library and decades of experience in gaming with the world's second-largest cloud operation behind Amazon.

Microsoft's big bet may persuade rivals they, too, need to snap up content while they can. The gaming industry was already seeing plenty of merger activity. Last year five deals worth \$1bn or more were inked. On January 10th Take-Two Interactive, a game developer and publisher, spent \$13bn on Zynga, a maker of mobile games. Sony will be feeling vulnerable after Microsoft's deal. Amazon, Apple or Netflix may decide that now is the time to show that they are serious about the business. Consolidation looks like the name of the game. ■

Acquisition blizzard

Microsoft, biggest acquisitions, \$bn



Sources: Bloomberg; company reports; press reports

Top video-game firm acquisitions, \$bn

Acquirer/target (announcement date)



*Devices & services business †Patent portfolio

The fossil-fuel industry

Going green-ish

NEW YORK

ExxonMobil unveils a new climate strategy

DARREN WOODS made some revealing remarks this week about global warming. His ruminations matter in America's oil industry for he is the boss of ExxonMobil, the largest Western oil major. His firm has historically been less enthusiastic than rivals about taking climate change seriously. But a shareholder revolt last May placed three green-tinted directors on its board. That has put pressure on the Texan company's management to curb emissions with more ambition.

On January 18th Mr Woods unveiled the firm's long-awaited update to its climate strategy. "Is society sincere in its desire for a lower-emissions future?" asked the veteran oilman when pressed on the thinking behind the plan. It is, he says. "And so are we." Evidence for this lies in a newfound willingness to commit to hard targets for cutting greenhouse-gas emissions.

The first, long-term target is for the company to achieve carbon neutrality in its operations by 2050. It has been quite fashionable of late for big energy firms to claim that they will achieve "net zero" emissions by some distant date. Not all of them lay out specific plans for how they will actually do this. Often, they plan to rely heavily on carbon offsets, which could let them buy emissions credits of dubious quality cheaply rather than making painful emissions cuts and costly changes to their business. Mr Woods has previously dismissed such proclamations as nothing



Flaring to go

more than a "beauty competition".

In contrast to such pageants, ExxonMobil's new long-term goal is accompanied by concrete plans for this decade. In a big U-turn, the firm will commit to absolute cuts in its carbon emissions—a step it has long resisted in favour of squishier reductions in "emissions intensity". It pledged to emit about 20% less greenhouse gases by 2030 relative to 2016, with emissions from exploration and production set to decline by approximately 30% over that period. Thirty-plus operating divisions will each get a binding target, which will add up to the company-wide total. Managers at each division will then be held accountable for achieving those cuts, with no wriggle room or trading among divisions permitted.

The firm's plans for its shale business in America's Permian region are illustrative. ExxonMobil says it will achieve net-zero operating emissions in the patch, responsible for over 40% of its American hydrocarbon output, within the decade. It plans to achieve most of that through the use of novel low-carbon technologies and improvements in its practices, from replacing leaky compressors and powering operations with green energy to carbon capture and storage (ccs). It is flaring less methane, a potent greenhouse gas, and working with third parties to monitor fugitive emissions using satellites, aerial reconnaissance and sensors. The firm insists it will rely on carbon offsets for at most "a few percentage points" of emissions cuts.

ExxonMobil's new plan is, then, an improvement on its earlier climate recalcitrance. How much it actually does for the planet is another matter. Unlike many rivals, ExxonMobil does not count emissions from fields operated by joint-venture partners, which gives a fuller picture. Most important, its road map covers only emissions emanating from the company's own operations and energy use (scope 1 and scope 2 emissions, respectively, in the jargon). European rivals such as BP, Shell and TotalEnergies have additional targets to reduce the emissions intensity of their products by 2050. That is why they have piled into renewables.

Some oilmen argue that the makers of petrol-burning cars or their drivers should share more of the responsibility for limiting these "scope 3" emissions. Such arguments, though not wholly without merit, are also self-serving: end users can account for 80-90% of the total climate-warming gases associated with fossil fuels. Ignoring them in your carbon accounting seems mighty convenient.

ExxonMobil's plan does open the door to a pursuit of fuller net-zero goals beyond scopes 1 and 2. But the firm has no interest in renewables, which is a less profitable business than oil (as reflected in the Euro-

pian firms' weaker valuations). Instead, it is investing \$15bn over the next five years in areas such as hydrogen, CCS and biofuels. The snag is that these climate-friendly technologies have not yet found profitable business models.

They may never do, at least without government inducements. ExxonMobil believes that decarbonisation carrots in the form of tax credits and subsidies will offset some of the higher costs of its low-carbon bets and help keep the firm's overall margins high. Ultimately, Mr Woods says, low-carbon strategies will require some state support in order to generate good profits. If big oil is to make big profits from the energy transition, in other words, it needs big government. ■

Airlines in recovery

Flight tracker

The rebound of the aviation industry is coming in fits and starts

WORK AND shopping have, for better or worse, been permanently altered by the pandemic. The airline industry hopes that its own covid-19 disruption proves temporary. Luckily for those deprived of holidays, visits to family and friends, or even the odd business trip, flying in 2022 will look a bit more like the pre-pandemic jet age—with differences between domestic and international routes, short-haul and long-haul ones, and east and west.

The numbers taking to the skies have risen steadily since March 2020, when the pandemic first grounded flights. Most forecasters expect that by 2024 as many ►►



Not quite winging it just yet

► passengers will fly as did in 2019. IATA, a trade body, reckons that 3.4bn people will buckle up in 2022. That is nearly double the number in 2020, though still some way shy of 2019, when 4.5bn took to the air.

Uncertainties remain, however, not least the pandemic. Consider the Omicron variant. Ed Bastian, boss of America's Delta Air Lines, has described navigating the past few weeks as "hellacious", after some 8,000 of his staff, about 10% of the total, contracted the virus. Crew shortages, tighter travel restrictions and bad weather conspired to force the cancellation of 60,000 flights worldwide between December 24th and January 3rd, calculates Cirium, an aviation-data firm. That corresponds to roughly one in every 40 flights. The fact that the worst Christmas period for a decade still made December the busiest month of 2021 illustrates just how far the industry has to go.

Covid-19's unpredictable course shows that even bright spots can cloud over. Large domestic markets, unaffected by international travel bans and other unco-ordinated border restrictions over vaccinations and testing, have led the recovery. Within America, the world's biggest internal market, demand for seats has nudged above 80% of pre-covid levels. In China it has exceeded pre-covid times on occasions over the past year, thanks in part to the country's strict "zero-covid" strategy. Although lockdowns to snuff out recent outbreaks in the run-up to the Winter Olympics in Beijing next month have slapped the chock blocks back on, China's aviation regulator still expects domestic traffic at around 85% of pre-pandemic levels in 2022.

The plans for restoring capacity among the world's airlines give a sense of the likely shape of improvement on international routes, which IATA predicts will reach only 44% of pre-crisis demand this year. Some low-cost airlines serving short-haul connections in America and Europe, where travel restrictions may soon be relaxed, could surpass pre-covid capacity, reckons IBA, another aviation-research firm. America's big three network carriers will also benefit from the reopening of the lucrative transatlantic market, which this year is expected to bounce back to where it was in 2019. Delta will approach pre-covid capacity in 2022, and United may exceed it. Some of Europe's legacy airlines may benefit, too. IAG, owner of British Airways, is expected to restore all of its flights across the Atlantic by summer 2022.

Airlines in the Asia-Pacific region are likeliest to remain stuck. Many governments, relying on isolation to control the virus, have toughened already strict travel rules to contain Omicron. Capacity is still around 60% below previous highs. Singapore Airlines will run at half of its pre-covid capacity for at least the first couple of

months of 2022; Australia's Qantas may operate at just 45% this year.

Even if Omicron were the last of covid, airlines have other things weighing them down. As Andrew Charlton of Aviation Advocacy, a consultancy, notes, governments have doused beleaguered airlines with cash to keep them aloft. Much of that—around \$10bn, says IATA—needs to be paid back. And that is on top of new debts owed to private-sector creditors. Moreover, so long as demand remains weak airlines will find it hard to pass the rising cost of fuel on to passengers. The industry's net losses will narrow from the staggering \$138bn in 2020 and \$52bn in 2021. Collectively, airlines are expected to lose another \$12bn this year. Better—but hardly stellar. ■

Unilever

Health cheque

The consumer-goods giant wants less tea and more toothpaste

WHEN UNILEVER bought Bestfoods for \$20.3bn at the turn of the millennium, it was one of the largest cash acquisitions ever. After two failed bids, the British consumer-goods giant dug up an extra \$2bn to sweeten the deal. It divested 700 of its brands in the year that followed but replenished its larder with Bestfoods' Knorr soup and Hellman's mayonnaise. Now, in pursuit of another mega merger that could be four times as big, Unilever has been prepared to dispose of the larder entirely.

Unilever's new target has been the consumer-health unit of GlaxoSmithKline (GSK), a British drugmaker. On January 15th it emerged that the soup-to-soap group was offering to pay £50bn (\$68bn) for the business. GSK, which has been keen to ditch the division in order to focus on more lucrative prescription medicines, re-

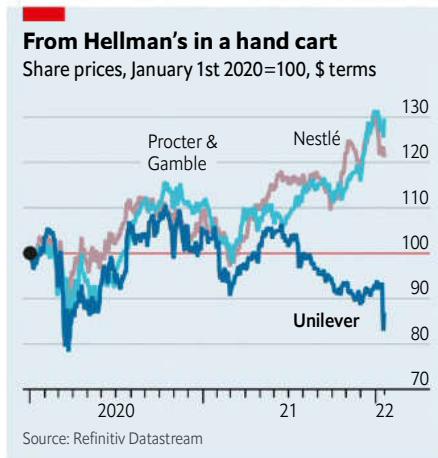
fused to bite. The markets choked: Unilever's share price fell by 7% the next trading day. Analysts are almost uniform in their view that the deal is a bad idea, arguing that it presents more risk than Unilever, with a market capitalisation of £94bn, can stomach. Selling lagging categories like food may not be enough to fund the transaction, of which nearly £42bn would be in cash. Fitch, a ratings agency, warned that Unilever could lose its A credit rating if it took on too much debt.

Alan Jope, who took over as chief executive three years ago, sees the future of consumer goods in health and hygiene products rather than food. Hand sanitiser and paracetamol have certainly sold well during the pandemic. Moreover, Unilever has a big presence in developing countries, which could create new markets for GSK's brands such as Sensodyne toothpaste and Advil painkillers. Still, on January 19th the company, possibly having read all the warning labels about the deal, said it would not raise its offer above £50bn, which GSK's bosses said undervalued their division. This may end the pursuit.

It won't end Mr Jope's troubles. He is under immense pressure to improve the group's performance. The affable Scotsmen has so far been unable to reignite growth in his three years in charge. Unilever's share price has declined in the pandemic even as those of rivals such as Nestlé, a Swiss giant, or Procter & Gamble (P&G), an American one, have gone up by more than 20% (see chart). A career-defining deal might have set him apart from his predecessor, Paul Polman, who was known for eschewing financial engineering. If the £50bn transaction came to pass, it would be one of Britain's biggest-ever.

There is also a growing sentiment that Unilever's zeal for purpose-driven brands, first instilled by Mr Polman, has run out of steam. From ethically sourced tea and fighting deforestation with sustainably-sourced palm oil to marketing Dove soap as a women's-self-esteem project, the firm has sought to connect with shoppers on their values and draw investors interested in environmental, social and governance (ESG) factors as well as profits. Although ESG remains popular, hints of a backlash against it are appearing. This month Terry Smith, an asset manager who is among Unilever's top ten shareholders, groused that the firm has "lost the plot" by pursuing sustainability medals at the expense of financial performance. A hard-headed pivot to a more profitable health business could, if successful, allay such worries.

The deal would have been problematic, and not just because it looked like a heavy lift for Unilever. Megamergers seldom work out as advertised, and Mr Jope's firm is not renowned for stellar execution. Moreover, the consumer-health market is ►



▶ expanding but incumbents' share of it is not. Established brands have a place—people need to brush their teeth—but growth in the sector increasingly comes from a new pharmacopoeia of clever products and services, many of them with digital features. Even in good years GSK's consumer-health division has grown at best in single digits. The long-term growth prospects for its brands look pale. Antacids and nicotine patches have only limited potential, even in emerging markets.

Unilever's rivals have been more discerning with their acquisitions. In 2020

Nestlé acquired Aimmune, a novel peanut-allergy medication, and a year later it bought Nuun, a challenger in the sports-beverage market. Both deals gave the Swiss firm a foothold in profitable, underdeveloped niches. P&G is dabbling in premium skincare, one of the industry's fastest-growing categories, with its latest acquisitions Tula Skincare and Farmacy Beauty. If Unilever does end up disposing of its food business, it may also miss out on the boom in alternative proteins, notes Bruno Monteyne of Bernstein, a broker. Meat substitutes appear certain to become more popu-

lar with time and companies like Unilever stand to benefit, given their mix of solid research-and-development base and brands beloved by consumers.

Unilever says it has another, undisclosed initiative up its sleeve to improve performance. It had better. The pandemic notwithstanding, the entire consumer-goods industry has experienced slower growth over the past decade. With the exception of Nestlé, European companies have done poorly. Unilever needs some refreshing, but more toothpaste won't do the trick. ■

Bartleby Drinking in the office

Don't ban, don't binge and don't badger

A RATHER GOOD black comedy called "Another Round" depicts what happens when a bunch of disenchanted Danish school teachers constantly top up the levels of alcohol in their blood. At first the experiment goes well: the students respond enthusiastically to their newly inspiring teachers. But unconsciousness, bed-wetting and worse soon ensue. By the end of the film, it is almost like a normal day in Downing Street.

A series of revelations about parties held in the home of the British prime minister during the pandemic, while the rest of the country was subject to covid-19 restrictions that banned such jollity, has put Boris Johnson's job on the line (see Britain section). The story has brought with it allegations of a culture of drinking among staff in Number 10: whip-rounds among colleagues to buy a wine-cooler; "prosecco Tuesdays" and "wine-time Fridays"; a suitcase used to ferry booze into the office.

Downing Street is a specific place: most people can socialise outside work without worrying about journalists eavesdropping. "Partygate" nonetheless raises the wider question of whether alcohol belongs in any office.

The pitfalls of combining drink and work are obvious. One is safety: a study from 2005 found that one in four industrial accidents worldwide could be attributed to drugs or alcohol. A second is that it encourages addiction. Alcohol use is the biggest risk factor for premature death and disability among 15-to-49-year-olds globally, according to the World Health Organisation. Research carried out in Canada found that norms encouraging workplace drinking, whether getting a round in after work or making booze available in the office, were predictive of alcohol problems.

A third consideration is the effect of sloshed colleagues on their co-workers. Roughly one-sixth of Norwegian employees say they experience harm from their colleagues' drinking, whether through unwanted sexual attention or simply feeling excluded. A recent 12-country survey found that 9% of employees are subject to some negative spillover effect, principally through having to cover for their co-workers in some way.

No wonder many organisations ban drinking on the premises or in working hours. Lloyd's of London, an insurance marketplace long associated with boozing, stopped its own employees from imbibing between 9am and 5pm in 2017; two years later it extended the prohibition to the much larger group of people with access to its building. But boundaries are hard to police. Lots of work-related drinking happens after hours and out of the office. That is especially true in the wake of the pandemic, when the lines between office and home have become so blurred. Is someone working at home with a glass of wine drinking on the job?

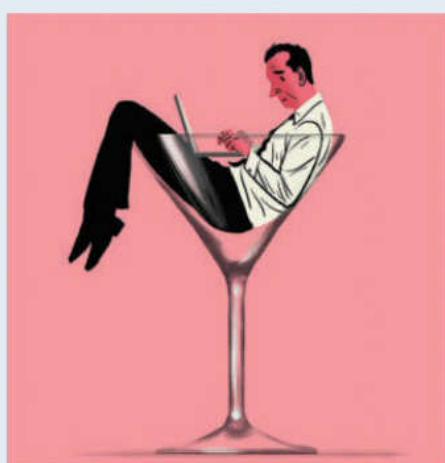
Bans can also be counterproductive. Lunches may not be as liquid as they once were, but salespeople will still sometimes want to wine and dine a client. A paper from 2012 found that a certain level of intoxication improved people's problem-solving ability; writers at *The Economist* have been known to combine claret and keyboard. Work drinks are a simple way to show appreciation for employees. Plenty of people enjoy alcohol and are capable of doing so in moderation. Leaving dos and office parties would be a lot less fun for many without a glass in hand.

The liberal argument—that, within reason, people should be able to make their own choices—is a good way to frame policies on work-related drinking. Let people have a tipple, so long as it does not impair their productivity. Make sure that choice genuinely goes both ways: stigmatising non-drinkers is a problem, particularly in boozy cultures like South Korea's. Normalise restraint, by restricting the frequency of work events and the amount of drink on offer.

And if you do worry about your drinking culture, the Downing Street shambles can help. Here are ten signs that things may be getting out of hand:

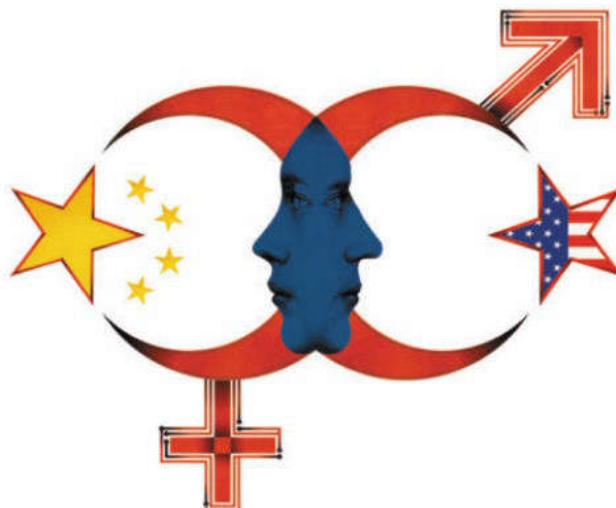
- You think a suitcase is a unit of measurement.
- You try to expense your fridge as a piece of office equipment.
- You bring booze to work events and laptops to parties.
- Your behaviour requires you to apologise to the queen.
- You cannot count to ten.

Alcohol and work can go together, but in moderation. That may not be the most original advice in the world, but following it would have left Mr Johnson with less of a headache.



Schumpeter | East v West, Venus v Mars

A tale of two surprisingly different Turkish tech giants



THANKS TO A venture-capital (vc) boom, it is no longer unusual to find tech unicorns, as unlisted startups valued above \$1bn are known, springing up in middle-income countries. However, two coming from Turkey are particularly strange creatures. First, they are big. Trendyol, an e-commerce company, is valued at \$16.5bn, giving it the status of a “decacorn” worth \$10bn or more. Getir, a pioneer of “superfast” grocery delivery, is reportedly close to joining that select group. Second, they are battle-hardened. Both come from a country wracked by inflation, currency instability and barmy economic policies, any of which can be kryptonite for investors. Most striking, their founders bear no resemblance to archetypal tech bros. Trendyol’s Demet Mutlu is a 39-year-old woman. Getir’s Nazim Salur is a 60-year-old man.

And yet look closely at their two companies, now worth more than almost any listed firm in Turkey, and the differences outweigh the similarities. Fittingly for a country that sees itself as a gateway between the Orient and the West, their view from the Bosphorus is Janus-like. One takes its inspiration from China, the other looks to Europe and America. One shuns the spotlight. The other craves it. One wants to turn women into go-getters. The other has the male-sounding mantra of “democratising the right to laziness”. They encapsulate several different dimensions of the tech divide. That makes them intriguing to compare and contrast.

Start with the division between East and West. In simple terms, this represents a choice between Asian-style super-apps and Silicon Valley-style blitzscaling. Trendyol’s biggest backer is Alibaba, and the Chinese e-emporium’s influence runs deep. The Turkish firm shares Alibaba’s marketplace model: it accounts for more than a third of e-commerce in Turkey and provides a platform for trading about \$10bn a year of merchandise. Unlike Amazon, the American giant, it sells only a few of its own goods. Like Alibaba, it calls itself a super-app, aiming to offer a variety of services, including payments, on its platform, and it puts the importance of its small-business sellers, who are everywhere in Turkey, on a par with buyers. International expansion, when it comes, will probably be to emerging markets, such as those in eastern Europe and the Middle East. It believes, as Alibaba does, that the super-app potential is greatest in such young, mobile-mad places.

By contrast, Getir’s first international backer was Michael Moritz of Sequoia Capital, an American vc firm. Aptly, its strategy borrows from the Silicon Valley playbook: blitzscale first, make money later. Founded in 2015, Getir claims to have invented the business of delivering groceries in under ten minutes (unsurprisingly in Istanbul, where few people live more than ten minutes from a shop, many of Mr Salur’s friends wondered at first why they would need it). Discounts help get customers hooked, Mr Salur says. Then, he hopes, the temptation to treat Getir like a personal butler will take over. With competition from America’s Gopuff and Germany’s Gorillas growing, speed is of the essence. Since launching its first international operation in Britain a year ago, the firm has moved through the developed world almost as fast as its purple-and-yellow-clad moped riders dash through the streets of London. It is now in 40 cities in Europe and America, from Barcelona, via Bristol, to Boston.

Mr Salur has long set his sights on penetrating America—and eventually listing the firm there. “If you’re a startup guy, you want to succeed where the startups are,” he says. In true American style, he revels in media attention. Getir welcomed your columnist to a brightly lit depot (“dark store” is a misnomer) under railway arches in South London to see baskets of biscuits and avocados whizzing out the door. Only when discussing the financials of a cash-guzzling business is Mr Salur guarded. He declines to comment on its latest valuation, which Bloomberg reports to be as high as \$12bn. “When money is in the bank, you will hear about it.”

Ms Mutlu could not be more different. She has put a China-like media firewall around Trendyol and mostly shuns interview requests. One of the few nuggets commonly repeated about her is that she dropped out of Harvard Business School to set up Trendyol in Turkey. And yet she is more remarkable than that. Besides founding Trendyol, she co-founded another Turkish unicorn, a gaming company sold to San Francisco-based Zynga for \$1.8bn in 2020. To put that into perspective: PitchBook, a data gatherer, calculates that of 1,335 unicorns globally, only 185, or just under 14%, have at least one female founder.

Furthermore, Ms Mutlu is described by an investor as “maniacal” about tech. Having started out selling fashion items on Trendyol, she is a champion of Turkey’s textile industry. She is also an advocate (albeit a media-shy one) for women in the digital economy. Women make up about half of Trendyol’s employees, including some software engineers, and many of her buyers and sellers. Those who know her say she struggled to be taken seriously as she built her business. Adding to the frustration, she did not know whether it was because she was a woman, or Turkish, or both.

Ottoman empire-builders

These are heady times for startups everywhere. Both companies are aware that they have thrived at a time when vc funding across the globe is frenzied—and sometimes indiscriminate. Neither is likely to do an initial public offering soon, at least until the valuation shortfall of public versus private markets narrows.

Yet they have also benefited from growing up in Turkey’s school of hard knocks. Living amid galloping price increases prepares them for a world that is reawakening to the menace of inflation. In a country where vc funding was negligible until 2021, they learned to operate leanly. And they stand proudly behind names that are hard-to-pronounce in English. As Mr Salur quips: “Remember Arnold Schwarzenegger? He didn’t change his name.” It may be time to get used to them. ■

ECONOMIST
EDUCATION

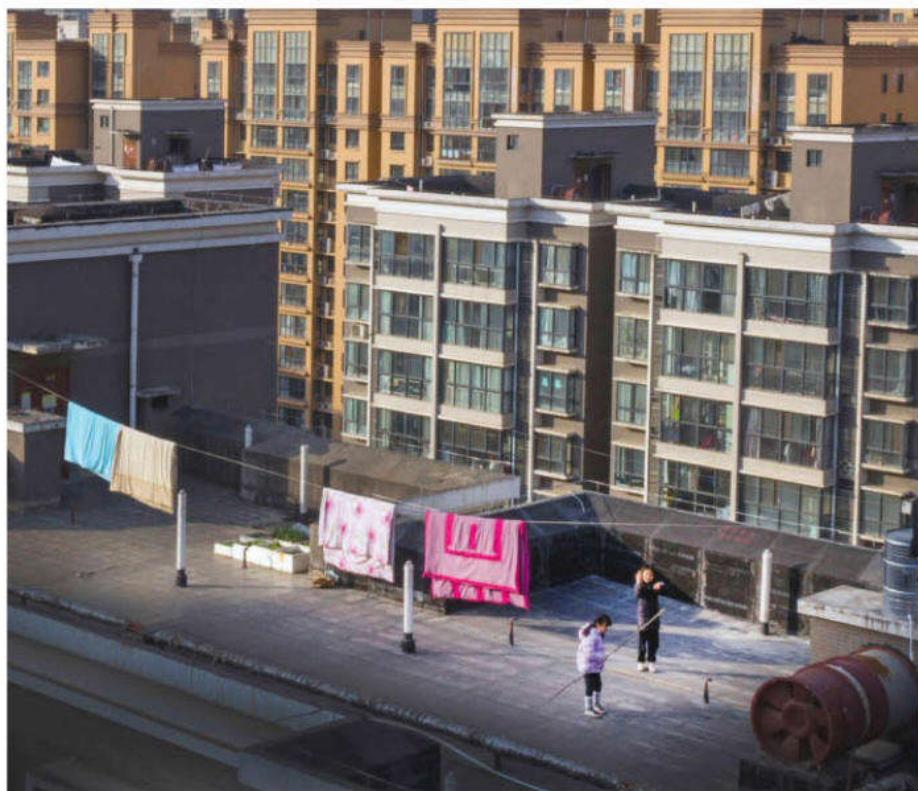
“Granular” or “detailed”: which is best?

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China's economy

Omicronic pains

HONG KONG

As lockdowns and crackdowns take their toll, policymakers seek to revive growth

CHINA HAS not enjoyed much success at the sport of curling, which will feature in the Beijing winter Olympics beginning on February 4th. But the country's economic policymakers could draw inspiration from the obscure event. Like curlers, they have a difficult target to hit. They are thought to be aiming for growth of 5% or more in 2022, despite the threat posed by the arrival of the Omicron variant of covid-19, which has appeared in seven provinces, big cities like Shanghai and Tianjin, and was reported in Beijing for the first time on January 15th.

The parallels do not stop there. Just as the curlers must slide a "stone" (a kind of oversized puck) with enough force to reach the target, but not so much that it crashes off the ice, so must China's policymakers strike a balance. They must give a slowing economy enough oomph to grow by 5%, but not so much that it exceeds its limits, contributing to inflation and speculation.

According to figures released on January 17th, China's GDP grew by 8.1% in 2021, its fastest pace since 2011. "Nominal" GDP, which does not adjust for inflation, grew

even more quickly: by about 12.6%. And because China's currency also strengthened, its GDP surpassed \$17.7trn (at market exchange rates), an increase of 20% over the year before. Judging by these numbers, the economy would seem to have all the momentum it needs.

But the pandemic so weakened China's economy in early 2020 that the following

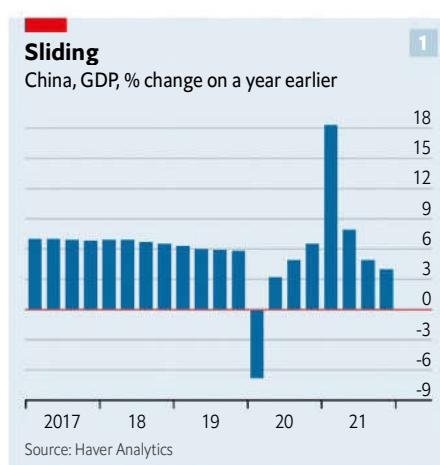
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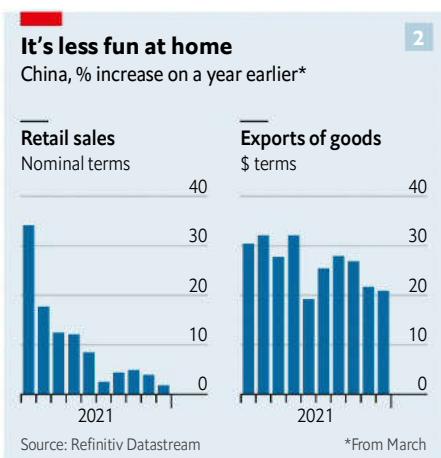
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year was always going to look unusually strong by comparison. As 2021 progressed, growth ebbed (see chart 1). Now the economy must also contend with the Omicron variant. Unlike other countries, China has no intention to "live with" the virus, even if its latest iteration is less severe than earlier ones. It will instead try to keep covid's least repressible variant at bay. Mandatory testing in Tianjin, for example, has already forced Toyota to suspend carmaking at its joint venture in the city. Volkswagen has experienced similar problems.

Meanwhile, Delta has not disappeared. A wide-ranging lockdown was imposed on the city of Xi'an in central China after its officials failed to contain an outbreak of the Delta variant quickly enough. Micron, which assembles and tests DRAM microchips (used for temporary storage) in the city, said the measures would have "some impact" on its plant's output. Samsung also said it will have to "adjust" production at its flash-memory factory, which accounts for about 15% of the world's capacity for NAND chips, according to TrendForce, a market-intelligence firm. (NAND chips are used for permanent storage.)

China's overseas customers worry about what would happen if a Xi'an-style lockdown were imposed on a city closer to the heart of the country's export machine. But optimists point out that China's export hubs lie mostly in more prosperous regions with more capable governments. They have more effective contact tracing, which could allow their lockdowns to be ➤





more precisely targeted. After Omicron infections were discovered in Shanghai, for example, the authorities raised the "risk" level (which entails tightened restrictions on movement) not for the entire city or an entire district, but for zones as small as a bubble tea shop, where three workers were infected. "Zero-covid has maybe 1,000 factories in 1,000 cities", says one analyst, depending on the resources each place can lavish on the strategy.

The more immediate economic threat posed by Omicron is not to foreign customers but to China's own consumers. Intermittent restrictions on travel and gatherings have hampered retail spending, which grew by only 1.7% in nominal terms in December, compared with a year earlier, and shrank, after adjusting for inflation. Goldman Sachs, a bank, thinks further lockdowns this year could cut a full percentage point off growth in household consumption. It has lowered its growth forecast for GDP as a whole from 4.8% to 4.3%, below the government's target.

China's recent economic momentum has also suffered from coal shortages, environmental limits on energy intensity, regulatory crackdowns on consumer-facing tech companies, and strict curbs on borrowing by property developers, which forced several to default, shaking the confidence of homebuyers. In curling, skaters frantically sweep debris and other impediments out of the stone's way to smooth its passage across the ice. In China, policymakers have been doing the opposite, sweeping one regulatory obstacle after another into the economy's path.

What explains this regulatory zeal? After the economy bounced back quickly from the first wave of the pandemic, China's policymakers may have concluded that it was a good time to curb some of the negative side-effects of growth, such as pollution and property speculation. Economic momentum seemed assured. Exports in particular boomed as people around the world spent less on face-to-face services during the pandemic and more on

goods to keep them safe (masks), slim (exercise bikes) and sane (games consoles).

But this external source of growth may ebb over 2022. Foreigners are unlikely to splash out again on the home comforts that got them through recent lockdowns (see next story). Customers who bought a games console or exercise bike in 2021 probably will not need an upgrade soon. Moreover, for China's exports to grow from their current levels, the splurge would have to be increased, not merely repeated.

Somewhat belatedly, policymakers have now realised that growth needs stabilising. On January 17th China's central bank cut the interest rate on its one-year loans from 2.95% to 2.85%. That was followed days later by a fall in the reference rates for bank loans. These reductions follow a cut last month in the reserve requirements imposed on banks.

The government is also easing fiscal policy. It has extended income-tax breaks, including favourable treatment for year-end bonuses. It is encouraging local governments to issue more "special" bonds (which are meant to be repaid out of revenues from the infrastructure projects they finance). It is also hastening construction of 102 infrastructure "mega-projects" outlined in the country's five-year plan for 2021-25. China's state grid will, for example, build 13 ultra-high-voltage transmission lines in 2022. Increased infrastructure investment could add at least a percentage point to GDP growth in the first half of 2022, according to Morgan Stanley, a bank.

Analysts at Morgan Stanley are relatively confident about the government's chances of meeting its growth target this year, as long as policymakers bring about a soft landing for the property market. Home sales fell by almost 18% in December, compared with a year before. To arrest this trend, government officials have tried hard to reassure homebuyers that the flats they have bought in advance will be built, even if the developer that sold them goes bust. Mortgage rates are edging downwards. And a number of cities have experimented with subsidies and tax cuts to encourage home-buying. Rosealea Yao of Gavekal Dragonomics, a consultancy, thinks sales will improve in the first quarter compared with the previous three months.

But although China's national rulers are now committed to stabilising the economy, they are still wary of overstimulating property, which is prone to worrying speculative bubbles. Beijing wants local governments to do enough, but not too much. After the northern province of Heilongjiang promised an "all-out sprint" to revive the property market, the exhortation was soon removed from the internet, points out Ms Yao. The measured art of curling, not sprinting, is the better metaphor for the government's aims. ■

Supply snarls

Chain reactions

WASHINGTON, DC

Just how gummed up are global supply chains?

THE GENERAL public learned far more about supply chains last year than it probably cared to. A host of disruptions to production and shipping interacted with soaring demand for goods to produce bare shelves and rising prices. Although goods have been in short supply, the number of measures tracking supply-chain woes has proliferated at an impressive pace in recent months. All paint a picture of historically high levels of disruptions, and an uncertain path ahead.

One gauge is an "ocean timeliness indicator", published by Flexport, an American logistics firm. This reports how long it takes a shipment to move from the supplier's warehouse to the departure gate of the destination port, for two big freight routes out of China: to Europe and America. Three years ago the journey to Europe took just under 60 days, and that to America just under 50. Travel times then rose steadily after the pandemic struck. But the trends for the two routes have diverged a little in recent months. Shipping times to Europe have fallen from above 110 days down to 108. Transport to America, at 114 days' total journey time, takes longer than ever (see chart on next page, left-hand panel).

A global supply-chain pressures index, compiled from a variety of indicators by economists at the Federal Reserve Bank of New York, tells much the same story. Be- ►



Ever delayed

Slow, slow, slow your boat

Shipping times*, days



Sources: Flexport Research; Capital Economics; New York Fed

*Days between cargo being taken to port of origin and its pickup from destination port

Measures of supply-chain strains

Standard deviations from average



Average: †1997-2021 ‡1992-2021

Before the pandemic the highest-ever reading of the index (which the researchers have computed back to the 1990s) was in April 2011. Then, troubles associated with an earthquake and tsunami in Japan pushed the index up to 1.7 standard deviations above its long-run average. The measure surged much higher in spring 2020, to 3.9 standard deviations above the mean; last year it rose even further still, reaching 4.4 in October. It has since retreated, but only by a touch, continuing to signal a high level of stress (see chart, right-hand panel).

Another indicator, maintained by Capital Economics, a consultancy, takes account of both goods and labour shortages across the G7 group of large economies. It also suggests that stresses remained intense in late 2021. Freight rates, for their part, rocketed during the first nine months of 2021, before flattening off in the final quarter of last year. Yet as high rates become negotiated into longer-duration shipping contracts, elevated costs could persist into 2023 and beyond.

Whether and when matters improve depends on the course that both the virus and the global economic recovery now take. The appearance of the Omicron variant in parts of China could lead to lockdowns and further disruptions at ports. In America, a record number of covid-19 cases has meant that fewer longshoremen and truck drivers are in work. Hopes are dimming that a pause in production, associated with China's new year holiday in early February, might allow ports to work through existing backlog.

Respite could come instead from cooling demand in the rich world, particularly in America, which in 2021 displayed a voracious appetite for all manner of goods. Analysts at Morgan Stanley, a bank, have constructed an indicator of supply-chain stress that looks at both supply and demand conditions. Their measure suggests that the latter are mainly responsible for the easing of pressures since late 2021. Trade growth has decelerated, for instance,

thanks to reduced demand for both consumer and capital goods.

Flexport predicts that, although Americans' demand for goods relative to their appetite for services will remain unusually high in 2022, the imbalance should become less pronounced in the months ahead than it was over the past year. If people start to hear a little less about supply-chain snarls, their own shifting shopping habits may explain why. ■

Wall Street

Mixed messages

Why bank stocks are tumbling even as interest rates climb

MUCH AS HIGHER milk prices are typically good news for dairy farmers, higher interest rates are meant to be good news for bankers. Conventional lenders make their money on the difference between the interest they pay out to depositors and the interest they earn on loans and investments. As rates rise, that gap widens. And as interest rates are set by central banks that only tend to raise them when the economy is strong—when jobs are plentiful, spending is high and inflation is climbing—rising rates typically also imply that borrowers will be well placed to repay their debts.

Treasury yields and interest-rate expectations in America have marched higher since the middle of December, when the Federal Reserve announced it would accelerate plans to taper its asset purchases. The yield on ten-year Treasuries climbed to 1.9% on January 18th, its highest level in two years. As recently as October investors expected just a solitary interest-rate increase from the Fed in 2022. But they have rapidly revised expectations as consumer price inflation has surged, pencilling in be-

tween four and five rate rises over the course of the year.

So when six of America's largest banks—Bank of America, Citigroup, Goldman Sachs, JPMorgan Chase, Morgan Stanley and Wells Fargo—reported earnings for the final quarter of 2021 between January 14th and 19th, their executives merrily offered guidance of greater interest income to come. Jamie Dimon, the boss of JPMorgan, thought that market expectations of interest-rate rises could even be too conservative. "My view is that there is a pretty good chance there will be more than four," he said on an earnings call on January 14th. "It could be six or seven."

Yet, surprisingly, the lenders' stock prices have tumbled (see chart). Shares in JPMorgan have fallen by nearly 12% since the bank reported its earnings. Goldman's shares dropped by 7% in a single day on January 18th, after it released its earnings. What resolves this seeming paradox?

The first potential explanation is costs, and climbing wage bills in particular. Compensation costs at Goldman in 2021 jumped by 33%, year on year, to \$17.7bn, an increase of \$4.4bn. Citi's wage bill spiked by 33% in the fourth quarter, compared with a year earlier, and compensation expenses rose by 14% at JPMorgan and 10% at Bank of America over the same period.

Higher wage costs in part reflect booming business: Goldman's profits for 2021 as a whole were more than 60% above their previous all-time high. But dearer compensation adds to growing unease about how pervasively inflation has taken root in America. "There is real wage inflation everywhere in the economy," David Solomon, Goldman's boss, told investors on the bank's earnings call.

An alternative explanation for the share-price fall is that investors are fearful that higher rates are not unequivocally good news for America's banks. The flood of cheap money pumped by the Fed into financial markets in 2020 and 2021 helped asset prices reach dizzying new heights. Goldman made \$22bn from trading in 2021, ►

Fizzling out

Share prices, January 3rd 2022* = 100



Source: Refinitiv Datastream

*10am EST

► the most since 2008.

Easy money also helped fuel a bonanza in company-financing activity. The pace of dealmaking and initial public offerings (IPOS) has been almost bewildering. Global IPOS raised the mammoth sum of \$600bn in capital in 2021, compared with around \$200bn in 2019. Trading and corporate finance have together generated extraordinary profits for Wall Street firms. Global investment-banking revenues amounted to \$129bn in 2021, a 40% increase over those of the year before, according to Dealogic, a data provider.

But now, as inflation hots up and monetary policy shifts, the period of bumper profits that banks enjoyed since the middle of 2020 may be coming to an end. A look at the profits for the final three

months of 2021 suggests that the slowdown may have already begun. Trading revenues dropped by 11% at JPMorgan, compared with the same period a year earlier (although revenues were still 6% above their level in 2019).

Considering that bank bosses have been warning for months that trading and dealmaking revenues would eventually return to pre-pandemic levels, their imminent normalisation should, perhaps, have not come as a surprise to investors. The fact that share prices have fallen, then, could hint at a lurking fear. The arrival of extraordinary stimulus prompted an unusual period of profitability for bankers. Perhaps punters are worried that the removal of such stimulus could prove unusually dismal. ■

be guaranteed to operate as written, thereby removing the need for an intermediary. But just as Ethereum improved upon Bitcoin, it too is now being usurped by newer, better technology. The fight resembles competition between operating systems for computers, says Jeremy Allaire, the boss of Circle, a firm that issues USD Coin, a popular crypto-token.

Current blockchain technology is clunky. Both Bitcoin and Ethereum use a mechanism called "proof of work", where computers race to solve mathematical problems to verify transactions, in return for a reward. This slows the networks down and limits capacity. Bitcoin can process only seven transactions per second; Ethereum can handle only 15. At busy times transactions are either very slow or very costly (and sometimes both). When demand to complete transactions on Ethereum's network is high, the fees paid to the computers that verify them climb and settlement times grow. Your correspondent has paid as much as \$70 to convert \$500 into ether and waited for several minutes for a transfer from one crypto-wallet to another to take place.

Developers have long been trying to improve Ethereum's capacity. One prong of that is, in effect, rewiring it. Plans are afoot to shift Ethereum to a more easily scalable mechanism called "proof of stake" later this year. Another idea is to split the blockchain up, through a process called "sharding". The shards will share the load, expanding capacity. Some developers are also working on ways to bundle transactions, reducing the number of them that must be directly verified.

The problem is that each advance comes with costs. DeFi's supporters tout ►

Ethereum and its rivals

Battle of the blockchains

The race to dominate the DeFi ecosystem is on

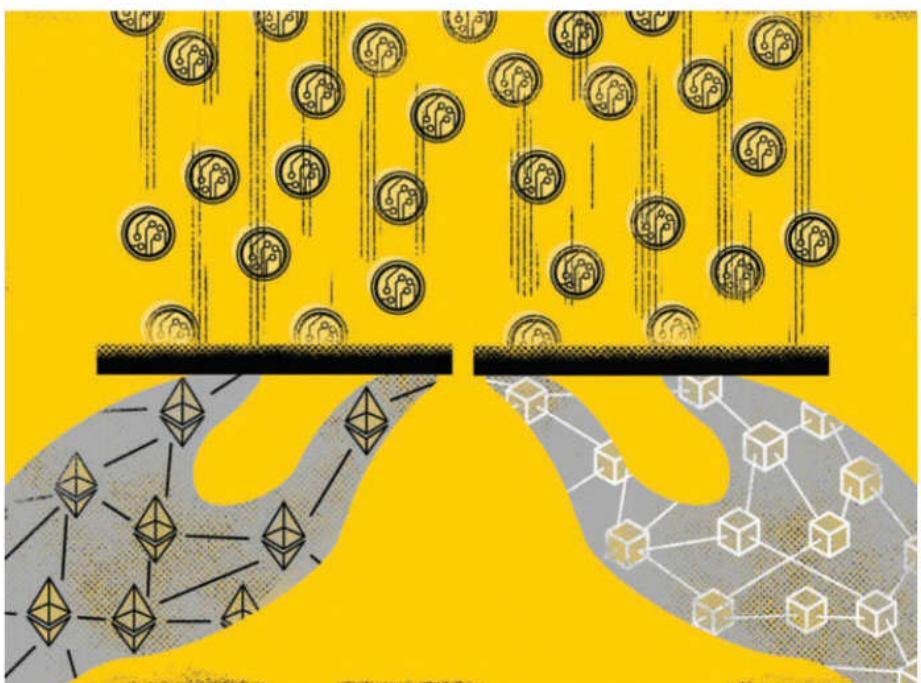
TO BELIEVERS, OPEN, public blockchains provide a second chance at building a digital economy. The fact that the applications built on top of such blockchains all work with each other, and that the information they store is visible to all, harks back to the idealism of the internet's early architects, before most users embraced the walled gardens offered by the tech giants. The idea that a new kind of "decentralised" digital economy might be possible has been bolstered over the past year as the numerous applications being built on top of various blockchains have boomed in size and functionality.

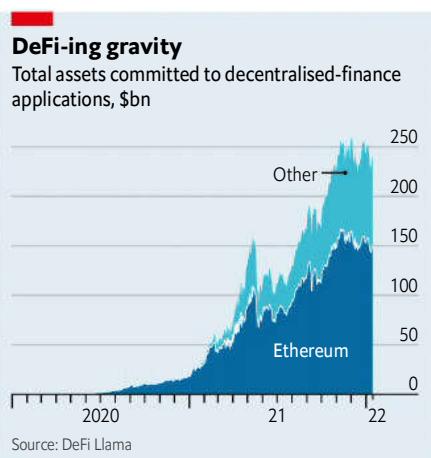
Perhaps the most significant part of that economy has been decentralised-finance (DeFi) applications, which enable users to trade assets, get loans and store deposits. Now an intensifying battle for market share is breaking out in this area. Crucially, Ethereum, the leading DeFi platform, seems to be losing its near-monopoly. The struggle shows how DeFi is subject to the standards wars that have broken out in other emerging technologies—think of Sony Betamax versus VHS video cassettes in the 1970s—and illustrates how DeFi technology is improving lightning-fast.

The idea behind DeFi is that blockchains—databases distributed over many computers and kept secure by cryptography—can help replace centralised intermediaries like banks and tech platforms. The value of assets stored in this nascent financial system has climbed from less than \$1bn at the start of 2020 to more than

\$200bn today (see chart on next page).

Until recently the Ethereum blockchain was the undisputed host of all this activity. It was created in 2015 as a more general-purpose version of Bitcoin. Bitcoin's database stores information about transactions in the associated cryptocurrency, providing proof of who owns what at any time. Ethereum stores more information, such as lines of computer code. An application that can be programmed in code can





► the virtue of being able to conduct transactions securely and without centralised intermediaries. But gains in scale could come at a price, by making the platform less secure, or less decentralised. Pooling transactions before they reach the blockchain tends to be done by centralised entities. And it might be easier for hackers to attack a single shard of a blockchain than the entire thing. As a result, Ethereum developers have been slow to make changes.

This sluggishness has made the network vulnerable in a different way—by encouraging rivals. In early 2021 nearly all of the assets locked in DeFi applications were on Ethereum's network. But in a recent research note JPMorgan Chase, a bank, estimates that the share of DeFi applications using Ethereum fell to 70% by the end of 2021. A growing number of networks, such as Avalanche, Binance Smart Chain, Terra and Solana, now use proof of stake to run blockchains that do the same basic job as Ethereum, but much more quickly and cheaply. Avalanche and Solana, for instance, both process thousands of transactions a second.

The experience of USD Coin illustrates these shifts. The token was launched on Ethereum just over three years ago, but has since been launched on a number of competitor networks, including Algorand, Hedera and Solana. Mr Allaire says that whereas transactions on Ethereum are subject to cost and speed limitations, those on Solana can handle "Visa-scale volumes" with "settlement finality in about 400 milliseconds and a transaction cost of about a twentieth of a penny". Other DeFi applications, like SushiSwap, an exchange founded on Ethereum, have also launched on several other blockchains.

With the planned changes to Ethereum likely to take at least a year, if not longer, "the risk is that...the Ethereum network will lose further market share", wrote Nikolaos Panigirtzoglou of JPMorgan. For Mr Allaire, the picture is pleasingly competitive: "Just like with the web, where Windows, iOS and Android all compete, there

are competing blockchain platforms, too." He thinks the ultimate victor will be the platform that attracts the best developers to build applications and therefore reaps network effects.

But the operating-system metaphor may only extend so far, in part because of the nature of open, public blockchains. Anyone can access the data they produce and view their operating code, making it possible to build bridges or applications that work across many blockchains, or which aggregate information from different blockchains. Some applications, like iinch, already scan exchanges on several blockchains in order to find the best execution prices for various crypto transactions. "Multi-chain" blockchains, like Polkadot and Cosmos, act like bridges between different networks, making it possible to work across them.

For as long as decentralised finance holds promise, competition to be the network of choice will naturally be fierce. But the idea that the eventual winner will take everything, gaining overall control over the digital economy and how it develops, may one day come to seem as outdated as the video cassette. ■

Employee benefits in America

On the fringe

Labour shortages have done little to boost perks for workers

THE PANDEMIC has fundamentally transformed the American workplace. More people than ever are working from home. Meetings have moved from offices to screens. Employees are quitting their jobs in droves, pushing job vacancies to record highs. Amid widespread labour shortages, firms are handing out pay rises and bonuses to attract workers. But what about other perks, which make up a big chunk of

employees' overall compensation? If you listen to bosses, firms have expanded benefit plans in the wake of the pandemic, providing workers with more flexible hours, emergency sick leave and mental-health services. But official statistics show only modest gains in fringe benefits since the start of the pandemic. Although the value of non-wage compensation for low-paid workers grew faster than that for better-paid employees last year, the disparity in the level of provision remains vast.

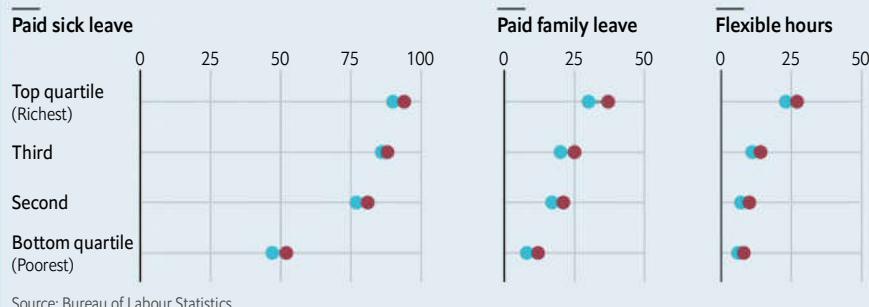
Health insurance, paid leave, pensions and other "fringe" benefits doled out by private-sector firms accounted for 29% of total compensation, on average, in 2021, up from 20% in 1970, according to the Bureau of Labour Statistics (BLS). If perks such as free food were to be included, the figure would be higher still. Although they are harder to measure, amenities such as flexible working hours are valuable, too. A paper published in 2018 by researchers at Harvard Medical School, the University of California, Los Angeles, and the RAND Corporation analysed survey data and concluded that the freedom to set one's own schedule is worth a pay increase of 9%, and the ability to work from home is worth a raise of 4.1%.

But such benefits, much like wages, tend to be unevenly distributed. Some 94% of private-sector workers in the top quartile of the income distribution have access to health insurance from their employer, compared with just 40% of workers in the bottom quartile, according to the BLS. Similar disparities exist for life insurance (84% v 25%), retirement benefits (90% v 44%) and paid sick leave (94% v 52%). Differences in working conditions make things even more lopsided, according to new research by Jason Sockin of the University of Pennsylvania. Using data from Glassdoor, a website that lets users post anonymous reviews of their employers, Mr Sockin finds that high-paying firms tend to offer better amenities, thereby exacerbating labour-market inequality.

Efforts to improve benefits during the pandemic appear to have done little to ex- ►

Perking up

United States, private-sector employees with benefits, by income group, %



expand provision to more workers. The latest national compensation survey by the BLS found that access to paid sick and family leave at private firms rose on average by only four and five percentage points, respectively, between March 2019 and March 2021. Flexible working hours, defined as the freedom to set your own schedule, expanded by just three percentage points. Peter Cappelli of the University of Pennsylvania's Wharton School says that, although some companies have introduced signing bonuses and free university tuition to attract workers, they have been reluctant to

shell out for pricier perks. "I think they really are resisting moving towards benefits that are going to cost them much of anything," Mr Cappelli says.

Although access to benefits has changed little, perks are at least becoming more generous for some recipients. Every year the BLS tots up the value of employees' compensation costs. In 2021, workers in the bottom tenth enjoyed a 9.2% increase in the real value of benefits, on average, the biggest rise since data were first collected in 2009. In the 12 months ending in September 2021 average benefit costs for ser-

vice-sector workers including cooks, carers and cleaners rose by 3.3%, compared with 2.6% across the workforce as a whole.

The hope is that such increases continue if labour remains scarce. Mr Sockin says that employees may also be taking stock: "I think the pandemic has led to this recognition among workers that they may want more than just a wage." But with the value of benefits amounting to less than \$3 per hour worked for someone in the bottom tenth of the income distribution, compared with \$25 for someone in the top 10%, the gap that needs closing is truly vast. ■

Buttonwood Conflict of interest

What would it take to dislodge the market bias for debt over equity?

THE NICETIES of corporate finance rarely attract the attention of activists. It is rarer still that those at either end of the political spectrum agree on the need for change. When it comes to the tax system's preferential treatment for debt over equity, however, both the left-wing Tax Justice Network and the fiscally conservative Tax Foundation agree that the "debt bias" needs correcting. But the degree of consensus belies the difficulty of getting it done.

Most countries that levy taxes on corporate profits treat debt more favourably than equity, largely because they allow interest payments, like other costs, to be deducted from tax bills. That gives companies a huge incentive to borrow, rather than to fund themselves through equity. In America, Britain, Germany and Japan, debt-based finance is taxed at rates that are 3.8-6 percentage points lower than those on equity investments, according to the OECD. The result is more indebtedness than would otherwise have been the case. According to the Securities Industry and Financial Markets Association, the value of outstanding debt securities amounts to \$123trn, exceeding the \$106trn in listed equities globally. The IMF estimated in 2016 that the debt bias explained as much as 20% of investment banks' total leverage.

The bias affects a swathe of firms, from small and unlisted family affairs to the world's biggest public companies; and higher debt loads in general leave them more exposed to economic shocks. But, because trouble at highly leveraged lenders can easily throw the rest of the financial system into turmoil, researchers have tended to concentrate on the effects on banks. Total earnings are often thin relative to the large flows of interest payments made to and by lenders, and

removing the tax deductibility of interest could make some of them unprofitable.

The debt bias grows as corporate taxes rise, posing headaches for governments hoping to shake down profitable companies to plug fiscal holes. It has therefore not gone unnoticed by the authorities—though recent attempts to restore balance have been marginal. A rule that came into effect this year in America caps debt-interest tax-deductibility at 30% of a company's earnings before interest and taxes, as part of President Donald Trump's 2017 tax reforms. The EU is mulling a "debt-equity bias reduction allowance", the details of which are yet to be made public.

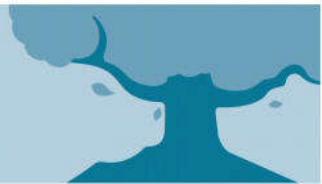
What would wholesale reform look like? In a paper published in 2017, Mark Roe of Harvard Law School and Michael Tröge of ESCP Business School put forward some ideas. One is to treat debt less preferentially. They imagine a bank with \$50bn in gross profits and \$40bn in interest payments. With full deduction for interest and a corporate-tax rate of 20%, the bank would pay tax of \$2bn, and have an incentive to rack up debt. But if the interest

deduction were removed altogether, a tax rate of 20% would wipe out the bank's entire net profit. One solution would be to withdraw deductibility, but to lower the tax on gross profits. A rate of 7% in that scenario would yield as much to the taxman, and pose the same burden to the bank, as a 35% tax on net profits.

Another option, which may be more politically viable than cutting tax rates, is to make issuing equity more attractive. The researchers propose a version of an allowance for corporate equity (ACE), which would make some share of a bank's equity—above its regulatory requirements—as tax-friendly as debt. If a bank had \$100bn in equity above what it was required to issue, an allowance of 5% would reduce its taxable profit by \$5bn, the same way that \$100bn in debt with an interest rate of 5% would be treated. The principle could be applied just as easily to non-financial firms.

Indeed, some European countries, such as Italy and Malta, have introduced ACE schemes for a wider set of companies. The OECD reckons that Italy's tax bias in favour of debt is now less than a percentage point. The European Commission finds that the country's scheme has reduced the leverage ratio of manufacturers by nine percentage points, with a larger effect on smaller firms.

Reducing the bias, then, is not impossible. But working out whether reform will upset the vast edifice of debt financing will be much harder to do, especially in the larger markets of America or the wider EU. (Italy's scheme covers only newly issued equity for this reason.) The preference for debt is deep-rooted enough that ripping it out could have large, enduring effects on portfolios around the world. Serious change may not come as quickly as the activists hope.



Free exchange | Update in progress

Economists are revising their views on robots and jobs



WHEN THE pandemic first struck, unemployment soared. Not since the Depression had American joblessness surpassed 14%, as it did in April 2020. But fears of a prolonged period of high unemployment did not come to pass. According to the latest available data, for November, the unemployment rate for the OECD club of mostly rich countries was only marginally higher than it was before the pandemic. By now it may even have drawn level. The rich world's labour-market bounceback is the latest phenomenon provoking economists to look again at a foundational question in the discipline: whether robots help or harm workers.

The gloomy narrative, which says that an invasion of job-killing robots is just around the corner, has for decades had an extraordinary hold on the popular imagination. Warning people of a jobless future has, ironically enough, created plenty of employment for ambitious public intellectuals looking for a book deal or a speaking opportunity. Shortly before the pandemic, though, other researchers were starting to question the received wisdom. The world was supposedly in the middle of an artificial-intelligence and machine-learning revolution, but by 2019 employment rates across advanced economies had risen to all-time highs. Japan and South Korea, where robot use was among the highest of all, happened to have the lowest rates of unemployment.

Many thought that the pandemic would at last prove the doom-mongers right. In mid-2020 a highly cited paper published by America's National Bureau of Economic Research argued that covid-19 "may accelerate the automation of jobs", and another asserted that it was "reinforcing both the trend towards automation and its effects". A paper published by the IMF wondered whether the jobs lost during the pandemic would "come back". Part of the logic was that since robots don't fall ill, bosses would turn to them instead of to people—as seemed to have happened in some previous pandemics. Others noted that bursts of automation tend to occur during recessions.

Two years on, though, the evidence for automation-induced unemployment is scant, even as global investment spending is surging. The rich world faces a shortage of workers—by our reckoning there are a record 30m unfilled vacancies across the OECD—which is hard to reconcile with the idea that people are no longer

necessary. Wage growth for low-skilled workers, whose occupations are generally thought to be more vulnerable to replacement by robots, is unusually fast. There is still little evidence from America that "routine" jobs, thought to be easier to automate, are shrinking relative to other sorts of jobs.

Considering that so many doubts about the "robots kill jobs" narrative have arisen, it is not surprising that a different thesis is emerging. In a recent paper Philippe Aghion, Céline Antonin, Simon Bunel and Xavier Jaravel, economists at a range of French and British institutions, put forward a "new view" of robots, saying that "the direct effect of automation may be to increase employment at the firm level, not to reduce it." This opinion, heretical as it may sound, does have a solid microeconomic foundation. Automation might help a firm become more profitable and thus expand, leading to a hiring spree. Technology might also allow firms to move into new areas, or to focus on products and services that are more labour-intensive.

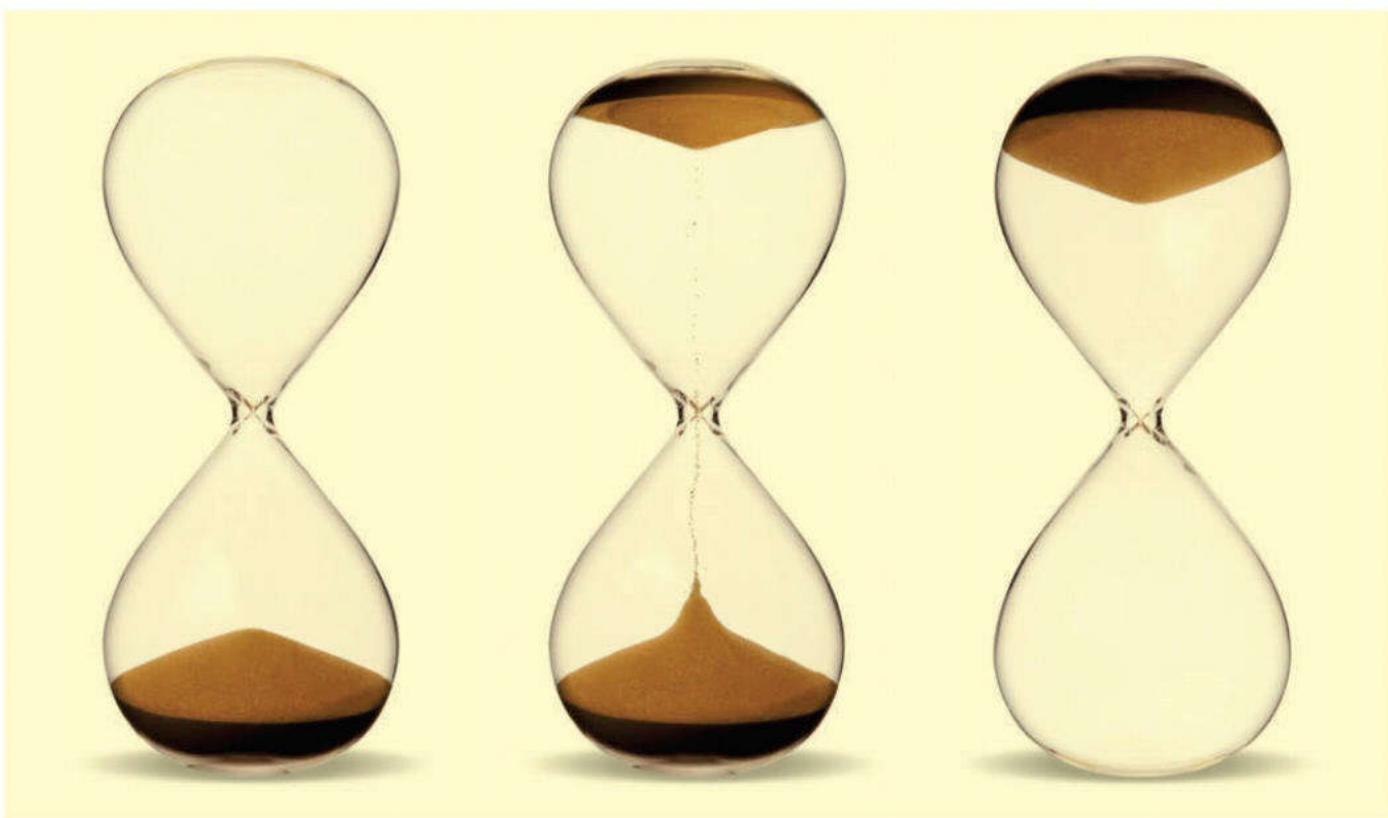
A growing body of research backs up the argument. Daisuke Adachi of Yale University and colleagues look at Japanese manufacturing between 1978 and 2017. They find that an increase of one robot unit per 1,000 workers boosts firms' employment by 2.2%. Another study, by Joonas Tuukuri of the Massachusetts Institute of Technology (MIT) and colleagues, looks at Finnish firms and concludes that their adoption of advanced technologies led to increases in hiring. Unpublished work by Michael Webb of Stanford University and Daniel Chandler of the London School of Economics examines machine tools in British industry and finds that automation had "a strong positive association with firm survival, and that greater initial automation was associated with increases in employment".

Non-economists can be forgiven for rolling their eyes at the profession's apparent about-face. But things are not as simple as saying that economists had got it wrong before. For a start, statistical methods have improved since the publication of the foundational papers in robometrics, such as one by Carl Benedikt Frey and Michael Osborne of Oxford University in 2013, which was widely interpreted as saying that 47% of American employment was at risk of automation. The methodology used by Mr Adachi and his co-authors is particularly clever. One problem is untangling causality: firms on a hiring spree may also happen to buy robots, rather than the other way round. But the paper shows that firms buy robots when their prices fall. This helps establish a causal chain from cheaper robots, to more automation, to more jobs.

The onrushing wave...of research

A second qualification is that the "new view" does not establish that automation is "good". So far, it has had little to say about job quality and wages. But a forthcoming book by David Autor, David Mindell and Elisabeth Reynolds of MIT finds that even if robots do not create widespread joblessness, they may have helped create an environment where the rewards are "skewed towards the top". Others argue that automation reduces job quality.

Mr Aghion and his colleagues add that even if automation boosts employment at the level of the firm or industry, the effect across the economy as a whole is less clear. In theory robot-adopting companies could be so successful that they drive competitors out of business, reducing the total number of available jobs. Such questions leave researchers with plenty more to investigate. But what seems clear at this stage is that the era of sweeping, gloomy narratives about automation is well and truly over. ■



Biotechnology

Backwards ran the sands of time

Rejuvenation has been a fantasy since the dawn of storytelling. Could an instant unicorn make it come true?

STARTUPS COME and startups go. But few startups start with \$3bn in the bank. Yet that is the fortunate position in which Altos Labs finds itself. Though preparations for the launch of what must surely be a candidate for the title of “Best financed startup in history” have been rumoured for months, the firm formally announced itself, and its *modus operandi*, on January 19th. And, even at \$3bn, its proposed product might be thought cheap at the price. For the alchemy its founders, Rick Klausner, Hans Bishop and Yuri Milner, hope one day to offer the world is an elixir of life.

Others have tried this in the past. In 2013 an outfit called Calico Life Sciences was set up under the aegis of Google (now Alphabet), with Larry Page, one of that firm’s founders, as an interested party. It has yet to generate a product. In the same year Craig Venter, who ran a private version of the human genome project, and Peter Diamandis, who started the X Prize Foundation, got together to launch Human Longevity, though they subsequently fell out. That company, too, has gone quiet. And

there are a string of other hopefuls in the field, many with billionaires like Dr Milner and Mr Page lurking in the background. Indeed, there are rumours, which Altos will not confirm, that Jeff Bezos is one of its investors—for the prolongation of life is a field that seems particularly attractive to the man (and it usually is a man) who otherwise has everything.

A walk in the hills

The founders of Altos do, though, seem deadly serious about what they are up to. Looking at discoveries in biology made over the past few decades—two of these, in particular—they believe they have glimpsed the outline of an answer to the question of how to reverse the process of

cellular ageing. They have also recruited a star-studded scientific cast to help them track that answer down. Illnesses potentially in their cross-hairs include cognitive disorders and neurodegeneration, diabetes and associated metabolic problems, and cancer. Dealing with these might not, in the end, greatly extend average lifespans. But it would surely increase what is known in the argot as healthspan.

The idea that became Altos was dreamed up by Dr Klausner, a former head of America’s National Cancer Institute, and Dr Milner, an entrepreneur and venture capitalist with fingers in many technological pies, in a series of covid-escaping walks in Los Altos, a hilly, well-heeled suburb on the edge of Silicon Valley. They then recruited Mr Bishop, formerly boss of GRAIL, a cancer-detection company, to be the business brains.

The two findings around which the firm is built are Yamanaka transcription factors and the integrated stress-response (ISR) pathway. Yamanaka factors, discovered in 2006 by Yamanaka Shinya of Kyoto University, are four gene-regulating proteins which serve, in essence, to return a cell to factory settings. In this case “factory settings” means a state known as pluripotency that is enjoyed by embryonic stem cells. Pluripotent cells are those that can give rise to descendants capable of differentiating into a wide variety of specialised cells.

Early experiments involving the induction of Yamanaka factors in laboratory ani-

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► mals often caused tumours called teratomas, in which cells turn into weird mixtures of tissues. It has subsequently been discovered, though, that a partial reset avoiding this problem is possible by turning the relevant genes on only briefly. This results in a return to youthful rude health without “unspecialising” the cells involved. Experiments on mice have shown how that can stop the progression of progeria, a mutation-induced syndrome that mimics rapid ageing, can promote the healing of injured muscles, and can protect the liver against damage by paracetamol, a widely used painkiller.

In contrast to the Yamanaka factors, which have a clear discovery date, the idea of an ISR pathway has emerged gradually. One of biology's most important concepts is homeostasis, the maintenance of a constant internal environment in the face of external pressure to change. The ISR does this at a cellular level. If a source of cellular stress is detected—be it external, such as oxygen or nutrient-deprivation, or viral infection; or internal, such as an accumulation of misfolded proteins or the activation of a potentially cancer-causing gene—the ISR switches on an emergency program to reset protein manufacturing. If this does not clear the problem, it then presses the self-destruct button, blowing up the cell it is in, in a process called apoptosis, to stop it becoming a locus of disease.

Pick'n'mix

These two discoveries offer, in the founders' view, ways to bring sick cells back to health by resetting malfunctioning ISR pathways, and to give healthy cells that are getting on a bit in years a tonic. The initial plan is to look into this at three campuses, in Cambridge, England, the Bay Area of California and San Diego. The institutes in these will be led by Wolf Reik, Peter Walter and Juan Carlos Izpisua Belmonte respectively. Each will house, in its turn, about half a dozen research groups investigating various aspects of the problem.

Dr Reik, plucked from the Babraham Institute, an independent biomedical-research laboratory near Cambridge, is an expert in a field called epigenetic gene regulation. Tinkering with this process, in which gene expression is controlled by the way DNA is packed into chromosomes, is how the Yamanaka factors operate. Dr Walter, until now at the University of California, San Francisco, studies the behaviour of proteins inside cells. He has been involved from the beginning in mapping the ISR pathway. And Dr Izpisua Belmonte, who ran the Gene Expression Laboratory at the Salk Institute, in San Diego's northern suburb of La Jolla, is also deeply embroiled in studying the Yamanaka factors. Indeed, it was he who spotted their ability to rejuvenate without a full factory reset, with all



the potential medical consequences that gives rise to. Previously, those seeking to turn Yamanaka factors to medical advantage were looking at stem-cell therapies to regenerate tissues already in the body and also at the idea of growing organs for transplant. Dr Izpisua Belmonte opened the third avenue of rejuvenative possibility that Altos seeks to exploit.

Dr Yamanaka, too, has volunteered—literally (he will not be paid). Indeed, it was through him that Dr Milner became interested in the question of ageing and rejuvenation. In 2013 he was among the first recipients of a Breakthrough prize, an award that Dr Milner and some like-minded Silicon Valley bigwigs dreamed up to try to give the Nobel Foundation a run for its money. Though he will not run an institute, he will help gather a network of collaborators in his native country.

The last piece of the scientific jigsaw—almost inevitable these days—is artificial intelligence (AI). This is the purview of Thore Graepel, until now one of the leading lights in Google DeepMind. Modelling what is going on inside cells, which are composed of millions of molecules of thousands of varieties, is the sort of problem that would be unapproachable without AI. And the field is now starting to grapple with it, as shown by the recent success of DeepMind's AlphaFold program, which is able to predict from a protein's chemical structure how it will fold up into a functional shape. Dr Graepel's software will try to make sense of the outpourings of data from the firm's investigators.

Moreover, in case this list (which includes only one Nobel laureate, Dr Yamanaka himself) is not thought glittering enough, the firm's board sports three others: David Baltimore, a biological polymath, who won his for his work on viruses; Jennifer Doudna, joint-inventor of a gene-editing technique called CRISPR-Cas9 that has boosted biotechnology; and Frances Arnold, who won her prize for work on di-

recting the evolution of enzymes.

How, then, will it all play out? The biggest risk may be that the participants have jumped too early. The nitty-gritty of what they will be doing, at least in the firm's salad days, is pretty much what they would have been doing anyway, in their old jobs, except with bigger budgets. The flip side of this is that there is nothing immediately to hand that might be developed into a commercial product.

Three billion dollars is a big financial cushion, though. It gives leeway for changes of direction and recovery from mistakes. It will also, as Bob Nelsen, whose firm, ARCH Venture Partners, is on board to the tune of a sum north of \$250m, its biggest ever investment, observes, allow Altos to build its own development arm, and not have to rely, as lesser startups often do, on selling its intellectual property to an existing pharmaceutical company.

Not having a clear product from the get-go does not, then, seem to be a problem—though Mr Nelsen does mention boosting T-cell responses in the immune systems of the elderly and dealing with badly functioning islet cells in the pancreases of people with diabetes as early possibilities. Everyone involved seems confident that salable products will emerge.

Re-record, don't fade away

Altos's founders are thus imitating old-fashioned corporate laboratories of the sort epitomised by Bell Labs, except without Ma Bell, then America's telephone monopoly, at their back. Bell hired bright people and let them get on with it, too. That resulted in the transistor and the laser. But those were products of physics, not biology. And the Altos approach seems similar to that taken by Calico Life Sciences, which has not worked so well—though Hal Barron, appointed as Altos's chief executive, was once Calico's head of research, and might have ideas why not.

More fundamentally, there are doubts about how controllable the underlying biology of ageing really is. Despite appearances, multicellular organisms do not simply wear out in the ways that machines do. Like everything else in biology, the process of senescence is regulated by natural selection. The details are debated. But an overarching principle, called disposable-soma theory, seems to govern what is going on.

Disposable-soma theory starts from the premise that, for an individual, death is inevitable. Accident, infection, a predator or a rival will get you in the end. It therefore makes sense for evolution to care more about individuals when they are young than when they are old, since by then they may have died or been killed anyway.

Lots of things about ageing make sense from this perspective. Genes can have bad effects in old age as long as they have good ►►

ones during youth. Repairs need not be perfect—just successful enough to keep the show on the road. Anti-cancer mechanisms need to be tip-top for the first decades of life, but can get slacker with time. As can the immune system. Though they will, no doubt, build outward from their starting point, Altos's researchers will surely have to incorporate more aspects of molecular biology than those they are beginning with, in order to cover these bases.

The counterargument, put by Dr Klausner and his colleagues, is that resetting the clock is a natural process. It happens every generation. The reproductive cells which create these new generations get a fresh start each time. They really do return to factory settings. And if the clock can be reset for those cells, why not others? Whether Dr Milner, Mr Nelsen and the others who have backed the firm see a return on their investment will depend, above all, on the answer to that question. But it will be fascinating to see it asked. ■

Child psychology

Drools of attraction

Babies learn about people by looking at who shares saliva

THE COMPLEXITIES of human relations are difficult enough for adults to navigate—and they have at least some idea of the rules. Children have yet to learn those rules. Infants are, nonetheless, able quickly to identify close relationships between other people, and thus to build up a map of the social world around them. How they do this has perplexed sociologists, anthropologists and developmental psychologists for decades. In a paper just published in



Thick as thieves

Science, Ashley Thomas of the Massachusetts Institute of Technology proposes a partial answer: slobber.

To avoid the sexual connotations of the word “intimacy”, Dr Thomas and her team refer to the “thickness” of interactions between infants and adults—borrowing the term from Avishai Margalit, a philosopher. Thick relationships involve strong attachments, obligations and mutual responsiveness. One set of cues for thick relationships relates to things that involve sharing saliva: kissing, for example, or the common use of an eating or drinking utensil.

To test whether children interpret saliva-sharing as indicating a thick relationship, the researchers recruited two groups of several dozen youngsters. One was a set of babies aged between eight and ten months. The other was a group of toddlers aged between 16 and 18 months. To avoid the hazards of covid-19, all tests were conducted over a video link.

Each child was shown a clip of an adult interacting with a puppet, followed by a clip of that puppet in distress while the same adult, and also a stranger, looked on. When the interaction in the first clip appeared to involve the sharing of saliva—with puppet and adult portrayed as taking consecutive bites from an orange—both sets of children looked mainly at that same adult in the second clip, and not the stranger, a reaction interpreted as a belief that the adult in question would offer comfort to the puppet. When the interaction in the first clip was friendly but less thick, such as passing a ball back and forth, the children had equal expectations of both adults when shown the second clip. Saliva sharing seems, then, indicative of closeness.

That conclusion was reinforced by subsequently replacing the puppet with a different one and repeating the second test. In this case the children showed no consistent expectation about which adult would intervene to relieve the puppet’s distress. It thus seems to have been the act of sharing an orange with a specific puppet that triggered an expectation of future behaviour, rather than any inherent characteristics of the adults involved.

Conducting her experiment by video enabled Dr Thomas to cast her search for trial participants beyond Massachusetts. She nevertheless decided, in this first instance, to confine things to the United States. Future runs, she hopes, will reach beyond that country’s borders.

The ethnographic literature suggests saliva-sharing is a widespread phenomenon. It also makes sense as a signal of intimacy, for its disease-spreading potential is obvious and engaging in it therefore indicates a high degree of trust between participants. But seeing how practice varies from place to place (if, indeed, it does), might illuminate some intriguing details. ■

Tropical diseases

Resistance is useless

A field test for drug-resistant malarial parasites will help save lives

AN ARMS RACE between pharmacologists and malaria parasites has been going on since the mid-19th century, when widespread use of quinine began. Few better illustrations of natural selection exist than the repeated emergence of resistance to such drugs. Even artemisinin, the most recent addition to the arsenal, has already provoked an evolutionary pushback.

At the moment, working out which drugs, if any, a particular case of malaria is resistant to means sending a sample to a laboratory for a PCR test. But malaria is most often a problem in poor countries, where such laboratories are scarce, and so is money to pay for tests and to maintain the machines needed to conduct them. A better way for doctors and paramedics in the field to be able to tell, for a particular patient, which drugs the infection is resistant to would thus be welcome. And that may soon be possible, thanks to work by Ron Dzikowski and Eylon Yavin of the Hebrew University in Jerusalem. As they write in *ACS Sensors*, they have come up with a trick which they think could be turned into a cheap and deployable detector for drug resistance.

The term “malaria” covers several similar illnesses caused by single-celled parasites of the genus *Plasmodium*. The deadliest, *Plasmodium falciparum*, kills around 600,000 people a year, 80% of them children under five. Dr Dzikowski and Dr Yavin therefore focused their attention on this.

They knew from research by others that many of the drug-resistant traits in *P. falciparum* are



Little bleeder

parum are marked by small changes in the parasite's DNA, called single-nucleotide polymorphisms (SNPs). These are often copied into the messenger RNA (mRNA) molecules that transfer instructions from DNA to a cell's protein-making apparatus.

Their own field of research concerns molecules called forced-intercalation peptide nucleic acids (FIT-PNAS). These resemble DNA and RNA, but instead of having a sugar-based backbone from which the chemical bases that constitute the genetic code depend, they have a protein-like one. This means they bind more strongly to mRNA than do normal nucleic acids. Add a fluorescent "reporter" molecule, which releases a photon of light when this binding occurs, and the result is a way of testing for the presence of particular mRNAs.

No hiding place

To create their resistance assay Dr Dzikowski and Dr Yavin made FIT-PNAS designed to bind to the seven commonest SNP-marked resistance-inducing mutations, adding reporters that glowed red for artemisinin resistance and green to indicate resistance to chloroquine, currently the most widely used antimalarial. They then raised a range of *P. falciparum* parasites in their laboratory. Some of these were resistant to artemisinin; some to chloroquine; and some to neither.

Once the cultures were established, the two researchers incubated them with their newly created FIT-PNAS for 45 minutes. That done, they took samples and put them under a microscope to look for fluorescence. As they hoped would happen, the artemisinin-resistant cultures glowed red, while the chloroquine-resistant ones glowed green. By contrast, when the cultures containing parasites which lacked resistance were tested, no glow was visible.

This approach seems something that could be turned easily into a robust testing kit for blood taken in local clinics. No fancy equipment is needed, just a basic light microscope. A patient can then be treated immediately with the appropriate drug, resulting both in a better outcome for the individual and a negation of the evolutionary advantage of drug resistance, thus slowing its spread. A double-whammy, then, from a clever piece of molecular manipulation. ■

The Richard Casement internship. We invite applications for the 2022 Richard Casement internship. We are looking for a would-be journalist to spend three months of the summer working on the newspaper in London (covid-19 permitting; otherwise remotely), writing about science and technology. Applicants should compose a letter introducing themselves and an article of about 600 words that they think would be suitable for publication in the Science & technology section. The successful candidate will receive a stipend of £2,000 a month. Applications must reach us by midnight on January 28th. They should be sent to: casement2022@economist.com

Marine conservation

A green light for saving sharks

Illuminating fishing nets may reduce by-catch

SMALL-SCALE fisheries supply many people with food. Almost all of those who ply them rely on gillnets to trap their prey. But gillnets trap other things, besides: endangered animals such as turtles; dangerous ones, such as Humboldt squid; and ones that are both endangered and dangerous, such as several types of shark. Everyone involved would be better off if this did not happen.

Building on studies done both by himself and by others, to try to avoid the accidental netting of turtles, Jesse Senko, a marine-conservation biologist at Arizona State University, has been investigating the idea of fitting light-emitting diodes (LEDs) to nets to ward off other unwanted by-catch without discouraging target animals from entangling themselves. And, as he reports in *Current Biology*, it seems to work.

His particular concern was for the safety of elasmobranchs, as sharks, rays and skates are called collectively. While sharks are better known for their sensitive nostrils than their keen eyesight—some species famously being able to smell traces of blood in vast quantities of water—many have acute vision, too. And, though colloquially referred to as "fish", elasmobranchs are actually less closely related to teleosts (the bony fish that predominate on most fishmongers' slabs) than turtles are, so their visual systems might easily be as different. It thus seemed worthwhile checking to see whether the trick that worked with turtles would work with sharks.

Dr Senko and his colleagues therefore set up an experiment in the Gulf of Ulloa,

off the coast of Baja California, in Mexico, in which they collaborated with local fisherfolk to deploy over 10,000 metres of nets that had had battery-powered waterproof green LEDs clipped onto them at ten metre intervals. (Green LEDs are more efficient than those of other colours, and their light better penetrates seawater.) In half of the nets these lights were illuminated. The other half were left unlit, as controls.

Each lit net was paired with an unlit one, and the two were deployed alongside one another at prime fishing locations. The fishers' targets were Californian halibut and large groupers. Dr Senko was interested both in what else got caught and whether the lights decreased catches of the target species.

On the latter point, reassuringly, they did not. On the former, the lit nets caught 95% fewer kilograms of sharks, rays and skates. In particular, several threatened species, including Munk's devil ray (pictured) and the diamond stingray, turned up less often in the illuminated than the unilluminated nets. Humboldt squid were also discouraged. (Cephalopods, the group of molluscs to which they belong, are also well known for their acute eyesight.)

The advantage from the point of view of fisherfolk was that they needed to spend a lot less time clearing these hostile by-catches from their nets. And, crucially, the LEDs concerned are cheap, robust and easy to fit. There are also plans to make them solar powered, for easy recharging. Here, then, is a conservation idea from which everyone wins.



Rays of hope



Musical history

The beat goes home

GOMA AND KINSHASA

Congolese rumba is a link to the cultural past—and the soundtrack of politics

AS YOU CLIMB the dimly lit staircase at La Crèche nightclub in Kinshasa, the capital of the Democratic Republic of Congo, you may hear a man's high, lilting voice drifting from the rooftop. There, above the traffic-clogged alleys of Victoire, a dense neighbourhood popular with both artists and pickpockets, couples dance to rumba music. Women sling their arms around their partners' necks and together they move, sinuously, across the roof. The ageing men twanging guitars and playing drums wear scarves and glittery caps. A flamboyant dress sense is a prerequisite for any serious rumba musician in Congo.

In its modern form, Congolese rumba evolved in the 1940s, largely in Kinshasa. Its irresistible rhythms soon echoed across the continent and today it is one of Congo's proudest, and noisiest, exports. Last month rumba's status was nudged a little higher when it was added to the "intangible cultural heritage" list maintained by UNESCO, the UN's cultural agency. It joins

Estonian smoke saunas and Polish bee-keeping on a register meant to promote "cultural diversity in the face of growing globalisation". Listen closely, though, and beneath the sultry beat is a tale of transatlantic cultural exchange—and of art's entanglement with politics.

In a simplistic version of its history, Congolese rumba was inspired by the Cuban kind. That is true, but so is the reverse: the origins of Latin rumba lie in central Africa. The beat was first exported to Cuba by

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slaves, many of whom were taken from the Kingdom of Kongo (which included modern Congo) from the 15th century onwards. On the island, some fashioned drums from animal skins and hollowed-out trees and began playing their traditional music.

"It was a spiritual music, a way to praise their ancestors who would then relay their prayers to God," says Lubangi Muniania, a Congolese art historian and journalist. Enslaved people danced to it in pairs, waist to waist, so it was known as *nkumba*, meaning "waist" or "belly button" in Kikongo, a Congolese language. That morphed into "rumba" and, over the years, the style mingled with the Spanish sounds prevailing in Cuba. The foot-tapping rhythm was embellished with guitars, clarinets and pianos.

For centuries rumba bounced back and forth across the Atlantic. It was re-exported to Congo when Belgian colonisers set up the country's first radio station in Kinshasa (then Leopoldville) in 1940, and began airing overseas music. The breezy, danceable Cuban tunes, with their familiar cadences, were immediate hits. Musicians in Leopoldville—and across the river in the capital of neighbouring Congo-Brazzaville—reinterpreted the genre. "The funny thing is that for the Congolese people listening to that music, it wasn't foreign to them at all," says Mr Muniania. "They were playing African music back to Africans, so there is no wonder they picked it up."

► A well-known haunt for rumba enthusiasts in Kinshasa today, La Crèche was a brothel before becoming a nightclub. A band was first invited in the 1980s to entertain clients on the roof after, or between, their trysts; the staircase is lined with bedrooms obscured by colourful curtains. Another rumba institution is the Un-Deux-Trois club, run by Yves Emongo Luambo, whose father, Franco Luambo, was one of the greatest-ever rumba guitarists and composers. He helped make rumba "our cultural passport", as Mr Emongo puts it.

Dazzlingly handsome in his youth, the musician was known as "*Franco de mi amor*" by some female fans and "the sorcerer of the guitar" by others. His legendary band, OK Jazz (later called TPOK Jazz), released an average of two new songs a week for years, totalling well over a thousand. If Franco had tumultuous relationships with women, none were as lengthy or complex as the one he had with Mobutu Sese Seko, who ruled the country for over three decades—a liaison that epitomised the nuanced role of music in Congolese politics.

Sometimes Franco criticised Mobutu. His most radical track was released in 1966, a year after Mobutu came to power. The dictator had four political opponents, including a former prime minister, publicly hanged in a square in Victoire. Franco was in the crowd and wrote a threnody to the victims. Like some of his other songs, it was hurriedly banned; all the copies on sale were confiscated.

Yet he also penned flowery paeans to the despot. By the time of the presidential election of 1984, in which Mobutu was the only candidate, faith in him had evaporated as the public watched him use their money to guzzle champagne for breakfast and charter Concorde for shopping trips to Paris. Even so, Franco released an effusive ode called "Our Candidate Mobutu". Its refrain was "Mobutu, God sent you."

This is an extreme example of *libanga*, a feature of Congolese rumba that attests to its influence. The word means "pebble" in Lingala, the language spoken in Kinshasa. Musicians throw a pebble, or give a shout-out, to wealthy patrons who reward them lucratively. Rumba tracks are peppered with references to politicians, especially ahead of elections. *Libanga* tends to be mercenary, not ideological, with singers inclined to mention whoever pays them. Werrason, another rumba legend, once named 110 people in a single song.

Today, Congo's biggest rumba star is 65-year-old Koffi Olomide (pictured on previous page), who performs in sunglasses and tight trousers, as he did recently at a plush hotel in the eastern city of Goma. Mr Olomide turned up late, after everyone was supposed to have gone home due to a pandemic-related curfew. Wearing a leopard-print hat in the style of Mobutu, he called a

policeman up on stage to crack jokes about flouting the rules. He might be above the law in Congo, but in France, where he lives much of the time, he was recently convicted of holding four female backing dancers in his house against their will.

The case was a blow to the singer's fans. In Congo, though, few things are constant. Electricity and water supplies are erratic, statesmen are often corrupt and predatory. But rumba itself is reliable. It has been around, in its various forms, for centuries. It can be heard all over the vast country and is best enjoyed with a beer in hand. From the capital to a village on the banks of the Congo river, chances are you will find a bottle to sip as familiar rumba beats blare from a nearby radio. ■

Medieval monarchs

On angels' wings

Queens of Jerusalem. By Katherine Pagonis. Pegasus Books; 272 pages; \$28.95. W&N; £20

MEDIEVAL HISTORY shows up on the page in two ways. One is obvious: it is written in pen and ink on vellum and parchment. This sort of history tends to be about battles and bloodshed, conquerors and kings. But some texts offer another kind too—much quieter but speaking volumes nonetheless. This history is told in hints, asides and impressions; it is a history that must be hunted for.



Caped crusader

The 12th-century ivory-bound book known as the Melisende Psalter is a good example. At first sight, it offers the usual historical staples: words, dates, religious images. But tilt it, and other shapes appear, scratched into the gilding. In one, you can see feathers engraved in an angel's wing; in another, you glimpse the word "Basileus", the signature of the artist. On a different page, the gilding on the feet of Christ has faded—worn away, it is suggested, by the kisses of Melisende, the queen of Jerusalem who once owned the book.

Picturing Melisende, and other medieval queens, is not easy. As with the images in the gilding, the historian must get close to the texts, angle them this way and that, and seek out traces of their subjects. But as Katherine Pagonis makes clear in this vivid history, the effort is worthwhile, adding depth and unexpected detail to the understanding of the past. For instance, the Crusades tend to be remembered, on page and screen, as a manly and Manichean struggle, in which Christian warred with Muslim and cold steel defended iron convictions. As this book shows, the reality was far muddier, more female—and far more interesting.

Take one of the most striking vignettes offered here, about what happened when a Frankish knight arrived in the Middle East and went to the local baths with his wife. Noticing that the attendant's pubic hair had all been shaved off, and struck by this stylish look, the knight promptly ordered the flunkie to shave him too. Delighted by the result, he turned to the attendant and said: "Salim, by the truth of your religion, do it to Madame!" Not a line that has found its way into Hollywood films.

Ms Pagonis's stories of Middle Eastern and European queens offer similar surprises. Tilt the medieval chronicles and you find leaders who are not the mild maidens of legend but instead women who—in the absence of dead, weak or warring husbands—ruled cities, withstood sieges and, "more mannish than the Amazons", set off on Crusades themselves. The book's subtitle is "The Women Who Dared to Rule", but "dared" is not quite the right verb. Rarely did these women actively seize power; more often it was thrust upon them, usually by marriage and often at a startlingly young age. One queen was a widow by 13. Another was married at eight. Medieval monarchy gave little heed to menarche.

The obsession with childbearing and succession leads to a slight weakness in this entertaining book. Occasionally, the profuse details of who married whom, who had how many children, and what the naughty uncles were up to, can make it feel less like a history and more like a gathering of Catholic aunts. But then the narrative tilts again, and there, in the gilding, you see the feathers on the angel's wing. ■

British fiction

Into the swing

Free Love. By Tessa Hadley. Harper; 304 pages; \$26.99. Jonathan Cape; £17.99

"SHE WAS pleased with her life." Tessa Hadley's new novel unravels from this anodyne statement. It is the summer of 1967 and Phyllis Fischer, a 40-year-old housewife, is smugly content in the English suburbs with her husband Roger, a senior civil servant, and their two children—obstreperous, clever, teenage Colette and nine-year-old Hugh. One evening they host Nicky Knight, the son of an old friend. An electric moment between Phyllis and the alluring, outspoken guest jolts her marriage, her life and those of her family.

"Free Love" shares themes with Ms Hadley's previous books, including her debut, "Accidents in the Home" (2002), and "The Past" (2015): marital discontent, the fluctuating status of women, and the secrets people keep to maintain the social or personal status quo. When Phyllis absconds to join Nicky, the sleek, orderly prosperity of the Fischers' home is set in stark contrast with the lively hedonism of "swinging London". The two locales are a train ride apart but seem far more distant.

Nicky, an aspiring left-wing writer, challenges Phyllis's middle-class preconceptions. He is living in the Everglade—"everyone who was anyone in the counter-culture had stayed in the Everglade at some point"—a once-grand, now seedy block of bedsits in Ladbroke Grove. To her exhilaration, Phyllis begins to mix with the younger, more radical generation at a time of often violent upheaval, including the student protests of May 1968 in Paris and heated objections to the Vietnam war. She befriends a nurse from Grenada, whose hopes of becoming a doctor are stymied by prejudice. Meanwhile, rebellious Colette experiences a kind of second-hand catharsis from her mother's transformation. Hugh is packed off to boarding school.

And Roger, the most compelling character, divulges something about his past that turns out to be more consequential than his wife's indiscretion. As ever, Ms Hadley's prose is limpid and measured yet richly sonorous: her story combines a modern sensibility with the psychological realism of writers such as Henry James. As always, she reserves judgment, letting her characters incrementally reveal themselves, the good and the bad. The ending glimmers with possibility—while suggesting that liberation comes at a cost. ■



World in a dish

The art of fasting

January is a season of abstinence, observes the first piece in a regular series on food. Take a lesson from Ethiopia

SHORT DAYS, long nights, freezing temperatures, Christmas a swiftly fading memory and the prospect of spring remote—"the cruellest month" is not April, as T.S. Eliot wrote, but January. The garden harvest of frost-tipped kale and collards, and perhaps some beets, carrots and parsnips, is scant if often delicious. January is the season of looking in the mirror and taking stock, of regret, determination and abstinence. It is Dry January, Veganuary, renewed gym memberships, vows to cycle everywhere and spend less time in the pub. In other words, it is fasting season.

These secular rituals have deep religious roots and ancient corollaries, meant to prompt reflection by bringing appetites to heel. For Muslims during the daylight hours of Ramadan, or Jews on Yom Kippur, fasting means abstaining completely from food and drink as a way to draw closer to God. But not every religious fast is all or nothing. Christians often give up meat during Lent. Many Buddhists eschew it periodically to instil compassion, foster progress towards enlightenment and improve their chances of a favourable rebirth. Some Buddhist monks and nuns routinely eat nothing after the noon meal.

Few if any denominations require fasting as often as Ethiopian Orthodox Christianity. Priests and nuns must abstain from animal products, oil and wine for 250 days each year, lay worshippers for 180. For the 40 days of Advent, leading up to Orthodox Christmas on January 7th, the faithful eat just one vegan meal per day. But in an example to ascetics everywhere, that meal

need not be dreary just because it is spare.

In Ethiopian cuisine, even austere dishes are richly flavoured. *Shiro*, for instance, is a stew made from chickpea flour, stirred into hot water and seasoned with *berbere*—a characteristic Ethiopian mixture usually containing ground dried chillies, black peppercorns and spices such as cinnamon, ginger and cumin. As it simmers, it fills the house with an earthy remix of Christmas aromas. Combined, as it usually is, with braised spiced cabbage and *injera*, a tangy Ethiopian bread made from fermented teff flour, its velvety texture and warm kick leave you full but not stuffed.

And since it contains neither animal products nor oil, it makes an acceptable fasting dish. Eaten in this context, *shiro* and dishes like it encourage people to ponder broader questions about their diets and bodies. How much meat, if any, do they really need to eat? Can less food, munched mindfully, be more satisfying than more of it eaten quickly but automatically? Are they happier when driven by their appetites or in control of them?

Giving up booze or burgers for a month can prompt similar questions among the secular. It may not nudge them nearer the divine, but it can bring them closer to an understanding of their own urges. A temporary renunciation is just that: January teetotalers and vegans will mostly be tipplers and carnivores again by February. But they may enjoy that martini or steak more for having forsaken them. Fasting is not just a mortification or denial; it is a reminder of the value and joy of food. ■

Venture capital

Risky business

A history of the venture-capital industry defends its contribution to capitalism

The Power Law. By Sebastian Mallaby. Penguin Press; 496 pages; \$30. Allen Lane; £25

NOT EVERYONE is a fan of venture capitalists (vc). One academic famously questioned whether they were “soulless agents of Satan, or just clumsy rapists?” Paul Graham, the co-founder of the Y Combinator startup incubator, published a “unified theory of vc suckage”, in which he likened the industry’s investment process to a body-cavity search by someone with a faulty knowledge of anatomy. Venture capitalists, he concluded, resembled classic villains: “alternately cowardly, greedy, sneaky and overbearing”.

More recently, vcs have been blamed for propagating some of the ills of Big Tech: the monopolisation of markets, the erosion of privacy and the degradation of workers’ rights in the gig economy. By prioritising growth over governance at all costs, they stand accused of feeding a recklessly aggressive capitalist culture that contributed to scandals at Uber, WeWork and Theranos.

In “The Power Law”, Sebastian Mallaby acknowledges some of the industry’s shortcomings, most notably its shocking lack of diversity. But he zealously defends the overall achievements of the vc industry, which has funded many of the modern world’s most useful inventions (search engines, smartphones, vaccines), disrupted cosy monopolies and generated eye-popping wealth. He even claims that vcs have emerged as a “third great institution of modern capitalism”, combining the organisational strengths of companies with the flexibility of markets. Little surprise that the vc model has now gone global, with particularly striking results in China.

In his well-researched book, leavened by lively portraits of leading figures, Mr Mallaby explores the history of the vc industry and the reasons for its vitality. A journalist at *The Economist* in the 1980s-90s (and husband of the current editor-in-chief), he previously wrote a study of the hedge-fund industry and an acclaimed biography of Alan Greenspan.

Some histories of Silicon Valley, such as Margaret O’Mara’s “The Code”, have emphasised the importance of American military spending in seeding the west-coast tech industry. Mr Mallaby’s focus is overwhelmingly on the entrepreneurs, investors and firms that nurtured its growth.

Much of the vc industry’s success is attributed to its mentality. In evaluating investments, vcs still take after the pioneering Arthur Rock, who zeroed in on the “intellectual book value” of a company rather than the financial kind. They accept extreme financial risk, embrace immigrants and tolerate nerds and misfits, who account for so many successful entrepreneurs. Four of PayPal’s six early employees reputedly built bombs in high school.

While vcs love backing companies that enjoy so-called network effects, they benefit from their own version of this phenomenon, too. Sand Hill Road, where many of the leading vc firms are clustered, may have the air of a row of gentlemen’s clubs but it has enabled the free flow of ideas, favours and connections. That is partly why the Silicon Valley model has been so hard to replicate elsewhere.

As the author describes, the vc world has experienced considerable churn in the past 60 years and has lately been disrupted as much as it has been disruptive. Capital-rich outsiders, including DST Global, SoftBank and Tiger Global Management, have all muscled in on what was once a cottage industry. By deploying masses of money later in the investment cycle, these indulgent newcomers have enabled startups to delay listing on public markets. In Mr Mallaby’s view, that trend partly accounts for the misgovernance at some scandal-ridden tech companies because it has cut the ties between interventionist vc investors and freewheeling entrepreneurs.

Some west-coast vc firms, such as Sequoia Capital and Andreessen Horowitz, have responded to the new challengers by raising ever-bigger funds and diversifying, both geographically and sectorally. This has only fuelled talk that Sand Hill Road is becoming the new Wall Street. Yet even the biggest traditional vc firms remain tiny compared with giant public-market funds. Some investors wonder why they should bother with risky vc bets when the returns in public markets can be so spectacular.

Take Apple, which recently popped above \$3tn in market value compared with the \$1.8bn it was worth when it floated in 1980. It seems improbable that the vc industry, which has helped so many startups to “blitzscale”, can ever do so itself. ■

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John Thornhill

We identify the reviewers of books connected to *The Economist* or its staff. Mr Thornhill is Innovation Editor of the *Financial Times*.



Hip-hop revolutionaries

Hearing lessons

Dilla Time. By Dan Charnas. MCD; 480 pages; \$30 and £23.99

THE SUBTITLE of this biography of the hip-hop producer James Yancey—Jay Dee, J Dilla—makes the claim that he “reinvented rhythm”. To test that bold assertion, launch a streaming service and cue up the album “Voodoo”, by D’Angelo, released in 2000. Once the opening track, “Playa Playa”, reaches its groove, around 90 seconds in, try tapping your fingers against your thigh in time with the bassline.

You’ll find it almost impossible. Pino Palladino, the bassist, thought that the rhythm sounded “wobbly”. The notes fall in the wrong places—on the wrong beat in the bar or moved slightly in time, just before or behind where the ear expects them to be. The effect is to make the music feel woozy and destabilising.

What you’re hearing is “Dilla time”, which, Dan Charnas argues fairly convincingly, reshaped the sound of hip-hop—and thus the sound of pop—it’s wrongness adding a human element to music that had previously been focused on mechanical precision. Mr Charnas’s book attempts to be more than a biography: interpolated between its chapters on Dilla’s life are others that explain how musical time works, and how Dilla interpreted it in the tracks he made for himself and as a producer and inspiration for others.

“Dilla Time” is at its best when the two strands come together; in the section on ►►

Back Story Doing the time warp again



Hollywood remakes are often derided. But the best offer a form of time travel

LAST NIGHT she dreamt she went to Manderley again—and again. Another star is born; 12 even angrier men. It is easy to be snooty about remakes, and, in the case of Steven Spielberg's new "West Side Story", lots of people have been. It is too woke for some, too retrograde for others, while a few simply ask, why? Remakes, as this reception shows, combustibly bring together commercial instincts, memory and the culture wars. At bottom, they also illuminate the purpose and pleasures of storytelling.

"Shameless revivalism", the *Times* of London recently complained of a remake vogue that has spread from cinema to television. To their detractors, remakes suggest a culture gnawing on itself, and risk-averse producers pandering to timid audiences. Often they bomb, because of a flaw in the marketing logic. Viewers curious to assess the revisions to a classic can wind up outraged (if they are drastic) or bored (if they are slight).

Still, film-makers have been betting on known quantities, and critics griping about them, almost since pictures began to move. "The Great Train Robbery" of 1903 was remade a year later. John Huston's version of "The Maltese Falcon" of 1941 was a remake; Alfred Hitchcock and Howard Hawks had a second crack at their own films. "Hollywood talks a great deal about the future," lamented the *New York Times* in 1961, yet "it seems to show an increasing tendency to live in the past." One of its examples was Charlton Heston's turn in "Ben-Hur".

Venality and timidity do not explain this compulsion entirely. For many early remakes, the rationale was technical, as sound and then colour were introduced. These days some producers try to jazz up old films with a couple of stars and some computer-generated whizzery. The re-

cent redo of "Rebecca", with its smooching and dream sequences, had all the novelty of a bad facelift. Sometimes, though, the spectacle is its own justification. The choreography of the new "West Side Story" stunningly melds beauty and violence; its gorgeous camerawork soars and swoops with Leonard Bernstein's score. The exuberant staging of "America", the best number, is worth the ticket price alone.

Alternatively, remakes can open unexplored angles in old plots. Or purport to: in Kenneth Branagh's gilty reincarnation of Hercule Poirot, soon to resurface in "Death on the Nile", the sleuth is miscast as a smartarse with a heart, who subjects his special-effect moustache to some ill-advised action sequences. Reinterpretations may just involve subtracting prejudice and adding sex. But some are subtler, and more worthwhile.

Take the reworking of "The Wonder Years", a cherished coming-of-age drama set in the late 1960s and early 1970s and broadcast 20 years later. In the current reprise on Disney+, a new adolescent protagonist negotiates bullies, crushes,



aloof siblings and a dawning comprehension of the adult world, as the headlines of the same era hum in the background. Except this time he is a black child in Alabama instead of a denizen of white suburbia, a switch that highlights the wrinkles and omissions of nostalgia.

Children offer a clue to the deep appeal of remakes. Anyone who has ever read a fairy-tale to a child—*Again! More!*—understands the pull of repetition, which can defuse fears and make even villains consoling. According to some analyses, all stories provide a form of this satisfaction, adhering to one of a small number of basic shapes, such as "the quest" or "the hero's journey". In this view, every film is a kind of remake.

That is a stretch. Better to say every story remixes known elements with fresh ones. Remakes do that in pure form. As well as the comfort of familiarity, the best supply a kind of magic mirror. Get the tweaks right and, beneath the action, they become a gauge of how much the world has changed since the original was made, and how far you have come since you first saw it.

To some, the basic plots of remakes are "money for old rope" and "one born every minute". The back story of "West Side Story" shows why the cynicism can be mistaken. Famously, the musical is an update of "Romeo and Juliet" (which, like all stage plays, is remade with every production). But Shakespeare's star-cross'd lovers can be traced to French and Italian texts of the 16th century, thence to Boccaccio's version of the myth of Pyramus and Thisbe, and back from the Renaissance to Ovid and beyond. Some stories are worth retelling.

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For the back story of Back Story, go to economist.com/backstory

his work with the Soulquarians collective (who were behind "Voodoo"), the air of artists discovering new possibilities within music is palpable. Such passages do what good music books should: send you back to the source material. As "Dilla Time" launches the reader on a flight through Dilla's confusing discography—it ought to have included a playlist—the breadth of his imagination becomes obvious.

The strictly biographical parts are more pedestrian. Mr Charnas steers clear of the kind of portentous foreshadowing that blights some biographies; but the occa-

sional insight is swamped by the sense that he has found out more about Dilla than anyone else before him, and, perhaps understandably, wants the reader to know it.

No detail is too small, no fact too tangential. That is especially a problem in the part covering the period after Dilla's death in February 2006, at the age of 32. Mr Charnas needed to examine the way a Dilla industry subsequently sprang up, but the book becomes a wearying list of events, posthumous albums and arguments between Dilla's estate and his family. The magic was in the music.

Nevertheless "Dilla Time" is an important piece of music writing, affording its African-American subject the respect that the rock establishment has long accorded its white heroes. Dilla's work emerges as a mix of intellect and instinct. He experienced music in a different way from his peers, and knew how to bring life to a sound that no one else heard. Best of all is to read about an album such as "Donuts"—just a collection of Dilla's looped beats, but made with dizzying imagination and dexterity—and be able to understand why it sounds the way it does. ■




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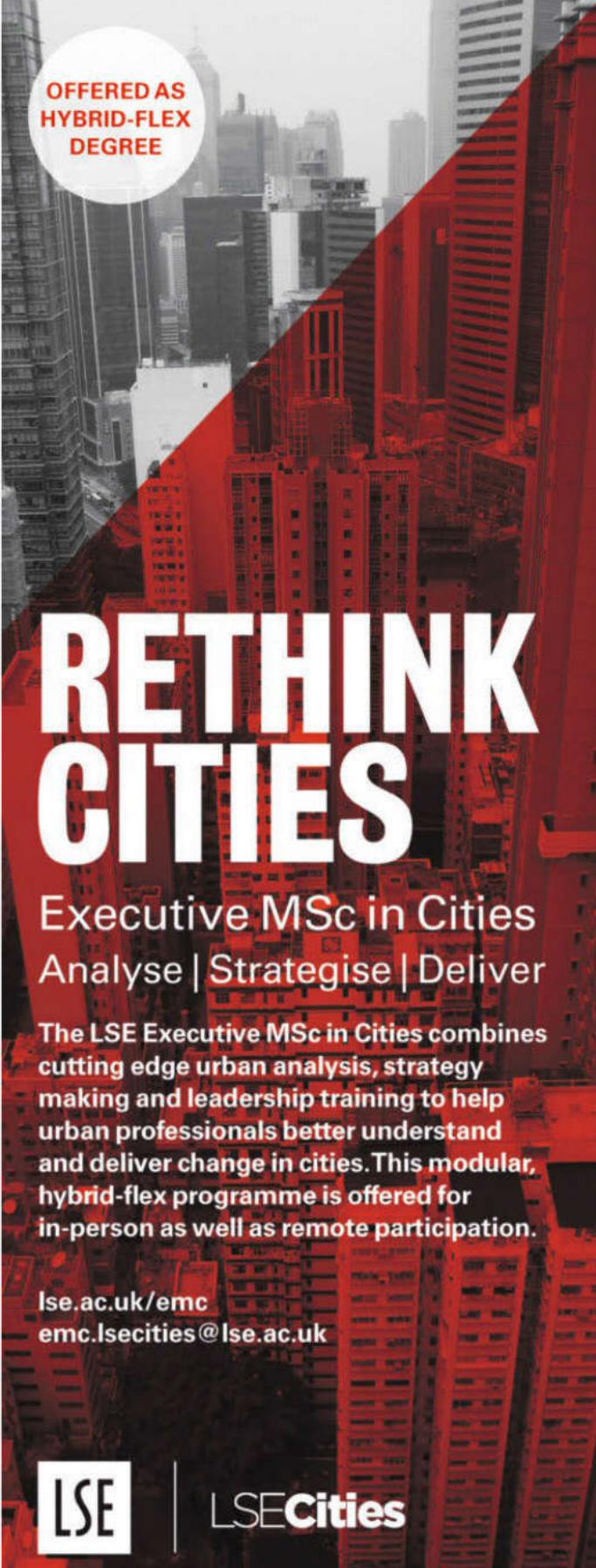
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	% change on year ago latest	% change on quarter* latest	2022†	% change on year ago latest	2022†	%		% of GDP, 2022†	% of GDP, 2022†	10-yr govt bonds latest, %	change on year ago, bp	per \$ Jan 19th	% change on year ago	
United States	4.9	Q3	2.3	3.8	7.0	Dec	4.3	3.9	Dec	-3.7	-7.8	1.8	73.0	-
China	4.0	Q4	6.6	5.3	1.5	Dec	2.3	5.1	Dec‡§	2.3	-4.7	2.4	63.5	2.2
Japan	1.2	Q3	-3.6	3.2	0.6	Nov	1.3	2.8	Nov	3.1	-7.0	nil	-8.0	114
Britain	6.8	Q3	4.3	4.3	5.4	Dec	3.7	4.1	Oct††	-2.6	-6.5	1.2	83.0	0.73
Canada	4.0	Q3	5.4	3.5	4.8	Dec	2.8	5.9	Dec	-0.4	-7.5	1.9	108	1.25
Euro area	3.9	Q3	9.4	3.9	5.0	Dec	2.7	7.2	Nov	3.2	-4.1	nil	52.0	0.88
Austria	5.7	Q3	14.6	4.1	4.3	Dec	2.4	5.3	Nov	1.8	-3.1	0.2	63.0	0.88
Belgium	4.9	Q3	8.4	3.3	5.7	Dec	2.2	5.9	Nov	0.6	-4.3	0.3	63.0	0.88
France	3.3	Q3	12.6	3.9	2.8	Dec	2.3	7.5	Nov	-1.2	-5.0	0.4	68.0	0.88
Germany	2.6	Q3	6.9	3.3	5.3	Dec	3.5	3.2	Nov	6.5	-2.7	nil	52.0	0.88
Greece	13.7	Q3	11.3	4.5	5.1	Dec	3.2	13.4	Nov	-4.0	-4.3	1.7	105	0.88
Italy	3.9	Q3	11.0	4.4	3.9	Dec	1.8	9.2	Nov	3.5	-5.7	1.4	85.0	0.88
Netherlands	5.2	Q3	8.7	2.8	5.7	Dec	3.8	2.7	Nov	9.0	-4.1	-0.2	36.0	0.88
Spain	3.4	Q3	10.9	5.1	6.6	Dec	2.4	14.1	Nov	1.4	-5.2	0.7	64.0	0.88
Czech Republic	3.0	Q3	6.4	4.3	6.6	Dec	4.6	2.3	Nov‡	2.1	-5.1	3.3	202	21.4
Denmark	3.7	Q3	4.3	3.0	3.1	Dec	1.6	2.8	Nov	8.5	-0.2	0.2	60.0	6.5
Norway	5.1	Q3	16.1	3.4	5.3	Dec	3.0	3.6	Oct‡‡	8.5	0.2	1.4	76.0	8.78
Poland	5.5	Q3	9.5	4.9	8.6	Dec	4.8	5.4	Dec§	0.8	-3.1	4.1	289	3.99
Russia	4.3	Q3	na	2.4	8.4	Dec	5.0	4.3	Nov§	7.1	0.7	9.2	275	76.5
Sweden	4.5	Q3	8.2	3.0	3.9	Dec	2.4	7.5	Nov§	3.7	-0.3	0.4	31.0	9.11
Switzerland	4.1	Q3	6.8	3.0	1.5	Dec	0.9	2.4	Dec	5.6	0.1	0.1	53.0	0.92
Turkey	7.4	Q3	11.3	3.4	36.1	Dec	31.4	10.9	Nov§	-1.7	-3.6	21.8	877	13.4
Australia	3.9	Q3	-7.5	3.3	3.0	Q3	2.6	4.2	Dec	1.6	-4.6	2.0	92.0	1.38
Hong Kong	5.4	Q3	0.5	3.0	1.9	Nov	2.0	3.9	Dec‡‡	1.2	-1.0	1.7	93.0	7.79
India	8.4	Q3	54.1	7.0	5.6	Dec	4.6	7.9	Dec	-1.6	-5.9	6.6	66.0	74.4
Indonesia	3.5	Q3	na	5.3	1.9	Dec	3.5	6.5	Q3§	-0.5	-4.9	6.4	18.0	14,362
Malaysia	-4.5	Q3	na	4.5	3.3	Nov	2.8	4.3	Nov§	3.3	-6.2	3.7	109	4.19
Pakistan	4.7	2021**	na	3.3	12.3	Dec	8.0	6.9	2019	-5.5	-6.4	11.5	†††	138
Philippines	7.1	Q3	16.1	5.3	3.6	Dec	3.8	7.4	Q4§	-2.7	-7.2	4.8	190	51.5
Singapore	5.9	Q4	10.7	3.8	3.9	Nov	2.2	2.6	Q3	17.6	-2.0	1.9	90.0	1.35
South Korea	4.0	Q3	1.3	2.8	3.7	Dec	1.9	3.5	Dec§	4.2	-2.7	2.5	83.0	1,192
Taiwan	3.7	Q3	1.1	3.2	2.6	Dec	2.4	3.7	Nov	14.6	-0.7	0.8	44.0	27.6
Thailand	-0.3	Q3	-4.2	2.8	2.2	Dec	1.8	1.5	Dec§	1.8	-6.9	2.1	82.0	33.0
Argentina	11.9	Q3	17.3	2.3	50.9	Dec	51.6	8.2	Q3§	0.9	-3.2	na	na	104
Brazil	4.0	Q3	-0.4	0.7	10.1	Dec	7.7	12.1	Oct§‡‡	-0.7	-7.2	11.6	414	5.47
Chile	17.2	Q3	21.0	3.0	7.2	Dec	6.2	7.5	Nov§‡‡	-2.2	-4.5	6.1	344	811
Colombia	12.9	Q3	24.9	5.0	5.6	Dec	4.2	10.8	Nov§	-4.9	-6.5	9.1	422	3,999
Mexico	4.5	Q3	-1.7	2.6	7.4	Dec	5.3	3.8	Nov	-1.4	-3.5	7.7	250	20.5
Peru	11.4	Q3	15.0	2.8	6.4	Dec	5.7	6.4	Dec§	-2.7	-2.6	6.2	255	3.87
Egypt	9.8	Q3	na	5.0	5.9	Dec	6.3	7.5	Q3§	-4.2	-6.9	na	na	15.7
Israel	4.5	Q3	2.7	4.3	2.8	Dec	2.8	4.5	Nov	4.8	-3.2	1.3	50.0	3.14
Saudi Arabia	-4.1	2020	na	4.5	1.2	Dec	2.0	6.6	Q3	4.5	1.4	na	na	3.75
South Africa	2.9	Q3	-5.8	2.1	5.9	Dec	4.7	34.9	Q3§	-0.3	-6.3	9.4	61.0	15.3

Source: Haver Analytics. *% change on previous quarter, annual rate. †The Economist Intelligence Unit estimate/forecast. §Not seasonally adjusted. ‡New series. **Year ending June. ††Latest 3 months. #3-month moving average. §§5-year yield. †††Dollar-denominated bonds.

Markets

In local currency	Index	% change on:			index	% change on:		
		Jan 19th	one week	Dec 31st 2020		Jan 19th	one week	Dec 31st 2020
United States S&P 500	4,532.8	-4.1	20.7		44,833.4	-2.4	2.5	
United States NAScomp	14,340.3	-5.6	11.3		3,283.9	0.9	15.5	
China Shanghai Comp	3,558.2	-1.1	2.5		2,842.3	-4.4	-1.1	
China Shenzhen Comp	2,442.1	-1.4	4.8		18,227.5	-0.8	23.7	
Japan Nikkei 225	27,467.2	-4.5	0.1		1,658.2	-1.2	14.4	
Japan Topix	1,919.7	-4.9	6.4		83,528.3	-1.8	63.1	
Britain FTSE 100	7,589.7	0.5	17.5		108,013.5	2.2	-9.2	
Canada S&P TSX	21,205.2	-0.9	21.6		52,823.2	-2.1	19.9	
Euro area EURO STOXX 50	4,268.3	-1.1	20.1		11,715.0	-2.9	8.0	
France CAC 40	7,173.0	-0.9	29.2		2,105.0	-1.6	34.2	
Germany DAX*	15,809.7	-1.3	15.2		12,260.1	2.5	41.1	
Italy FTSE/MIB	27,370.9	-1.2	23.1		76,176.1	0.4	28.2	
Netherlands AEX	772.6	-2.3	23.7		3,098.6	-3.6	15.2	
Spain IBEX 35	8,774.9	0.1	8.7		1,239.8	-2.2	-4.0	
Poland WIG	70,733.1	-3.5	24.0					
Russia RTS, \$ terms	1,414.7	-12.3	2.0					
Switzerland SMI	12,525.7	-1.1	17.0					
Turkey BIST	2,042.1	-1.1	38.3					
Australia All Ord.	7,656.6	-1.4	11.8					
Hong Kong Hang Seng	24,127.9	-1.1	-11.4					
India BSE	60,098.8	-1.7	25.9					
Indonesia IDX	6,592.0	-0.8	10.3					
Malaysia KLSE	1,530.3	-2.1	-6.0					

	Basis points	latest	Dec 31st 2020
Investment grade	121	136	
High-yield	324	429	

Sources: Refinitiv Datastream; Standard & Poor's Global Fixed Income Research. *Total return index.

Commodities

The Economist commodity-price index	Jan 11th	Jan 18th*	% change on month	% change on year
2015=100				
Dollar Index	166.8	166.7	3.2	4.7
All Items	140.5	138.9	1.1	11.2
Food				
Industrial				
All	191.4	192.6	4.7	0.7
Non-food agriculturals	168.2	172.1	10.2	40.1
Metals	198.3	198.7	3.4	-6.1
Sterling Index				
All items	187.2	187.3	0.6	4.9
Euro Index				
All items	163.2	162.9	2.5	11.9
Gold				
\$ per oz	1,813.4	1,815.7	1.6	-1.4
Brent				
\$ per barrel	83.8	87.6	18.3	56.6

Sources: Bloomberg; CME Group; Cotlook; Refinitiv Datastream; Fastmarkets; FT; ICCO; ICAO; ISO; Live Rice Index; LME; NZ Wool Services; Thompson Lloyd & Ewart; Urner Barry; WSJ. *Provisional.

For more countries and additional data, visit Economist.com/indicators

A shot in the arm

Vaccine requirements in Canada and Europe boosted uptake significantly

ONE IN FIVE American adults have not yet got a covid-19 vaccine. This recalcitrant fifth remains despite behavioural nudges, vaccine lotteries and schemes that pay people to get jabbed. On January 13th the Supreme Court blocked a harder-nosed approach—a vaccine-or-test mandate on over 80m workers—from going into effect. How much might it have helped? The recent, successful experience of America's northern neighbour sheds some light.

On August 5th 2021, Quebec became the first Canadian province to announce a vaccine requirement to enter bars, gyms and restaurants. In the following months other Canadian provinces followed suit. That variation created a natural experiment: comparing provinces with these requirements to those without provided a way to estimate how effective they actually are.

Four economists—Alexander Karaivanov, Dongwoo Kim, Shih En Lu and Hitoshi Shigeoka, all of Simon Fraser University in British Columbia—ran the calculations. In the week after the announcement of *pass-santé* requirements, first-dose vaccinations increased by 42% over the previous week; and by 71% over two weeks. They estimated that 287,000 more people were vaccinated within six weeks as a result.

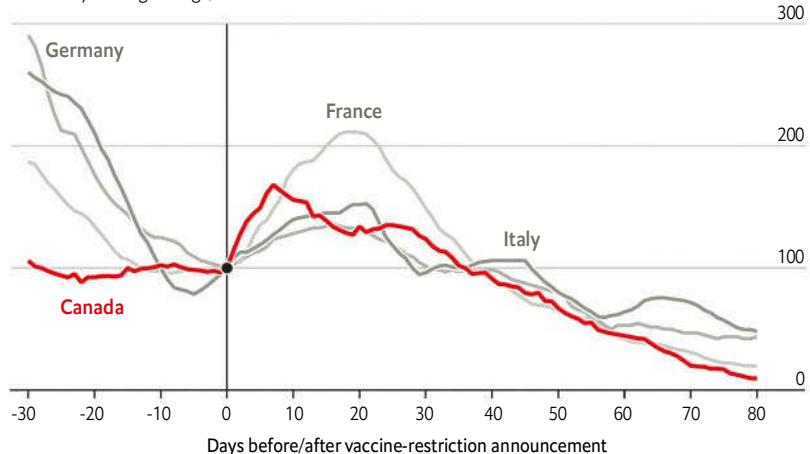
In the summer of 2021 France, Germany and Italy all introduced similar, nationwide vaccine mandates for non-essential activities. The authors calculated that these were effective, too. By the end of October 2021, more than 85% of Italy's eligible population had been jabbed, an estimated 12 percentage points more than if the rule had not gone into effect. In France the policy was credited with an eight percentage-point increase; in Germany with five.

Another working paper, by Miquel Oliu-Barton and his colleagues, corroborates these findings. They found that requiring evidence of vaccination in France, Germany and Italy not only increased jab uptake but also prevented 46,000 hospital admissions, €9.5bn (\$11.2bn) in economic losses and 6,400 deaths.

Rich countries are now diverging on restrictions. Some are doubling down and proposing more punitive mandates (see Europe section). Quebec now has plans to introduce a "health contribution fee". In America, left without a federal mandate, the vaccine-refusal problem may grow more entrenched. The converse of striking success is squandered opportunity. ■

→ Restricting amenities for the unvaccinated boosted vaccination rates

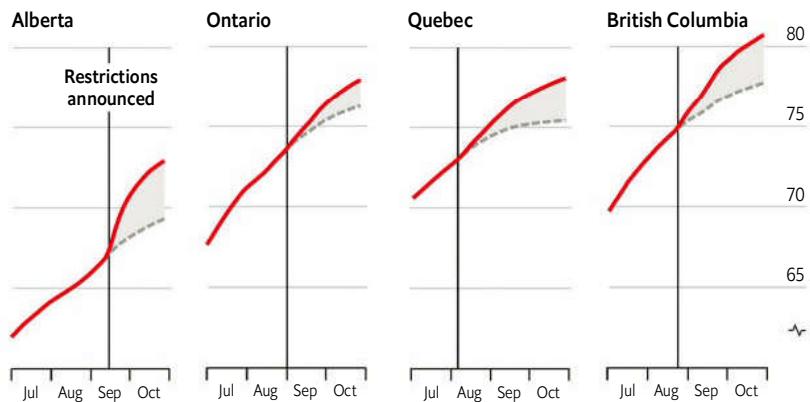
Change in first doses of covid-19 vaccine administered, 2021
Seven-day moving average, date of vaccine-restriction announcement=100



→ New rules pushed Canadian vaccination rates measurably upwards

Share of population with first dose, most populous Canadian provinces, 2021, %

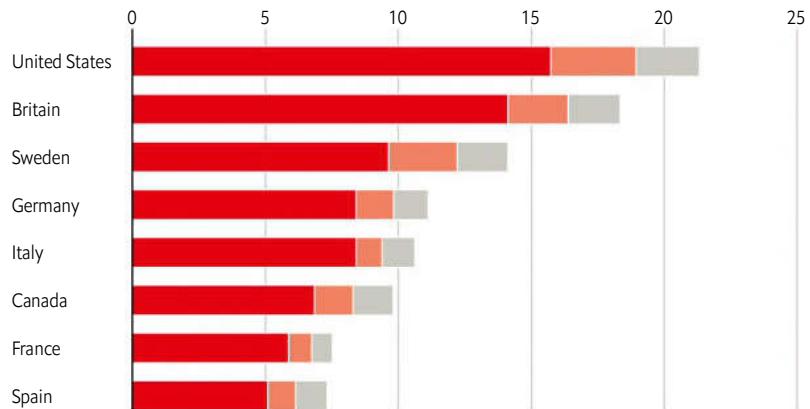
Actual (solid red line) Estimated with no imposed restrictions (dashed grey line)



→ Across the rich world, vaccine hesitancy remains stubborn

Share of adults not vaccinated, January 2022 or latest, %

Unwilling (red), Uncertain (orange), Willing (grey)



Sources: "Covid-19 vaccination mandates and vaccine uptake", by Alexander Karaivanov, Dongwoo Kim, Shih En Lu and Hitoshi Shigeoka, 2021, working paper; CDC; ECDC; Government of Canada; Our World in Data; Statistics Canada; UK HSE



What the Red Tails did

General Charles McGee, a rare survivor of America's first all-black aviation unit, died on January 16th, aged 102

IF YOU HAD wanted to find ideal military material on December 7th 1941, the day the Japanese attacked Pearl Harbour, you could hardly do better than Charles McGee. He was tall, strong, daring and engaging, the son of a minister in the Methodist Episcopal church. At DuSable high school in St Charles, Illinois, he had graduated ninth out of a class of more than 400. At the University of Illinois, where he went next (having scraped and saved, toiling in restaurants, steel mills and the Civilian Conservation Corps), his first choice was engineering, later switching to life sciences. And when the news about Pearl Harbour reached him, on his 22nd birthday, he was desperate to serve. Not as a foot soldier, slogging through mud with a rifle, as in his father's tales of the first world war; but ideally above it all, in a fighter plane.

There was only one problem. He was black, and therefore, according to army thinking at the time, unsuited for military service. Although African-Americans had served in the civil war and occasionally before it, the generals' thinking since 1925 had been shaped and fixed by a study by the Army War College, "The Use of Negro Manpower in War". This declared that black men were "very low in the scale of human evolution". "The cranial cavity of the Negro", the report went on, "is smaller than the white", and his brain weighed less. He could not control himself in the face of danger "to the extent the white man can". Though he was "jolly, docile and tractable, and lively", he lacked initiative and resourcefulness, and if treated unkindly could become "stubborn, sullen and unruly". They could be trained as combat troops, in separate facilities, but had to serve under a white officer. Otherwise they were good only for digging ditches, driving trucks and cooking chow.

The spirit that drove Charles McGee to his extraordinary service—409 combat missions and 6,308 flying hours in the second world war, Korea and Vietnam—was therefore not just the desire to fight for his country, but to show what African-Americans could

do, given an equal chance. He didn't see himself as a fighter for civil rights, since he preferred to ignore serenely any prejudice or name-calling he met. That was mere nonsense, young fellows' stuff. Nor did he want to make his point by saying to whites, "You don't like us, you don't want us, therefore we won't serve." As an Eagle Scout, service was his watchword. His aim was to say, look at us: we have the same skills, or better, than you.

Serving also gave him, wonderfully, a chance to fly. Though he had never even kicked the tyre of a plane before, he fell in love so deeply that on his 100th birthday he was still flying, venturing up in a Cessna Citation and a Cirrus Vision jet. In his old service favourite, the Mustang P-51C, he adored the loops, rolls and spin, the speed and, above all, the sense of leaving noise and clutter behind and roaming free, seeing the stars come out. From up there, human beings and their petty divisions looked very, very small.

Earth was a tougher place. When he enlisted, in 1942, President Roosevelt had just ordered the creation of a new black aviation unit. The Army Air Corps, the forerunner of the air force, was horrified; pilots were the last thing black men should be. There were also not enough black mechanics to support them, since white ones could not. Reluctantly, then, the Corps began to train those black mechanics, confident they would fail. They did not, and the Mustangs were always kept as sweetly tuned as could be. But the would-be pilots were sent to be trained in Tuskegee, in fiercely segregated rural Alabama, apparently to show how impossible their bold dreams still were.

In his life so far he had met relatively little sharp prejudice. In St Charles his had been the only black family, so he attended a white school. At university, though there was racism in the town, the campus was fine. That easy state of affairs changed as soon as the train for Tuskegee crossed into the South, when they were made to leave their coach seats to sit behind the coal-cars getting cinders in their eyes; where the town was off-limits, and he had to learn quickly which local gas stations not to try. But he shrugged all that off in the joy of flying and doing his part.

In 1943 he was sent to Italy, to an airfield near Naples, where the Tuskegee Airmen had to escort B-17 bombers on raids over central Europe, chasing off swarms of Luftwaffe planes. Those were fun times. He downed one personally, sheer luck, as the pilot turned into his gun-sights. Their aircraft were customised, so the gunners could pick them out, with red tails and trim (and his own plane with his wife's nickname, Kitten). In all the unit destroyed more than 250 enemy aircraft, 600 rail cars and dozens of boats, losing only 27 bombers in 179 forays, well below the average. The white bomber pilots, scandalised at first to think that their protectors were black, came to want the Red Tails there. They were invaluable in Vietnam, too, where he flew reconnaissance missions.

So he had made his point, at least in war. At home and in peace, though the armed forces were legally desegregated in 1948, it was another story. White pilots were feted, and recruited for the growing airline industry; the Tuskegee Airmen were soon forgotten, heading back to the largely menial jobs they had held before. Some even destroyed their uniforms. He went on flying, training a new generation of African-American pilots, but also found himself drawn into non-violent rule-breaking in the officers' clubs he was still, in practice, barred from joining: invading whites-only bowling alleys, barging into whites-only cinemas. There were still a lot of folks out there who needed to be shown.

He also kept the Tuskegee Airmen's story alive, working with several non-profit Red Tails projects to organise lectures and visit schools. Its members, increasingly frail, proudly wore their red jackets to speak of scarcely credible things expressed and perpetrated in America, not so many decades before. Their motto was, and is, "Rise above adversity". When it was his turn, he spoke with a gentle smile of satisfaction. Things were not perfect yet. But the Red Tails had served, and their service had proved the potential of every African-American. ■

csc:Miami

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TOWARDS A DREAM

LOUIS VUITTON