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The **Intergovernmental Panel on Climate Change** released the first part of its latest assessment report. The Earth is warming. Even with a drastic reduction in greenhouse-gas emissions temperatures will probably be 1.5°C above their late-19th century levels by 2050. Climate change is under way, the report laments, with all the environmental consequences that brings. The extent of the damage depends on the cumulative build-up of emissions and can be limited if the world strives for net-zero carbon emissions.

Andrew Cuomo said he would resign as governor of New York, after his Democratic colleagues in the state assembly prepared to impeach him over allegations from 11 women of sexual harassment. Mr Cuomo insists his actions did not amount to misconduct and said he was forced out by a political system “driven by the extremes”.

Republicans in the state legislature in **Texas** issued arrest warrants for Democratic lawmakers who have left the state so that a quorum can't be reached to pass a bill on electoral procedures (the Democrats say the bill is racist). This came after the state Supreme Court lifted a stay on the legislature from making the arrests.

The Senate passed a \$1trn **infrastructure** bill. The legislation was supported by 19 Republicans. It now goes to the House, where there is little sign of a similar blossoming of bipartisanship, especially over a budget plan that increases spending on programmes for the poor and raises taxes on the rich.

The Taliban continued their onslaught, capturing ten of **Afghanistan's** 34 provincial capitals in less than a week. They have murdered civil servants and ordered single women to “marry” their troops. America, Britain and India have asked their citizens to leave immediately. The Afghan army chief has been sacked. Joe Biden, whose abrupt withdrawal of American forces has emboldened the jihadists, said Afghans must “fight for themselves”.

Protesters and police clashed in Bangkok, as anger mounted over the **Thai** government's mishandling of a worsening covid-19 outbreak.

Indonesia's army said it would no longer force female recruits to undergo “virginity tests”. The tests had been intended to ensure that women in uniform were “moral”. Critics pointed out that they were invasive, humiliating and deterred women from serving. They also conveyed no information about a question the army should not have been asking in the first place.

Zambians voted in a presidential election on August 12th. Polls suggest that the incumbent, Edgar Lungu, would lose in a fair contest. But he has abused state resources to tilt the balance.

Ethiopia's government called on all capable citizens to join the war against rebel troops from Tigray after they forced the Ethiopian army to retreat from the northern state. Meanwhile the Tigrayan rebels announced an alliance with the Oromo Liberation Army, which the Ethiopian government has also branded as a terrorist group.

Guinea confirmed west Africa's first case of Marburg virus, which kills between a quarter and nine-tenths of those it infects. The case was detected near the borders of Liberia and Sierra Leone, roughly where an outbreak of Ebola in 2014 killed almost 12,000 people.

At least 65 people were killed in wildfires that swept through forests and villages near Algiers, the capital of **Algeria**. The dead included 25 soldiers who were evacuating residents. More than a dozen countries sent firefighters and equipment to help contain fires that have ravaged **Greece**.

Brazil's populist president, Jair Bolsonaro, ordered the military to parade tanks through the streets of Brasília, the capital, where congress was voting on a proposal to add paper receipts to the electronic voting system. Mr Bolsonaro claims, without proof, that electronic voting is rife with fraud and has threatened to suspend the presidential election in 2022 should paper receipts be rejected by congress, which they were.

Poland agreed to alter a body that disciplines judges after the EU's highest court said it clashed with the bloc's prohibition on political control of the judiciary. Separately, the ruling Law and Justice party moved ahead with a bill to bar foreign ownership of broadcast media. The European Commission called it a threat to media freedom.

A British security guard at the **British embassy** in Berlin was arrested for passing documents to Russia in exchange for cash. Relations between the United Kingdom and Russia were already dire.

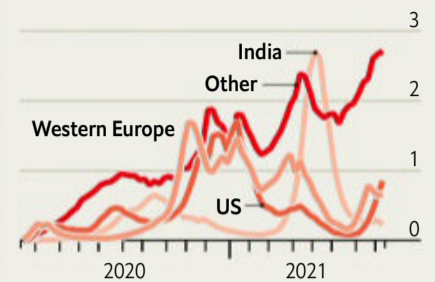
A court in **China** sentenced Michael Savor, a **Canadian** businessman, to 11 years' imprisonment for supposed espionage. His supporters say he is, in effect, a hostage. China's ruling party would like Canada to release Meng Wanzhou, a well-connected Chinese businesswoman, who faces extradition to America on charges of fraud.

China announced new rules for **karaoke** parlours, to come into effect on October 1st. Songs that applaud violence, obscenity or crime, or threaten national unity, will be banned.

Coronavirus briefs

To 6am GMT Aug 12th 2021

Weekly confirmed cases by area, m



Vaccination doses

	Total '000	% of over-11s with	
		1st dose	2nd
Malta	779	>99	>99
Iceland	477	95	88
UAE	17,197	92	82
Seychelles	141	92	86
Mongolia	4,211	91	83
Uruguay	4,934	89	80
Israel	11,880	87	81
Chile	26,285	87	79
Bhutan	1,010	86	77
Denmark	7,790	85	70

Sources: Johns Hopkins University CSSE; Our World in Data; United Nations

Vaccine mandates spread rapidly across America. The Pentagon laid out plans to make vaccination mandatory for all American troops by mid-September. California said all teachers and schools' staff would have to be either jabbed or tested regularly.

Despite having one of the highest vaccination rates in the world, infections in **Israel** surged to their highest levels since February.

More than 75% of adults in **Britain** have now received both doses of a vaccine.

A ban was lifted on foreign pilgrims in **Saudi Arabia**. Vaccinated travellers will be allowed to visit the holy sites in Mecca, which attract millions of the faithful each year.

Support for the government led by Suga Yoshihide in **Japan** has dropped to a new low after new infections surged during the Tokyo Olympics.

→ For our latest coverage of the virus please visit economist.com/coronavirus or download the *Economist* app.

Son Masayoshi, the boss of **SoftBank**, said he was curbing his conglomerate's enthusiasm to invest in Chinese start-ups until the extent of the Chinese government's crack-down on the tech industry becomes clearer in the coming years. The Japanese company is a big investor in Alibaba and Didi Global, two targets of the ire of regulators in Beijing.

Uncertainty about the future of internet firms in China was one factor behind the poorly received IPO of **Krafton**, a South Korean video-games developer that produces the "PlayerUnknown's Battlegrounds" series. Krafton is backed by Tencent, which distributes its games in China. However, Krafton also had to reduce the listing price for its shares when the Korean regulator questioned how it was calculated.

The American government's ban on Chinese tech firms with suspected military ties obtaining American technology hit **Huawei** hard in the first half of the year. Revenue fell by almost 30% compared with the first six months of 2020, and by almost 50% in its consumer-electronics business, which relies on American chips for smartphones.

Bukalapak raised \$1.5bn when it listed its shares on the Jakarta stockmarket, making it Indonesia's biggest-ever IPO. The e-commerce group has the backing of big foreign investors, including Microsoft and Jack Ma's Ant Group, and is the first unicorn startup to go public in the country.

America's Securities and Exchange Commission approved a controversial requirement by the Nasdaq for companies that list on its markets to disclose statistics on the **diversity** of their boards and to have at least two "diverse directors", or explain why they do not. One director must be a woman and the other from a racial or sexual minority; all must "identify" with their diverse group. Firms have a few years to comply.

American employers created 943,000 **jobs** in July, the most since last August. Employment is yet to reach its pre-pandemic level, however, and is not expected to do so for at least another six months. America's annual rate of **inflation**, meanwhile, remained at 5.4% in July.

Britain's GDP expanded by 4.8% in the second quarter over the previous three months, boosted by the end of pandemic restrictions on restaurants and pubs (just in time for the Euros football tournament). The economy is now 4.4% smaller than it was at the end of 2019, before covid-19 struck; it is on course to return to its pre-pandemic level by the end of this year.

All that carbon

Saudi Aramco reported a net profit of \$25.5bn for the second quarter. That was an increase of almost 300% on the same three months last year and more than the combined quarterly profits of BP, Chevron, ExxonMobil, Shell and Total. Like its rivals, the Saudi company has gained from a buoyant **oil** market as economies reopen. Troubled by the hot topic of high petrol prices, the White House has publicly

called on OPEC to boost output in order to curb oil prices.

The bidding war intensified for **Kansas City Southern**, a railway company that transports freight in America and Mexico. Canadian Pacific raised its offer to \$31bn in an attempt to derail a proposal from Canadian National that the board at KCS has accepted.

Deliveroo's share price

Pence, 2021



Source: Refinitiv Datastream

Deliveroo reported earnings for the first half. The food-delivery company, which floated on the London stockmarket in March in a dismal IPO, took almost 149m orders in the January-to-June period, twice as many as during the same six months last year. It has expanded even more into grocery deliveries and restaurant fare. The lifting of lockdown measures in Britain, its prime market, has not had a material impact on its business; ordering meals from

home has now become routine for customers who acquired the taste during the pandemic.

Jab or job?

The chief executives of American Airlines and Delta Air Lines said they would not impose a requirement on existing staff to have the covid-19 vaccine, but they will encourage them to do so. This came after **United Airlines** instructed all its workers based in America to get vaccinated by October 25th at the latest.

Virgin Atlantic is reportedly planning to list shares on the London stockmarket for the first time since its founding in 1984. The airline is owned by Virgin Group and Delta. During the pandemic it has cut costs by slashing jobs. It is expecting a surge in transatlantic travel as restrictions ease.

At least \$611m-worth of **cryptocurrencies** vanished from Poly Network, a decentralised finance platform, in one of the largest cyber-heists targeting the digital-asset industry. Within hours, however, crypto sleuths tracked down the unnamed hacker, who started returning the funds after declaring "he was not so interested in money."



China's attack on tech

Xi Jinping's assault on his country's tech titans is likely to prove self-defeating

OF ALL CHINA'S achievements in the past two decades, one of the most impressive is the rise of its technology industry. Alibaba hosts twice as much e-commerce activity as Amazon does. Tencent runs the world's most popular super-app, with 1.2bn users. China's tech revolution has also helped transform its long-run economic prospects at home, by allowing it to leap beyond manufacturing into new fields such as digital health care and artificial intelligence (AI). As well as propelling China's prosperity, a dazzling tech industry could also be the foundation for a challenge to American supremacy.

That is why President Xi Jinping's assault on his country's \$4trn tech industry is so startling. There have been over 50 regulatory actions against scores of firms for a dizzying array of alleged offences, from antitrust abuses to data violations. The threat of government bans and fines has weighed on share prices, costing investors around \$1trn.

Mr Xi's immediate goal may be to humble tycoons and give regulators more sway over unruly digital markets. But as we explain (see Business section), the Communist Party's deeper ambition is to redesign the industry according to its blueprint. China's autocrats hope this will sharpen their country's technological edge while boosting competition and benefiting consumers.

Geopolitics may be spurring them on, too. Restrictions on access to components made with American technology have persuaded China that it needs to be more self-reliant in critical areas like semiconductors. Such "hard tech" may benefit if the crackdown on social media, gaming firms and the like steers talented engineers and programmers its way. However the assault is also a giant gamble that may end up doing long-term damage to enterprise and economic growth.

Twenty years ago China hardly seemed on the threshold of a technological miracle. Silicon Valley dismissed pioneers such as Alibaba as copycats, until they leapt ahead of it in e-commerce and digital payments. Today 73 Chinese digital firms are worth over \$10bn. Most have Western investors and foreign-educated executives. A dynamic venture-capital ecosystem keeps churning out new stars. Of China's 160 "unicorns" (startups worth over \$1bn), half are in fields such as AI, big data and robotics.

In contrast to Vladimir Putin's war on Russia's oligarchs in the 2000s, China's crackdown is not about insiders fighting over the spoils. Indeed, it echoes concerns that motivate regulators and politicians in the West: that digital markets tend towards monopolies and that tech firms hoard data, abuse suppliers, exploit workers and undermine public morality.

Stronger policing was overdue. When China opened up, the party kept a stifling grip on finance, telecoms and energy but allowed tech to let rip. Its digital pioneers used this near absence of regulation to grow astonishingly fast. Didi, which provides transport, has more users than America has people.

However, the big digital platforms also exploited their freedom to trample smaller firms. They stop merchants from selling on more than one platform. They deny food-delivery drivers and other gig workers basic benefits. The party wants to put an end to

such misconduct. It is an ambition that many investors support.

The question is how? China is about to become a policy laboratory in which an unaccountable state wrestles with the world's biggest firms for control of the 21st century's essential infrastructure. Some data, which the government says is a "factor of production", like land or labour, may pass into public ownership. The state may enforce interoperability between platforms (so that, say, WeChat cannot continue to block rivals). Addictive algorithms may be more rigorously policed. All this would hurt profits, but might make markets work better.

But make no mistake, the crackdown on China's unruly tech is also a demonstration of the party's untrammelled power. In the past its priorities often fell victim to vested interests, including corrupt insiders, and it was constrained by its need to court foreign capital and create employment. Now the party feels emboldened, issuing new rules at a furious pace and enforcing them with fresh zeal. China's regulatory immaturity is on full display. Just 50 or so people staff its main anti-monopoly agency but they can destroy business models at the stroke of a pen. Denied due process, companies must grin and bear it.

China's leaders have spent decades successfully defying Western lectures on liberal economics. They may see their clampdown on the technology industry as a refinement of their

policy of state capitalism—a blueprint for combining prosperity and control in order to keep China stable and the party in power. Indeed, as China's population starts to decline, the party wants to raise productivity through state direction, including by automating factories and forming urban mega-clusters (see Briefing).

Yet the attempt to reshape Chinese tech could easily go wrong. It is likely to raise suspi-

cion abroad, hampering the country's ambitions to sell services and set global tech standards worldwide in the 21st century, as America did in the 20th. Any drag on growth would be felt far beyond China's borders.

A bigger risk is that the crackdown will dull the entrepreneurial spirit within China. As the economy shifts from making things towards services, spontaneous risk-taking, backed by sophisticated capital markets, will become more important. Several of China's leading tech tycoons have pulled back from their companies and public life. Wannabes will think twice before trying to emulate them, not least because the crackdown has jacked up the cost of capital.

Startup slowdown

China's biggest tech firms now trade at an average discount of 26% per dollar of sales relative to American firms. Startups, such as the minnows taking ride-hailing business from Didi with mapping apps, have been nibbling at the government's main targets. Far from being emboldened by the crackdown, they are likely to feel exposed. Economic development is largely about creative destruction. China's autocratic leaders have shown that they can manage the destruction. Whether this tech tumult will also foster creativity remains much in doubt. ■



The war in Afghanistan

Last chance

America might still be able to save the Afghan government if it tried

“A NEGATIVE OUTCOME, a Taliban automatic military takeover, is not a foregone conclusion,” Mark Milley, America’s most senior soldier, intoned last month while reiterating America’s support for the embattled Afghan government. General Milley is right: such a takeover is not quite inevitable, despite the departure of American troops. But it is growing more likely by the day—in large part because America, whatever its generals say, is doing too little to help.

Ideally, America would not be withdrawing its forces at all. For several years, with only a few thousand troops who sustained few casualties, it had managed to maintain a stalemate between the Afghan government and the Taliban, thanks largely to air power. Yet last year, when Donald Trump was president, America struck a deal with the Taliban. In exchange for a promise from the militants not to harbour international terrorists, it undertook to withdraw from Afghanistan completely. Never mind that the insurgents refused any kind of ceasefire; never mind that they offered nothing more than indirect negotiations with the American-backed government in Kabul; Mr Trump wanted a quick end to the 20-year deployment, and President Joe Biden has stuck by that callous decision.

America’s rush for the exit has allowed the Taliban to drop the pretence of negotiations and redouble their campaign to remove the government by force (see Asia section). The insurgents did not control any of the 34 provincial capitals last week. They have since seized ten. Three of the country’s biggest cities, Herat, Kandahar and Mazar-i-Sharif, are under attack. America no longer has any military aircraft based in Afghanistan able to repel such assaults. Instead, it is dispatching them from distant bases in the Gulf and carriers in the Arabian Sea—a much less effective arrangement. And many of the mechanics who were helping maintain the Afghan air force’s planes have left with the Americans, further reducing the government’s firepower.



That has led to a rout which, if it continues, will be a disaster. When the Taliban last ran the country, in the 1990s, they kept girls out of school, confined women to their homes and beat anyone who listened to music or wore the wrong clothes. They have not changed much since then. In areas they now control, they are murdering civil servants and NGO workers, and ordering families to hand over single women to “marry” their troops.

A revived Taliban emirate will not just abuse Afghans; it will spread misery around the region. Afghanistan is already the world’s biggest producer of heroin, a business the Taliban happily tax. It also exports millions of refugees, especially to neighbouring Pakistan and Iran. Extremist violence is another export. An offshoot of the Taliban killed tens of thousands of Pakistanis during a bloody terrorist campaign that took years to quell. America’s humiliation may be pleasing to some in the region, but the pleasure will be short-lived.

Yet instead of joining forces to curb the Taliban, regional powers are bickering and jostling for advantage. And instead of finding ways to help the Afghan government, America is backing away fast. On August 10th Mr Biden declared that, in effect, it was up to the Afghan army to fight for itself.

If it is really left to cope on its own, the government will indeed collapse. But America might yet be able to stave that off without reinstating a permanent garrison. It could deploy special forces on brief sorties to bolster the Afghan army, for instance. It could expand the use of carriers to provide air support, or lean on neighbouring countries to allow at least temporary access to American aircraft. Above all, Mr Biden could signal that he does not intend to abandon Afghanistan to its fate—an impression that is doing more than anything else to hasten the Taliban’s advance. Over the past 20 years America has not managed to turn Afghanistan into a flourishing democracy, but it can still stop it from reverting to a violent theocracy. ■

Covid-19 and borders

Open up

International travel restrictions are illiberal and often ineffective

FOR A LUCKY few, the mid-20th century was a golden age of air travel: there was plenty of room and the cabin crew were attentive. Back then foreign trips were glamorous and mass tourism was unknown. Sound familiar?

Because of covid-19, foreign travel is once again the preserve of a happy few. International tourist arrivals are down by 85% from pre-pandemic days (see International section). Nearly a third of the world’s borders remain closed. Many of the remainder are open only to those who have been vaccinated or can afford tests. For those who dream of a return to the old days, this might sound appealing. For the rest of humanity, it is a scourge.

Before the pandemic, travel accounted for 4.4% of GDP and nearly 7% of employment in rich countries. In tourist hotspots such as Thailand and the Caribbean the share was much higher. Business travellers helped their employers conquer new markets, while simultaneously creating jobs for concierges and cabbies. Foreign students subsidised their native-born classmates, brought a different perspective to campus and took new ideas back to their homelands. Last year some 280m people lived outside the country of their birth. Border closures often made it impossible for them to visit their loved ones. Some bade farewell to dying parents over WhatsApp. ▶▶

► Today's travel restrictions are supposed to protect natives from imported covid. Yet they do a poor job of it. A few countries, mostly islands and dictatorships, have managed to keep out the virus through truly draconian restrictions. Even this has come at a cost in terms of reducing pressure to be vaccinated quickly. Only 21% of New Zealanders over 12 are fully vaccinated, for example, compared with 68% of Britons. Countries that put their faith in isolation are thus finding it hard to reopen.

Most countries have land borders and voters. For them isolation was never feasible. Instead, they have adopted a confusing, illogical mess of rules. America bars travellers from Britain and the European Union, its closest allies and trade partners, and also two of the most vaccinated big places in the world, while admitting those from South-East Asia, where the Delta variant is rampant. Thailand bans entry from some countries and requires all other travellers to submit to a two-week quarantine. Yet of 21,038 cases identified on August 10th, only 19 were imported. Once a variant of the virus has started to spread in the local population, infections double every couple of weeks. Entry bans make very little difference to the total caseload.

Many countries are starting to ease entry for vaccinated travellers. This is a good idea, but it has been incompetently executed. Some countries are needlessly fussy about the jabs they recognise. Britain, which has injected its citizens with some 5m doses of the AstraZeneca vaccine made in India, refuses to exempt from quarantine Indians inoculated with the same potion.

It has donated doses to other countries but will not exempt people jabbed with them. For a while, China allowed entry only to those dosed with Chinese-made shots.

There is a better way of regulating global travel. The first principle is to default to open borders. This does not mean a free-for-all, but any restrictions should be limited, temporary and aimed at slowing the import of new variants—rather than the impossible mission of stopping it altogether. Once such variants are established in the destination country, as Delta is pretty much everywhere, restrictions are redundant and should be scrapped.

The second is for all countries to accept vaccines approved by the World Health Organisation. Few people have a choice about which vaccine they receive; banning only those Filipinos who received the Russian Sputnik V jab while accepting those with Pfizer in their arms turns travel into a lottery. Discriminating against people on the basis of something over which they have no choice is unfair. It also undermines the global vaccination effort by making some vaccines seem second-class.

The third is to ensure that rules are transparent and universal. Too often, political expediency trumps science. If Western countries are seen to favour each other while keeping out the rest of the world, the rest of the world will notice and remember.

The right to move around is one of the most precious of all freedoms. It should be curtailed only when limits will clearly save lives. It should be restored as soon as it is safe. In most cases that means now. ■

Climate change

It is not all about the CO₂

Carbon dioxide is by far the most important driver of climate change. But methane matters, too

THE HEADLINE of the latest pronouncement from the Intergovernmental Panel on Climate Change (IPCC) on the physical science of climate change is the finding that, even if the world cuts emissions by more than governments are promising, it is still “more likely than not” that Earth will be 1.5°C warmer by around 2050 than it was in the late 19th century.

That is important, and frightening, but hardly shocking. The aim of letting the world warm no more than 1.5°C, agreed on in Paris six years ago, is one to which many countries, notably the small-island states for which sea-level rise is an existential threat, are deeply committed. But many observers believe it stringent almost to the point of impossibility.

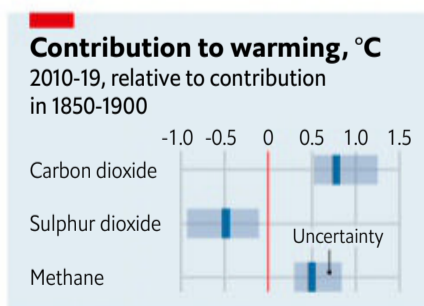
Another conclusion in the IPCC report, though, may come as news to many. If carbon-dioxide emissions were the only means by which humans were changing the climate, 1.5°C of warming would have already come about. As it is, other human emissions matter, too. Among the most important are sulphate aerosols: tiny particles produced by the combustion of coal and some sorts of oil that float in the air, sully the lungs, kill millions—and also, by reflecting away incoming sunlight, cool Earth.

The IPCC reckons that sulphates have provided a net cooling of 0.4-0.5°C since the late 19th century, and that this is a large part of the reason why that period has seen only 1.1°C of warming. But the sulphates' influence is on the wane. In order to im-

prove air quality, and thereby save lives, sulphur is now removed from almost all liquid fuels at the refining stage and increasingly scrubbed from the flues of coal-fired power stations, even in China. This clearing of the air is stripping away some of the noxious cooling. Speedy reduction in fossil-fuel use will remove the rest of it—thus, ironically, allowing the effects of the carbon dioxide already in the atmosphere to be felt all the more keenly.

In 2006 Paul Crutzen, a pre-eminent atmospheric chemist, suggested that there might be a way to save people's lungs while still keeping them cool. In the lower atmosphere, where industry dumps them, sulphate particles are short-lived. In the stratosphere they last much longer. Putting a relatively sparse layer of sulphates into the stratosphere could thus provide the same amount of cooling as today's lower-atmosphere smogs while doing almost no direct harm.

Crutzen's intervention spurred renewed interest in the idea of intentionally interfering with incoming sunlight, a possibility known as “solar geoengineering”. It is an interest of which the IPCC is wary. Solar geoengineering has no role in the scenarios the panel uses to talk about future climates. As a result its new report, like its predecessors, discusses the idea only in broad terms. In doing so it notes, correctly, that the idea has significant drawbacks. But it also allows that solar geoengineering might, in principle, be used to create significant global cooling much more promptly than reducing carbon-diox- ►



► ide emissions ever could (see Science & technology section).

Both the drawbacks and the potential provide good reason for researching geoengineering more thoroughly and systematically. But it would be wrong to think it a quick, easy or necessarily desirable response. Perhaps the biggest worry is that its seeming promise would be used as an excuse for inaction on carbon-dioxide emissions. A world where geoengineering was used simply to cover up, increasingly imperfectly, the effects of ever higher greenhouse-gas levels would be a fearsomely unstable one.

A more palatable approach to offsetting the diminishing effects of sulphate pollution, enthusiastically endorsed by the IPCC, is to redouble efforts to reduce emissions of another climate-changing by-product of human civilisation. Methane is a more powerful greenhouse gas than carbon dioxide, but one which lasts in the atmosphere for only about a decade. Reduce methane emissions and you soon reduce methane levels; reduce

methane levels and you reduce global warming.

Its rising atmospheric concentration shows that today's efforts to abate methane emissions are not up to the job. Happily, there is much more that can be done. Emissions from the energy industry could be more tightly regulated almost everywhere. Because methane is valuable, some would pay for themselves. Reducing emissions from landfill sites is not terribly difficult either. Livestock would burp less with the right feed supplements. Eliminating emissions would be hard; but quite steep reductions are entirely possible.

Carbon dioxide remains the heart of the climate problem. Exploring the possibilities, practicalities and dangers of solar geoengineering remains a good idea. But it is on methane emissions that progress can be made most quickly. And the world is getting ever hotter. Methane should be given priority on the agenda at the COP26 climate summit this November. ■

Germany

After Merkel, muddle

Voters deserve a more serious election campaign

GERMANY'S ELECTION ON September 26th will herald a new era. Angela Merkel, chancellor for 16 years, is stepping down. Who will succeed her is uncertain. Parliamentary elections employ a mix of proportional representation (with a 5% threshold for parties to make it in to the Bundestag) and single-district constituencies. The traditional big parties, Mrs Merkel's centre-right Christian Democrats along with their Bavarian counterparts (CDU/CSU) and the centre-left Social Democrats (SPD), are winning fewer votes, and coalitions often bridge the right-left divide. That makes it hard to predict the next government even if polls are accurate, which often they are not.

The Economist has developed a model that aggregates polls and other predictive data, runs thousands of simulated elections and assesses the most probable results and the chances of various coalitions to form a majority (see Europe section). Our model shows that three combinations, each with a popular nickname based on its party colours, have a plausible chance of winning more than half the seats in the Bundestag. These are a "Jamaica" coalition of the CDU/CSU, the Greens and the liberal Free Democrats (FDP); a "traffic-light" combination of the Greens, the FDP and the SPD; and, the least likely, "black-green" coalition of the CDU/CSU and the Greens.

Our results demonstrate just how uncertain the election remains. Voters are not only unsure who will win; many are also unsure what the parties really stand for. The campaign has been dispiritingly superficial, avoiding serious policy debate and focusing instead on the peccadillos and gaffes of party leaders. At a critical moment in their history, German citizens are not being given a clear choice of direction. The parties need to do better.

Strategically, their caution is understandable. None of the big parties' candidates is well-liked. The CDU/CSU's Armin Laschet secured his party's backing for the chancellery by positioning himself as the blandest contender, and the campaign has confirmed his reputation for dithering. Annalena Baerbock, the Green candidate, had a brief burst of approval after her nomina-

tion in April, but handled a plagiarism scandal poorly and has since grown timid. The least unpopular, Olaf Scholz, the SPD candidate and current finance minister, rates more highly among voters than his party does. But that is largely because the SPD has fallen so far, after spending eight years as junior partner in a grand coalition with Mrs Merkel.

Yet on a host of issues, Germany's parties should be making it crystal clear where they stand. The floods in July drove home the urgency of stronger policies to curb climate change, an area where Germany—with its huge motor industry and humming coal-fired power plants—faces big challenges. Germany will find it hard to sustain its chummy economic relationship with China, which the rest of the West has come to see as a strategic competitor. Relations with Russia vacillate between the firmness

Mrs Merkel displayed after the invasion of Crimea and the conciliatory Ostpolitik she has pursued on the Nord Stream 2 gas pipeline. Germany's assent to the European Union's covid-19 recovery plan masks deep divisions over collective European spending and debt.

On all of these issues, the parties have real differences. The Greens want a state-led transition to net-zero carbon emissions, a tougher stance towards China and Russia and greater European unity. The CDU/CSU want to give business time to adjust to a low-carbon economy and balance foreign-policy independence from China with economic co-operation. The SPD want to redistribute more income and avoid foreign spats.

Voters are hearing precious little about these differences. The danger is that the coalition that emerges as Germany's next government will have no mandate for the vital policy decisions it needs to take. Keeping mum does not even seem to be popular: two new polls that came out this week showed perfectly dismal results for the diffident Mr Laschet and his CDU/CSU. German party leaders may think that, by not calling attention to their positions on divisive issues, they are playing it safe. But that strategy is not safe at all, today or in the long run. ■





UNIQUE OPPORTUNITY TO LEAD THE US\$2.5BN MAIDEN INFRASTRUCTURE CORPORATION OF NIGERIA LTD.

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The vehicle was established to harness opportunities for infrastructure development in Nigeria by originating, structuring, executing and managing end-to-end bankable projects, managed by reputable and highly experienced infrastructure asset managers and in partnership with public and private sector participants.

InfraCorp will leverage majorly on private sector partnerships, government relationships and investments to unlock assets for the development and completion of projects.

In line with this, **InfraCorp requires an exceptional individual with a proven track record for the position of Chief Executive Officer.**

THE OPPORTUNITY: CHIEF EXECUTIVE OFFICER

Reporting to the board of directors, the successful candidate will oversee the appointed asset managers to achieve investment mandate compliance; provide strategic direction, leadership and guidance to the management team and oversee investment mandate compliance. The CEO will also have a primary responsibility for implementation and oversight of InfraCorp's investment policies and appropriate regulatory frameworks that are required to ensure that bankable infrastructure projects being handled by the Infrastructure Asset Managers will be successfully executed. Specifically, the CEO will be responsible for:

Fund Raising and Deployment / Asset Allocation

- Lead the fund-raising efforts for InfraCorp, in collaboration with infrastructure asset managers
- Work with the Investment Committee to determine the optimal allocation of funds across infrastructure asset managers and infrastructure sub-sectors
- Coordinate InfraCorp's initial fund-raising exercises in collaboration with infrastructure asset managers

Management and Administration

- Lead the InfraCorp Management team in accordance with InfraCorp's vision, strategy & values
- Develop strategic plan (Short, medium-to-long term) for InfraCorp
- Provide advice and support to the infrastructure asset management team and hold regular and ad hoc meetings as appropriate
- Sit on the boards and committees of InfraCorp and relevant investee companies

Stakeholder Relationships

- Coordinate and manage relationships and communications with all stakeholders – public and private; and asset managers
- Work with the infrastructure asset managers to establish relationships within the local and global investment community to ensure InfraCorp has access to investment resources

Investment Management

- Work closely with the Board of Directors and infrastructure asset managers to formulate appropriate investment policies and strategies
- Ensure that the implementation of InfraCorp's investment decisions are consistent with defined objectives of its risk tolerance and investment strategy
- Oversee the operations and management of InfraCorp portfolio as deployed by the asset managers including quality control
- Oversee pipeline development, execution and exits through the asset managers in line with key strategic investment trends and opportunities

Reporting

- Prepare basis for decisions on investment management and reports on investment management activities of InfraCorp to the CEO and Board
- Advise the Investment Committee on issues & activities related to InfraCorp's investment portfolio & performance
- Oversee the preparation of annual public reports on InfraCorp's investments, performance and risk
- In collaboration with the infrastructure asset managers, prepare reports on the investment management activities of InfraCorp to the Board on a regular basis

Qualifications, experience and attributes

- First degree in Engineering, Economics, Law, Accounting, Finance, Business administration, or any other relevant disciplines from a reputable institution
- Post-graduate degree(s) in any business-related field /MBA
- Professional certification in finance, risk and investment management is an added advantage
- Minimum of 15 years' senior management experience in fund raising, infrastructure asset management, asset allocation strategies and portfolio management including at least 2-4 years as a chief executive officer
- Excellent understanding of the Nigerian infrastructure space with a key size and scale (minimum US\$1bn+)
- Proven experience managing partnerships and large portfolios
- Proven experience leading and managing a sizeable team
- Excellent analytical and problem-solving abilities
- Strong leadership, supervisory, coaching, mentoring and people management skills
- Strong influencing and negotiation skills with an ability to engage with others to achieve positive results
- Excellent interpersonal and presentation skills with the ability to build rapport across various stakeholders and effectively communicate and interact with top level management
- Resilient and focused go-getter with the exposure to best practices
- Ability to deliver on set targets and achieve demonstrative results in line with the organisations strategic aspirations
- Strategic thinker with high level of commercial acumen
- Ability to act with integrity, professionalism, and confidentiality
- Entrepreneurial with deal making and execution expertise
- Experience with board memberships
- Experience with managing public sector institutions in Nigeria
- Preference for at least one national language in Nigeria

Applicants are requested to send a detailed CV, cover letter, and references to InfraCorp@cbn.gov.ng copying Ng-dlProjectHolborn@ng.kpmg.com. The deadline for receipt of all applications is 12 noon Nigerian time on 31st August 2021. All applications will be treated in confidence and considered on a rolling basis. Only eligible candidates will be contacted.



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Are you a professional in the field of human resources management, with a proven record in strategic leadership, innovation and policy development? IFAD is seeking an experienced and recognized professional, who will act as a leader for HR professionals and position the Fund to proactively anticipate, plan and meet workforce needs. The successful candidate will exhibit the highest level of competency and professionalism in order to convey the strategic importance of human resources management, while applying the highest standards of ethics.

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Senior Appointments: Bezos Earth Fund

Created by Jeff Bezos in 2020 with a \$10 billion commitment to address climate change and protect nature, the Earth Fund will be fully disbursed in this current decisive decade.

As we build our senior team we are looking for leaders with deep technical expertise and a track record of shaping bold ideas and driving action. Candidates will be committed to the urgent task of systems change that will be needed to promote economic wellbeing and social justice while delivering climate and nature solutions. Preferred location: Washington DC, but flexible for extraordinary candidates.

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Director, Economics of the Future
- 5264

Director, Technology Acceleration
- 5269

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General Counsel

For further information and full job description and criteria, please visit <https://careers.mlaglobal.com/us/en/job/126480/General-Counsel>



AMERICAN ASIA PACIFIC EMBA

Dealing with risk

Your attempt to shed light on who refuses vaccines gave a dismissive conclusion that one way to increase take up of the jab is to focus on “information-dissemination for the uneducated” (“Hesitancy in numbers”, July 31st). Research on the psychology of risk perception by Paul Slovic and others has revealed that how we perceive and respond to potential danger is far more a matter of how we feel about the facts than the facts alone. So the first step in dealing with vaccine refusal is not merely knowing who is refusing vaccination based on shallow demographics, but why.

Ever since the modern era of vaccines there has always been either vaccine hesitancy, a more mild form of concern about vaccines, or outright stubborn anti-vaccine refusal. Some refuse because humans are generally more wary about risks when we don't trust the source of the threat. Many refuse because in the main we are more wary of anything artificial than natural. And germane to the political trends you identified, the most adamant vaccine resistance has always come from those who, like most of us to some degree, are more wary of a risk when it is imposed on us.

Wisely designed risk-communication campaigns crafted to build trust by demonstrating an understanding of and respect for people's feelings have been shown to moderate vaccine hesitancy in many cases. But only social and legal sanctions against the most adamant vaccine refusers, invoked in the name of the common good, have had any real effect on that group.

DAVID ROPEIK

Retired instructor in risk communication at Harvard
Concord, Massachusetts

The future of war

For an interesting take on the ability of an artificial intelligence to develop war strategy (“Computer says go”, July 3rd), I recommend Robert Heinlein's

“The Moon is a Harsh Mistress”. The novel describes how a sentient computer develops the military tactics needed for a lunar colony to secure independence.

ROBERT CHECCHIO

Dunellen, New Jersey

A global challenge

The erroneous assumption that adaptation to climate change is mostly a domestic affair serving domestic interests was repeated in your recent leader (“No safe place”, July 24th). Just like a virus, climate risk can easily cross borders through international trade and supply chains, capital flows, human mobility and natural resources shared between countries, both regionally and globally. Likewise, actions to adapt to climate change can have effects far beyond the jurisdiction of the country implementing them.

A recent study led by INFRAS, a Swiss consultancy firm, for the German Environment Agency valued the economic risk of climate-induced disruptions in German trade alone as greater than the combined economic risk of all direct climate-change impacts within Germany's national borders. In Senegal in 2008, the price of rice tripled following a chain reaction that began when India halted its exports of the grain in response to poor harvest forecasts during a drought. It led to rioting on the streets of Dakar.

Cross-border connections such as these show that adaptation is in fact a global challenge. Current approaches to adaptation planning, based on local or national risk assessments, fall short of what is needed to effectively manage climate risk in our interconnected world. Worse, one country's adaptation efforts could all too easily redistribute climate risk to another country, rather than reduce the risk outright.

Governments and companies should therefore adopt a trans-boundary rather than a domestic perspective on climate risk to address the full

scope and nature of adaptation, create opportunities for international co-operation, and pave the way towards lasting global resilience.

RICHARD KLEIN

Stockholm Environment
Institute

Bonn, Germany

Giving credit

“The funding frenzy” (July 17th) touched on how fintech firms are “rebundling” by adding new products as a key feature of their investment. It is certainly clear that despite amassing huge user bases, many fintech startups have found it a challenge to turn a profit and are turning to rebundling to solve this problem. With these added services come greater engagement and stronger customer loyalty.

Lending is going to be important in this rebundling activity, given its potential profit pool for fintechs as they mature. Despite the success stories from Western markets, the true innovation here will be in places like India and Latin America. Access to credit is often disparate, leaving many consumers underserved and markets ripe for innovation and opportunity.

Investors would do well to remember this when considering where they place their next big bet.

FADY ABDEL-NOU

Global head of M&A and
investments

PayU

Hong Kong

Sober drinking

Regarding innovations in non-alcoholic beer (“Buzzkill”, July 10th), in 1988 Brooks Firestone and Hale Fletcher brought an alcohol-free beer to market. It was brewed without alcohol, hence there was no need to remove it and with it the taste. It was a hit. Unfortunately, the big brewers, seeking a PR halo effect by encouraging responsible drinking, used their dominant power to squeeze them out of the market, but the cat was out of bag, and the market for tasty

non-alcoholic beer grew. Adam Firestone, Brooks's son, and David Walker used the Firestone equipment to produce the first of their alcohol craft brews under the Firestone-Walker label, which is celebrating 25 years of success.

PETER NAYLOR

Santa Barbara

What on earth is the point of an alcohol-free pub (“Filling in the craics”, July 31st)? Why spend an evening drinking there? If you are teetotal then sitting in a place that resembles an establishment where people drink alcohol seems to me to be nothing but unnecessarily perverse.

STEFAN BADHAM

Portsmouth

How to count the rain

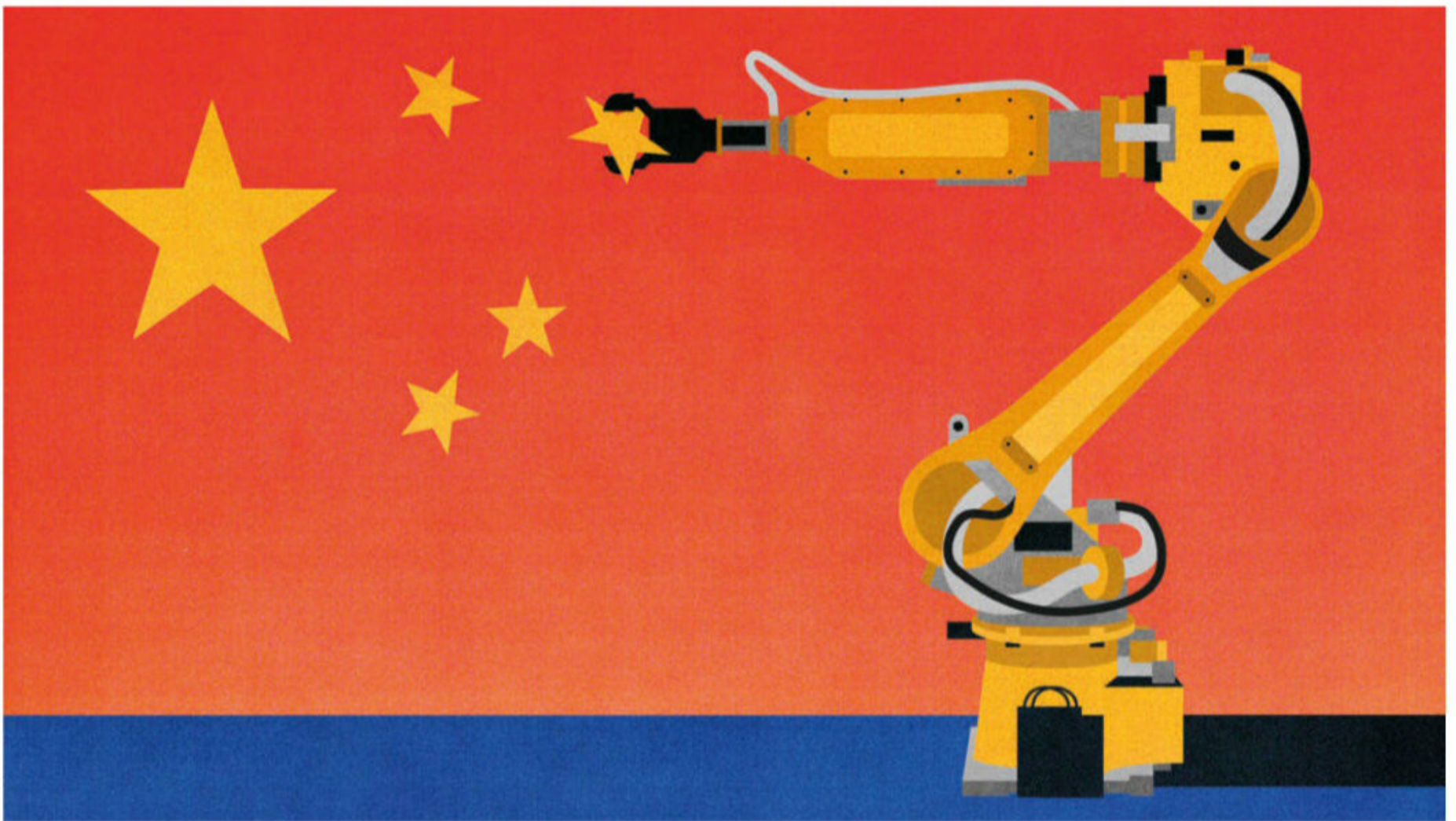
A Belgian reader, commenting on the undoubted attractions of his country, unfortunately perpetuated a long-standing but inaccurate myth about the rainy climate in Ireland (Letters, July 17th). He said that Ireland has 225 rain days a year, in contrast to 199 in Belgium. However, the 225-day figure only applies to the damp Atlantic-facing west coast of Ireland. The overall figure for the rest of the country is much lower and in Dublin it is only 155 days a year (in Berlin it is 167). Rainfall in Ireland also tends to be what we call soft; it might be wet all day but the total rainfall amount is quite small.

Among some of the many Belgians who have been attracted to the sometimes chaotic but uniquely easy-going, albeit drizzly, lifestyle in Ireland was a chef from Ypres called Zenon Geldof. You might have heard of his grandson, Bob, whose middle name is also Zenon.

DENIS MURPHY

Abergavenny, Monmouthshire

Letters are welcome and should be addressed to the Editor at The Economist, The Adelphi Building, 1-11 John Adam Street, London WC2N 6HT
Email: letters@economist.com
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Automatic for the people

CHANGXING

China's future economic potential hinges on its productivity. Can the government boost it?

NOBLELIFT, BASED in Changxing, a town on the banks of Tai Lake, provides robotic tools for warehouse management: self-driving pallet jacks and sorting systems that make picking and fetching quicker and less dependent on humans. The factories in which it builds its wares are themselves a blur of robot arms. "There's no comparison with the way things used to be," says Ding Yi, Noblelift's founder. The company's main factory has only 350 workers. He says that in the old days it would have needed nearly four times as many.

In 2010 China was home to fewer than 50,000 industrial robots. Today it has 800,000—nearly one in three of the robots in the world. This is in part because robots are cheaper than they used to be, and more capable. But it is also because, as China has grown wealthier and older, wages have increased a lot.

Factory workers who earned about 8,000 yuan a year in 2000 (\$1,000, at the time) may now make almost ten times that. For bosses like Mr Yi that has dramatically tipped the balance in favour of auto-

mation (see chart 1 on next page). Almost overnight, Chinese industry has gone from being labour-intensive to robot-intensive.

Companies are always in pursuit of such ways to increase productivity. Countries in search of economic growth like them, too. Xi Jinping, China's president, has made productivity a priority.

In some respects, the ambitions of Mr Yi and Mr Xi seem well aligned. But many observers believe that Mr Xi is relying too little on the market forces which have shaped Mr Yi's investments and too much on state power. As a result he risks steering the country away from the high-productivity future he wants to bring about. The shape of tomorrow's global economy hangs on whether those critics are right or whether, armed with numerous detailed plans and burdened with glorious purpose, China's leaders can achieve their goal.

Economic growth depends on just three basic factors: how many people are working; how much capital they have at their disposal; and how productive they are. China's turbocharged growth over the past four decades was the result of all three fac-

tors coming together at full pelt.

The urban workforce soared from 100m in 1980 to about 500m today. The increase in the capital stock was even more dramatic. In 1980 China had fewer than 15,000 kilometres of modern road; today it has more than 700,000km, not to mention high-speed trains, too many airports to shake a stick at, power grids and all the other accoutrements of industry. And at the same time China experienced a productivity boom thanks, in large part, to the steady dismantlement of central planning. Competition shook up the economy. Businesses became better run and workers went wherever wages were highest.

From 1980 to 2010 China's annual GDP growth averaged 10%. In the past decade, though, things slowed down. The central bank now thinks potential growth is about 5.5% a year. The working-age population is no longer expanding; the latest national census, published in May, revealed a total population on the brink of decline. The appetite for infrastructure is increasingly satiated, if not glutted; spending on the built environment has reached the per-person levels of much wealthier countries.

That leaves productivity paramount. But the improvements which came from loosened state control have not been maintained. The World Bank calculates that, since 2008, China's total-factor productivity (TFP)—the amount of GDP growth that cannot be explained by capital or labour—has grown by just 1.1% per year, less than a third the rate of the previous three de-

► cades. That is still double the level in America over the same decade. But the relevant comparator for Mr Xi and his colleagues is China's recent past.

Some of this slowdown simply reflects the move from catch-up to caught-up. Developed countries have lower potential productivity growth. But many analysts also think that China's economic model is particularly wasteful, a failing evidenced by its surging debts. Nowadays it adds about four yuan of new debt for every additional yuan of GDP; a decade ago it needed just two yuan of debt to get the same result.

Speed it up a notch

It was in 2017 that Mr Xi, better known for quoting Mao and Marx, started to talk of TFP and the need to increase it. In March last year, just as China emerged from its covid-19 lockdown, the central committee of the Communist Party and the State Council released a 32-point vision for boosting productivity. In the five-year plan for the economy which was finalised this March, the government specified that it wants labour productivity to grow quicker than GDP.

If there is to be real progress, it will be driven by companies and individuals, not top-down diktats. But the state's moves are shaping the landscape in which those processes will play out. With all due respect to the government's 32 points, it is possible to batch them into three broad categories: industrial modernisation; further urbanisation along new lines; and what might be called catch-up reforms.

The first element, as Noblelift illustrates, is the upgrading of industry. For companies the calculations are simple: modernising their factories stops them from becoming uncompetitive. The government, though, has two grander goals.

The one which has received most attention outside China is a perceived geopolitical imperative. Faced with rising American enmity, China wants to cultivate greater self-reliance in making essential products from semiconductors to agricultural machinery. That goal, encapsulated in the



“Made in China 2025” policy, requires improving its factories, raising its ambitions and conquering new industries.

The other goal reflects economic philosophy. China believes that sustaining high productivity depends on retaining a large manufacturing base. Schooled in Marxist doctrine, China's leaders have long regarded industry as more economically valuable and more strategically useful than services. Whether the services in question consist of waiting tables or creating financial derivatives hardly matters.

That is a debatable proposition: service-sector work can be highly productive. Nevertheless, the government has cemented it as policy. It will fight to prevent a decline in manufacturing's share of GDP, which at about 25% is higher than that of Germany or Japan, the industrial heavyweights of the rich world.

Plans to achieve this go well beyond automating assembly lines. The government is giving companies advice and subsidies to get information technology deeply embedded into all their operations. Local developers are designing software tailored to helping them manage their processes more efficiently.

Until a few years ago factory bosses regularly kept track of inventories and orders on paper, says Zhou Yuxiang, founder of Black Lake, one such developer. The desktop-based systems of SAP and Oracle never translated well to China. Now, manufacturers are using applications on their mobile phones, letting them collect, analyse and act on data in real time. “They are becoming the most flexible companies in the world,” he says. The country hopes that it can enjoy a late-starter advantage in digitising industry, in the same way that it leapfrogged from being a cash-dominated economy to being the world leader in mobile payments.

The second part of the productivity

push is better urbanisation: bigger agglomerations to which workers have better access. China has capped the size of its biggest cities, fearful that they might become unmanageable. At the same time, it knows that bigger urban agglomerations, which allow for specialised labour and interwoven supply chains, tend to be more productive. So it is developing giant city clusters in which big hubs are linked to smaller satellites. The idea is to generate the benefits of agglomeration without horrifically congested traffic, overburdened schools and other very-big-city blues.

China has approved plans for 11 mega-clusters in all (see map). The average population of the five biggest is about 110m, nearly three times bigger than the 40m in Greater Tokyo, the world's biggest existing cluster. Having discussed the idea for several years the government is beginning to invest in making it real. Over the next three years it has committed to double the length of intercity commuter rail lines.

Even deep in China's interior, cityscapes are changing. In the west, Xi'an, the capital of Shaanxi province, has been fused to Xianyang, a separate city 30km away, creating a metropolitan area with 15m residents. An hour's drive north of the cities fields of grain have been replaced by logistics zones and industrial parks. “This place used to be far out of the way. No one would come here,” says Ma Yu, a middle-aged migrant from the countryside. Now a bullet train carries her to Xi'an in 13 minutes.

The ladder starts to clatter

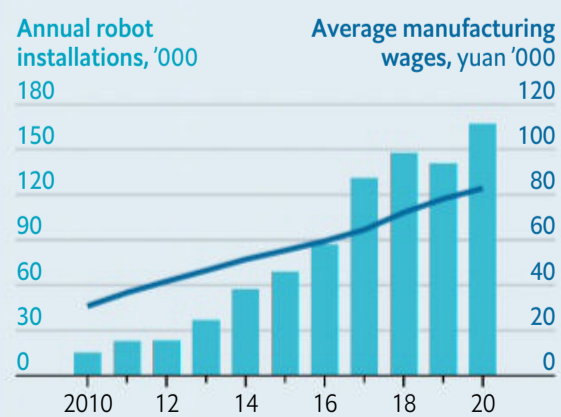
As well as joining cities together, it is also blanketing them in 5G mobile networks, planting sensors galore in their highways and sewers to monitor performance, and studding their lampposts with surveillance cameras. The party believes all this will allow the distributed mega-cities to be managed with a precision and efficiency which makes them paragons of hyper-productive modernity. This may betray a lack of insight into what it is that really makes cities hives of innovative oomph.

Making the most of what cities offer also requires reform of the *hukou*, or residency permit, system which makes most migrants second-class citizens in the cities where they work. Without a local *hukou* they cannot collect unemployment insurance, and their children struggle to get into local schools.

Along with being profoundly unfair, discriminating against some 200m citizens this way is also costly. When workers hit their 40s and worry about access to health care and pensions, they tend to go back to their natal towns. In doing so they willingly opt for lower-paid, lower-productivity jobs, says Cai Fang, an adviser to the central bank. The government has talked about *hukou* reform for years and

Not one of Asimov's laws

China



Sources: Qianzhan Research; International Federation of Robotics; national statistics

done little. Recently, though, it has actually eased the pathway to *hukou* in most cities (just not its very biggest). It has also made social benefits more portable within the urban mega-clusters.

The last of the three categories of productivity enhancement is what might be termed catch-up reform: a series of changes to bring the country closer to the standards of richer countries, albeit in a dramatically different political context. The higher-education system is testament to the potential gains. It is easy to point to problems that still bedevil China's schools, from too much emphasis on test preparation to too little investment in rural students. Yet the increasing number of university graduates—46m in 2000, 218m this year—is a good proxy for large, continuous improvements in workers' skills.

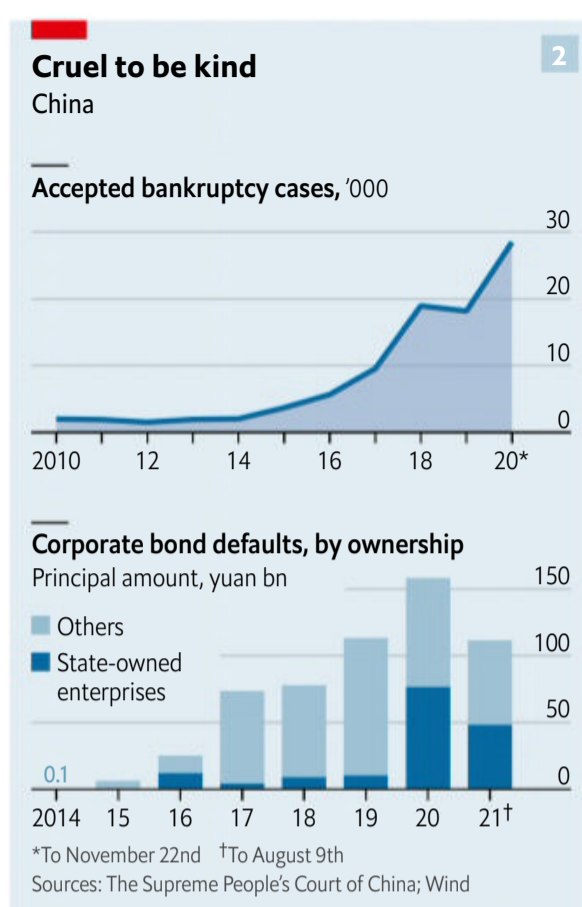
Another critical area of reform is allowing failure. One of the main ways to ensure that capital is allocated well is to let bad firms go bust; Mr Cai has cited evidence that firms going under drives as much as 50% of productivity growth in rich countries. In corporate China this form of creative destruction has often been suppressed. Over the past few years, though, bankruptcies have soared.

The courts accepted nearly 30,000 insolvency applications in 2020, a record (see chart 2). Investors are currently fixated on the saga of whether regulators will let Evergrande, the country's biggest property developer, go bust—something which would previously have been unthinkable. And state-owned firms accounted for roughly half of last year's bond defaults, giving the lie to expectations that the government would always save them.

Trying to keep up with you

Better education and more bankruptcies are just a couple of the paths forward. The 32-point productivity plan vows to make it easier for companies to issue bonds in the first place, to co-operate more with other countries on scientific research, to better protect intellectual property, and on and on. The plan received little attention at the time; many observers have grown tired of such promises by China. Yet the fact that there is still so much unfinished business, and that the government acknowledges this, may signal that such cynicism is being overdone, at least a bit.

Will China's productivity policies actually work? History offers little by way of precedent. Autocracies have become successful industrial nations before, if never on such a huge scale. But it is not obvious that they can move beyond that. China is currently at roughly the same income level that its two closest Asian forerunners, South Korea and Taiwan, were when they became democratic and strengthened their independent legal institutions—a



transition which, in retrospect, seems to have been essential for governing their increasingly complex economies.

In China the party will remain the law. And the way that Mr Xi is using that power is making investors increasingly pessimistic. The government's crackdown on tech darlings, from Ant, a fintech dynamo, to Tencent, a social-media giant, has served up a reminder of just how capricious its regulations can be (see Business section).

Chinese officials say they are limiting the power of big tech platforms in order to make the economy more competitive and thus more productive. Few investors buy that. Instead, the realisation has seeped in that Mr Xi's references to communist ideology are, at some level, sincere. He appears to be uncomfortable with business leaders getting too rich. And he has made it his mission to reinforce the party's grip on power. When he says "Government, the military, society and schools, north, south, east and west—the party leads them all," he means it. This is not a basis for improving productivity you will find in many economic textbooks.

Deepening distrust between China and much of the world is another problem. Plugging itself into the global trading system did not boost Chinese growth just by opening up new export markets. International competition pushed its companies to be more efficient; access to cutting-edge technology allowed them to become more sophisticated. Now countries from Israel to the Netherlands are subjecting Chinese investments to closer review and limiting exports of some key inputs. A lengthening list of companies have chosen to scrap acquisition plans in America because they would have been impossible to complete.

Officials have come to believe that industrial policy of the "Made in China 2025" sort is, to an increasing extent, the only option available for some types of technological improvement. Li Daokui, a former adviser to the central bank, is confident that it will eventually succeed: "We are not the Soviet Union. We have the world's largest contingent of young engineers. If pushed, we will develop our own technology." Perhaps. But it will be expensive, both in terms of the direct cost and other spending priorities forgone.

Less funding for pension systems, for example, will hold back consumption, thus holding back investment and productivity in the services sector. According to S&P, a credit-rating agency, a full-bore pursuit of self-reliance could lop as much as one-third off China's growth this decade. But Mr Xi is unlikely to be swayed. He seems to believe that truly ambitious technology investment, though it may often fail, offers the possibility of world-beating breakthroughs that will bring his country both power and productivity.

The biggest reason to believe that things might turn out better for China's economy than these trends would suggest is that it has consistently shown an ability to correct mistakes. In the 1990s the government cut down bloated state-owned firms. Over the past five years it went from dismissing concerns about its debts to launching a deleveraging campaign, though those efforts are far from complete. "Leaders are willing to change when the pressure is there," says Liu Shengjun of the China Financial Reform Institute. That they have become obsessed with how to boost productivity is a good starting-point. Achieving their aim, though, will take much more than robots—and maybe more change than they can stomach. ■





Germany's election

Jamaica, traffic-light or black and green?

BERLIN

Our new model forecasts a wide-open race to replace Angela Merkel

IN AMERICA presidential campaigns start soon after the mid-term elections and last nearly two arduous years. In Germany, in contrast, for most of this year it was hard to tell that one of the most important elections in post-war history will take place on September 26th. It was only in the first week of August that posters sprouted on lampposts across Berlin, featuring the three high-profile contenders for the chancellorship as well as obscure local politicians running for parliament. Political advertisements are at last running on television. The Social Democrats even broke a taboo this month by running a negative one, attacking the religious beliefs of a close aide of Armin Laschet, the conservative candidate who is the narrow front-runner to succeed Angela Merkel, who is retiring after 16 years as chancellor.

Until devastating floods inundated parts of North-Rhine Westphalia (NRW) and Rhineland-Palatinate in mid-July, conventional wisdom suggested a win for Mr Laschet, the candidate of the Christian Democratic Union (CDU) and its sister par-

ty, the Christian Social Union (CSU). But Mr Laschet is also the state premier of NRW, and his response to the floods has been inept. As *The Economist* launched its election-forecast model online on August 10th, the once soporific election campaign was becoming more interesting. The gaffe-prone Mr Laschet cancelled all campaign events last week and some TV appearances in September, ostensibly to focus on the aftermath of the flood disaster.

Meanwhile Olaf Scholz, the candidate of the Social Democratic Party (SPD), is gaining ground. Germans do not vote di-

rectly for their chancellor, but INSA Consultere, a pollster, found last week that when respondents were asked whom they would pick if they could, Mr Scholz got 27% of the votes. Annalena Baerbock, the Green Party's candidate, drew just 13% and Mr Laschet 14%. Fully 36% said that they do not want to vote for any of the three.

With Mr Scholz doing well (or at least not blundering), a genuine alternative to the conservative party's long rule has become plausible. *The Economist's* election model, our first for Germany (which can be found at www.economist.com/german-election-2021), blends the latest polls with other indicators, such as data on parties' past performance, to come up with an educated guess at how many votes and seats each might win. It also measures the considerable uncertainty of the contest. The model's projections will be updated daily.

Germany's election system is unusual. Voters get two votes. The first is used to elect a local MP—roughly one for every 250,000 people—using a first-past-the-post system; every winning candidate is guaranteed a seat. The second vote is for a party rather than a candidate. It is more important than the first because it determines the overall proportion of seats that each party holds in the Bundestag, the lower house of parliament. Candidates' prospects for the chancellorship depend not on their personal popularity but on how well their parties do on the second vote. Most polls (as well as our online poll-tracker) ▶▶

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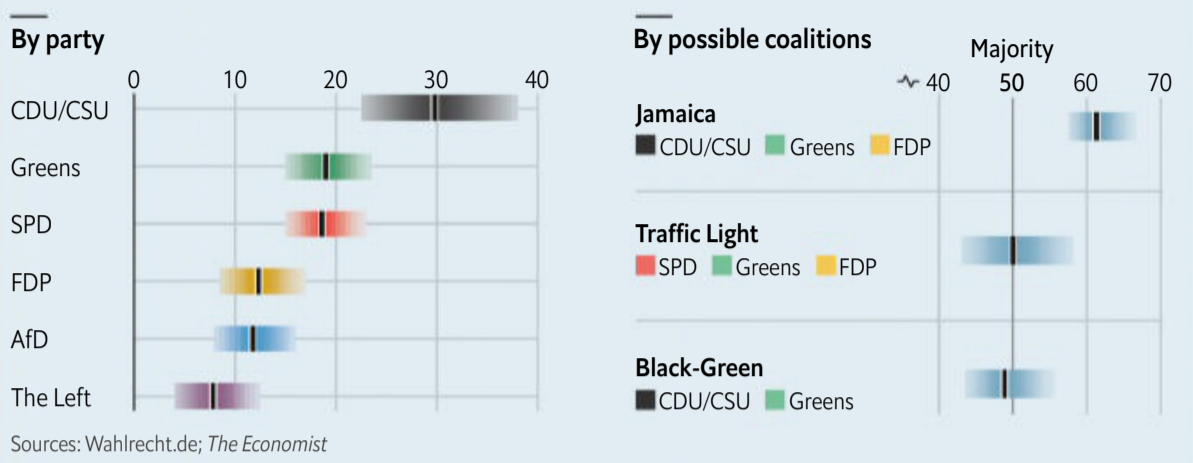
► predict that the SPD will come in third after the CDU and the Greens, or tie with the Greens for second.

Once seats are allocated, coalition talks get under way. As of August 12th our model shows that the combination most likely to have a majority would be the CDU/CSU, the Greens and the free-market Free Democratic Party (FDP). This is known as a Jamaica coalition, after the colours of that country's flag. The Greens and Christian Democrats might also go it alone in a black-green combo, if their vote share is high enough. Our model also spies a potential upset with an *Ampel* (traffic-light) coalition of the Greens, SPD and FDP. This would give Mr Scholz his best chance at the chancellorship, though Ms Baerbock would probably claim it if the Greens beat the SPD. It would exclude the CDU from government for the first time since 2005, when Mrs Merkel first took charge.

The FDP has not been in government since 2013, when it failed to cross the 5%

The Economist's German election model

Forecast share of seats after election, August 11th 2021, %



vote-share threshold required to get into parliament. But it would be part of two of the three most likely coalitions. "It's looking good for the FDP," says Ursula Münch, head of the Academy for Political Education in Tutzing. Christian Lindner, the

youthful boss of the FDP, whose party is benefiting from Mr Laschet's weakness, favours Jamaica but has not ruled out *Ampel*. Hence he risks losing some of the majority of FDP voters who prefer Mr Laschet to Mr Scholz. Mr Lindner is already discussing ministerial portfolios. He says he would like to be finance minister—and assumes that the Greens would claim the planned environment and climate ministry.

Many pundits think the Greens and CDU/CSU chose the wrong candidates. Did they? "*Jain* (yes and no)", says Olaf Böhnke of Rasmussen Global, a political consultancy in Berlin. The CDU/CSU should have picked Markus Söder, the CSU's head and state premier of Bavaria, who has better political instincts and is more dynamic than Mr Laschet. But Ms Baerbock ticks lots of boxes, says Mr Böhnke, who adds that all women in German politics face extra grilling. In his view Ms Baerbock's missteps, including alleged plagiarism in her book and embellishment of her cv, have been exaggerated by the centre-right press.

With a month and a half to go, the outcome is highly uncertain. Since 2005 the number of undecided voters has increased drastically, says Thorsten Faas, a professor of political science at the Free University in Berlin. The last weeks of election campaigns have become more important than ever, which makes both our online poll-tracker and our election-forecast model especially relevant. Particularly with new candidates for the chancellorship, old loyalties may no longer hold, says Mr Faas. Faithful followers of Mrs Merkel will not automatically vote for Mr Laschet.

On August 10th Mr Laschet met his fellow state premiers to discuss covid-19 and recovery from the floods. Such gatherings are important for the Rhineland: to overcome accusations of lassitude, he must show resolve in helping flood victims and a clear strategy to fight the pandemic's fourth wave. Otherwise the allure of Mr Scholz, who as finance minister has promised hundreds of millions of euros in flood remediation, will grow even more. ■

French rhetorical hysteria

1789 and all that

PARIS

Why so many French people fear dictatorship and civil war

VENTURE INTO the chat rooms of French cyberspace or onto the streets of Paris, and the impression this summer is of a country on the brink of totalitarian rule or civil collapse, or both. In July the word *dictature* (dictatorship) surged tenfold on Google, in anticipation of a new "health pass" introduced on August 9th by President Emmanuel Macron. This makes full vaccination (or a negative covid-19 test) a condition of access to restaurants, bars, trains and other places.

Nicolas Dupont-Aignan, a right-wing deputy, called the new *pass sanitaire* a "sanitary *coup d'état*". Michèle Rivasi, a Green politician, called it "apartheid". Protesters clutched placards with slogans such as "False pandemic, real dictatorship" and "Pass Nazitaire", or photos of Mr Macron with a Hitler-style moustache. A few wore yellow stars on which was written "non-vaccinated", eliciting widespread indignation. Joseph Szwarc, a 94-year-old Holocaust survivor, called the comparison "odious" and said he shed tears at the sight: "I wore the yellow star; I know what it was."

In April and May the phrase *guerre civile* (civil war) spiked on Twitter, after retired right-wing generals wrote an open letter offering to step in to save the country should it slide into chaos. A poll suggested that 58% of the French backed the officers, and nearly half thought the army should step in on its own initiative.

Why is France so often convinced it is on the brink, and so prone to rhetorical hysteria? The country's disjointed and rebellious history is one answer. "Are we in 1789?" is still a periodic headline in the press. And indeed, the prospect of disorder is not wholly fanciful. A culture of mass protest is deeper-rooted in France than in any other European country, and reasoned debate often gives way to factional theatrics and sabotage. Fifty years after the May '68 student uprising, *gilets jaunes* (yellow jackets) ransacked Paris. In July anti-vaxxers invaded a town hall in Chambéry, in the Alps, and vandalised vaccination centres.

Inflating fears of violence or totalitarianism may also suit some politicians. Many a French election campaign has been won on the promise of calm after chaos. Over four-fifths of the French say that feelings of "insecurity" will influence their vote at the presidential election next year, even though violent crime (sexual and domestic violence aside) has been falling for years and the murder rate is stable. Some 200,000 people grabbed headlines on August 7th by marching against the new health rules. Yet, after they were announced, over 8.5m quietly got vaccinated for the first time. As for allegations of dictatorship, Mr Macron put it this way: "If we empty words of their meaning, the risk is that we threaten our democracy itself."

Free media in Poland

Unwelcome Discovery

WARSAW

The ruling party turns its sights on a foreign-owned broadcaster

LAW AND JUSTICE (PiS), the party that rules Poland, dislikes critics. Soon after coming to power in 2015, it took control of TVP, the public television broadcaster, and purged its management. Since then, Poland has slipped from 18th place in a World Press Freedom Index compiled by Reporters Without Borders, a non-profit group, to 64th, its lowest-ever ranking. Now PiS has turned its attention to TVN, a television station owned by Discovery, an American media giant. A bill limiting foreign ownership of media companies adopted on August 11th by the Sejm, the lower chamber of parliament, could force Discovery to sell. Liberals fear that Poland's independent media are in jeopardy.

"The Polish media should be Polish," says Jaroslaw Kaczynski, the ruling party's chairman and the country's de facto leader. "Repolonisation" has become a buzzword in all sorts of industries. In March PKN Orlen, a state-owned oil refiner, bought Polska Press, the country's leading newspaper publisher, from its German owner. Senior editors were subsequently replaced.

Law and Justice's latest target is TVN24, a news channel. Unlike TVP, it is critical of the government. It is also influential: its evening news was the most-watched news programme in Poland in the first half of 2021, with an audience share of almost 22%, just ahead of TVP's rival offering.

The amendment to the broadcasting law proposes to bar entities from outside the European Economic Area (EEA) from owning more than a 49% stake in any Polish media firm. The party is defending "Polish interests", says Marek Suski, the Law and Justice MP behind the proposed amendment. Critics warn that it is aimed at TVN24, whose licence expires in September and has not yet been renewed. If the amendment is adopted, Discovery may have to divest the channel.

The "TVN law" could spell trouble for the ruling party, though. American officials, who have leapt to TVN's defence in the past, are concerned. "Unfettered press is crucial for democracy," tweeted Bix Aliu, America's chargé d'affaires in Warsaw, in response to the draft legislation. It also added to the tensions that brought down the ruling coalition this week. Jaroslaw Gowin, a deputy prime minister and leader of Agreement, a pro-business party that was one of Law and Justice's two junior coalition partners, was ejected from the gov-

ernment on August 10th. He had wanted an amendment to the media law that would allow ownership by companies in the OECD, a group of rich countries including America. He also opposed government-backed tax reforms.

The media-nobbling law must still pass the Senate, where Law and Justice lacks a majority. With the next parliamentary elections due in 2023, the party continues to lead in the polls, ahead of the centrist opposition. It has shrugged off criticism, including from the European Commission, which also complains about its subversion of the judiciary. Making Discovery sell TVN will harm relations with America. But Mr Kaczynski clearly values control over Polish media more. ■



Italy's coast

The megayachts are back

SMERALDA

But their owners are not to be seen

FRANCO BLOISI is puzzled. Mr Bloisi is the chef of Assunta Madre, a restaurant attached to Billionaire, a nightclub on the Costa Smeralda. With its turquoise waters and hidden coves, this region of north-eastern Sardinia has long been a summer playground for Arab potentates, Russian plutocrats and Silicon Valley tech czars. "We've got the stylish Italians this year," says Mr Bloisi. But he has seen no trace of the super-rich foreigners. "Their yachts are here. But they're not going out."

The absent billionaires are the talk of the Costa Smeralda. This is a land of endless villas and dry-stone walls draped with oleander, of five-star hotels with heart-stopping vistas and heart-stopping prices; a land of poodles, helipads, bespoke swim-

wear and bronzed middle-aged men in two-seater convertibles. More stylish than tacky, the Costa Smeralda gives its wealthiest holidaymakers, who in the Caribbean might worry about burglary or kidnapping, a reassuring degree of security—or did, until the advent of covid-19.

After a disastrous 2020, the luxury hotels are full again. There is "not a suite to be had anywhere", says Paolo Manca, president of the island's hoteliers' association. At the local airport, outside Olbia, the volume of private flights is 10% higher than in 2019. On the last Sunday in July there were 174. Among them was a private Airbus 340 carrying Ilham Aliyev, the president of Azerbaijan. His wife and first vice-president, Mehriban Aliyeva, flew in on an equally private Boeing 767.

At the marina in Porto Cervo, among the few in the Mediterranean that can handle the biggest yachts, Carmine Sanna, the general manager, has seen a notable increase in chartered vessels more than 90 metres in length, mostly booked by Americans. The bays south to Porto Rotondo are sprinkled with gleaming super-, mega- and giga-yachts (usually defined as having lengths of more than 24, 50 and 80 metres respectively). Yet the traces of their owners and charterers are scant.

"They don't want to go out and about, because they fear infection," says Silvio Pippobello, the airport's boss. As the Delta variant seeped through Italy, Sardinia experienced a particularly steep rise in the incidence of new cases. In the week to August 5th it was 138 per 100,000, the highest of any Italian region.

Partying during a pandemic can lead to some bizarre juxtapositions. An event staged by Marco Fava, a hairdresser from Rome with a celebrity clientele, was in full swing at Poltu Quatu, a luxury hotel, when a group of paramedics escorting a doctor in head-to-toe protective overalls barged through the crowd of guests.

Some of the wealthiest visitors have been using a testing centre at Olbia airport to have their entourages checked, sometimes three times a week. But fear of covid-19 may not be the only reason why the moguls are missing from their usual haunts. Someone who makes a living from catering to their whims, and who prefers to remain anonymous, says wealthy Russians had begun to withdraw even before the pandemic struck: they no longer felt a need to win acceptance in western European society, and the wine selection at most Costa Smeralda restaurants is beneath their standards. "They prefer to organise dinners aboard their yachts and in their villas," he says. There they can serve whatever they like. At Olbia airport's terminal for private flights, a Romanée-Saint-Vivant 2016 is on sale in the duty-free shop at €5,140 (\$6,020) a bottle. ■

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Covid in Bulgaria

Bottom of the heap

SOFIA

With just 15% fully jabbed, Bulgaria is giving away vaccine

ON THE MORNING of August 10th the head of public health for Sofia, Bulgaria's capital, announced various restrictions on restaurants and entertainment venues to curb a surge of covid-19. A few hours later the national ministry of health said no such thing would happen, calling the announcement a bureaucratic mistake. Chaotic messaging is just one reason why Bulgaria has seen so much death during the pandemic, and is bracing for more.

Among 84 countries tracked by *The Economist*, Bulgaria ranks second (after Peru) on excess deaths per 100,000 people since the start of the pandemic, meaning deaths above the usual rate. After a summer lull, cases are rising again as the highly contagious Delta variant spreads. Hospitals are preparing for yet another onslaught. Only 15% of Bulgarians are fully vaccinated, the lowest rate in the EU, where the overall share is 52%.

Bulgarians who want to can easily get any of the four covid-19 vaccines approved in the EU. But demand has been so low that authorities are trying to sell or donate hundreds of thousands of doses that will expire soon to other countries.

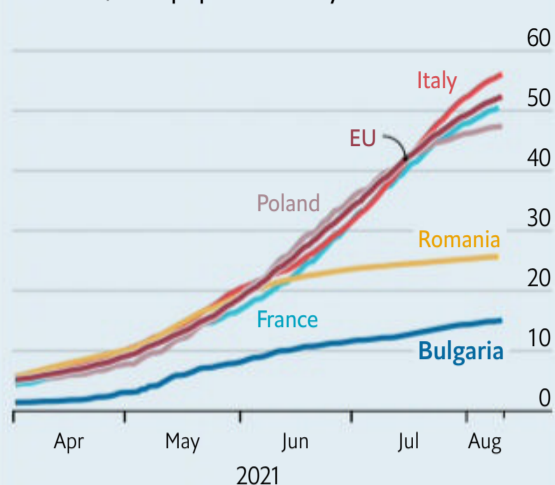
Historically, Bulgarians have had little trust in official advice. Circumventing rules of all sorts is a national pastime. Many people are suspicious of the jabs because they are new; some think the virus does not exist, and that measures against the pandemic are a conspiracy. Only a handful of prominent politicians have had themselves vaccinated on television, or are urging people to get a jab.

That is partly because of political turbulence. Two rounds of elections this year have failed to produce a government. Neither Boyko Borisov, who served as prime minister for most of the past 12 years, nor the caretaker cabinet that replaced him after his government fell in April have mounted a serious public-information campaign to combat fake news about the vaccines. "Anyone who reads three articles on social media thinks he is an expert," says Angel Kunchev, the country's chief health inspector.

Watching Bulgarian television can leave you confused. A few covid-sceptical doctors are regularly invited on talk shows. Some advise people with medical conditions that would place them in priority vaccination groups in most countries against getting jabbed. About 30% of doctors and

Not bulging enough

Covid-19, % of population fully vaccinated



Source: Our World in Data

60% of nurses are unvaccinated.

Dr Kunchev says this is partly because infectious diseases and immunology are barely covered in medical-school curriculums. As hospital admissions for covid-19 climb again, demand for vaccinations seems to be picking up. But, as with most of Bulgaria's handling of the pandemic, the uptick is too little and too late. ■

The Balkans

Knocking on the 27's door

OHRID

The EU is losing credibility with states that want to join it

ON THE MACEDONIAN shore of Lake Ohrid in July, a choir was practising Abba's "Dancing Queen", forever "looking out for a place to go". In a hotel next door, the leaders of the six western Balkan countries that want to join the EU were also singing familiar tunes. It has been 18 years since the EU pledged to let them in once they fulfil its criteria. The process is alive, says Edi Rama, Albania's prime minister, but "moving—not so much".

Two years ago France and the Netherlands temporarily stalled accession for all of the so-called Western Balkan Six: Serbia, Kosovo, Bosnia-Herzegovina, Montenegro, Albania and North Macedonia. Now Bulgaria is blocking talks for North Macedonia and Albania. It demands Macedonian concessions on interpretations of history and language that have nothing to do with the EU's requirements. Albania is collateral damage because its negotiations are paired with its neighbour's.

"We have perfected patience," says Nikola Dimitrov, deputy prime minister of North Macedonia. For 27 years his country was dogged by a row with Greece, which objected to its former name of Macedonia.

Mr Dimitrov helped negotiate a deal to change the name to North Macedonia. Now, by failing to stand up to Bulgaria, EU leaders are renegeing. As for Kosovo, the EU made a number of demands in exchange for allowing its citizens visa-free travel. The Kosovars delivered in 2018; the EU's member states have not.

Miroslav Lajcak, the EU's special representative, admits the bloc's image has been "damaged" but notes that 68% of the Western Balkan Six's trade is with the EU, which is also giving the region €9bn (\$10bn) in aid over the next seven years. Others see grounds for gloom. One reason EU-moderated talks between Serbia and its former province of Kosovo are deadlocked, says a diplomatic source, is that the bloc becomes "powerless in the dialogue" if it breaks its promises. Among EU member states, many suspect that champions of enlargement, like Hungary, want to bring in autocratic Serbia to expand their "illiberal bloc".

Outside powers are encroaching on the region. On July 10th Serbia's free-trade agreement with the Russian-led Eurasian Economic Union came into force. That is incompatible with EU membership. In the meantime plans abound for what the Six should do next. Last year they agreed to form a common regional market. On July 29th Serbia, North Macedonia and Albania signed an agreement to implement some of its provisions, but Kosovo, Bosnia and Montenegro will not sign that deal.

Mr Rama chides his colleagues to stop using growing Russian, Chinese and Turkish investments in the region as a tool to put pressure on the EU (or as he put it, "If you don't take me, there are some bitches that will"). He thinks that, rather than letting the EU's paralysis slow the six down, they should get on with their own regional integration. But Kristof Bender of the European Stability Initiative, a think-tank in Berlin, is sceptical: "You want to be in a common market with larger, richer economies, not a few neighbours who are as poor and underdeveloped as you are." ■



Charlemagne | A tale of two flights

IA271 to Minsk, OS52 to Vienna and Europe's asylum dilemma



IRAQI AIRWAYS flight IA271 from Baghdad to Minsk was a surprisingly popular service. The four-hour trip from Iraq, an unstable country in the Middle East, to Belarus, a dictatorship on the edge of Europe, became busy this summer. At the start of the year the flight ran once a week; in July it was going four times as often.

Lucky passengers were decanted at Minsk airport and whisked to Belarus's border with Lithuania, in the hope of a new life in the EU. In 2020 just 74 people crossed from Belarus to Lithuania illegally. This year more than 4,000 people have tried. All this was overseen by Alexander Lukashenko, the Belarusian president, whose government had encouraged the arrivals. "We will not hold anyone back," said Mr Lukashenko. "They are headed to enlightened, warm, cosy Europe."

The fate of Flight IA271 reveals a few things about the state of asylum in the EU. For starters, the topic is still neuralgic for Europe's politicians. Lithuanian officials label Mr Lukashenko's approach "hybrid war", with migration used as a weapon. Whereas 4,000 migrants is quite a lot for a country of 3m people, it is a rounding error for a club of 450m. Yet it triggered a state of emergency in Lithuania and abundant media coverage elsewhere. Images of people walking into Europe recalled the migration crisis in 2015, when about 1m entered the bloc, causing a continental political seizure. Mr Lukashenko is trying to cause another.

Unfortunately for Mr Lukashenko, the EU is less naive than it was in 2015. Whereas the European Commission once chided its governments for building fences on the EU's external borders, it now helps provide the resources to man them. Glossy photos of Lithuanian soldiers rolling out barbed wire were met with none of the criticism that Viktor Orban, the Hungarian leader, faced when he did the same in the previous crisis. The EU's ideological war over asylum between humanitarians and hardliners is over. The hardliners won.

The new approach of the EU and its governments verges on cynicism. Iraq was reminded that the EU is a big aid donor; its government was no doubt aware that the EU limits visas from countries it fears might generate lots of refugees. Iraq swiftly stopped allowing its citizens onto the flights. It was, after all, the Iraqis who were being ripped off, paying thousands of euros for nothing

but a stiff glare from Lithuanian border guards and an unexpectedly long stay in Belarus. The migrant crisis of 2015 convinced the EU to create a hard border at its edges in order to maintain easy movement within the club. Now the EU is also exerting pressure to block travel to adjacent countries that do not police their borders.

When neighbours use people as weapons, such hardline tactics may be necessary. Mr Lukashenko is only the latest to try it on. Last year Recep Tayyip Erdogan, Turkey's president, bused thousands of would-be migrants to the border in an attempt to overwhelm Greek guards. Rough treatment from the Greeks has kept them out, though it violates international law. A similar formula is used on the Lithuanian frontier. Ugly tactics elicit an ugly response. Squeezing the flow at the source, by cajoling countries to limit flights like IA271, is preferable to beating people up.

Austrian Airlines flight OS52 from Tokyo to Vienna reveals the other side of the EU's asylum policy. Rather than fly in a straight arc across Siberia and Belarus to Austria, it skirted round Belarus, avoiding Mr Lukashenko's airspace like a geopolitical Bermuda triangle. The caution was understandable. In May Belarus sent up a fighter jet to hijack a Lithuania-bound Ryanair flight in order to kidnap a Belarusian dissident on board. OS52 had a similarly controversial cargo: Krystina Timanovskaya, a Belarusian athlete on her way to claim asylum in Poland.

In one sense, Ms Timanovskaya's red-carpet treatment represents the hypocrisy of the EU's approach to asylum. Those attempting to hop into Lithuania are met with grumpy border guards, while the Belarusian athlete is welcomed as the platonic ideal of an applicant for asylum. The threat against her is obvious: state television labelled her a traitor. As a world-class athlete, she would be an asset to any country. The fact that she is a white woman rather than dark-skinned or male helps soothe the anxieties of xenophobes. And there is only one of her. A warm welcome for Ms Timanovskaya enforces the dangerous idea that asylum should be limited and based on character rather than circumstance—that one must be personally worthy of protection, rather than guaranteed it by law.

Leaving, on a jet plane

In another sense, Ms Timanovskaya's Austrian Airlines flight represents a solution. More direct resettlement of refugees from troubled countries into the EU is one of the few ways the club can secure its border and maintain any sense of moral leadership. After all, European countries take more refugees than most rich countries. Japan, where Ms Timanovskaya boarded, took 47 refugees in 2020. By contrast, the EU gave refugee status to 23,000 people and offered protection to another 22,000 in the first quarter of this year alone. If the EU takes in bigger numbers of people who need shelter directly, rather than just *causes célèbres* such as Ms Timanovskaya, it could justifiably claim to be doing its part.

Leavening brutality and cynicism with humanity is the best that advocates of asylum can hope for. European governments—and voters—are set on stiff borders. Chancers will not be tolerated, be they cynical governments or simply people who want to improve their lives but are not victims of persecution. When neighbours use migration as a weapon, fences and flight bans are among the few available responses. Yet such tactics will scar Europe's conscience unless it increases its efforts elsewhere, by settling large but controlled numbers of refugees in the bloc. If the EU is going to crack down on flights like IA271, the least it can do is offer a lot more flights like OS52. ■

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The legal system

In trouble with the law

Britain's courts were in a mess before covid-19. They are in a worse state now—and the government's fixes do not look up to the job

AT SNARESBROOK CROWN COURT, in suburban east London, a trial is coming to an end. The barristers, replete in gowns and wigs, have presented their cases; the jury watches as the judge sums up the evidence. The defendant, a young man accused of raping a child, sits impassively in the dock, his face covered by a mask.

Justice is being done. But it has been a long time coming. The alleged offences happened several years ago. The case took over a year to investigate and the trial was then delayed five months more by England's covid-19 lockdown. It has only now reached a court. When the jury leaves, the judge calls in a different set of barristers. They must decide whether a man accused of burglary can be kept in prison for longer than would normally be legal, because of a failure to find a slot for a trial in time.

Britain prides itself on its legal system. Its commercial courts are favoured by firms all over the world for their efficiency and impartiality. But the routine administration of justice has not been in such a dire state for decades. At the end of the first quarter of 2021, there were nearly 60,000

outstanding cases at crown courts, which deal with the most serious cases. That is 45% more than a year previously, and the highest level ever recorded. At Snaresbrook, even the grand Victorian building is a wreck. The outside is covered in scaffolding; the air conditioning frequently fails, leaving everyone sweltering.

The family courts are in a similar state. Divorces where there is no dispute over money or custody of children are being resolved online, often faster than before. Tougher cases are not. The average time

taken to resolve a private dispute involving children is a third greater than a year ago, at 40 weeks. Financial disputes are barely seen at all. "Lots of warring couples are in a state of flux", says Aysen Soyer, a solicitor in north London. The courts service reckons it could take until 2023 for the backlog to return to pre-pandemic levels.

Some of the blame lies with covid-19. Many hearings, particularly in civil cases, were moved online. But in England and Wales, jury trials were not conducted remotely (in Scotland, which has its own system, a few were). So while some justice was able to continue—cases with a guilty plea, for example—a backlog quickly built up.

The bigger problem is that the virus burdened a system that was already under serious strain. "There was nowhere to hide," says Max Hardy, a criminal barrister. In 2019 spending on the courts was 18% lower than it was in 2011; spending on the Crown Prosecution Service (CPS) was 32% lower. There is now little capacity to undo the backlog.

Legal aid, which pays most defence lawyers, is a particular pinch point. Rates were last increased last century, and were cut by nearly 10% in 2014. "Maybe in the 1980s barristers were living the life of Riley" says one at Snaresbrook. "Now, not so much." He complains about being stiffed for his work on a drugs trial, where a "lorryload" of cannabis went unweighed, depriving him of a higher rate for a more serious offence. The number of legal-aid firms has nearly halved since 2010. With trials mov-▶▶

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— Bagehot is away

— Read more at: [Economist.com/Britain](https://www.economist.com/Britain)

ing again, there are simply not enough lawyers to do the work.

According to Lucy Welsh, an academic who counts herself among the number of former criminal lawyers, the result is weaker cases. The longer one takes to come to trial, the fuzzier the memories of witnesses and victims become. That is if they make it to court at all. Since 2015 the proportion of cases that fold because the victim withdraws has risen from 9% to 26%. Dame Vera Baird, the government's victims commissioner, has said that rape is effectively "decriminalised": the number of cases that are completed has fallen from more than 5,000 in 2016 to just 1,500 last year. Delays are not fair on the accused either. The number of people in prison awaiting trial has increased by 40% since June 2019, even as the overall prison population fell.

In the family courts, delays mean children can wait years to find out how they will split their time between parents. Disputes about money leave people unable to move on with their lives. Ms Soyer says a recent case of hers took almost two years and burned through most of the couple's shared assets. Having hearings online made agreement all the harder. "The judge really does need to see people," she says.

The government plans to improve things. In April it announced it would lift one of its austerity measures in England and Wales: a cap on the number of "sitting days", which limits how many courtrooms can operate. It has increased spending on the CPS, though not on legal aid.

It also hopes to make courts more efficient. More hearings will be held online, and more crimes will be prosecuted using so-called "single justice procedures", in which defendants who admit guilt do not need to come to court (these have previously been limited to motoring offences and, more recently, lockdown breaking). The government has also proposed extending court hours from 10am-4pm to 9am-6pm, which would allow two trials to be seen in one day.

Yet these proposals will not be enough.

More sitting days are not much help if there are not enough lawyers and judges. Nor do barristers see it as their job to help ministers out of a hole. They are fiercely opposed to working longer days, arguing they need evenings to prepare cases and travel long distances to court.

The government is also piling pressure on the system. It is in the process of hiring 20,000 more police officers. If they make more arrests, as is presumably the intention, that will mean more charges and more trials. The Institute for Government, a think-tank, reckons spending on the

courts will not rise enough to cope with the extra demand, let alone to crunch through the backlog.

If this concerns ministers, they show little sign of it. On July 28th Boris Johnson, the prime minister, attacked "left-wing criminal-justice lawyers", who he accused of working alongside the opposition Labour Party to stifle his plans to tackle crime, which involve tougher sentencing. But in reality, it is his government's stinginess that is wrecking them. A tougher sentence is not much good if the case collapses in the meantime. ■

Public spaces

Parks and recriminations

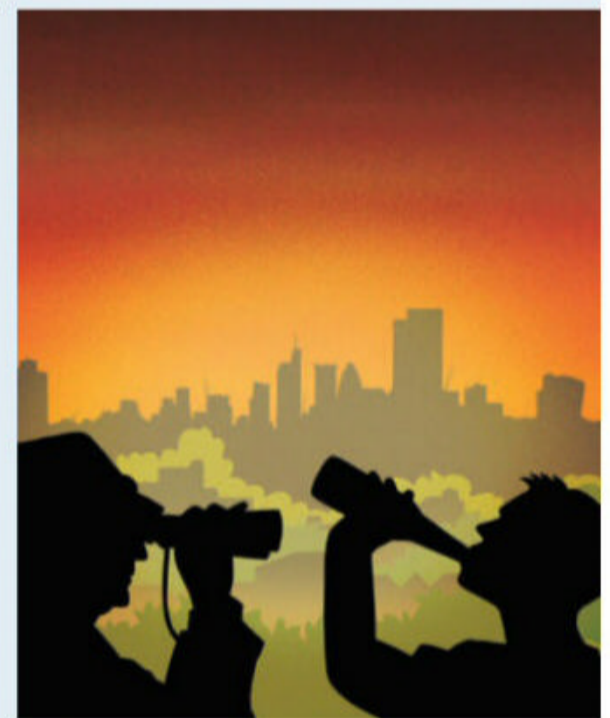
Youngsters take over London's fanciest parks, to the displeasure of locals

HAMPSTEAD HEATH is home to many fine creatures. Purple web spiders, green woodpeckers, brimstone butterflies and kestrels have all found peace in the oddity that is London's 790-acre moorland. They roam happily alongside a near-mythical tribe: north London's metropolitan elite. But the current chieftain, Marc Hutchinson, a solicitor and chair of the Heath & Hampstead Society, is unhappy with the heath's most recent arrivals: drunken young people.

When covid struck last spring, open spaces across Britain were flooded with youngsters looking for somewhere to socialise. The habit has stuck, much to the annoyance of regular parkgoers. Local newspapers are filled with complaints about anti-social behaviour spoiling beauty spots. In most places, locals are powerless. Not so in London's most expensive neighbourhoods.

Battle lines were first drawn in Primrose Hill, where residents say they were besieged by raves, fireworks, knife crime and "drug cars". Their solution was to lock the park at night. Sir Keir Starmer, Labour leader and a local MP, offered support. The Royal Parks, a charity, forked out for nine-foot aluminium gates, which locals now want to make permanent. That is not an option in Hampstead Heath, where enclosure has been banned since 1871. Instead, councillors want to cut the number of nearby alcohol licenses. Not all local firms are opposed. "Less businesses means more customers," reckons a newsagent.

Oliver Cooper, the leader of the Tories on Camden council, supports the measures, arguing that party animals put off other park-goers. Mr Hutchinson now has new targets in his sights. Ancient tree roots are being damaged by an increase in visitors, he says, with numbers



up from roughly 9m in 2019 to 17m in the past year. Commercial dog walkers will soon be limited by licenses, of which there will be 40, and the number of dogs they will be able to walk at once will be capped at four.

Amy McKeown, a mental-health strategist campaigning to remove the gates in Primrose Hill, says claims of unpleasant behaviour are overstated. Official data show knife-crime injuries in the area fell from 16 in 2019 to 7 in 2020. Martin Fisher, a psychotherapist who lives in the area, says an online residents' forum has become filled with accusations that partygoers are "knife-wielding jobs", "scum" and "poor people coming from undesirable areas." He argues that phrases such as "those awful people, in their awful cars, playing their awful music" are racist euphemisms. Recriminations show little sign of ending soon. "It's like Brexit," sighs Mr Fisher. "It has polarised the community."

Wait up

England and Wales, crown-court cases outstanding, '000



Source: Ministry of Justice



Cabo Delgado

Rwanda's new fight

JOHANNESBURG

Foreign troops are helping Mozambique battle Islamist insurgents

MOCÍMBOA DA PRAIA has been at the centre of Mozambique's war against jihadists. For years the town in the north-eastern province of Cabo Delgado has been home to aggrieved Muslims from the Mwanani ethnic group, angry at how the mostly Catholic Makonde elite dominate politics and business. The port was also a hub for people, ideas and goods—Islamists from across east Africa, fundamentalism and, later, money and guns. In October 2017, when an Islamic sect turned violent, it was the site of the first battle of a conflict that has cost at least 3,200 lives and displaced 800,000 people. The insurgency then grew. Jihadists seized Mocímboa da Praia in August last year. From there they plotted an attack in March on Palma, 80km along the coast, which led to the shelving of a nearby gas project that the government had hoped would transform the economy.

Many Mozambicans therefore cheered

when, on August 8th, Mocímboa da Praia was reclaimed. Whether this marks the beginning of the end for the group known locally as al-Shabab (like the unrelated Somali group) is unclear. What is certain is that the operation led by the Rwanda Defence Force (RDF) reflects how a locally rooted conflict is internationalising.

Filipe Nyusi, Mozambique's president, has been criticised for a slow and weak response to the insurgents. But since the golden goose that is the liquefied natural gas (LNG) project waddled off, he has been

more purposeful. In April he visited Paul Kagame, Rwanda's president, in Kigali. A Rwandan army reconnaissance team visited Mozambique the next month. A 1,000-strong RDF force arrived in July.

Opponents of Messrs Nyusi and Kagame speculate that France is footing the bill. They note that Emmanuel Macron visited Mr Kagame a month after Mr Nyusi. The French president also received the two African leaders in Paris, where the Mozambican leader met the boss of Total, the French energy firm in charge of the LNG project. Nonsense, say the French. "We are covering all our own costs," says Ronald Rwivanga, an RDF spokesman.

Rwanda is in some ways an attractive ally for Mr Nyusi. He had been reluctant to invite soldiers from the Southern African Development Community (SADC), which worries about insecurity spreading across the region. SADC troops were deployed only on August 9th. He does not want to be beholden to South Africa, the regional big power and provider of most of the mission's manpower (it has authorised the use of 1,495 personnel). The RDF is battle-hardened and highly disciplined. South Africa's army has faced years of austerity.

For Mr Kagame the mission has several aims. Kigali and Maputo are roughly the same distance (1,700km) from Pemba, the ▶▶

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▶ provincial capital of Cabo Delgado. Rwanda is worried that jihadism in eastern Congo and northern Mozambique could metastasise. Rwanda is also short of friends, a result of hunting down enemies in other countries and backing rebels in its neighbourhood. Helping Mozambique gains Rwanda a new ally. And it pleases America, Britain and France. The presence of Rwandan dissidents in Mozambique may have played a small role in the decision, too. On May 23rd Cassien Ntamuhanga, a Rwandan journalist and asylum-seeker, was arrested in Mozambique, reportedly in the presence of someone speaking Rwanda's main language. He has not been seen since. (Rwanda denies any knowledge of the incident.)

It is unclear how Rwandans and Mozambicans will work with a SADC contingent that also includes Angolans, Botswanans and Zimbabweans. Mozambique says it is in charge, yet the RDF has taken the lead, much to the delight of propagandists accompanying it. "Covering RDF in combat is like going to a Mike Tyson fight, in his prime," tweeted one sycophant.

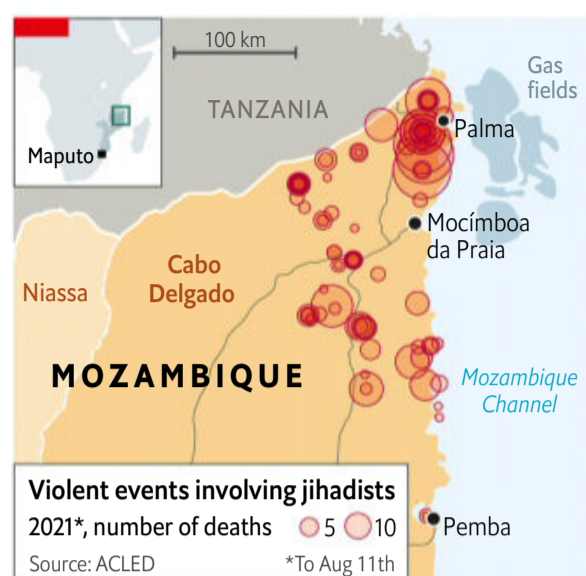
Tanzania, whose main city, Dar es Salaam, is just 700km from Pemba, has been wary of involvement. In the past it had close links with its southern neighbour. But during the presidency of John Magufuli, who died in March, the insurgency strained relations. Mozambicans complain that Tanzania fuels the violence (funding and some fighters come over the border). Tanzanians accuse the Mozambicans of a botched response. Frosty relations make it harder to fight an insurgency that takes advantage of a fluid frontier. Tanzania's new president, Samia Suluhu Hassan, may prove more co-operative.

Western countries are keen on upgrading Mozambican forces. America will soon conduct its second training mission. The EU is finalising its plan, led by Portugal. Britain has offered similar help. France has proposed maritime co-operation. The West may be asked to fund some of the Africans' military response.

Should that happen, they ought to press Mr Nyusi on his strategy. The insurgents have not been vanquished. The ease with which the RDF marched on Mocímboa da Praia suggests they retreated to the bush rather than fight. Analysts reckon that the group may change its plans, spreading out across northern Mozambique and adopting guerrilla tactics.

The way the offensive has unfolded indicates that Mr Nyusi's priority is to resuscitate the LNG project. The RDF has retaken key towns and secured roads to the gas infrastructure. Mozambique hopes that Total will return in 2022.

The danger is that a narrow focus on the gas project does not address the root causes of the conflict. So long as the people of Cabo Delgado see few benefits from the de-



velopment of local natural resources, and see a state unable to provide health care, education, jobs and security, grievances will fester. Last year Mr Nyusi announced a new northern development agency. But some worry it is just a sop to donors.

Across Africa attempts to crush extremism through military means alone have often failed. The international response may bring back the gas companies. But will it help the people? ■

Niger's cry for help

Jihadists on all sides

President Mohamed Bazoum appeals for help

SINCE A WAVE of anti-French protests broke out last year across parts of the Sahel, few leaders in the region have wanted to appear to be too chummy with the former colonial power, or for that matter any of the Western countries which have sent troops to help fight jihadists. Mohamed Bazoum, who was sworn in as president of Niger in April in its first democratic transfer of power, is less standoffish. He not only welcomes the French military presence in his country, but thinks other Western powers should be doing far more to help roll back the insurgent groups that have overrun parts of Mali and are causing havoc in Burkina Faso, Niger and Nigeria.

"We are not satisfied with the international community as a whole in its way ▶▶

Ghana's oil buy-back

Crude business

Ghana moves to buy back oil licences no one else wants

IT WAS NOT meant to be this way. Ghana made its first big oil discovery only in 2007, a generation after its corruption-addled and environmentally damaged regional peers. But the expected bonanza of investment and revenue has failed to materialise. ExxonMobil, an oil company, quit this year without drilling a well. Total decided to pass altogether. Chinese firms have gone elsewhere. Now the nominally centre-right and pro-market government plans to step in and buy back the oilfields no one else wants.

On August 6th Parliament voted to support plans by Matthew Prempeh, the energy minister, to pay up to \$1.1bn to acquire large stakes in Deepwater Tano-Cape Three Points (DWT-CTP) and South Deepwater Tano (SDWT). The two oil blocks are more than 100km offshore and in deep water. Both have discoveries of oil, but neither is in development, still less production.

Mr Prempeh says the fields could produce 200,000 barrels per day within four years, more than double Ghana's dwindling output. "Oil majors are shifting from fossil fuels to renewable energy," he complains. Without new foreign investment, Ghana had two choices. It could leave the oil and gas in the ground

or get involved in the production game. The deal will create jobs, he says, and return a handsome profit.

It is also a great deal for Norwegian shipping billionaire Kjell Inge Røkke, who controls Aker Energy and AGM, two oil firms with stakes in the blocks. Mr Røkke's firms acquired a 50% stake in DWT-CTP in 2018 for just \$100m. A year later, he persuaded the government to relinquish a 14% stake in SDWT, arguing it would make the licences more attractive to the potential partners that never materialised. Last September, Mr Røkke himself said it was time to "move focus" to renewables, and in May hinted at withdrawing from Ghana.

Bright Simons, an activist, says the government has overvalued the blocks and is buying licences that might otherwise have been relinquished anyhow. Industry sources say the biggest beneficiaries may be the well-connected local firms that will expect to win contracts if exploration takes off. The Energy Committee took just a day to consider the minister's request, and Parliament barely two hours to rubber stamp the minister's request to negotiate the purchase. Perhaps it ought to take more time when the deal comes back for ratification.



Against a sea of troubles

of fighting terrorism in this area,” Mr Bazoum (pictured) tells *The Economist*. “Against the same adversary, *Daesh* [Islamic State], in Iraq we saw a great international coalition. But today, we are not seeing the same mobilisation through the UN, in particular.” The region has enough troops, and these are being trained and advised by French and allied forces. But it lacks air power and the money to pay its men, which the UN could provide, he says.

Niger, which is ranked as the world’s poorest country across a range of measures by the UN Development Programme, is caught between two jihadist insurgencies. Along its western borders with Mali and Burkina Faso it faces groups such as the Islamic State in the Greater Sahara (ISGS) and Jama’at Nasr al-Islam wal Muslimin (JNIM), which is linked to al-Qaeda. The number of attacks mounted by these and allied groups will increase by a third this year, predicts the Africa Centre for Strategic Studies, part of America’s Department of Defence.

On current trends the conflict will lead to more than 2,400 deaths in the Sahel this year. In Niger’s east, meanwhile, the government is battling the jihadists of Boko Haram who attack across the border from safe areas in Nigeria or from the marshes of Lake Chad. Roughly 500,000 people are living in camps in Niger because of violence in the country or its neighbours.

Mr Bazoum’s response has been to host the headquarters of a French-led counter-terrorism operation, known as the Takuba Task Force, which will include commandos from nine European countries and will focus on training and advising local forces. This is meant to become the leading Western effort in the Sahel as France winds down its own counter-terrorism force, Operation Barkhane, which currently has about 5,000 troops deployed in the Sahel

and has its headquarters in Chad. Yet improving Niger’s security will depend on whether its neighbours restore stability. “If Malian territory is at the mercy of terrorist groups, as is the case today...our situation will remain difficult,” he says.

Within Niger Mr Bazoum is not just relying on force. He hopes to deal with the discontent that leads some to join the insurgents. To win people over he is trying to provide services such as clinics, clean water and schools in remote villages, and to attract investment by curbing corruption. Investments in infrastructure and solar energy are aimed at boosting growth and output, particularly on farms. Mr Bazoum is also aiming to slow the world’s fastest rate of population growth by building boarding schools for girls, with the aim of keeping them in education until they are 18 years old. Currently, many leave school at 13 and are married within a year. By 18 many will already have two babies, he says, contributing to a “crazy” fertility rate of almost seven births per woman.

Improving governance and education will take time. Yet if Niger is left unaided, time may not be on its side. ■

Nigeria

Crime and government

ABUJA

A fraudster’s confession rebounds on a respected cop

IT IS AN Instagram account to inspire envy. In one picture Ramon Abbas, a Nigerian who calls himself “Hushpuppi”, is leaning against a white Rolls-Royce. In another the Roller is purple. Lest his 2.5m followers think he is partial only to palatial British cars, other posts show him with a red Fer-

rari and sporting a red Chanel handbag or lounging in a private jet (pictured below).

Nowhere on Hushpuppi’s feed is there a picture showing him in handcuffs being led away by police in Dubai. Nor of the \$40m in cash that they seized in raids on several apartments there before handing him over to America’s Federal Bureau of Investigation (FBI) to face charges of money-laundering and cybercrimes.

Few were surprised when they learned that Hushpuppi had pleaded guilty in April. But Nigerians were stunned on July 28th when court documents were unsealed implicating their most famous cop, Abba Kyari, who is known for tracking down and locking up kidnappers, of whom Nigeria has far too many. Mr Kyari is now himself wanted by the law, oddly enough for locking up one of Hushpuppi’s accomplices. In this case, though, it was not sleuthing that got Mr Kyari his man. The indictment alleges that Hushpuppi promised to pay him for the arrest.

The plot began, according to the indictment, with a wheeze to swindle \$1.1m out of a businessman who wanted a loan to build a school in Qatar, by impersonating bankers and setting up a fake bank website. Of the money raked in, \$230,000 was spent on a watch that was hand-delivered to Hushpuppi in Dubai.

But then the thieves fell out over the size of the cut going to Kelly Chibuzo Vincent, whose job it had been to set up the fake bank website. Feeling cheated, Mr Vincent called the businessman and told him of the scam. Hushpuppi, furious, allegedly offered the Nigerian detective money to arrest Mr Vincent and give him the “beating of his life”. Job done, Mr Kyari, a deputy commissioner of police, took photos of the arrested man and sent them as proof—along with details of a bank account into which payment could be made.

Mr Kyari insists he is innocent and said he arrested Mr Vincent only because he ▶▶



Hushpuppi’s Instagram snaps once inspired envy

► had threatened to kill members of Hushpuppi's family in Nigeria. He denies accepting money. But an affidavit submitted by the FBI, backed up by messages between cop and fraudster, showed that Mr Kyari was told to hold Vincent until the scam was completed and that he had asked for a cut of the profits. Mr Kyari allegedly received some \$20,000 for his role.

Unusually for an organisation that often overlooks wrongdoing by its officers, Nigeria's police force has suspended Mr Kyari and opened an investigation. Nigerians gripe that cops are more likely to try to extort money from them than to respond to distress calls. In 2005 a former police chief, Tafa Balogun, pleaded guilty to money-laundering and was made to forfeit 16bn

naira (\$120m), several houses and a "jeep farm" with hundreds of pricey cars. Shortly after the seizures the recovered loot vanished and the houses and cars were auctioned off for peanuts to cronies, prompting parliamentarians to demand that Mike Okiro, Mr Balogun's successor, account for the looted loot.

Mr Kyari's indictment may not be the biggest scandal to hit the police. But it is demoralising for the public. His heroics in battling kidnappers had earned him a presidential medal of courage and made him unusually popular for a policeman. His fall would be a blow to the many who saw him as proof that a cop can rise to the top by working hard and staying clean. Perhaps he may have been too good to be true. ■

nels in the UAE, for example, devote ample airtime to Abir Moussi, a demagogue who rails against Islamists (she ran for president in 2019 but won just 4% of the vote).

Neither country has much influence in far-off Tunisia, which has limited ties to the Gulf. But both see an opportunity to gain some thanks to the pandemic and the resulting economic crisis. Since Mr Saied sidelined parliament both the Saudi foreign minister and an adviser to the UAE's president have visited him to show their support. Many Tunisians believe they dangled the prospect of further aid.

Western countries worry Mr Saied will weaken Tunisia's democracy, but seem unsure how to react. Since 2011 the EU has sent Tunisia more than €2bn in grants. America has given more than \$1bn, and in June pledged \$499m over five years for infrastructure. Compared with what other Arab countries receive, these are sizeable sums: annual aid from rich countries to Tunisia amounted to almost 3% of GDP last year, against less than 1% for Egypt or Morocco.

Compared with the size of Tunisia's problems, though, these amounts are puny. The country's debt-to-GDP ratio has more than doubled over the past decade, to an estimated 95%. The cost of servicing those loans equals 7% of GDP. There has been some talk in Washington of using American aid as leverage over Mr Saied. But it is probably too small to sway him—particularly if Gulf states can match anything withheld by the West.

The inscrutable Mr Saied, a political outsider elected as a protest against Tunisia's incapable parties, has offered few hints of where he will take the country. He will have to juggle the competing demands of civil-society activists and politicians wary of his plans; a weak economy that cannot cope with instability; and foreign powers with very different visions of Tunisia's future. The vaccine drive bought him a moment of goodwill. It may not last. ■

Democratic immunity

Of coups and covid jabs

DUBAI

A flood of vaccines for Tunisia hints at a battle for foreign influence

WHAT A DIFFERENCE a month makes. In July, during the Eid al-Adha holiday, Tunisia's health minister opened covid-19 vaccine centres to all adults. The centres were blindsided by his announcement. Large crowds queued for hours, only to be turned away when doses ran out.

The shambles was emblematic of the government's failure to deal with the pandemic. By August 7th just 17% of Tunisia's 12m people had received at least one dose. Though case numbers have fallen from their peak in July, the death rate, more than 10 per 1m people, ranks among the world's worst. Hospitals are full.

On August 8th, though, the government called Tunisians back for another drive. This time workers jabbed more than 551,000 arms—almost 5% of the population—in a single day. Two things had changed since the botched earlier attempt.

First was the arrival of millions of doses from abroad. Saudi Arabia sent 1m last month and the United Arab Emirates (UAE) 500,000 more. America delivered 1m doses of the Moderna jab. France, Tunisia's former colonial ruler, sent 1m as well. All told Tunisia has received 6m doses, says the president, Kais Saied, enough to fully vaccinate a quarter of its people.

Second was Mr Saied's decision to assume emergency powers on July 25th, when he sacked the prime minister and suspended parliament. It is unclear if he will return power to parliament, call for talks with politicians, unions and other groups or take further steps, such as calling a referendum to change the political sys-

tem. The glut of vaccines and the political upheaval are related: both are reflections of a struggle for influence in the only country where democracy took root after the Arab spring.

Many Tunisians, fed up with their moribund economy, have greeted the president's self-coup with cheers or shrugs. GDP shrank by 8.6% last year. Unemployment is 18%—and 30% for graduates. Parliament was paralysed by petty squabbles.

Saudi Arabia and the UAE, for their part, are enthusiastic. They have long been unhappy about the influence of Ennahda, a moderate Islamist party with the largest bloc of seats in parliament, and have sought to undermine it. Television chan-



Winning friends by jabbing people



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Congress

Function in Washington

WASHINGTON, DC

Joe Biden's plans to splurge on infrastructure, climate-change mitigation and the social safety-net move a step closer

THE ICEMAN COMETH" is a play about the downtrodden patrons of Harry Hope's saloon, who exchange reveries for one another's pipe dreams. For a while President Joe Biden's aspirations for a gargantuan infrastructure and social-services package—spending \$4trn in order to “build back better”—resembled those of a misbegotten Eugene O'Neill character. The weeks dragged on and negotiations appeared fruitless. Yet in the usually soporific month of August, Mr Biden finds that his pipe dream might in fact yield some actual pipes, plus extra sending on the safety net and climate change too.

On August 10th the Senate passed a bipartisan infrastructure package spanning 2,700 pages, which contains plans to spend \$550bn, or 2.5% of GDP, most of it on bridges, roads and railway lines. And then in the early hours of August 11th, the Senate fired the starting gun for the drafting of a budget resolution—a \$3.5trn package stuffed with all of Mr Biden's other partisan aims, the details of which will be negotiated in the

months to come.

The White House has made greater headway than many expected. Yet turning this into actual spending will require still more effort. To mollify antsy progressives, neither bill is expected to arrive on the president's desk without the other. Nancy Pelosi, the Democratic speaker of the House of Representatives, has pledged as much and is not known for bluffing.

So success for Mr Biden continues to depend on an odd-couple strategy: yoking the bipartisan bits of his agenda (traditional spending on roads, bridges, broadband and waterways, largely unmatched by tax increases) to the purely Democratic wish-list (enormous spending on climate-change mitigation and a safety-net expansion, along with much higher taxes on wealthy people and corporations). This approach withstood early defections by Republicans who feared they had been had. Now it must prove itself capable of delivering the remaining legislation, which will be mostly an exercise in Democratic cohe-

sion. If all this works, it will probably become the defining accomplishment of the Biden presidency.

Securing both bills will be hard. To pass their other policy aspirations without any Republican votes, Democrats will now employ a procedure known as budgetary reconciliation, which sidesteps a filibuster if certain conditions are met. Shepherding such a package through Congress requires co-ordinating efforts from a score of committees. That task can now begin: in the early hours of August 11th Democrats passed a budget resolution, a skeletal framing document that gives each committee instructions on how much it can spend. This marks the true start of the hard work: drafting legislative text, collating it into one mega-package and passing it without any Democratic defections—for anything less, in the face of unified Republican opposition, would spell defeat.

Reconciliation is not pretty. Since its use is limited to budgetary matters, it cannot be resorted to often. And since Democrats fear that they will lose their slim majorities in the coming mid-term elections, they have an incentive to hitch any partisan priority that they want to become law onto this omnibus bill.

This bill will be stuffed therefore. Committees will draw up plans to spend hundreds of billions on climate-change research, electric-vehicle charging stations and a Civilian Climate Corps; more than ▶▶

► \$1trn on various safety-net enhancements like extended child-tax credits, subsidised child care and family leave; and educational benefits from pre-kindergarten to community college. There will be a parallel effort to pay for this by raising the taxes on corporate profits, especially of the overseas variety, and high personal incomes.

These legislative schemes would almost certainly increase American deficits and debts beyond their already eye-popping levels. The Congressional Budget Office (CBO), a non-partisan scorekeeper, estimates that America will run a \$3trn deficit in Mr Biden's first year—much of that is the result of the \$1.9trn stimulus measure that the president signed into law soon after assuming office. At 13.4% of GDP, the deficit will be the highest in the first year of any modern president (see chart).

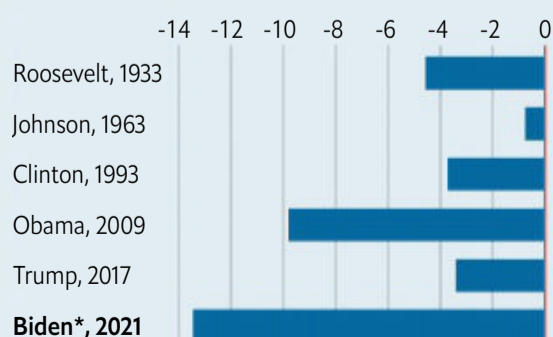
The proposed spending on infrastructure and the safety-net would be spread over ten years, not concentrated in just one. Still, it is remarkable that, if Mr Biden gets his way, he could sign legislation authorising the spending of just under \$6trn, almost 30% of GDP, in his first year in office. More of the infrastructure spending will be covered by revenue than was the case for the covid-19 relief measure, but a substantial portion will not be.

The CBO's assessment of the bipartisan package passed by the Senate found that it would add \$256bn to the federal debt. The budget resolution recently passed by Democrats would allow \$1.75trn to be added to the tab—suggesting that only half of their proposal could be paid for (and belying the White House's repeated insistence that it would be fully funded). Already, Janet Yellen, the treasury secretary, warns that the debt ceiling will need to be raised by October 1st to accommodate the current pace of spending.

Almost none of the legislating over the next few months will appeal to Republicans. But that is the point of the segmentation strategy that Mr Biden has chosen. He has pulled off a surprising victory in the bipartisan campaign. The partisan battle promises to be every bit as arduous. ■

Big spender

United States, first-year-in-office budget deficit
Selected presidents, % of GDP



Sources: OMB; CBO

*Forecast. Excluding proposed infrastructure spending

Andrew Cuomo

Oye, Cuomo va

NEW YORK

The governor of New York left before he was pushed

“I AM A New Yorker, born and bred. I am a fighter, and my instinct is to fight through this controversy because I truly believe it is politically motivated,” said Andrew Cuomo, New York's governor, on August 10th, before switching gears—and resigning. In his typical fashion, Mr Cuomo tried to wrest control of his story, control that he lost earlier this year when nearly a dozen women, including former and current staffers, accused him of groping, kissing and making sexually charged remarks. Even as his political career died, he tried to frame his resignation as an act of public service: “It's not about me, it's about we.”

A week earlier, though, “we” (in the form of Letitia James, the state's attorney-general) published a 165-page report that corroborated the women's claims. In the following days he lost what little political support he had left. The entire New York Democratic delegation to Congress called on him to resign, as did President Joe Biden. The state Assembly scheduled impeachment hearings. A vote to impeach him would have come within weeks, with a trial before state senators and senior judges to follow in short order. His top strategist announced her resignation.

Yet Mr Cuomo hung on. Were he the governor of a conservative state, suspicious of the MeToo movement, perhaps he could have weathered the allegations against him, which his lawyers continue to deny. His legal team held two briefings, in which they tried to undermine the credibility of some of his accusers. The governor reportedly had hoped that the Assembly would not pursue impeachment if he said he would not seek re-election. Carl Heastie, the Assembly's Speaker, made clear on August 9th that he was not interested in a deal. That may have been the moment Mr Cuomo realised he had no option but to go.

His fall has been swift. Just a year ago his daily covid-19 briefings were watched by thousands of Americans, who found the notion that someone in charge might actually be listening to public-health experts soothing. Mr Cuomo was talked about as a possible presidential candidate; some wished he had run last year.

Though his career ends in scandal, Mr Cuomo could point to accomplishments during nearly 11 years in office. In 2011 he signed into law a bill legalising same-sex marriage, which he had pushed to pass. In the wake of the Sandy Hook mass shooting,



Me too?

in which 20 six- and seven-year-olds and six adults were killed, he persuaded the state's Republicans to support one of the strictest gun-safety laws in the country. He spent billions of dollars to improve infrastructure, building new bridges and improving the subway.

On the other side of the ledger, he abruptly disbanded the state commission to investigate public corruption when it reportedly began to look at groups close to him and his office. Preet Bharara, once a federal attorney (and these days a political podcaster), brought charges against one of his former aides for taking bribes. He also brought charges against people involved in Mr Cuomo's pet project, the Buffalo Billion, a plan to boost investment in that city.

Like a man caught on the wrong side of sliding doors on the subway, in response to the sexual-harassment claims Mr Cuomo insisted that he never “crossed the line with anyone” and that he did not “realise the extent to which the line had been redrawn.” He blamed generational and cultural differences. Resignation is not the end of Mr Cuomo's troubles, however.

Earlier this year Ms James released another critical report, saying his administration understated the number of covid-19-related deaths in state nursing homes by as much as 50%. She is also looking into accusations that Mr Cuomo improperly used state staff to help write his book on leadership, which now seems useful mainly for lining the cages of New York's hamsters. Four district attorneys are looking into whether Mr Cuomo committed any crimes, underlining how cut-throat Democrat-on-Democrat fights can be in a one-party state.

Mr Cuomo will step down before the end of the month and the lieutenant-governor, Kathy Hochul, step in, opening up next year's gubernatorial race. Ms James, architect of the two reports which ended his career, could well succeed him. ■

Finding abused children

Hashing ambiguous

A 38-year-old charity will be integrated into Apple's newest operating system

THE NATIONAL Centre for Missing & Exploited Children was established through an act of Congress in 1983, but it is not part of the American government. NCMEC (pronounced “nic-mic”) is a charity, one funded almost entirely by the Department of Justice, and which operates as a clearing house for information about abducted children. For the first few decades of its existence NCMEC’s focus was on abductions in America, helping investigations run across state lines. But as the use of the internet grew it started to turn its attention to the harm caused through online activity, specifically the trade of imagery depicting the sexual abuse of children.

NCMEC’s role as an information clearing house has become far more technical as a result. In 1998 it started building a database of imagery known to depict sexual abuse of children based on the tips it had received. The technical term for this kind of data is CSAM (Child Sexual Abuse Material), mostly images or videos. Only NCMEC is shielded from liability to the extent that it can store CSAM and share it with law enforcement, but in 2006 the organisation began to think of ways that it might use the database to catch other CSAM trafficking. It came up with the idea of generating a long, unique string of letters and numbers known as a hash for each image in its database, then sharing those hashes with companies that wanted to scan their services for CSAM. By reversing the hashing process, companies could scan images on their services just for known CSAM, and report anything they found back to NCMEC.

This has led to an expansion of the number of tips that are sent to NCMEC, as technology companies scan automatically and voluntarily for CSAM. In 2010 NCMEC received 220,000 tips. By 2020 that number had grown to 21.7 million. And it is set to get bigger. On August 5th Apple announced that the next generation of its phone and laptop software would come with NCMEC’s hash database pre-installed, and would scan its users’ devices for CSAM automatically. Apple’s plans have stimulated fierce debate about whether the new system will provide an avenue for governments to expand their capacity to scan private devices for other illicit content. Many technology companies already used NCMEC’s hashes to scan their own cloud servers for CSAM, but Apple is taking this further with an encrypted system that runs

scans on users’ own phones and laptops.

Yet the government could not easily force NCMEC or Apple to tweak this phone-scanning capability to look for other things. That is because any evidence thrown up by those compelled searches would be inadmissible in court for violating the Fourth Amendment. Crucially, none of the technology companies scanning for CSAM, nor NCMEC’s storage of it, does so, because the scans are done on a voluntary basis. The Fourth Amendment only protects against unreasonable searches by the government—ones that are carried out without a warrant. Arrests can be made only because of the voluntary nature of the CSAM scanning.

Most of the attention has focused on the technical details of Apple’s new CSAM scanning system. It will be released along with iOS15, the next update to its iPhone operating system, in September. Those technical details are important. Experts are poring over every available detail of the new software to determine whether it has introduced a security weakness to iPhones. But Apple’s ability to make this change also rests on the social norms that have underpinned the fight against child abuse in America for decades. The willing co-operation of third parties has long been all that makes it possible for law enforcement to track down child abusers in private spaces. Apple is now testing whether this willingness extends into the phones in Americans’ pockets. ■

Texas and covid-19

Getting schooled

DALLAS

Texas offers an early case study on getting children back to school

“**B**ACK TO school” is not an autumnal phenomenon in Texas. Students begin their summer holiday in May but return to class in mid-August. The country’s largest Republican state offers a cautionary tale about the struggles that the country will face with children returning to classrooms amid a rising number of covid-19 cases and a more contagious variant.

Already a standoff is escalating between public-school officials and Republican state politicians. In May and again in July, Greg Abbott, the governor, issued executive orders banning government entities, including schools, from requiring masks. But with a rising number of covid-19 cases and hospitalisations coinciding with the start of the academic year, some public-school officials are choosing to flout the governor’s orders.



Wedge issues

On August 10th Dallas Independent School District (DISD), which serves more than 150,000 students, became the first in the state to announce that it will require both students and teachers to wear masks. (Several more, including Austin, have followed.) “I fully expect to hear from the attorney-general’s office,” says Michael Hinojosa, DISD’s superintendent. On August 11th Dallas’s county judge, Clay Jenkins, issued his own order to require masking at public schools, child-care centres and some businesses, all but guaranteeing a legal standoff with the state.

Masks are not school officials’ only problem. Another is vaccines, which Mr Abbott has forbidden school districts and others from requiring. DISD has offered free vaccines to employees, but only around half of teaching staff have been vaccinated, says Mr Hinojosa. (The vaccination rate in the state is less than 46% and is barely budging upward.)

Enrollment is another difficulty. Schools have struggled to predict the number of students who will return this autumn. “We probably have more unknowns right this minute than ever,” says Todd Fouche of Frisco Independent School District, which lies to the north of Dallas. School districts’ funding hinges on the number of students attending. Normal attendance in Dallas is 95%, but some of the schools that opened early saw only 60% of students return, before rising to 80%. “Even if we get 80%, we’re still going to lose 15% of our revenue,” says Mr Hinojosa.

Virtual-learning courses could offer a salve, but to the unwelcome surprise of school officials, the legislature did not provide funding for online learning. The latest special legislative session called by the governor could take up the issue again, but Democrats have fled to Washington, DC to stop a voting bill, and the state House has struggled to reach a quorum to start conducting business. ▶▶

Some school officials have calculated that it is worth it to foot the bill for virtual learning temporarily, in the hope that students will physically return to school when they deem it safe. Frisco, for example, is offering a temporary online option. But if all 8,200 Frisco students who have signed up for it were to continue virtually for the whole autumn semester and the state not change its stance on funding virtual students, that would translate into \$30m in lost revenue for the district alone. Meanwhile, more parents are splurging to send their children to private schools, which can impose masks and other health requirements, says Bob Sanborn of Children at Risk, a non-profit.

Children are already struggling academically owing to the disruption wrought by covid-19. In the spring, only 30% of Texas third-graders (ages 8-9) tested at or above grade level in maths, down from 48% in 2019. These recent results may actually overstate the number of students testing at grade level, according to one education expert, since some struggling students did not show up for the exams. ■

Compulsory vaccination

Spreading

WASHINGTON, DC

Mandates are becoming common in public and private institutions

A SURGE IN covid-19 infections, along with stagnant vaccination rates, has prompted something else to spread across America: vaccine mandates. For months the country had seemed to be moving in the opposite direction. Several states, including some of those where covid-19 cases are soaring, banned vaccination requirements in the spring.

But as the Delta variant spread in late July, California and New York City required public employees to be vaccinated or else submit to regular testing. Days later New York's mayor said that, as of August 16th, customers and workers at indoor restaurants, bars and gyms will have to present proof of vaccination. The governor of Virginia is requiring state employees to get the vaccine or be tested weekly.

President Joe Biden announced a similar mandate for federal employees on July 29th, leaving room for them to resort to a mix of testing, masking and social distancing. Meanwhile the Department of Veterans Affairs (VA), a federal agency, is insisting that its medical employees have the jab, and the secretary of defence has announced that troops will need to do the same. America is not alone. France, Italy

and Hong Kong have implemented mandates for work and social activities.

Some private employers are doing the same. All of the top 25 public and private universities, as ranked by *US News and World Report*, will require students to get themselves vaccinated. Walmart, the country's largest private employer, with nearly 1.6m workers, announced that vaccination would be obligatory for corporate employees and regional managers. Walt Disney Company, Uber, Lyft, Google, and Tyson Foods now require some employees to be vaccinated. CNN, a cable news network, fired three workers who came to the office without the jab.

Vaccination mandates are nothing new in America. The army has required inoculation for several diseases for more than 200 years. All 50 states require schoolchildren to be vaccinated against childhood illnesses like measles and mumps, and about 95% of pupils have had the required jabs, according to the Centres for Disease Control and Prevention. Most states allow exemptions for religious and personal beliefs, but not all. California revoked personal and religious exemptions in 2015. New York removed their religious exemption in 2019 after a measles outbreak. In California vaccination rates increased for childhood diseases once the non-medical exemptions were removed.

The law gives states and employers wide discretion to require vaccines, says Walter Olson, a legal scholar at the Cato Institute, a libertarian think-tank, though he expects a challenge to reach the Supreme Court and reinstate the religious exemption prohibited by some states. Many of the covid-19 mandates do include exceptions. Those in California, Virginia and New York City allow regular testing as an alternative.

A recent legal challenge to a vaccination mandate failed. On August 2nd the Seventh Circuit Court of Appeals declined to block Indiana University's requirement that stu-

dents get jabbed before returning to campus in the autumn. The three-judge panel—comprising one appointed by Ronald Reagan and two by Donald Trump—dispatched the unvaccinated students' complaint in four crisp pages. The court relied on a Supreme Court decision from 1905 upholding a requirement that adults be vaccinated against smallpox. Since the university allowed religious and medical exceptions, the court reasoned, and since people "may go elsewhere" for their education, the students had no constitutional claim.

Although most vaccine mandates are probably legal, some might be politically unwise, warns Mr Olson. Only one in ten American vaccine holdouts say they would get the jab based on a work or travel mandate, according to a survey by *The Economist* and YouGov. Dissenters warn of a potential backlash. Among Germans, support for a hypothetical vaccine mandate dropped by 16 percentage points from 44% between spring and autumn 2020. France, meanwhile, has seen an increase in vaccination rates since announcing the covid-19 vaccine mandate.

Vaccination rates are increasing in the hardest-hit regions, including some of those least likely, for reasons of politics, ever to embrace mandates. Louisiana had 810 new covid-19 cases per 100,000 residents over the past week; only about 38% of the population there are fully vaccinated. But on August 6th the state reported the highest number of administered vaccine doses (20,737) since April 29th.

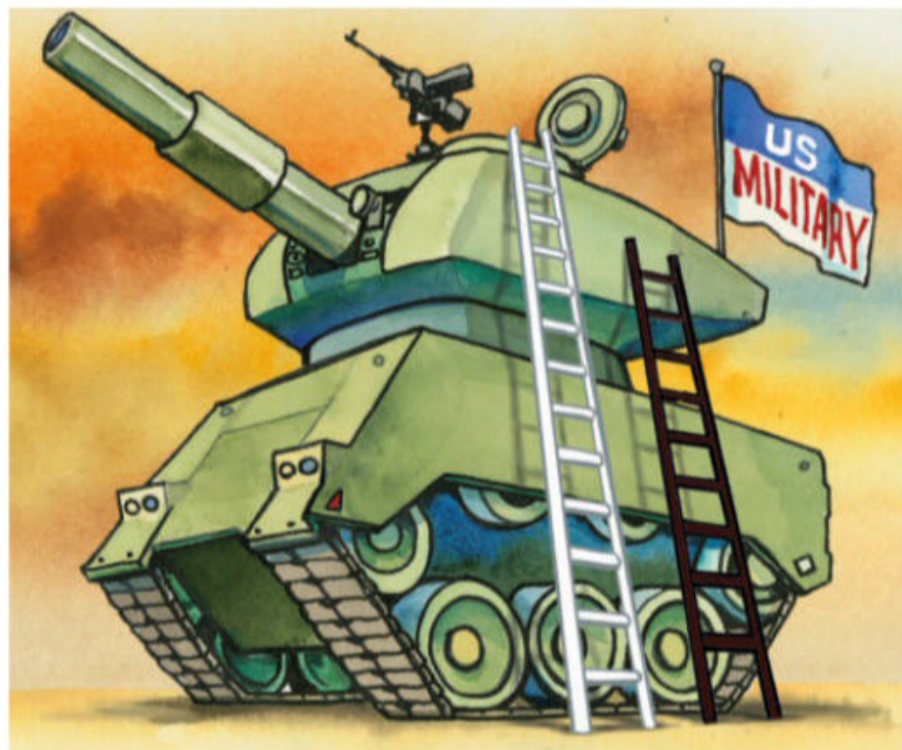
Florida, with 50% of people fully vaccinated, had 653 new covid-19 cases per 100,000 residents over the past week. The Sunshine State reached a vaccination peak on July 30th: 76,185 doses were administered, the most since June 11th. Other hard-hit states are seeing similar results. In places that will continue to resist mandates, this wave is therefore boosting vaccination rates anyway. ■



An awfully big microchip

Lexington | Green and black

America's armed forces face their biggest racial reckoning since the 1940s



GENERAL MARK MILLEY, the chairman of America's joint chiefs of staff, and thus the country's top military officer, provoked a furore in June when he defended West Point's teaching of critical race theory, a set of ideas about structural racism. "I want to understand white rage," he told an audience of bewildered congressmen. "I've read Mao Zedong. I've read Karl Marx. I've read Lenin. That doesn't make me a communist. So what is wrong with understanding...the country which we are here to defend?"

Plenty, according to Republicans. Such ideas were "very dangerous to unit cohesion and morale", argued Tom Cotton, a senator. Donald Trump, who picked General Milley for the job, seeing him as a kindred spirit, demanded that he resign, accusing him of appeasing a "woke mob". Mr Trump's eldest son posted a doctored photo of the general with pink hair and a rainbow medal.

Yet General Milley is not the only one to have had a racial awakening. When General Charles "CQ" Brown became the chief of the US Air Force in June 2020, the first black American to lead any of its military services, he asked airmen to express their views as part of a review of racial disparities in the force. More than 123,000 of them responded, in 27,000 pages of text. "Those from the majority, when you talk to them, their eyes have opened up," says General Brown. "They have a different perspective now."

Like other American institutions, the country's armed forces are reckoning with the intellectual and political currents unleashed by last year's murder of George Floyd in Minneapolis and the protests that followed; it was that turmoil which prompted General Brown, then the head of Pacific Air Forces, to record an impassioned video in which he recounted the discrimination he had faced over his career.

It was an uncomfortable moment for an organisation that had told itself a story of unbroken progress. After all, the armed forces were desegregated in 1948, long before other institutions. After the end of the draft in 1973, black representation soared, rising to a third of the army by 1976—thrice the black share of the population.

The meteoric rise of Colin Powell, who joined the army as a young soldier six years before the Civil Rights Act was signed into law, and became the first black chairman of the joint chiefs of staff in 1989, seemed to furnish proof of a post-racial military. "No-

where else in American society has racial integration gone as far or has black achievement been so pronounced," wrote Charles Moskos, a sociologist, in 1995. "Indeed, the Army is the only institution in America where whites are routinely bossed around by blacks."

This, says Jason Dempsey, a former infantry officer who once taught at West Point, is "part of a fairy tale that we tell ourselves". In fact, the army resisted Harry Truman's order to integrate. In Korea, 90% of black units were commanded by white officers.

Though rank can upend the racial hierarchies of civilian life, it is generally still whites who do the bossing around: just 8% of the officer corps is black, compared with 14% of the population. And despite General Powell's trailblazing career, the top brass is astonishingly pale. Only two black officers are to be found among the country's 43 four-star officers, equivalent to full general.

Professions of race blindness—"I only see green" is a frequent refrain—are common; so too is stereotyping. General Brown recalls "wearing the same flight suit with the same wings on my chest as my peers and then being questioned by another military member: are you a pilot?" A survey conducted in 2019 by the *Military Times*, a newspaper, found that over half of minority personnel had personally witnessed examples of white nationalism or other racism within the ranks.

Such disparities have deep roots. "Our screening programmes have some level of unconscious bias," acknowledges General Brown. "I did not know until three or four years ago that we have private pilot time that you can use to boost your score to get to pilot training. I'll just say that when I was in high school or college, my parents would not have had money for me to do that."

He points out that black airmen, like black soldiers, have often joined supporting arms, like logistics and maintenance, rather than the operational ones which breed senior officers. One reason for that is that black recruits see support skills as more transferable into the civilian world. Only 2% of air-force pilots are black, unchanged from 30 years ago.

The mechanics of promotion are also stacked against minorities in subtler ways. In each service, older mentors can boost the careers of favoured younger officers at key junctures in their careers. That often benefits graduates of elite colleges, like West Point, at the expense of those who entered through less prestigious routes. It is to redress this imbalance that General Brown meets weekly with his staff to examine promotions to colonel and above, to identify diverse candidates down to the level of majors, who may have spent only a decade in service. "You can't do it by luck," he says. "You have to purposely manage it."

Was blind but now I see

Transforming the demography and culture of a sprawling institution is the work of years. America's armed forces have over 1.3m personnel. Many quietly share Mr Trump's concern that fractious debates over identity politics will erode the professionalism of the armed forces. The backlash to the integration of gay servicemen in the 1990s shows how fraught such change can be.

Nevertheless, it is coming. The share of nonwhite cadets at West Point rose from 23% in 2007-09 to 36% in 2019. And whereas the first black officers to reach the top were wary of speaking out on divisive matters, eager to be defined by role, rather than race, their successors have more latitude. "Knowing that there's very few African-American fighter pilots...I hope I can open the doors for others behind me," says General Brown, "not just in uniform but in other parts of our society as well." ■

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Race in Brazil

One city, two worlds

JACAREZINHO

Rio de Janeiro asks why its cops kill so many black people

AT DAWN ON May 6th residents of Jacarezinho, a favela in Rio de Janeiro, woke to the sound of police helicopters and gunfire. Ten hours later, 28 people were dead, nearly all of them black men. Mariana de Paula, a 27-year-old accountant and activist who lives on the *morro* (“hill”, as steep favelas like Jacarezinho are called), told her boss that it was too dangerous to travel to the office. Her boss, who is white, suggested she use a ride-hailing app. “She didn’t get it,” says Ms de Paula, who is black. The shooting sounded like popcorn. The victims included one police officer, shot by drug traffickers, and 27 residents killed by the police. Some were unarmed. It was the deadliest police raid in the state’s history.

When the shooting stopped, Ms de Paula began her commute down alleyways that zigzag to the bottom of the *morro*, through a tunnel from Rio’s poor Zona Norte to the rich Zona Sul, and finally to Barra da Tijuca, a beachside strip that is 72% white. In mostly white neighbourhoods in Rio flats can cost 2,000 reais (\$400) per square foot. Their inhabitants blame poverty and corruption for the violence that plagues the ci-

ty. But a growing chorus from Ms de Paula’s Rio, the mostly black peripheries and favelas, suggests there is more to it than that.

Black Brazilians are increasingly arguing not only that the police are too trigger-happy but also that their violence is sometimes racially motivated. In 2019 Brazilian cops killed 6,357 people. In the state of Rio they killed 1,814: nearly twice as many people as cops killed in the United States, which has a population 19 times as large. Eight out of ten Brazilians killed by police are *negros*, a grouping that combines the official racial categories of *preto*, “black”, and *pardo*, “brown” or “mixed”. (Throughout this article, “black” refers to the unofficial category of *negros*.) Police killings tripled between 2013 and 2020 and now represent around a third of all homicides in some states.

Part of the explanation lies in history.

→ Also in this section

37 Cuba liberalises a little

— Bello is away

Brazil was the last country in the Americas to outlaw slavery. Though former slaves did not suffer formal segregation of the kind imposed by South Africa or the American South, poverty and laws criminalising vagrancy and African religions had a similar effect. Rio “civilised and modernised itself by expelling second-class citizens to the *morros*”, writes Zuenir Ventura in “Cidade Partida” (Divided City, 1994).

Black people too poor to live elsewhere built shantytowns (see map on next page). Their residents became cheap labour for factories in Zona Norte and white families in Zona Sul. Today black Brazilians are 56% of Brazil’s population but 70% of the poor. Unemployment is 17% for blacks versus 12% for whites. White Brazilians earn almost twice as much as black ones do.

Jacarezinho, which sits between a defunct General Electric plant and two train lines, has 40,000 residents. Its past as a haven for former slaves earned it the nickname “Rio’s blackest favela”. Over the years, poverty has bred resourcefulness. Residents add one floor after another to homes packed like Lego bricks. Shops sell everything from birthday cakes to beard-trimmers. But there is no proper sewerage system. Nor are there many formal jobs. Open-air drug markets are manned by teens with AK-47s, despite a huge police station at the bottom of the favela.

In 2008 a police commander in Rio called the force “the best social insecticide” after a raid that killed nine people. Rio’s civil police is responsible for investi- ▶▶

gating crimes, but like the military police, its encounters with favelas consist mostly of operations with heavy weapons and hundreds of men. Decades of iron-fist policing have failed to curb violence. A recent study by the state prosecutor's office showed that in the month after lethal raids, crime in the vicinity tends to tick up, not down. And raids claim innocent lives. In the past five years, eight children under the age of 12 were killed during police operations in Rio. At least 24 were injured. During the Jacarezinho raid a nine-year-old saw police kill a man in her bedroom, soaking her mattress with his blood.

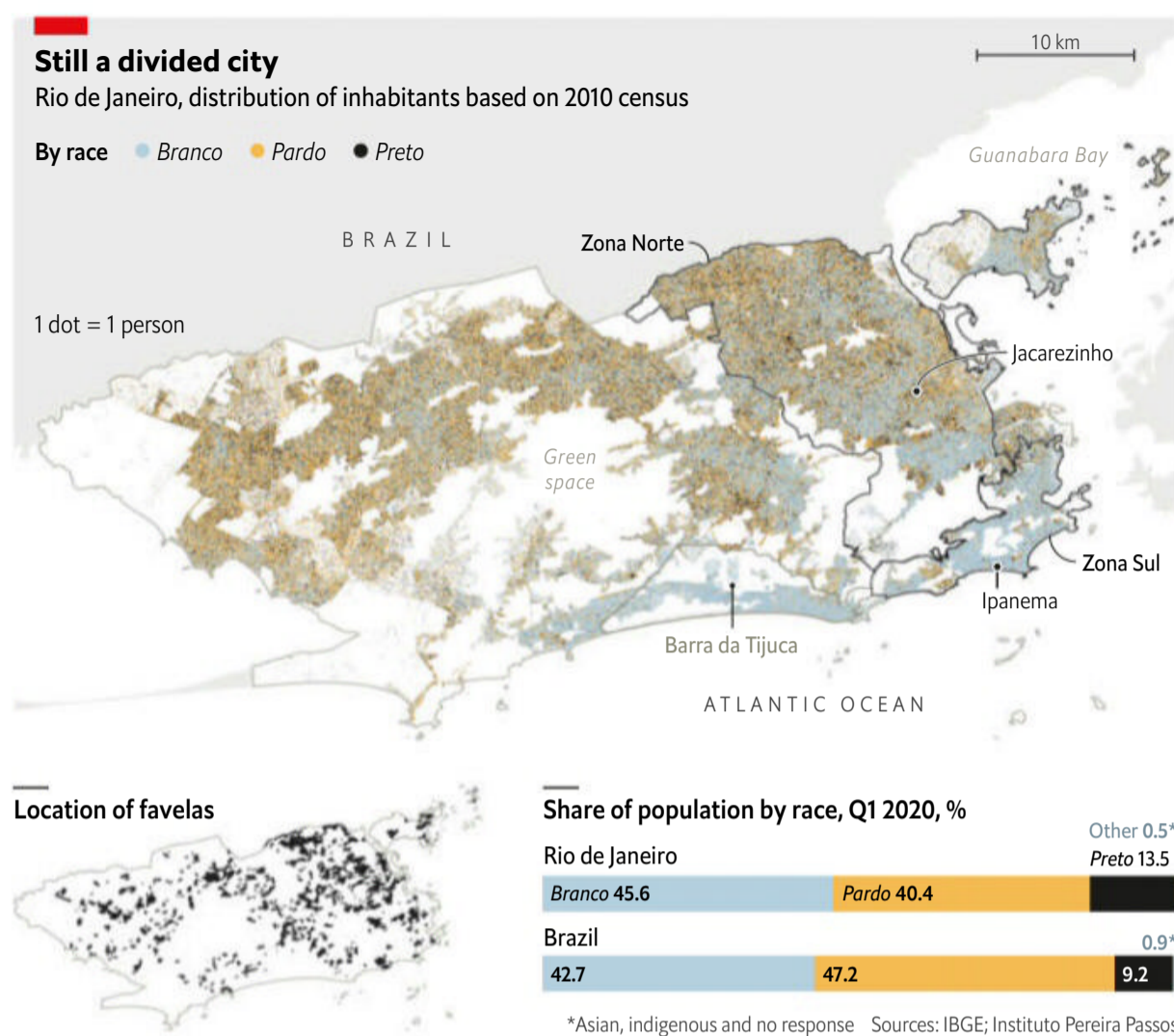
The Department for the Protection of Children and Adolescents says it spent months planning the raid in May, which was meant to arrest 21 people suspected of recruiting minors to drug gangs. But evidence appears to be scant—consisting mainly of photos from Twitter. Officers made only six arrests. Of the 27 people killed, some were minors and most were not on the suspect list (police say they were wanted on other charges). It looked like a “revenge operation”, says Daniel Hirata of the Federal Fluminense University in Rio. When an officer dies in a raid, civilian deaths are twice as likely.

Despite the levels of violence—which police argue is needed to counter crime—most citizens are indifferent to the plight of favela residents, says Silvia Ramos of the Centre for Security and Citizenship Studies, a think-tank. Brazilians see police killings as a natural response to overall violence. They express more fear than citizens of any of the 163 countries surveyed by the Institute for Economics and Peace, an Australian think-tank. Some 95% are somewhat or very worried about being the victims of violence. Another poll found that 57% agreed with the phrase “a good criminal is a dead criminal.”

“You can't go into a favela with roses,” argues Carlos Monjardim, the head of the residents' association in Ipanema, a rich neighbourhood in the south of the city. It has 42 community police officers, whom locals “adore”. Mr Monjardim's biggest concern is an “invasion” of people selling knick-knacks on the pavements.

He refers to the idea, first mooted in the 1930s, that a lack of laws against interracial romance and greater mixing have made Brazil a “racial democracy”. “Racism doesn't exist here,” he says, pointing to his love of samba and his adopted sister, who is black. He supports the populist president, Jair Bolsonaro, who has called residents of *quilombos* (communities founded by escaped slaves) “fat and lazy” and says that activists are “importing...tensions alien to our history”.

Indeed segregation in Brazil, including the existence of favelas and separate “service” elevators for maids and cooks, tends



to be attributed to class, not race. Even left-wing types “used to say racism is just a fruit of economic inequality”, says Luiz Eduardo Soares, who as an adviser to Rio's security secretary in 1999-2000 tried to reduce crime by filling favelas with projects, such as a snazzy cultural centre.

But such schemes are often underfunded. Killings by police fell 86% between 2008 and 2014 in “police pacification unit” areas, built in the lead-up to the 2016 Olympics. These community policing units were disbanded in 2019, after their budget was cut from 5m reais to just 10,000. Attempts to reform the police cost reformers like Mr Soares their jobs.

The revolution is now televised

Attitudes have started to change, however. This is partly due to pressure from activists, academics and a small but growing contingent of black politicians. More recently Black Lives Matter protests in the United States and the rise of mobile phones and social media have also raised awareness of racism.

Thiago Amparo, a human-rights lawyer, provided live commentary on Brazil's biggest tv channel for six hours in the wake of George Floyd's death. In November 2020 protests swept Brazil after white security guards at a Carrefour supermarket beat a black man to death. The supermarket chain agreed to pay 115m reais to civil-rights groups, a record sum. In June a video of a white couple falsely accusing a black surfing instructor of stealing their bicycle

went viral. An ongoing survey of news stories about police operations in Brazil found the word “black” only once in 7,000 stories between June 2019 and May 2020 but six times since the death of Mr Floyd.

Michael França, an economist, thinks that Brazil is starting to talk more openly about race. This year he and his colleagues from Insper, a business school in São Paulo, created a “racial-equality index” to measure disparities in different regions. The situation is becoming better in some ways and worse in others.

Public universities now have as many black students as white ones, but while 36% of white 18- to 24-year-olds have completed university or are studying for a degree, the share drops to 18% for black 18- to 24-year-olds. Mr França's index estimates that it will take 27 years to reach racial equality. And a black Brazilian is nearly three times as likely as a white one to be a victim of homicide. (Most perpetrators are also black.) In the United States a black person is seven times as likely to be killed as a white one. But in Brazil deaths of black people at the hands of cops are a larger share of homicides.

These numbers are finally starting to dawn on people, says Irapuã Santana of Educafro, a civil-rights group. In 2017 the group joined a class-action lawsuit opposing police raids which resulted in orders that Rio's police take steps to prevent loss of life, such as having ambulances on call and not using schools as bases from which to shoot. After the Supreme Court banned

raids during the pandemic, killings by Rio's police dropped by a third in 2020, saving nearly 600 lives. The ban was still in place when officers entered Jacarezinho. They called the raid "Operation Exceptis".

But authorities in Rio stubbornly stick to their methods. In 2019 the governor said police should "shoot criminals in their little heads". He abolished the security secretariat, which had provided a layer of oversight, and weakened the internal-affairs departments (he was later impeached for financial irregularities). When activists argued that officers should be held accountable for the deaths in Jacarezinho, the police sealed the internal investigation for five years. A study in 2008 found that 99% of cases against Rio police officers were dismissed without charges, often without a serious investigation.

This is in contrast to São Paulo, where police lethality has dropped since some units began wearing body cameras (after the raid in Jacarezinho, Rio's state assembly ordered police to implement a 2009 law that mandates their use). São Paulo is introducing anti-racism training, though this has had mixed results in other countries. The black lieutenant-colonel who is leading the effort, Evanilson Corrêa de Souza, is unwilling to blame racism for deaths in "terrains where criminals are armed to the teeth". Police "go into favelas with the mentality that they will kill or be killed," he says, pointing out that black officers make up a third of the police force but two-thirds of officers killed. "We're killing each other." Racism isn't a policing problem, it's a societal problem, he says.

In the meantime activists will keep pushing for change. Last year Ms de Paula and Thiago Nascimento, a law student from Jacarezinho, helped found LabJaca, a think-tank geared towards favela residents, to track covid-19 cases and urge people to take the virus more seriously. After the raid they changed their focus, organising a protest and releasing a wonky video showing how many school uniforms could be purchased for the cost of weapons used by the police. But few businesses were willing to support LabJaca's new campaign.

A month after the raid, a friend of Ms de Paula's was killed by a stray bullet. Kathlen Romeu was 24 years old and 14 weeks pregnant, with a degree from interior-design school and a new flat in a safer part of Rio. She had returned to a favela to visit her grandmother when she was shot by the police, witnesses say. Ms de Paula went on national news to denounce the killing. The next day her co-workers swarmed her. "We saw you on tv," they said. "You're famous!" Tens of thousands of strangers followed Ms Romeu on Instagram, liking photos of her baby bump. "You can say all 27 killed in Jacarezinho were criminals," says Ms de Paula. "But an unborn baby?" ■

Cuba

A small step away from socialism

The government approves small and medium-sized enterprises at last

ON AUGUST 6TH the Cuban council of state approved a long-awaited law authorising the creation of small and medium-sized enterprises. The announcement came less than a month after thousands of Cubans took to the streets calling for freedom and an end to the Communist dictatorship. After a brutal crackdown, around 380 protesters are now in prison awaiting trial on charges such as "delinquency".

The announcement could be designed partly to distract attention from the state's suppression of dissent. On an island with the fourth-highest official covid-19 infection rate in the world it will be tricky for people to forget that there was enough petrol to power motorcycles, trucks and buses filled with *boinas negras* (a special-forces unit of the Cuban military) who were sent out to rough up the protesters in July, but not enough for ambulances or incinerators to cremate the dead.

Nonetheless, it is a welcome reform. It is part of what the government calls the "*perfeccionamiento*", or perfection, of socialism. Everyone else recognises it as allowing a bit of free enterprise to compensate for socialism's failures. In February Cuba's council of ministers increased the number of trades open to *cuentapropistas*, or self-employed people. Some 124 sectors are reserved for the state, but everything else is open to entrepreneurs. Even with the recent changes, the legal status of *cuen-*

tapropistas is ill-defined. Applying for the necessary permits is a slog that can take ages. The rules are designed to keep *cuentapropistas* small (and therefore no threat to state-owned firms). They can only hire relatives or other self-employed subcontractors. They cannot incorporate, so there is no legal difference between their personal capital and their business capital—if the business goes bust, so do they.

Despite these shackles, enterprising Cubans have flocked to start their own micro-businesses. Since 2010 the share of the workforce who are self-employed has soared from 3% to 13%, or more than 600,000 people. Just over a third are women; a third are under 30. They are concentrated in the largest cities, and are most likely to work as taxi-drivers or run restaurants and food kiosks.

The new law, which still needs to be published in Cuba's official gazette, is expected to allow small and even medium-sized private businesses to incorporate. This could mean that private firms will be allowed to hire staff (rather than just nephews or independent contractors). It could also mean that multiple investors will be able to put money into a private firm with limited liability. That would make Cuba much more attractive to foreign investors. Incorporation would also make paying taxes simpler and borrowing less daunting. But not all industries will be treated equally. Architects, journalists, lawyers, vets, translators and interpreters, among others, are not allowed to work in the private sector, or to incorporate.

Cuba's state firms are pampered, inefficient and the main reason why the island is so short of basic goods. This, in turn, is one reason why Cubans have been protesting. Last year GDP shrank by 11%. New official statistics show that imports and exports of goods have been declining since 2018, well before the pandemic scuppered tourism and starved Cuba of hard currency. Hoping to boost morale, the government has distributed some food, donated from Mexico and elsewhere, in the areas where the largest protests occurred.

Oniel Díaz of Auge, a consultancy, has called for reforms to unleash the private sector since 2017. He is excited by the new law, but cautious too. Opening a business is likely to continue to be much slower than elsewhere in the world. "At the end of the day, this is still Cuba." ■



Abuzz with opportunity



The return of the Taliban

There goes the neighbourhood

DELHI AND ISLAMABAD

Regional powers are preparing for an Afghanistan run by jihadists

TWO DECADES after Western forces helped sweep the Taliban from power, and four months after President Joe Biden announced his intention to end America's permanent military presence in Afghanistan, the government in Kabul is losing control. Having captured swathes of the countryside since the spring, the Taliban have in the past week overrun ten of the country's 34 provincial capitals (see next story). Significantly, most are in the north (see map on next page), a region historically hostile to the insurgents. With government forces surrendering en masse and the army chief sacked, the group's fighters have seized weapons and lucrative border crossings. Afghanistan's four biggest cities, including Kabul, the capital, are now swamped with refugees and effectively under siege. American intelligence officials hint it may be only weeks before they fall.

For much of the past 20 years of simmering internal conflict and NATO military involvement, Afghanistan's neighbours either shunned the country or meddled in pursuit of their own interests. Some encouraged Afghan proxies as a way to score

points against each other. Others found Afghanistan a convenient place to kick sand in America's face. But now, as the spectre looms of either a full takeover by a radical Islamist group with a well-earned reputation for nastiness, or a descent into all-out civil war, it is dawning upon regional players that they may have to step in.

"All of Afghanistan's neighbours have already, in a soft manner, accepted that there will be a Taliban takeover," says Umer Karim of the Royal United Services Institute, a think-tank in London. The trouble is that while few in the region relish having the Taliban move in next door, they cannot agree what to do about it. Instead, each of the neighbours is gingerly positioning for its own advantage.

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Pakistan is the most significant. It has not only the longest border and deepest links with Afghanistan, but also close ties to the Taliban. Its powerful security establishment has long played a double game, publicly aiding America in its "war on terror" even as it secretly harboured Osama bin Laden and quietly sustained Afghanistan's Islamist radicals. Concerned more by rivalry with a much-bigger India than with any danger from ragtag jihadists, Pakistan's generals view Afghanistan as their own "strategic depth". Their main goal has been to deny the space to anyone else, even if that meant using the Taliban as a cat's paw, and even at the risk of blowback to Pakistan.

That risk is not a small one, as attested by the death of over 20,000 Pakistani civilians in a wave of Islamist terror between 2002 and 2016, much of it perpetrated by Afghan-linked groups. Even so, many in the Pakistani establishment are privately touting the Taliban's imminent takeover as a victory for Islam, a defeat for America and a finger in the eye to India, which has given substantial economic and military aid to the Kabul government and this week evacuated its consulate in Mazar-i-Sharif.

Publicly, Pakistani officials say they have been blindsided by the speed of America's departure and the disintegration of the Afghan government. They insist that they wished for a negotiated peace, not a military takeover by the Taliban. They also maintain that Pakistan has little influence over the Islamists. A Western diplomat in ▶▶

▶ the region scoffs at Pakistani disingenuousness, suggesting that its generals will again burn their fingers playing with Islamist matches.

Iran, which shares another long border with Afghanistan, has a more tortured relationship with the Taliban. Its leaders are certainly delighted to see the Great Satan, America, abandon its bases next door. But as Shia Muslims who view their own Islamic revolution as a modernising movement—women can study, work and hold office in Iran, so long as they veil—they look askance at the Taliban's hidebound Sunni fanaticism. Swamped for decades with destitute refugees and cheap heroin from Afghanistan, Iran is also worried about a new influx, particularly of Hazaras, a Shia ethnic minority that the Taliban have viciously persecuted in the past. With little leverage over the Taliban and no liking for the tottering government in Kabul, Iran is likely instead to lend support to local Afghan militias in the border region, which recently beat off a Taliban assault on the city of Herat.

A long, remote finger of Afghanistan, the Wakhan Corridor, abuts China. Asia's rising superpower has largely kept aloof from its unruliest neighbour, contenting itself with moralising about the failings of Western intervention. As a close ally of Pakistan, however, Beijing has drawn warily closer to the Taliban, hosting a senior delegation from the group in July with the pomp afforded to visiting foreign ministers. Its main concern is that Afghanistan should not become a rear base for ethnic Uyghur separatists.

With a diplomatic savvy that belies their supposed commitment to a shared Muslim faith, the Taliban did indeed promise that their territory would not be used “against the security of any country”. The Chinese, however, will be aware of reports that Uyghurs count among thousands of foreign jihadists active in Afghanistan, mostly enlisted in Taliban ranks—and also that America was given a similar promise about al Qaeda, shortly before the attacks of September 11th 2001.

Having thrown a million Uyghurs into prison camps, China is probably pretty safe. This cannot be said of Afghanistan's three smaller Central Asian neighbours, Tajikistan, Uzbekistan and Turkmenistan. Islamist radicals from all three former Soviet republics have taken refuge in Afghanistan. With the entire border now in Taliban hands they understandably fear that some militants will infiltrate back. All three countries have embraced closer military ties with Russia. To underscore renewed regional influence and send a warning shot to the Taliban, Russian forces have in the past week undertaken large-scale joint manoeuvres with Tajik and Uzbek troops along their Afghan borders.



Whatever their shared interest in preventing a full-blown catastrophe, Afghanistan's neighbours have not, so far, proved helpful. At a UN Security Council meeting last week, India as chair kept out Pakistan, because Pakistan has in the past lobbied to exclude India from other meetings on Afghanistan. A series of parleys that brought regional players to Doha, the Qatari capital, on August 10th looked only slightly more positive. American negotiators attempted to press the Taliban to slow their offensive, threatening diplomatic isolation if they took over Kabul by force. Accustomed to drone strikes and cluster bombs, the Taliban delegates may have looked around the room and decided that this was a price worth paying. ■

The mood in Kabul

Pro-God, anti-Taliban

KABUL

Big-city Afghans are defiant in the face of advancing Taliban insurgents

ZARANJ, IN NIMRUZ province, was the first to fall, on August 6th. Sheberghan, capital of Jawzjan province, followed a day later. Kunduz, Sar-e-Pol and Taloqan went on August 8th. Aibak was taken on the 9th. Farah and Pul-e-Khumri collapsed on the 10th, Faizabad on the 11th and Ghazni on the 12th. In just one week, the Taliban have captured nearly a third of Afghanistan's 34 provincial capitals.

The Taliban's gains had previously been confined mostly to rural districts. The government in Kabul believed that the insurgents lacked the firepower or numbers to seize towns. That proved optimistic. The fall of the Afghanistan's biggest cities—Kabul, Kandahar, Herat, Mazar-i-Sharif—is

not inevitable, but the mood is grim. “We will overcome this. We will come out stronger and wiser... We will come out like a phoenix,” the vice-president, Amrullah Saleh, said on August 6th, trying to exhort his nation to defiance. Yet morale is low, and the Taliban's slick propaganda machine is in overdrive.

Many Afghans, however, have responded with defiance. In recent days thousands of people have gathered in the streets and on the rooftops of big cities, including Kabul, to wave the nation's black, red and green tricolour, chanting “God is Greatest!” The displays began in the western city of Herat, close to the border with Iran. What started as a suggestion on social media was taken up by Ismail Khan, a local warlord who has remobilised his militia to defend the city. Kabul followed Herat's example the following evening. Similar displays have followed since in many cities.

The chants are both a direct challenge to the Taliban and a vow of support for the Afghan forces, says Saddaf Yarmal, a 20-year-old student who took part. “We have to support our own country,” says Mahjabin Siddiqi, a 23-year-old student, adding, “For 20 years the Americans have been here, but we haven't seen good results. It has to be us.”

The choice of the phrase “Allahu akbar!” as a rallying cry is pointed. Not only did the same shout form the soundtrack to the resistance to Soviet occupation in the 1980s, but it also directly challenges the Taliban's claim of a religious mandate to rule. The jihadists assert a direct link to the insurgency that forced out the Russians, portraying their struggle as the latest battle against an un-Islamic regime in Kabul.

A spokesman for the Taliban therefore reacted angrily online to the use of the slogan, claiming ownership of it even though the phrase appears on the flag of Afghanistan. He said that the militants had waged jihad with those words for 20 years and that they should not be used by “American slaves and secularists”.

The defiance on display in Afghanistan's big cities is directed not only at the Taliban, but also at neighbouring Pakistan, where much of the Taliban's leadership lives and where their fighters have at times found havens. As the security situation has worsened, anti-Pakistan feeling has grown. “Day by day it's getting more clear that Pakistan is interfering in our internal issues,” says Javid Safi, a lawmaker from Kunar province, which borders Pakistan.

Both Afghan and withdrawing Western military commanders maintain that the Taliban are not an unstoppable juggernaut. A couple of government victories, or even battles that end in stalemate, could change the dynamic. But the insurgents are on the front foot. The ten towns just lost to them are unlikely to be the last. ■

Indonesia's favourite game

A pretty good racquet

SINGAPORE

How Indonesia became the home of badminton

WHEN THE Chinese players whacked the shuttlecock out of bounds on August 2nd, giving Indonesia its only gold medal at the Tokyo Olympics, the winning team of Greysia Polii and Apriyani Rahayu collapsed onto the floor and sobbed with relief. Some 3,500 miles away, the Indonesian archipelago erupted with joy. Fans bursting with pride celebrated online, filling each others' phones with tweets and memes. The president declared their triumph in the women's doubles game an early "birthday gift" to the nation (its independence day is on August 17th). The badminton champs have been promised, among other things, prize money of 5bn rupiah (\$347,000) each, houses, meatball kiosks and five cows.

In England, where the modern version of the sport originated, badminton is a lawn game, played by people drunk on Pimm's and sunshine. In Asia it is a serious business. At the Badminton World Championships in 2019, Asian countries won 19 of 20 medals. In recent decades China has emerged as a heavy-weight. But Indonesia is the sport's juggernaut. It has won more titles at the Thomas Cup, the most prestigious tournament, than any other country. Badminton is the only sport in which it has ever won gold at the Olympics—and it has done so at all but one since the sport was introduced in 1992. Indonesia is the "home of badminton", *Kompas*, a newspaper, boasted after the match.

Wherever one travels in the archipelago, says Raja Oktohari, president of the

Indonesian Olympics Committee, "within a second you can find people playing badminton." It is simple to get a game going. Racquets and shuttlecocks can easily be bought or made (just stick some feathers into a cork), and once a clothesline and an opponent have been located, the match is on.

It is little wonder then that badminton is Indonesia's favourite sport. It is also the country's most developed, and boasts the only national team for which the government runs a training centre. Scouts scour the country's 3,500 badminton clubs for fresh talent. Parents encourage their children to take it up. The rewards for skill and hard work are handsome—not always a given in a country where corruption and nepotism are rife. Broto Happy, the Indonesian Badminton Association's spokesman, estimates that new recruits to the national squad earn about 30m rupiah (\$2,087) a month, ten times the average income. Those in the top tier can earn billions of rupiah through sponsorship deals. Ignatius Sunito, a sports journalist, noted two decades ago that badminton "eliminates suffering, poverty, powerlessness and injustice".

Perhaps most importantly, badminton is a source of national pride. It is the only sport to produce a string of heroes; Rudy Hartono, for instance, has won eight titles at the All-England men's singles, more than any other player. Many of its champions come from ethnic minorities. As Mr Raja says, the sport "cannot be separated from Indonesia".

South Korea's power players

The ties that bind

The release from prison of Samsung's de facto boss raises some eyebrows

WHEN THE office of Moon Jae-in releases the names of people the South Korean president will pardon on National Liberation Day on August 15th, as is customary, Lee Jae-yong, the de facto boss of Samsung, will not be on the list. That is in keeping with the president's promise not to use his powers to pardon prominent white-collar criminals "for the good of the economy", as is also customary.

The absence from the list of Mr Lee's name should not, however, be seen as evidence that the president has been true to the spirit of his promise. That is because Mr Lee no longer needs the pardon. On August 9th the justice minister said that the erring Samsung boss would be released on parole on August 13th. The decision, he said, took into account the formal requirements for granting parole as well as—what else—the difficult economic situation in the country.

Mr Lee was sent to prison for bribing Park Geun-hye, the previous president, to obtain her government's support for a merger in 2015 that solidified his control over Samsung. Other leaders of South Korea's *chaebol*, or conglomerates, had been lobbying Mr Moon to pardon Mr Lee so he could return to the helm of Samsung and steer the company through intensifying competition with rival chipmakers. They welcomed the decision. So did the conservative opposition, which said it showed that the government cared about fixing the pandemic-pummelled economy.

By contrast, corporate-governance activists and critics from Mr Moon's own camp were incensed. PSPD, a group that is close to the governing Minjoo party and played an important role in protests that brought down Ms Park in 2017, called the decision a "death sentence" for justice. It said it would encourage business leaders to continue to commit crimes in the expectation that they would get off lightly. Senior Minjoo members said the decision showed the government had betrayed its principles and cared little for fairness.

They have reason to gripe. Formally, Mr Lee has fulfilled the conditions for parole, because the justice ministry changed them in April. Inmates are now required to have served at least 60% of their sentence to become eligible, rather than 80%, as used to be the case.

Unlike the formal requirements, softer criteria for parole, such as admitting the ▶▶



Zany badminton demos

► crimes and showing remorse for them, are less obviously fulfilled in Mr Lee's case. Park Sang-in, an economist at Seoul National University who studies the power of the *chaebol*, considers freeing Mr Lee extremely unusual given the serious nature of his crimes, let alone the fact that he is still on trial for charges related to the ones for which he was sent to prison in the first place (Mr Lee denies the charges in the case that is still pending). "This is just a way for Moon to let him out without explicitly breaking his election promise," he says.

The justice ministry has yet to say

whether it will grant Mr Lee an exemption from the employment ban imposed on those convicted of economic crimes and allow him to return to his day job at Samsung. But he is widely expected to do so eventually, even though it is unclear whether his absence has actually had any negative impact on the company's day-to-day business.

Most South Koreans apparently do not mind much. In two polls conducted in late July, around two-thirds said they were in favour of releasing Mr Lee. They were feeling less generous about crooked politi-

cians, some of whom have in the past been pardoned for their misdeeds by their successors. The majority of respondents in both polls thought Ms Park, who is in prison for taking Mr Lee's bribes and abusing her power, or Lee Myung-bak, her predecessor, who is there after being convicted in a separate corruption case, should remain locked up. Neither is therefore likely to appear on Mr Moon's list this time around, reckons Mr Park. As yet ineligible for parole, the pair will probably have to celebrate Liberation Day in their cells—unlike the boss of Samsung. ■

Banyan Autocratic for the people



Democracy is decaying in a growing number of Asian polities

MOST DEMOCRACIES would struggle to match the productivity of India's Parliament. During its "monsoon" session, which ended on August 11th, a score of bills covering everything from coconuts to bankruptcy have passed the upper or lower house, or both.

Alas, the reason why laws pass so easily is far from benign. Under Narendra Modi, the prime minister since 2014, the ruling Bharatiya Janata Party (BJP) has eroded many of the checks and balances that underpin true democracy. Elections themselves are largely free and fair. But defamation laws are abused to hound critics. Political opponents are intimidated and even imprisoned. Over 7,000 Indians have been charged with sedition under the BJP, casting a chill on civil society. In a scandal that would topple any accountable government, a global investigation by a group of newspapers and NGOs suggests that Mr Modi's government has slipped Israeli eavesdropping software called Pegasus into the mobile phones of hundreds of Indians, including opposition leaders, journalists, a former top election official and senior civil servants. As yet, it has faced no serious consequences for an act which, if proven, would no doubt be illegal as well as illiberal.

As for Parliament, Mr Modi and his sidekicks think of it not as a deliberative body but as a rubber stamp. They can do this because the opposition are disorganised and lethargic. Granted, opposition MPs are now demanding a debate and investigation into Pegasus, and boycotting Parliament to press their demands. Alas, the boycott plays into the prime minister's hands, at least for now, as he bulldozes through his bills. One was discussed for just a single minute. A bankruptcy code of national significance

commanded the monsoon session's longest deliberation—a full 39 minutes.

This is no way to run a country. The v-Dem Institute at the University of Gothenburg, which produces an annual report on the state of democracy around the world, declared this year that India has gone from "electoral democracy" to "electoral autocracy", as autocratic as Pakistan and worse than Bangladesh or Nepal. It is not the only Asian state where democracy is under assault.

Like unhappy families, every decaying democracy is unique. Myanmar has reverted to full-blown military dictatorship. Sri Lanka has fallen under a family dynasty. Four Rajapaksa brothers run the place, including the president and prime minister, and a younger Rajapaksa generation is on the make.

In Indonesia, elections are free and fair. But President Joko Widodo, or Jokowi, has hollowed out democracy by gutting the anti-corruption commission and co-opting the opposition, thus fostering cronyism and ministerial ineptitude. Malaysia's gerrymandered constituencies

have long ensured the dominance of parties pandering to the ethnic-Malay, Muslim majority, at the expense of secular or multiracial representation. Recent rot has been occasioned by grabs at power by shifting groupings of the Malay elite. The current prime minister, Muhyiddin Yassin, came to office last year in a backdoor putsch. His power now hangs by a thread, with supporters offering to buy opposition MPs' support. None of this helps ordinary Malaysians cope with the pandemic or the accompanying economic crisis.

Though countries or territories are all unhappy in their own way, certain shared attributes signal a lurch for the worse. One is the use of investigative authorities to go after domestic foes. In India, after Dainik Bhaskar, a media group, highlighted the government's bungling of covid-19, tax inspectors launched a raid. Hong Kong was never a democracy, but until last year's promulgation of a draconian security law at least limited elections gave voice to an opposition. Since then Hong Kong's most critical newspaper has been closed and national-security cops now vet political candidates. Aspiring to win is, for a Hong Kong democrat, seditious.

Can the rot be stopped? Indian democracy survived Indira Gandhi's dictatorial Emergency from 1975 to 1977. Today some see the opposition's coming-together over Pegasus as the beginning of its revival, while a new chief justice is showing welcome independence. In Sri Lanka voters have a record of turfing governments out, and have done so once already with the Rajapaksas. Yet each burst of autocracy leaves democratic norms a little more battered. Once they are broken, it is hard to put them back together, whoever is in office.



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Proletarian culture

Production-line poets

GUANGZHOU

Factory-workers find creative ways to express their disillusionment

AS TRENDSETTERS GO, Luo Fuxing was an implausible one. A school drop-out, Mr Luo spent his days catching fish and herding goats in a village in southern Guangdong province. Eating pork was a once-weekly treat. At the age of 14, he left home to earn a wage in the province's sweatshops. He hated the tedium of the work. He read that American criminals had tattoos of spiders' webs inked onto their elbows to show time spent behind bars. Mr Luo got one too, because "the factory was just a bigger prison."

He quit for a job in a hair salon. Inspired by Japanese manga and punk fashion, he dyed his hair and styled it into dramatic, gravity-defying spikes. Dark lipstick and eyeliner completed the look. He posted selfies to QQ, a messaging service—and soon hundreds of thousands of factory-town youth were copying his style. Mr Luo called its adopters the *shamate*, from a Chinese rendering of "smart". It was "a wild-growing art form among workers", he says. The trend, which peaked around a decade ago, helped newly arrived migrants from the countryside to bond. They met in parks,

roller-skating rinks and online groups, where they shared not just sartorial cues but gripes about migrant life, from low pay and poor conditions to divorcing parents.

China has developed a distinct working-class culture in recent years, of which *shamate* fashion is only the most garish example. In mainstream media assembly-line workers are commonly shown in serried ranks and drab uniforms, with no hint as to how they spend their time outside factory walls. The stereotype is that workers who migrate to boomtowns and big cities—as 300m have done over the past four decades—are there only to earn a living. They are still commonly referred to as "migrant workers", on the assumption that they are outsiders who will return to their rural hometowns. Many once did. But today's working-class youth have no interest in going back to the land; many have lived in the city from a young age. They want to put down roots. Although marginalised in mass culture, workers are expressing themselves, in forms as varied as poetry and short videos shared online.

The government tends to portray mi-

grant workers as patriotic and self-sacrificing. A museum dedicated to them in Guangzhou, the capital of Guangdong, lauds their contribution to China's economic ascent. Exhibits extol the Communist Party's efforts to improve workers' livelihoods and applaud their diligence. A sign at the entry reads: "Guangdong lets migrant workers create proud glories and legends again and again!" The hardship of factory work is glossed over, as are common injustices such as withheld wages.

Elsewhere, workers are often treated as country bumpkins. A "migrant-workers" version of the annual Spring Festival Gala, a big television show broadcast on the eve of the lunar new year, airs on a channel about agricultural news. Workers who began to stage their own unofficial gala some years ago were condescendingly described by state news outlets as offering "a little song, a little dance and a lot of passion".

Small wonder that a coruscating memoir by Fan Yusu, a domestic worker living in Beijing, was a national sensation when it was published online in 2017. Ms Fan is now the editor-in-chief of *New Workers' Literature*, an unofficial bimonthly journal of working-class writing, launched in 2019. One genre winning admiration from the literati is called *dagong shige* or "labour poetry". Its most famous practitioner was Xu Lizhi, who worked on an assembly line for Foxconn, a Taiwanese firm that makes most of Apple's iPhones. Before he committed suicide in 2014, at the age of 24, he had written almost 200 poems about the ▶▶

▶ drudgery of factory work. Among the best known is “I Swallowed An Iron Moon”:

I swallowed an iron moon
they called it a screw
I swallowed industrial wastewater and un-
employment forms
bent over machines, our youth died young
I swallowed labour, I swallowed poverty
swallowed pedestrian bridges, swallowed
this rusted-out life
I can't swallow any more
everything I've swallowed roils up in my
throat
I spread across my country
a poem of shame

Many workers' poems refer to homesickness, alienation, injuries and powerlessness. A few deliberately evoke beauty, in jarring contrast to their bleak surroundings. In “Sundress”, Wu Xia—a rare female worker-poet, hired by a textile factory at the age of 14—writes of her love for the “unknown girl” with the means to buy the garment she sews. She also thus lays bare the elusive promise of social mobility that drives so many to the assembly line: Ms Wu, now 40 and a published poet, still works at a clothing factory.

The packing area is flooded with light
the iron I'm holding
collects all the warmth of my hands
I want to press the straps flat
so they won't dig into your shoulders when
you wear it
and then press up from the waist
a lovely waist
where someone can lay a fine hand
and on the tree-shaded lane
caress a quiet kind of love...

Some literature is defiant, including towards government policies that make it extremely hard for factory-workers born in rural areas to make use of schools and hospitals in the cities. In “Who Can Forbid My Love”, Ms Wu writes of her adoptive city of Shenzhen: “This kind of love seeps into the pores, skin, cells, blood, bone / Even though there's no residence permit with my name on it.” Chen Nianxi, a worker in a private mine, speaks of fellow miners who, employed by state-run firms, toil less yet earn more while he must blast “the rocks layer by layer / to put my life back together”. (English translations of these and other poems were published in 2016 in “Iron Moon”, an anthology of labour poetry.)

Such writing is tolerated by the government partly because journals like *New Workers' Literature* are written for limited circulation and may not be sold in bookshops. Many poets publish online where, to avoid censorship, they steer clear of “unfiltered representations of the horrors” inside unregistered workshops known as “black factories”, notes Maghiel van Crevel of Leiden University. Some poems are proud or patriotic; many of those who write are motivated by a desire to earn re-

spect. In the visitors' book at the museum in Guangzhou, a visiting labourer has written: “Migrant workers, working souls, we're the finest of them all.”

Yet workers' writing is not fundamentally about political resistance, says Mr van Crevel, who studies labour poetry. Few blue-collar youths today feel they belong to a cohesive working class. That is partly because officials and state media avoid using the word “class”, or *jieji*, owing to its antagonistic overtones. (“Social stratum”, or *jiēcēng*, is preferred.) Many young workers call themselves *dagong ren*, a word for labourer that connotes temporary and low-status work. Its most extreme display is a subculture in Shenzhen whose members style themselves “Sanhe gods”. These young migrant workers hang around the city's Sanhe job market to find day work, often as builders or delivery drivers. They reject the grind of the factory; their slogan is: “Work for a day, party for three.” Some even sell their national-identity cards.

Becoming a *shamate* was also a form of rebellion against the monotony of factory life. In a Chinese documentary released in 2019, “We Were Smart”, 70 former and current *shamate* shared their views on what it meant to be one. Their exuberant hairstyles turned heads. “People paid attention. It wasn't positive attention. But they saw you. And the point was to be seen,” says one interviewee. Many felt they were part of a select group, and that cutting their hair would have meant going back to being “just another unknown line worker”. For some, the punk identity became more important than earning a better wage at a big factory, where they would have been



Not much space for self-expression

forced to cut their hair. For men and women alike, it was a way of seeming tougher in a disorienting new city where many were cheated: “We felt we weren't safe out there. That we were too honest, and were afraid of being messed with.” The hair, tattoos and clan mentality all helped.

As the fashion spread, its adherents began to be ridiculed by prim, middle-class netizens. A sustained online attack against *shamate* around 2010 led thousands to lop off their hair and drop out of the group. Police began to round up anyone with the telltale style, to check their papers; anyone without a temporary residence permit would be detained.

Shamate fans still congregate in parts of Guangdong. But the fashion has lost its edge as factory youth have found a new way to express themselves: video-sharing apps. Lorry drivers, construction workers and farmers have built followings and sometimes found stardom—not despite being blue-collar workers, but because of it. In manufacturing hubs, where phones are often banned inside factories, assembly-line workers document their lives outside them. Widely used hashtags include #FactoryLife and #LiftTheBucket. The last refers, often ironically, to quitting a job in search of a better one, with nothing but a bucket of belongings.

Through the videos, workers cheer each other on. They trade information: which factory has higher wages or fairer bosses, say. That is especially useful in a “hostile environment where there is no trade union to tell them about working benefits”, says Aidan Chau of China Labour Bulletin, an NGO in Hong Kong. Some speak of injuries or sexual harassment. Others parody the trendy life of urban middle-class youth. “Their aspiration to live in a city and become an urban citizen grows, even as they realise it is implausible—even impossible,” says Mr Chau.

Whether expressed in poems or through video-sharing apps, a sense of disillusionment seems to be growing. There was once pride in being a worker, says Mr Luo. “Now it's embarrassing to say you're one.” Young people working in factories see short videos as an escape: a way to kill time, but also to be part of a wider world beyond their gritty boomtowns. Yet even online, they struggle to gain acceptance. Zhang Yurong is among a handful who have built a wide following by recording life as a worker at Foxconn. Some comments on her videos say factory workers are “people abandoned by society”. That angered her, she says, not because it was wrong but because it was right.

A fellow worker-poet and friend of Xu wrote in tribute after his death: “Another screw comes loose / Another migrant-worker brother jumps / You die in place of me / And I keep writing in place of you.” ■

▶ With only 18% of people fully vaccinated, Australia relies on the bluntest of policy instruments: locking people up to quarantine in government-approved facilities. Pete McGregor, who flew in from London to visit his ailing father in February, felt lucky to be placed in former labourers' digs outside Darwin rather than an airless hotel. Residents held virtual quiz nights and celebrated a fellow inmate's birthday. Mr McGregor still describes the trip as "hell". For such countries, the only way to reopen safely is to vaccinate most people first and then experiment, as Singapore is considering. New Zealand had to scrap that plan this week when a labour shortage prompted the government to say it would reopen borders a bit despite a low vaccination rate.

A second group of governments is asking people to live with the virus. By June only 13% of countries in Europe remained closed to international travellers, compared with 70% in the Asia-Pacific region, according to the UN's World Tourism Organisation. Widespread vaccination makes opening easier. Pent-up demand for travel makes it popular. Back in February searches for international flights by people in France were just 30% of what they had been two years earlier; now they are at 76% of pre-pandemic levels, according to Kayak, an online travel agency. Meanwhile in China flight browsing remains stuck at around a fifth of pre-pandemic levels.

Rich countries that are trying to open up are devising systems to reduce the risks. Last month the EU launched a Digital Covid Certificate, which people can use to prove they have been vaccinated, tested or recently recovered from covid-19. But policies are often inconsistent. America remains closed to visitors from Austria and Germany but not Colombia or Thailand, where vaccination rates are lower and covid-19 infections more widespread. And airline crews struggle with the different forms and passes, often giving a cursory glance and waving people through rather than scanning QR codes. Lufthansa, a German carrier, says staff will be able to scan documents only if test and vaccine certification is standardised globally.

Careful planning and reams of paperwork are distant concerns for globetrotters from a third group of countries: the poorest. Most such places are struggling to get jobs in arms, yet cannot afford to shut their borders. They remain cut off. Because rich countries impose some of the toughest quarantine and testing requirements on poor countries, travel has become unaffordable for an emerging middle class that was just getting a taste for it. Even those who have been jabbed often received vaccines made in India or China, which may not be recognised by rich-world authorities. "It seems like they have found another way to discriminate against us

here in Africa," says Itunu Kuku, a Nigerian living in Senegal.

Overseas trips will continue to be a hassle well beyond the northern summer. If air travel returns to 75% of pre-pandemic levels and airline staff have to continue to cross-check a spaghetti-spill of apps and forms, passengers will spend an average 5.5 hours waiting to be processed at airports, estimates Nick Careen of IATA, up from 1.5 hours before the pandemic.

Get your motor runnin'

International travel could come to feel exclusive, much as it used to in the middle of the 20th century. Those worried about tough checks at airports or catching the virus on a packed flight are already choosing to travel by road or rail. Some will fly again as rules are streamlined and fear of germs fades. But expensive tests and rising airfares mean two-day bachelor parties in Budapest could become less common (to the relief of some) whereas once-in-a-lifetime safaris in Zambia will still appeal to those who can afford one. George Kipouros, editor of *Wanderlust*, a travel magazine, says it would be a good thing if people began to see travel as something special again, and so appreciated it more.

But for most would-be travellers, a less open world means less freedom. The loss is made more galling by rules that often make no sense. A year and a half into the pandemic, policymakers finally acknowledge what epidemiologists have long known: there is no straight line between curbing travel and curbing infections. Because the virus spreads exponentially, ten imported cases and a hundred lead to a similar-sized outbreak after just a few weeks, notes Adam Kucharski, an epidemiologist. "Anything but very strict travel restrictions will just delay things," he adds.

Border rules cannot prevent outbreaks unless they are paired with strict domestic rules. People moving within a country spread the virus, too. The highly contagious Delta variant is now spurring fresh outbreaks even in countries that closed

their borders. Australia has had to extend local lockdowns and deploy the army to enforce stay-at-home orders. China has launched mass-testing drives and introduced new curbs on domestic travel.

Many of the safety measures that accompany partial reopening are flawed. Asking someone to isolate at home cuts their contact with the outside world by 75%, compared with 90% for hotel quarantines, reports the *Lancet*. Another study suggests that a costly polymerase-chain-reaction (PCR) test before a flight is worse than a cheaper alternative. It is more accurate than an antigen test, but slower. So travellers have more time to get infected between clinic and boarding gate. A negative antigen test taken on the day of a trip, as many EU states accept, reduces the number of infected people who make it over a border to 24% of levels without any testing compared with 33% for a PCR test taken two days before a flight.

Temperature scanners are also unreliable. During the SARS outbreak in 2003, Canada spent millions on them, yet failed to detect a single case. Initial research suggested about half of travellers infected with covid-19 would be caught; recent analysis found the young in particular slip through, as most never develop a fever.

Head out on the highway

At this stage of the pandemic governments' wishes for a balanced approach to travel are understandable. But evidence of the benefits of many restrictions is murky, whereas the costs are clear. In America only 6% of the workforce were in the travel business in 2020, but they suffered a third of total job losses. Globally, nearly one in five jobs supported by tourism was lost in 2020. Poor countries, especially, rely on it for work. The World Travel and Tourism Council estimates that the size of the international travel and tourism industry halved from 10.4% of global GDP in 2019 to 5.5% in 2020, a \$4.5trn loss.

Only when the world is adequately vaccinated will travel start to feel as it did before the pandemic. That may not be until 2024, by some estimates. Even then, daft rules could stick. America's ban on travellers with HIV was introduced in the 1980s and abolished only in 2010. Likewise, airlines could be asking for covid-19 papers for years to come. Britain's transport minister, Grant Shapps, says Britons who venture abroad will need to be fully vaccinated against covid-19 "for evermore".

Vaccine certification may well make sense in the long run. But bans on visitors from certain countries or caps on international arrivals do not. The risk is that these rules and regulations may outlive their purpose not because governments cannot undo them, but because no politician wants to be the first to try. ■

Don't fly with me

Global airline passenger bookings
January 7th 2020=100, seven-day moving average



Source: IATA DDS



Chinese capitalism

What tech does Xi want?

HONG KONG

The contours of the Communist Party's masterplan for its technology industry are emerging

THE VISION is becoming clear. In a decade or so China will, if the Communist Party has its way, become a techno-utopia with Chinese characteristics, replete with “deep tech” such as cloud-computing, artificial intelligence (AI), self-driving cars and home-made cutting-edge chips. Incumbent technology giants such as Alibaba in e-commerce or Tencent in payments and entertainment will be around but less overweening—and less lucrative. Policies to curb their market power will redistribute some of their profits to smaller merchants and app developers, and to their workers. Second-tier cities will boast their own tech industries with localised services, competing with the less-mighty titans. Data will pulse through the system, available to firms of all sizes, under the watchful eye of the government in Beijing. China's internet will strengthen its authoritarian design.

Clearer, too, is the way in which President Xi Jinping wants to make this vision a reality. Besides talking up deep tech, this involves taking the shallower sort down a

peg. In the past nine months China's regulators have cracked down on the country's effervescent tech scene, which, though it has generated world-beating innovations and astounding shareholder value, is no longer seen as fit for purpose. On August 11th the authorities indicated that regulations over all manner of tech businesses will be strengthened in the next five years. As a consequence of all this, the country's hottest tech groups have lost at least \$1trn in combined market capitalisation since February (see chart 1 on next page).

Foreign investors who have backed Chinese online firms are retreating. Domestic

Chinese investors are anxious. Indices tracking Chinese tech stocks in Hong Kong and Chinese groups more broadly in New York are down by 40-45% since mid-February. No matter. Indeed, it may be part of the plan. Consumer-internet companies make up at least 40% of big Chinese stocks in the MSCI China Index. Like their American peers—Apple, Alphabet, Amazon, Facebook, Netflix—these firms have made tonnes of money for their shareholders. But, the party seems to think, at the expense of abusing their market power, exploiting workers and polluting minds.

The list of casualties is a Who's Who of Chinese tech: Ant Group, an Alibaba affiliate whose \$37bn initial public offering (IPO) was suspended with days to go; Didi Global, whose ride-hailing app was expelled from Chinese app stores days after its own \$4.4bn IPO in New York; Tencent, fined by regulators for sexually explicit content and unfair practices, and told to end exclusive music-licensing deals; the online-tutoring industry, largely barred last month from making a profit.

And the list is getting longer. Trustbusters are reportedly getting ready to slap a \$1bn fine on Meituan, a super-app that delivers meals. On August 9th the *Financial Times* reported that NetEase, an online-entertainment group, decided to shelve the planned IPO in Hong Kong of its music-streaming business owing to investors' worries about the regulatory crackdown.

The ranks of potential winners are less ▶▶

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well-defined. As a guiding principle, the vice-premier, Liu He, recently stated that China is moving into a new phase of development that prioritises social fairness and national security, not the growth-at-all-costs mentality of the past 30 years. The government will guide the “orderly development of capital”, he noted, the better to suit the “construction of a new development pattern”. Barry Naughton of the University of California, San Diego, calls this the “grand steering”. Dexter Roberts of the Atlantic Council, a think-tank in Washington, DC, discerns an echo of Mao Zedong’s “politics-in-command” economy. Either way, it is a break with the old pro-growth model and the beginning of “real state capitalism”, as one investment banker puts it.

Start with data. Europe and some American states, such as California, have devised laws that seek to protect consumers from the misuse of their personal information by large companies. China has put similar rules in place; in some cases they are more severe than in the West. But Chinese regulators are going further. In a largely ignored, jargon-filled policy paper from the State Council, China’s cabinet, in April last year, data were named as a “factor of production” alongside capital, labour, land and technology. This hinted at the importance assigned to information by the Chinese state, notes Kendra Schaefer of Trivium, a consultancy.

China’s new data policy remains a work in progress. The Data Security Law will come into force on September 1st and the Personal Information Protection Law is due to be adopted by China’s rubber-stamp parliament soon. It is unclear how they will be enforced, though data specialists intuit that many types of data currently held by internet giants could eventually be traded on government-backed and private exchanges. Ant, for example, is already being prodded by authorities to open up its vast stores of personal financial data to state-owned companies and smaller tech rivals. No specific rules for financial-technology firms have been issued but everyone is waiting for them, says Deng Zhisong of Dentons, a law firm.

Another prong of the state’s strategy is to redistribute the wealth and power large tech platforms have accrued over the past decade. E-commerce groups such as Alibaba, JD.com and Pinduoduo have been targeted by the State Administration for Market Regulation (SAMR), China’s newish antitrust regulator, which accuses them of monopolistic behaviour. Merchants on these platforms often indeed pay high fees and must choose between selling on one or the other. Payment systems run by Tencent and Alibaba have prevented exchange of information between them, which led to a bifurcation of the market.

The giants are now being forced to shift

The trillion-dollar question

CSI Global China Internet Index
Market capitalisation, \$trn



Source: Bloomberg

to more open models where payments and shopping activity are no longer exclusive to one platform, allowing merchants to regain some control over the prices of their wares. Analysts believe that the changes will lead to higher margins for sellers and lower prices for consumers but slower growth for the tech titans. Alibaba warned investors in early August that long-running tax benefits could soon come to an end, adding billions of dollars in costs.

Workers will benefit from the wealth transfer, too. Companies like Didi and Meituan, which use armies of low-paid drivers and warehouse staff, are on the hook. The authorities are already going after Meituan for not providing adequate care to such employees. It will be forced to raise wages and give drivers better insurance. Meituan’s market value has fallen by a fifth, or \$42bn, since the measures were announced in late July.

The final facet of China’s campaign is a transfer of resources from internet companies to firms that can create tangible advances in technologies that the party deems less frivolous. This would represent a striking shift in Chinese economic governance, which since the 1990s has put rapid development and attracting foreign direct investment over all else. Under-regulated internet firms have been the prime exam-

Startups and downs

Startup funding, \$bn



Source: CB Insights

ple. Local officials lowered taxes and gave away land in order to attract the online giants to their cities and provinces.

Now the government wants to use such carrots, as well as its anti-tech sticks, to create a less unruly and more hardware-focused technology sector to help it surpass America and the rest of the West in economic might, writes Rush Doshi, an adviser to President Joe Biden, in “The Long Game: China’s Grand Strategy to Displace American Order”. Mr Xi has referred to “great changes unseen in a century” in areas such as AI and quantum computing (which would harness the weirdness of subatomic physics to drastically speed up certain types of calculations). These, he has suggested, will usher in a new global economic order that revolves around China. Senior officials believe that if China can get a first-mover advantage on the cutting edge of technology, it will become not just an economic superpower but a geopolitical and military one, too, writes Mr Roberts of the Atlantic Council.

Many politicians in America and Europe would love to fashion their tech industry into something like Mr Xi’s vision: less social media and other “spiritual opium”, as Chinese state news outlets recently dubbed video-gaming; more strategic development of the techno-infrastructure of the 21st century. This includes computer chips, clean energy and much besides, partly to counteract an effort by America and its allies to restrict exports to China of semiconductors and other critical technologies. When launching a new business, entrepreneurs and investors must therefore ask, “How does this solve China’s problems?” sums up Liu Jing of Cheung Kong Graduate School of Business in Beijing.

Move fast and regulate things

Yet the way China’s regime is going about the transition is far from guaranteed to work. One problem stems from who is doing the regulating. The Communist Party presents an image of a unified force with a single set of objectives. In fact, like any large bureaucracy, Chinese authorities are fragmented, and can act at cross-purposes.

The policies behind the techlash are born of sweeping goals for society from the highest reaches of central government, an echelon of engineers and economists who lack expertise in most of the sectors being targeted. But it is up to specialists in bodies such as SAMR and the Cyberspace Administration of China (CAC) to enact these objectives. And as regulators’ remits expand, the odds of a clash shorten.

Some run-ins have already happened. A recent policy from the central bank aimed at breaking up powerful fintech groups spilled into antitrust territory covered by SAMR, notes Angela Zhang of the University of Hong Kong. Following the bans of ▶▶

▶ Didi's app and online tutors' profits, in both of which the CAC played a part, the China Securities Regulatory Commission (CSRC), which has spent years convincing global investors that Chinese markets are stable, had to contact bankers and investment funds to assure them that other industries would not be treated so harshly. The CSRC's move was interpreted by some as a sign that regulators were rethinking their scorched-earth tactics. Instead, the situation highlights how unco-ordinated the campaign has been at times.

Another worry is that the crackdown has spooked entrepreneurs and venture capitalists. It is true that some smaller firms view the tech giants as bullies that have strong-armed rivals and snuffed out competition. China's most innovative startups have had the choice of selling out to big tech or facing a quick and brutal demise, says Mr Liu. The recent dismantling of online monopolies has been a godsend for many promising young executives who have long struggled under the thumb of big tech, he observes. And entrepreneurs have flocked to the approved deep-tech fields: last year alone Chinese founded 22,000 chip firms, 35,000 cloud-computing companies and 172,000 AI startups.

But the online giants' founders, such as Jack Ma of Alibaba, are still held in high regard by other tech bosses. Many industry executives fear that years of hard work and sacrifice have gone unnoticed by their regulatory overlords. The party has communicated its intentions and goals poorly to a generation of talented businesspeople, says an executive at a small startup. If the current turmoil persists, China may end up with an open field for free and fair competition "but no one to run the companies", says another executive.

Investors face similar considerations. A prominent private-equity financier fully agrees with the goals of the regulation campaign. If carried out correctly, it could reduce inequality while becoming a global model for regulating big tech. But, he adds, the tactics have not been thought out. Pointing to China's world-beating fintech sector, he warns that "harming China tech is harming China as a nation." A more level playing field could let smaller tech companies flourish. But "who would invest in these right now?" asks Chen Long of Plenum, a Beijing-based research group.

A big test of investor sentiment will come with the rumoured IPO of ByteDance, a \$180bn unlisted giant which owns TikTok and its Chinese sister short-video app. But venture capitalists are already getting cold feet. Fundraising for privately held tech firms peaked at \$28bn in the last quarter of 2020, when the techlash began, according to CB Insights, a data provider. In the second quarter of this year Chinese startups raised just \$23bn, even as those in America

raked in ever more capital (see chart 2 on previous page). The bulk of last year's litter of new deep-tech companies probably predates the clampdown. Their prospects and easy access to capital remain uncertain.

Apparently without irony, Chinese media have likened the government's push to spur domestic chipmaking to the Great Leap Forward. In 1958 Mao decreed that farmers set up furnaces in their backyards in order to help China surpass British steelmakers. What the media have omitted to mention is that the resulting steel was mostly unusable pig-iron. Meanwhile, millions of Chinese starved as fields went unploughed. Mr Xi's techno-leap towards cutting-edge chips and other deep tech will not be as calamitous—China is too prosperous for that. But it is not immune to the law of unintended consequences. ■

Biotechnology

Just what the doctor ordered

CAMBRIDGE, MASSACHUSETTS

The promise of clever new drugs—and the firms developing them

IN 1908 ASHTON VALVE COMPANY built a factory on the corner of Binney Street and First Street in Cambridge, Massachusetts. In what was a high-tech industry of the day, it made gauges, valves, whistles, clocks and other gadgets that helped make steam boilers less susceptible to blowing up and killing people. Just over 100 years later, in 2010, another purveyor of a life-saving technology moved into Ashton's long-abandoned premises: Moderna.

In the past year the biotech darling has become synonymous with the fight against covid-19. Its ingenious mRNA vaccine has, like a similar one developed by Pfizer, an American drug giant, and BioNTech, a German startup, saved millions of lives. Moderna's success has also brought

attention to America's biotechnology industry, a lot of it centred on Cambridge. Home to Harvard University and the Massachusetts Institute of Technology, it is the closest that the biotech business currently has to a Silicon Valley.

And the industry is booming. Since 2010 an index of biotech firms listed on the Nasdaq exchange has quintupled in value (see chart), and the number of companies in it has more than doubled, to 269. Between 2011 and 2020 the money that biotech startups raised in American initial public offerings (IPOs) ballooned from \$4bn to \$65bn. So far this year venture capitalists have poured more than \$20bn into pharmaceutical and biotech firms, not far from last year's record tally of \$27bn.

Cambridge is filled with cranes and new buildings, dull on the outside but bursting with exciting science within. In next-door Boston new laboratories are going up around the revamped Seaport. Prices for lab space reportedly reach \$160 a square foot, perhaps the costliest commercial real estate in America not at street level.

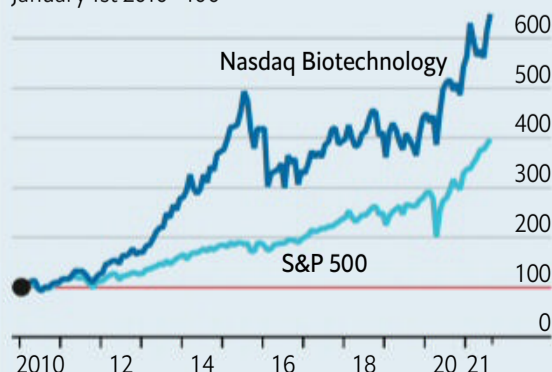
The pace of the industry's expansion would have been inconceivable 10-15 years ago, marvels Jean-François Formela of Atlas Venture, a venture-capital (VC) firm. Businesses are popping up everywhere, including down the hall from Mr Formela's office. Flagship Pioneering, a VC firm which guides entrepreneurs from a promising idea to a business that can attract outside investors, has spun out 26 companies since 2013. Its founder, Noubar Afeyan (who is also Moderna's chairman), hopes to spin out up to ten a year from now on.

The boom has several causes. Tim Haines, chairman of Abingworth, a London-based asset manager focused on life sciences, notes that many investors have been swept up in the notion of "philanthropic capitalism": making money from products that could benefit society. Other reasons are more hard-headed. According to Mr Haines's estimates, 64% of drugs in late-stage development are being concocted by youngish biotech companies built ▶▶

Medical advances

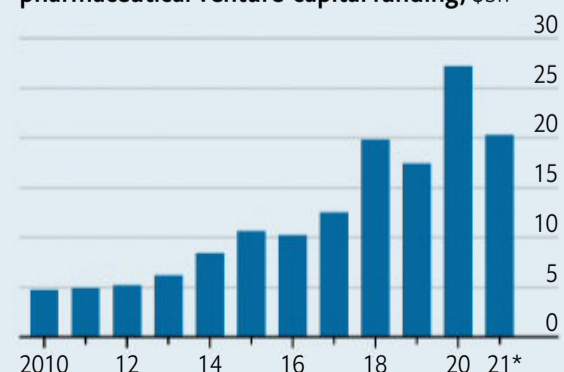
Stockmarket indices

January 1st 2010=100



Sources: Refinitiv Datastream; PitchBook

United States, biotechnology and pharmaceutical venture-capital funding, \$bn



*To July 1st

▶ around a novel technology rather than by big pharma firms such as Pfizer (which often team up with smaller biotechs like BioNTech, or acquire them, to juice up development pipelines).

Many of these technologies are themselves the result of recent advances in cell and gene therapies, in ways of delivering them, and in identifying which patients they are likely to benefit most. New money is flowing into firms developing treatments for cancer, illnesses of the immune system or the brain, and even infectious diseases. Everyone is vying to be the next

Moderna, whose market capitalisation has jumped from \$5bn when it went public in late 2018 to \$156bn. Many are hoping to emulate it by expanding from developing therapies to manufacturing them.

Walking past Moderna's headquarters just off bustling Binney Street it is easy to overlook the risks. People with both a PhD in life sciences and managerial nous are a rare breed. Unlike brainstorming the next app, life science cannot be done on Zoom. Many clever ideas never come to fruition. Those that do become therapies often cost a lot, which increasingly angers both

Democrats and Republicans in Congress and has led to calls for price controls.

The greatest danger is a common one for startups: can they make money? Only one in six firms in the Nasdaq biotech index did so in 2020. The remaining five-sixths lost a combined \$33bn. Vertex, a star graduate of Binney Street that has relocated to Seaport, lost money from its founding in 1989 until 2017. Moderna turned a profit last quarter for the first time in a decade and its share price has slid. Still, its wannabe imitators can take comfort that biotech investors are a patient lot. ■

Bartleby Get flexible or get going

Our Bartleby columnist bows out

THERE IS AN old joke that the key to success in life is sincerity. If you can fake that, the saying goes, then you have got it made. On reflection, however, the essential quality for surviving at work is not sincerity, but flexibility.

When Bartleby started his career in 1980, personal computers were the preserve of hobbyists and sending a letter required the passing of a handwritten draft to the typing pool. Phone calls came through the switchboard. Office life was so dependent on shuffling paper that staplers, paper clips and Tipp-Ex were essential. No one had a mobile phone so swift contact was impossible; this correspondent once sat for 45 minutes in a restaurant waiting for a guest who had been shown to another table and was miffed about his non-appearance.

Now office workers must grapple with a host of technologies. They need to know how to raise their hand (and mute themselves) on Zoom, track changes in a Google doc and make financial calculations on a spreadsheet. They must switch between applications, and back again, several times an hour. They must learn to use (or at least understand) new jargon even when it seems fatuous or irritating.

The need to adapt to change has not been confined to office work, of course. Those employed in manufacturing have had to cope with new techniques and new machines. Many of them have had to change sectors in order to find work. Manufacturing employment has fallen from 30.2% of the workforce in 1991 to 22.6% in 2019 across the OECD, a club of mostly rich countries. Retail workers have grappled with bar codes, automated checkouts, contactless payments and click-and-collect. But office workers have also had to adjust to one hugely significant change: a breakdown of the barriers



between work and home life. The advent of email and the smartphone means that workers can be contacted at any time of the day or night. If the phone rings at 10pm, it's probably not your mother, it's your boss.

Employees have to adjust to many corporate cultures over the course of their careers. Only a minority of workers ever spend their working lives at a single organisation. The median job tenure for workers aged 25 and over in America is around five years and has changed little in recent decades. Public-sector workers stay longer in their jobs than those in the private sector, who last around four years. In a 40-year career, that implies the average private-sector employee might work for ten different firms. On top of that, globalisation has meant that workers have had to get used to dealing with foreign customers and suppliers, colleagues working across different time zones, and sometimes foreign owners.

Over the years, employees—particularly men—have had to adapt to new social norms. What used to be known as “laddish

humour” is now rightly deemed to be demeaning to female colleagues. Boozy lunchtimes were once common, but are now frowned upon. Some middle-aged workers have been slow to accept this shift but employers have become steadily less tolerant of such behaviour.

During the pandemic, workers have had to show even more flexibility, keeping in touch with their colleagues and maintaining their productivity while juggling child care and the need to avoid infection. Not everyone has enjoyed it, but the ability to conquer the tyranny of the 9-to-5 routine is a very positive development. Monday mornings no longer seem quite such a dreadful prospect if they don't involve a stressful commute.

It is actually a great tribute to modern workers that they have adjusted splendidly to all these changes. But it gets more difficult as you grow older. Attitudes harden; habits become ingrained. There are many things which Bartleby finds puzzling about modern life. Once, talking loudly on the street was a sign of madness; now people are happy to disclose intimate details of their personal lives while bellowing on their mobile phones. Electric scooters seem to offer all of the dangers of bicycling (and a lot more risk for pedestrians sharing the pavement) without any of the health benefits. And most perplexing of all is that a man with the character and record of Boris Johnson has become his country's prime minister.

This puzzlement is a hint that this columnist is insufficiently flexible to cover the modern world and needs to retire. The danger is that one becomes a caricature of a grumpy old man and, like his fictional namesake, Bartleby would “prefer not to”. Many thanks for reading the column over the past three years.



The Olympics and advertising

Loser takes all

Why a television-ratings flop is still marketing gold

AMONG THE records broken at the Tokyo Olympics, one went uncelebrated: the games were the least-watched in decades. In America just 15.5m people tuned in each night, the fewest since NBCUniversal, now part of Comcast's cable empire, began covering the event in 1988. Viewership was 42% lower than at the Rio games in 2016. Broadcasters in Europe recorded similar falls. Brands that had paid to advertise alongside the jamboree complained. NBC scrambled to offer them free spots to make up for the ratings shortfall. Yet the Olympics illustrated a puzzle of advertising. Even as audiences desert TV, brands are paying as much as ever for commercials.

Tokyo was an uneven playing field. Many events took place while Americans and Europeans were asleep. Stars such as Simone Biles and Naomi Osaka left some events early. Covid-19 meant no spectators, and face-masks all round. But the collapse in viewership wasn't a one-off. Tokyo's opening ceremony was watched by 36% fewer Americans on the day than watched Rio get under way in 2016. Rio's audience in turn was 35% lower than London's in 2012.

While viewers have disappeared, advertisers have stuck around. NBC sold more than \$1.2bn in ads for Tokyo, about the same as in Rio. Even after dishing out the compensatory ads, it expects to make a profit on the \$1bn or so it paid for the rights to televise the games. It has also managed, in the words of Jeff Shell, its boss, to use them "as a firehose to promote everything else that we're doing at the company"—above all its streaming service, Peacock,

which zoomed up the app-store charts.

The games exemplify a broader trend. This year the average American will watch 172 minutes of broadcast and cable television a day, 100 minutes less than ten years ago, estimates eMarketer, a research firm. Among the so-called "money demographic" of 18- to 49-year-olds, viewership has fallen by half as audiences have gone online. Even so, spending on TV ads is remarkably stable. In 2021 brands will blow \$66bn on American commercials, about the same as every year for the past decade.

TV remains "the worst form of advertising, except for all the others", says Brian Wieser of GroupM, the world's biggest advertiser. The big streamers, such as Netflix and Disney+, are ad-free zones. Brands are wary of YouTube's user-generated content. And ad-supported streamers like Peacock and Disney's Hulu still lack enough ad space to move big marketing budgets. As a result, advertisers keep ploughing money into television, even as returns diminish.

Perhaps not for long. YouTube is making inroads into brand advertising as its content mix becomes more professional. Amazon is expected to run ads in its National Football League coverage next year. By combining premium content with targeted commercials, the e-empire is going to unlock "huge buckets" of ad dollars, predicts Andrew Lipsman of eMarketer. In 2019 advertising on streaming services in America was worth only 9% as much as adverts on cable and broadcast TV, eMarketer says. In 2023 that figure will be 32%.

Where will this leave events like the Olympics? Probably still on the podium. Ad money will drain out of daytime and some primetime TV, thinks Mr Lipsman. But big, live spectacles will be as desirable as ever. "There is nothing more powerful in media than the 17 straight days of Olympics dominance," summed up NBC's sports chief, Pete Bevacqua. As in sport, it doesn't matter that you aren't as good as you used to be, as long as you beat the competition. ■

Entrepreneurship

Wiping the slate

PARIS

French managers get a second chance

IN SILICON VALLEY, running one or two startups into the ground is an essential step on an entrepreneur's journey to success. For their European counterparts a single bankruptcy can derail a career. Being branded a failure once is all banks and other investors need to steer clear for ever. A new study shows the extent of the stigma a past failure can have on potential business-builders—and how it can be remedied.

In the past, French public authorities often "flagged" top managers of firms that had gone bust for all to see. The blot featured prominently on records for three years and was readily available to banks, which used it to avoid once-failed managers. In 2013 the policy was changed: the flagging system was abolished, and the 143,000 erstwhile entrepreneurs informed of their newly cleaned slate. The overnight shift gave researchers a chance to see what impact the flagging system had had.

Christophe Cahn and Mattia Girotti of the Banque de France, which ran the bankruptcy database, along with Augustin Landier of HEC Paris, a business school, tracked the fortunes of the deflagged. In a paper in the *Journal of Financial Economics* they write that removing the stain of insolvency increased the probability of once-failed managers setting up a new business by at least 19%. Banks extended more credit and reduced the interest on some loans by nearly 0.5 percentage points.

The impact was largest for young founders with short records. More surprising, bankers seemed to be making decisions based on the information that was put in front of them by regulators. It is still possible—albeit a touch less convenient—for lenders to pull up details of a borrower's past ventures. Once the information was out of immediate sight, few seemed to care.

The outcome is a vindication for French policymakers, who expressly wanted to encourage failed entrepreneurs to try again. About one in 40 managers were flagged at any one time, plenty of whom waited the three years until the stigma passed to have another go. Bankers, meanwhile, may want to dig into their borrowers' histories: the study finds that a firm set up by a manager who had previously gone bust is nearly twice as likely to itself go under. Third time lucky?



An ever-harder lift

Schumpeter | Joan of Instacart

Can a raid on Facebook reconfigure America's grocery wars?



FIDI SIMO has a back story unusual even by the standards of Silicon Valley's immigrant elite. Born in the port of Sète, in the Languedoc region of southern France, she was raised in a family of fishermen. With her father always at sea, she barely travelled. Yet she had style—her first name comes from a Guy Laroche perfume—and she had ambition. At a young age she vaulted from the Mediterranean, via the prestigious HEC business school in Paris, to the coastline in northern California better known for the internet than fishing nets. There she made her name at Facebook's social-media empire. As she puts it, "I jumped into the rocket ship."

On August 2nd, at 35 years old, she became chief executive of Instacart, an equally rocket-like online-grocery platform. The San Francisco-based firm has become a household name in America and Canada during the covid-19 pandemic for its app giving digital access to the shelves of 600 retailers, big and small, as well as its 500,000-strong army of gig-economy workers who pick and pack goods from supermarkets and deliver them to customers.

The job thrusts the Frenchwoman, like a modern-day Joan of Arc, into a pivotal position in the ongoing trolley wars. She has dark forces to fight: Instacart, she claims, provides supermarkets with the technology to battle Amazon's expanding e-realm. She has revolutionary (some say heretical) ideas: she hopes to bring Facebook-like targeted advertising to the grocery-shopping experience. And she is on a mission: most of her top executives, 70% of her contract workers and four-fifths of her customers are women. The executive tilt is "absolutely strategic", she says.

Yet she is also expected soon to lead Instacart to an initial public offering that will probably value it higher than most American supermarkets. (The firm declines to discuss a listing.) To underpin such a valuation, she needs to find ways of making it profitable—without alienating the supermarkets that Instacart considers its partners. The higher the valuation Instacart achieves, the more it suggests that supermarkets will get the short end of the stick. As some of Instacart's exclusive arrangements with them reportedly begin to expire, the big grocers may be realising this.

Far from the digital throne room of Facebook, Ms Simo has now thrust herself into one of the gnarliest corners of the real world, grocery, in one of the most cut-throat businesses, delivery. If the

economics of delivery platforms, from ride-sharing to meals, are tough, those of hauling baskets of produce are even more so. Supermarket margins, already thin, are falling, according to Bain, a consultancy, leaving little left over for the costs of dropping stuff on doorsteps. Shoppers are increasingly price-sensitive; hence the rise of discounters such as Aldi and Lidl. At the height of the pandemic stay-at-home orders gave people little choice but to pay extra for delivery. But as conditions return to normal, so will cost-consciousness. In the three months to June, says Bloomberg Second Measure, a data company, year-on-year grocery-delivery sales fell, after stratospheric rises in most of the previous 12 months.

Ms Simo acknowledges that after a breathless year, Instacart is at a "new resting heart rate". As the online share of groceries in America rises from a modest 8% of total sales, she sees plenty of growth ahead. But competition is heating up. Walmart, America's biggest grocer, may have regained the upper hand in delivery. Amazon Fresh is a force to be reckoned with. Rival upstarts, such as DoorDash and Uber Eats, are expanding from meals to everyday goods (and, according to the *Information*, a tech newsletter, have rejected Instacart's offers to merge or team up, respectively).

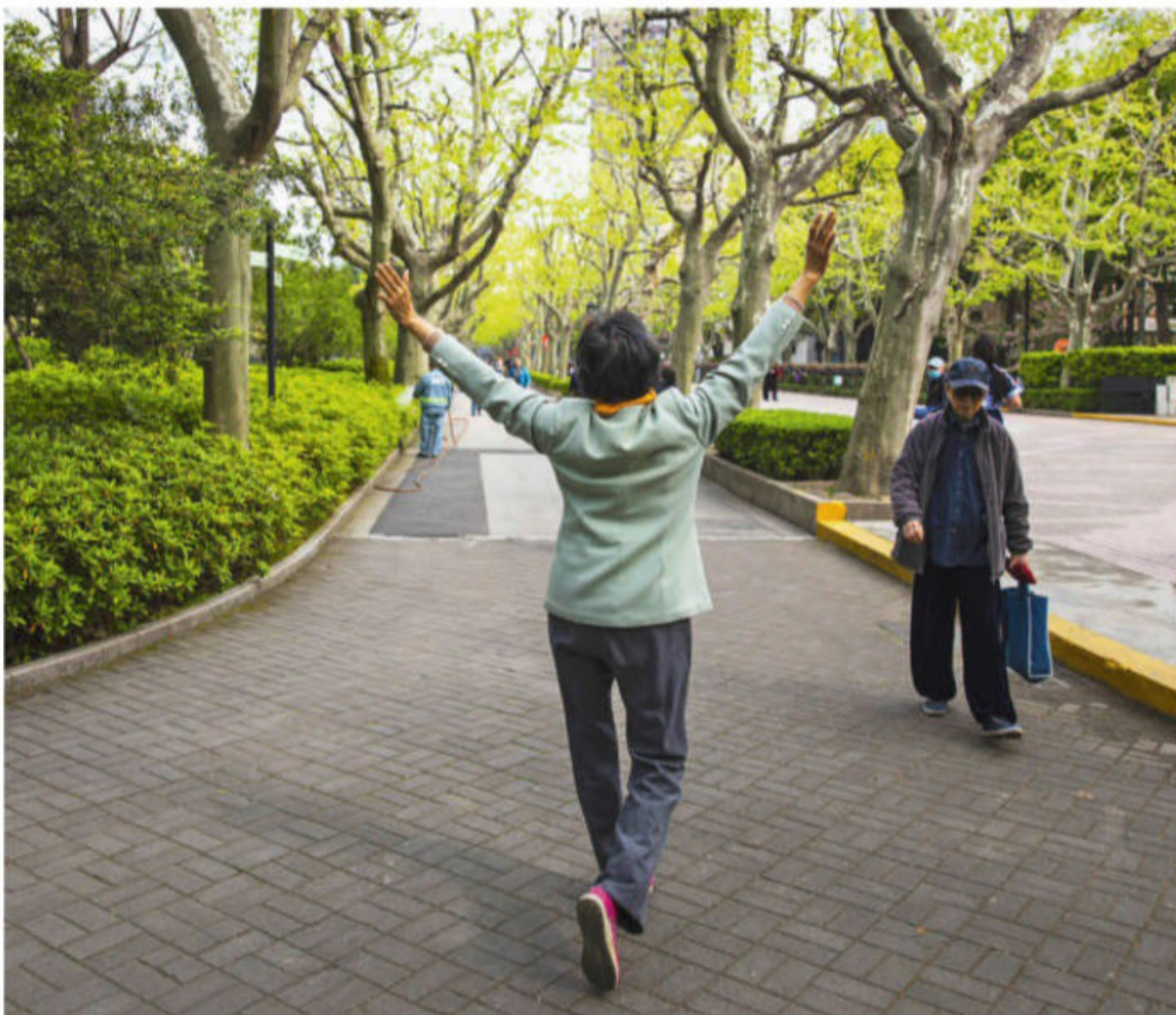
Meanwhile, as the IPO approaches, investors will want to assess Instacart's path to profitability. Its most recent valuation of \$39bn is already higher than that of Kroger, America's second-biggest supermarket chain, though Kroger's revenues, at \$132bn last year, dwarf those of Instacart, at \$1.5bn. The implication is that investors believe either that Instacart will displace its supermarket partners in the years ahead, or that it will become a high-margin digital-ads business. Ms Simo insists it will be the latter.

She is losing no time. Already, she says, ad sales (reportedly \$300m last year, or a fifth of revenues) are growing at triple-digit rates. But that's just for starters. Within days of taking over the company, she raided Facebook for its top marketing executive, Carolyn Everson, naming her Instacart's president. Ms Simo sees huge potential. Groceries, as she points out, are the largest segment in the retail sector. Until recently the \$1.5trn consumer-goods industry was unable to target shoppers directly as they put groceries into their trolleys. They now can via internet shopping, and all the more effectively on the small screen of a mobile phone. Targeted ads give them even more bang for their buck.

Further supporting growth will be automation. Instacart, Ms Simo says, will continue to expand its numbers of packers and deliverers. But it recently signed a deal with Fabric, an Israeli firm, to build small-scale robotic warehouses attached to its partners' supermarkets, which will make picking and packing quicker, enabling Instacart to cut delivery costs. The firm will also ramp up efforts to win hearts and minds of customers and staff. One approach, clearly, is to pay more attention to the female perspective, not least because women do most of the grocery shopping. Another will be to make online shopping more entertaining.

Checking out

How much shoppers will welcome a blizzard of ads as they peruse virtual aisles remains to be seen. For supermarkets, the big questions are how much they will sacrifice direct relationships with customers who access them via Instacart, and who will reap most rewards from the ad bonanza. Ms Simo insists the benefits will be shared between Instacart and its partners. But, says Steve Caine of Bain, many of America's big supermarkets are building their own online platforms to rely less on Instacart. The fightback has begun. It may not be a Hundred Years' War. But it will be a long one. ■



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Job markets

Coming up short

LONDON AND NEW YORK

Have people across the rich world lost their taste for work?

AMERICA'S LATEST jobs report was both encouraging and sobering. The world's largest economy added 943,000 jobs in July. That is the best tally in nearly a year—but even at this pace employment will not catch up with its pre-crisis level until early 2022, six months after output regained its peak. Jobs in the rest of the rich world, too, are likely to take a while to return to pre-pandemic highs. Demand for workers is still lower than it was before covid-19 struck; and, more important, people have withdrawn from the world of work.

Before the pandemic the rich world enjoyed an extraordinary jobs boom. In 2019 a higher share of people over the age of 15 was in the labour force—ie, either in work or looking for it—than at any point since at least 1990. The working-age employment rate (the share of 16- to 64-year-olds in a job) was at an all-time high in over half of rich countries.

Now labour markets are surprising in the opposite direction. Harmonised statistics are published with a long lag, but our best guess, based on data from eight countries, is that employment in the rich world

is 3% below its pre-pandemic high (see chart 1). That points to a deficit of about 18m people—a huge waste of talent, not to mention a hit to tax revenues.

What explains the gap? One potential explanation is that there is too little demand for labour. A rough measure of the need for workers involves adding the total number of people already employed to the

number of unfilled vacancies (see chart 2 on next page). Even in America, with its roaring economy, this gauge has yet to fully recover: despite record high vacancies, it is 2% below its pre-crisis level. Some firms, such as those in manufacturing, have healthy-ish demand for workers, but in leisure and hospitality demand is still 6% below its pre-pandemic level.

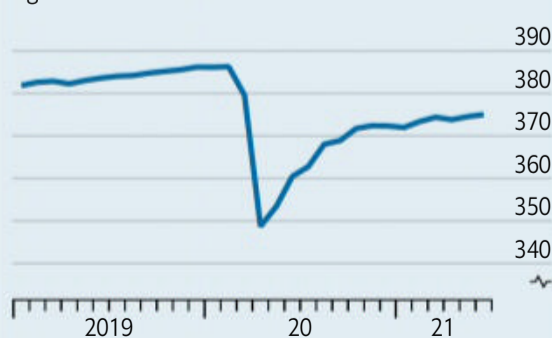
Covid-19 restrictions, such as travel bans, surely play a role in explaining weak demand. In Paris plenty of hotels remain closed. Your correspondent recently suffered the indignity of having to board a red-eye from JFK airport entirely sober because all the airport bars were still shut.

Some economists see insufficient spending as a cause of subdued labour demand. In three-quarters of rich countries the “fiscal impulse”, a measure of the oomph government spending gives the economy, is expected to turn negative this year. Yet it seems unlikely that governments can close the worker deficit simply by spending more. Compare America and the EU. In the spring of 2020 aggregate working hours in both economies tanked. America then passed gargantuan stimulus packages, while European governments chose more modest measures. The recovery in working hours since then has been only marginally better in America—not much extra labour for a lot of extra cash.

This suggests that the worker deficit is not just about demand. The supply of workers may have fallen by more, limiting the jobs recovery. The share of people in ▶▶

Melted into thin air

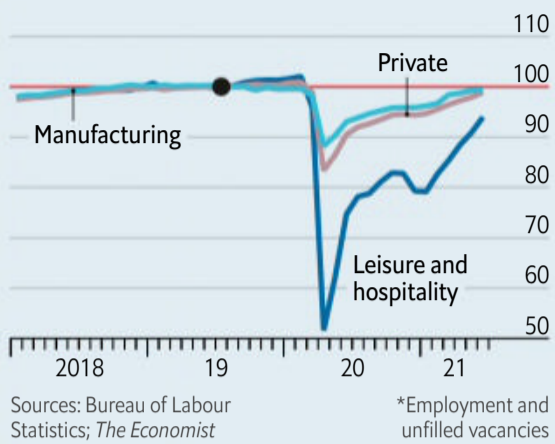
Selected OECD countries*, employment, m
Aged 15 and over



*Australia, Britain, Canada, Colombia, Germany, Japan, South Korea and United States
Sources: OECD; German Federal Statistical Office; ONS; *The Economist*

In recovery

United States, labour demand*, by sector
July 2019=100



▶ the workforce in the rich world has fallen sharply since the pandemic began and, we estimate, is about 1.5 percentage points below its peak. Other indicators also point to a scarcity of workers. Wages, for instance, are growing fairly strongly.

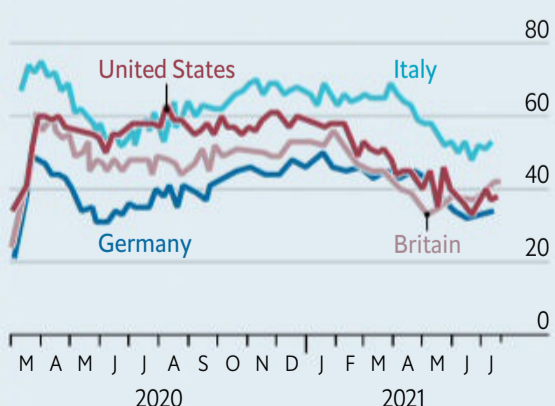
To understand whether the worker deficit will ease, then, you must consider why labour supply has fallen. Three broad explanations stand out: disruption owing to the spread of covid-19; the impact of welfare policy and pensions; and changes to attitudes wrought by the pandemic.

Take disruption first. It is commonly believed that school closures have made it impossible for parents, particularly mothers, to take a job. The evidence for this is mixed, though. Analysis by Jason Furman, Melissa Kearney and Wilson Powell III concludes that extra joblessness among mothers of young children accounts for a “negligible” share of America’s employment deficit. Despite talk of a “shecession” early in the pandemic, in most rich countries the worker deficit for men remains larger.

Disruption to migration may be a more plausible cause of the shortfall. Before the pandemic immigration drove workforce growth. Then countries slammed borders shut to contain cases. Today lower visa issuance in America accounts for about a fifth of its worker deficit. Australia is los-

The fear factor

People who say they are “very” or “somewhat” scared of catching covid-19, % replying



ing migrants on net for the first time since records began in the 1950s.

Fear of the virus may also have disrupted labour supply. Even in highly vaccinated countries a large share of people worry about contracting covid-19 (see chart 3). This surely puts some people off working in high-contact sectors such as hospitality.

Lower labour supply might also reflect the impact of welfare policies such as handouts and pensions—our second category of reasons. Frothy stockmarkets may have boosted the value of some pension pots, prompting people to start their golf-club membership earlier than expected. That seems to have been the case in America: recent research by Goldman Sachs, a bank, finds that “excess retirees” account for about a quarter of the decline in the country’s participation rate.

In other places, however, the share of 55- to 64-year-olds in the workforce has gone up. Research by the OECD, a rich-country think-tank, has shown that in many countries pension-fund returns were meagre in 2020, perhaps because some fund managers sold at the bottom of the market in the spring. Canadian funds’ real returns, at 1.9%, were one-third of America’s; in Australia they were negative. Small wonder that in both places the participation of older workers has risen.

For younger people, meanwhile, generous benefit payments introduced in 2020, an element of bonanza stimulus packages, may have blunted the need to find work. Although many of these are now being withdrawn, people might have used past handouts to accumulate savings, which might delay their return to work. According to our analysis households in the rich world have built up additional funds worth a tenth of annual consumer spending.

The third broad reason for lower labour supply relates to shifting attitudes. One intriguing possibility is that the pandemic has made people value work less. Many report to surveys that they treasure family time more than they did. A shift in work preferences would be a seismic event; but it is frustratingly hard to measure whether it is actually happening. A clue, however, comes from Britain, which tracks people who say they want to work fewer hours, even if their pay falls. Normally economic downturns prompt reported “overemployment” to collapse. But not in this one.

Bring all this together, and the extent to which the worker deficit endures seems likely to depend in part on how long the disruption and the fear caused by the pandemic last. Rising wages might lure some of those who left the workforce back into jobs. But the longer the pandemic goes on, the harder it becomes for those who left to return, and the more likely it is that new habits stick. The worker deficit might be here for some time. ■

Inflation in America**Beatable prices**

BETHESDA, MARYLAND

The inflation scare becomes less menacing

THE USED-CAR salesman occupies a distinctive, if rather unflattering, place in American culture. In “The Grapes of Wrath”, John Steinbeck’s classic novel set in the Depression, sleazy salesmen prey on miserable farmers. “Cadillac Man”, a film from 1990, features a fast-talking merchant with a bevy of mistresses. These depictions, and many others, are unfair to most of the hard-working types on car lots. But in recent months such salesmen have occupied a distinctive and unflattering place in America’s economy, as avatars of worryingly rapid inflation.

When consumer prices rose by 5.4% in June compared with a year earlier, the fastest pace since 2008, used cars accounted for a third of the pickup. So analysts are paying unusually close attention to the market for used cars (or, as those selling them prefer to say, “pre-owned” vehicles). On August 11th the Bureau of Labour Statistics reported that annual headline inflation in July again hit 5.4%. But when you look under the hood, the gauge for used cars offers reassurance: prices levelled off, suggesting that the inflation scare may prove transitory.

The price surge in used cars has been indicative of the pressures building as businesses roar back from the depths of the pandemic, only to run headlong into shortages of everything from critical parts to staff. A dearth of semiconductors in the vehicle industry, itself a product of bunged-up supply chains, has had ripple effects. Without the microchips needed for electronic systems, carmakers have cut back production. Given the lack of new vehicles, would-be buyers have turned to the used market, leading to a spike in demand. But there has been a shortfall in supply at the same time, because existing owners have held on to their cars for longer than normal amid all the pandemic disruptions. The result: a 30% increase in used-car prices between April and June.

Similar dynamics have pushed up prices for home furniture, airline tickets and clothing. Alarming as that might sound, the fact that these increases were all tied to the lopsided recovery from the pandemic was taken as evidence by many analysts ▶▶



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▶ that the jump in inflation may be a passing phenomenon. Sure enough, the data from July lent credence to that view. Airline fares fell slightly, as did the cost of furniture. Prices for clothing and used cars were basically unchanged. The overall consumer-price index rose by 0.5% month-on-month in July, down from 0.9% in June. The slowdown in core inflation, stripping out food and energy, was even sharper (although, in annualised terms, it was still well above the Federal Reserve's 2% target).

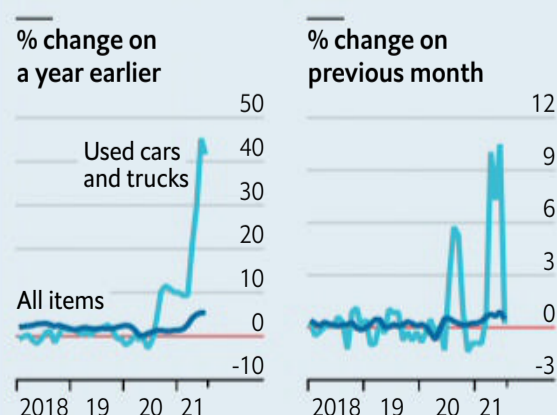
The ebbing of inflation is, for now, a vindication for the Fed. Although it has hinted that it may begin to wind down its ultra-loose monetary policy this year (by reducing its monthly bond purchases), most Fed officials think it will only start raising interest rates in 2023—a patience potentially at odds with high inflation. The Fed, to be sure, is hardly alone. A decline in Treasury yields in recent months in part reflects investors' falling inflation expectations, in addition to concerns over the continued economic drag from the pandemic.

Nevertheless, it is too soon to sound the all-clear. Unlike cars or couches, which are not exactly everyday purchases, some recurring expenditures look a little headier. The price of shelter, which includes rents paid by tenants and “imputed” rents for home-owners, rose by 0.4% in July from June, and could rise further as universities and offices open up. Economists at Citigroup, a bank, pointed to yet another big increase in restaurant prices. This, they said, was a clear sign that a tight labour market is pushing up wages and feeding through to higher prices.

Moreover, used cars may yet drive back into the spotlight. At a showroom in Bethesda, Carlos Correa, an affable salesman, explains that his company normally has three lots full of cars. Now, though, they are down to two, which are still mostly empty. The levelling-off in prices is, he thinks, explained by tepid summer demand. “It's usually quiet this time of year,” he says. Autumn could turn up the heat on prices again. ■

Hitting the brakes

United States, consumer prices



Source: US Bureau of Labour Statistics

Foreign investors and India

Bygones are bygones

A tax time-machine is consigned to the past

WHEN INDIA introduced a retroactive tax on the sale of shares in foreign companies with domestic assets in 2012, the measure was reviled by foreign businesses and decried by the Bharatiya Janata Party (BJP), then in opposition, as “tax terrorism”. So foreign investors had reason to cheer on August 5th, when the BJP government said it would repeal the law. The reversal illustrates the tug-of-war the country has long faced—between wanting to invite foreign investment into the country and resenting the legal tussles it brings.

The immediate reason for the repeal reflects the government's desire to save itself from embarrassment overseas, rather than a dramatic conversion to an open approach to foreign investment. The tax law has led to legal headaches at home and abroad. Two big companies have successfully disputed their retrospective bills in international courts, but the government has not complied with the rulings, leading one of them to take some drastic steps.

In July Cairn Energy, a British oil and gas firm, obtained a French court order to freeze several Indian government properties in Paris, in pursuit of an arbitration award of \$1.2bn plus interest and costs, made in The Hague last year. The relevant transactions date to a reorganisation of Cairn's Indian assets made in 2006, and the sale of a majority stake to a mining firm in 2011. Cairn is also chasing Air India, the country's state-owned flag-carrier, in American courts, in pursuit of its award.

The government also found itself wrong-footed in a long-running dispute with Vodafone, a mobile-phone company, which won an arbitration award in The Hague last year. The disputed transaction relates to its purchase in 2007 of Hutchison Essar, an Indian phone network (the row over which led India to introduce the retroactive-tax law in the first place). The repeal of the tax offers the government a way to end such legal tussles without facing the indignity of a company repossession of its assets around the world.

The change in law throws a light on the government's strained relationship with foreign investors' rights more broadly. A mistrust of international courts as a means of solving disputes over tax, over which the country asserts sovereign rights, has run through successive Indian governments.

In 2015 the country adopted a new template for its bilateral investment treaties

that limited the rights of foreign investors to pursue international settlements, in the hope that existing agreements could be renegotiated along the same lines. But the renegotiations have not borne much fruit. According to the UN Conference on Trade and Development, India has signed 86 bilateral investment treaties since the mid-1990s; 74 have been terminated, almost all within the past five years. That includes the treaties with Britain and the Netherlands, under which Cairn and Vodafone, respectively, won their awards.

A lack of access to international dispute resolution leaves foreign investors at the mercy of a slow-moving domestic legal system, and may well have made them more reluctant to plough capital into the country. (One corporate lawsuit, for instance, has been pending since 1983.)

India's approach might also hinder its trade policy. A reluctance to embrace dispute-resolution systems was not the main reason why it decided against signing Asia's recent big trade pacts, the Comprehensive and Progressive Trans-Pacific Partnership and the Regional Comprehensive Economic Partnership. But it will probably frustrate any attempt to join large blocs in future. Until India resolves the tension between its desire for investment and its desire for sovereignty, a law change might do little to entice foreign investors. ■

Capital markets in Europe

SPACs and the City

London's attempts to lure SPACs may be too little, too late

LONDON SO FAR has missed out on the dizzying investment boom in special-purpose acquisition companies (SPACs) centred on America. Those that have come to Europe have conspicuously swerved the City, choosing Amsterdam, Frankfurt, Paris or Stockholm instead. On August 10th, in an attempt to change that, Britain's Financial Conduct Authority (FCA) loosened its listing rules.

SPACs provide an unconventional means of taking private companies public. A dealmaker incorporates a shell company and lists it on a stock exchange, raising money from shareholders in order to find a private company worth buying. After finding one, agreeing a price and passing a shareholder vote, the two companies merge. The private company is now public, and the dealmaker is rewarded with a slice of ownership in the merged entity.

Until now, Britain's rules around mergers put investors off. These prevented ▶▶

▶ shareholders from selling their SPAC shares once a merger target had been found but before a full prospectus had been produced. That deprived them of the chance to make an early exit if they objected to the dealmaker's choice of target. Instead Amsterdam, which has no such prohibitions, became Europe's SPAC hub. According to Refinitiv, a data provider, SPACs have raised \$3bn there this year, compared with a minuscule \$6m in London. (Both are dwarfed by New York's \$110bn.)

The FCA hopes that removing the ban on share sales will tempt SPAC sponsors to

list in Britain rather than the Netherlands. It is not alone. Advisers to the vehicles that applied to list in early 2021 describe the strain it put on Amsterdam's financial infrastructure. "There were times when the Dutch regulator literally didn't have enough people to read all the documents in front of them," says a partner at an American law firm. "At a certain point investors get sick of being kept in a queue that might mess up their market timing."

Still, the City cannot count on a SPAC frenzy. Jason Manketo of Linklaters, a British law firm, notes that even under the new

regime the sponsor of a British SPAC will be forced to abstain from the merger vote. That puts them at the mercy of other shareholders and at a disadvantage compared with much of the rest of Europe, including Amsterdam. Meanwhile, raising capital in sterling to fund pan-European acquisitions introduces currency risk. Avoiding that would restrict the universe to British companies, which seem keener on leaving public markets than joining them. Moreover, many observers suspect the SPAC craze is already petering out. The FCA's aim is laudable, but its market timing is off. ■

Buttonwood Cease and delist

How the delisting of Chinese companies on American exchanges might play out

THESE DAYS politicians in Beijing and Washington seem to agree on very little. Yet on the subject of ending the listing of Chinese firms on American exchanges they are in uncommon harmony. The collapse last year of Luckin Coffee, a Chinese beverage-delivery group listed on the Nasdaq that was caught inflating its sales, reignited political grievances in America. The result was the Holding Foreign Companies Accountable Act, which requires companies traded on American exchanges to submit to audits or face delisting within three years. The precise rules are still being drawn up, but will probably eventually involve a great shedding of shares.

China, for its part, seems happy for its companies to leave American markets. Its regulators seemed unbothered when their actions demolished the share price of Didi Global, a Chinese ride-hailing company, just days after it listed in New York. New rules from the country's cyberspace watchdog will make it harder for some firms to list outside of China. A sudden rule change in late July made online-tutoring firms serving school-aged children ineligible for overseas listings, wiping billions of dollars from several New York-traded Chinese stocks.

Rare as this moment of Sino-American agreement is, it hardly spells good news for investors. The American market has come to host \$1.5trn-worth of Chinese companies. That sort of market value has not been cast off by exchanges before. So what kind of damage might delisting do to shareholders?

That Chinese companies still trade in New York at all is remarkable. For a decade now Beijing and Washington have sparred over the fate of China's American Depositary Receipts (ADRs), as the shares of foreign companies trading in America

are called. As a wave of accounting scandals at New York-listed Chinese firms began to wash over markets in 2011, American regulators started insisting on gaining access to certain accounting documents. Chinese officials have dug their heels in, refusing the requests and even making sharing the materials a crime.

There are some stocks for which delisting need not involve much pain. Many ADR contracts say that investors can convert those shares into corresponding securities listed on other exchanges, notes Wei Shang-Jin of Columbia Business School. Some of the biggest Chinese companies have been prepared, pursuing secondary listings in Hong Kong to which shares can be transferred. This started with BeiGene, a biotech group, when it launched a secondary listing in Hong Kong in 2018. Alibaba, which raised \$25bn in New York in 2014, held a second listing in Hong Kong in 2019 to raise another \$11bn. Of the 236 Chinese companies listed in New York, 16 have secondary listings in Hong Kong, with a combined market capitalisation of \$980bn.



The situation looks bleaker for shareholders in other firms. Stock prices will be dragged down by the potential for instability. (The Nasdaq Golden Dragon China Index, which tracks Chinese firms listed in New York, is down by 45% since February.) This will give managers and other company insiders a chance to buy out American shareholders' stock on the cheap, says Jesse Fried of Harvard Law School. The companies could eventually relist in China or Hong Kong at much higher valuations, but the original investors in the ADRs will not see a cent from the relisting. And shareholders are unlikely to have the right to review the valuation at which companies are taken private, notes Shaswat Das of King & Spalding, a law firm.

There is an even worse case. Some companies may simply "go dark", meaning they stop reporting to American regulators and are delisted with no buyout at all. This might sound far-fetched—but it has happened before. In the aftermath of the accounting scandals of a decade ago, more than 100 Chinese companies vanished from New York's exchanges, destroying some \$40bn in market value. Many did not compensate investors. And shareholders in general stand little chance of recouping losses: because most Chinese groups have few assets in America, an angry shareholder seeking legal recourse would have to go to a Chinese court, says Joel Greenberg of Arnold & Porter, another law firm.

The smart move, then, is not to be caught holding these shares when delisting draws near. But here's the catch. Ten years ago experts also called time on cross-border listings for Chinese groups. The market capitalisation of Chinese firms listed on American exchanges has risen ten-fold since.



South-East Asia

A quiet giant

Japan's understated financial heft in the region

VIETNAM'S FIRST two rapid-transit rail lines are inching closer to completion, after years of delays. The projects, one in each of the country's two largest cities, have become symbols not just of Vietnam's modernisation, but of the duelling interests of Asia's two biggest sources of infrastructure investment. Hanoi's line has been funded by Chinese development assistance; Ho Chi Minh City's was launched with help from the Japanese government.

Although China's financial reach overseas attracts enormous attention, when it comes to infrastructure in South-East Asia, Japan is still very much the leader (see chart). In total, it has \$259bn invested in unfinished projects in Indonesia, Malaysia, the Philippines, Thailand and Vietnam, according to Fitch Solutions, a data provider, compared with China's \$157bn. Both figures have declined since 2019, as the covid-19 pandemic has deterred green-field infrastructure investment, but Japan's lead has widened a bit.

The construction of Ho Chi Minh City's Urban Railway Line 1 is a microcosm of the Japanese infrastructure offering abroad. Government and quasi-governmental agencies laid the groundwork for the country's mammoth business groups. The project began almost nine years ago with early support from the Japan International Co-operation Agency, which facilitates most of the country's overseas development assistance. Sumitomo Corporation, a sprawl-

ing private-sector conglomerate, won the construction contract as part of a consortium, Tokyo Metro has provided technical assistance, and Hitachi's trains have been delivered to run on the line.

While America under President Joe Biden has been forthright about its ambition to challenge China's Belt and Road Initiative (BRI), Japan has been reluctant to frame its pursuit of large infrastructure projects as a contest with China. Still, it is not hard to spot the change in strategy, particularly during former prime minister Abe Shinzo's period in office. In 2015 the government launched the "Partnership for Quality Infrastructure" (PQI) with the Asian Development Bank and other investors, which promised to provide public and private capital worth \$110bn for infrastructure projects in the region over the next five years (though progress in reaching this goal has not been closely tracked). Despite not calling out the BRI in public, the message behind Japan's repeated emphasis on quality has not gone unheard in the region.

The PQI was explicitly made part of the country's "Free and Open Indo-Pacific" strategy, launched in 2016, linking its foreign-policy objectives with its financial priorities. That same year, the Japan Bank for International Co-operation, which began life in 1950 as an export-promotion bank, saw its role amended to allow for greater financial risk-taking. In recent years it has pivoted towards financing

overseas investment: in the year to March 2020 only 11% of the bank's commitments were export loans, while 82% were overseas investment loans.

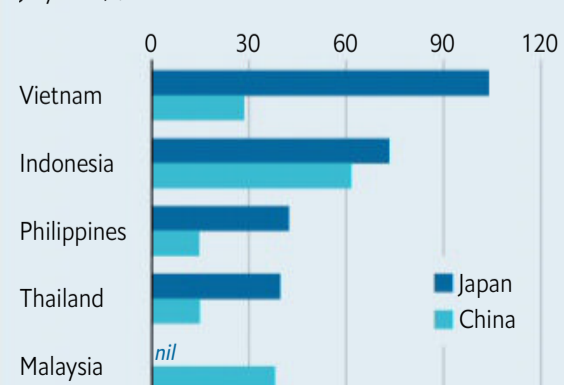
Japan has some distinct advantages compared with most Western economies, each of which goes some way to explaining the country's relatively discreet financial heft. Simple proximity is one of them: Japan's largest companies are deeply familiar with other Asian markets, which have made up a significant share of their international sales for decades. Japan exported more to the Association of South-East Asian Nations than American firms did in 2019, even though the American economy is more than four times the size of Japan's.

Although the country cannot deploy private investment through large state-owned enterprises, as China does, relationships between the private sector and the government are much closer than in other capitalist economies, greasing the wheels of co-operation. Saori Katada of the University of Southern California notes that, in competing with China for regional infrastructure, Japan has reverted a little to its "Old Japan" strategy of the post-war boom, in which the private and public sectors worked seamlessly together. The partnership is far less heavy-handed than it was in the heyday of the "iron triangle"—the politically dominant Liberal Democratic Party, the apparatus of the state and the country's business scions. But the legacy of a mercantilist attitude to foreign trade and investment is clear.

That blending and blurring of state and private investment objectives might once have produced consternation from Western governments, particularly when Japan was seen as Asia's ascendant economic power. But the advent of the BRI and concerns about China's economic influence in the region have changed priorities. As the only serious competitor to Beijing's financial clout in the region, Japan's overseas infrastructure heft is likely to be welcomed across much of the world—even if Tokyo doesn't shout too loudly about it. ■

Project power

Stock of investment in infrastructure projects*
July 2021, \$bn



Source: Fitch Solutions

*Excludes completed and cancelled projects

Free exchange | The fundamentals of finance

A new theory suggests that day-to-day trading has lasting effects on asset prices



ECONOMICS IS ABOUT supply and demand—just not in financial markets. A building block of asset-pricing theory is that the value of stocks and bonds is determined by their expected future payoffs rather than by ignorant trades. If an investor unthinkingly throws money at, say, shares in Apple, opportunistic short-sellers are supposed to line up to take the other side of the bet, keeping the share price anchored to where it ought to be, given Apple's likely profits. Free money gets picked up and dumb money gets picked off. Markets are efficient, in that prices come to reflect genuine information about the future.

At this point your columnist may be in danger of provoking guffaws. It has been a bad year for the textbooks. Retail investors have driven up the prices of meme stocks such as GameStop and AMC. Cryptocurrencies, the fundamentals of which cannot easily be analysed, have soared too. Even America's bond market is a puzzle: the ten-year Treasury yield is only 1.4% even though annual consumer-price inflation has reached 5.4%. So-called "technical" explanations for market movements—"where you put things that you can't quite explain", according to Jerome Powell, the chairman of the Federal Reserve—are in fashion. So it is apt that an emerging theory of how markets work says that even random financial flows may matter a great deal to asset prices.

In a recent working paper Xavier Gabaix of Harvard University and Ralph Koijen of the University of Chicago study how the aggregate value of America's stockmarket responds to buying and selling. Researchers have studied flows before, typically finding noticeable effects as investors sell one stock and buy another. Messrs Gabaix and Koijen are interested in whether this finding scales up to move the market as a whole—a thesis that is consistent with the smaller-scale findings, but more provocative.

The first challenge is getting definitions straight. The financial press often writes about money flowing into stocks, but for a security to be bought, it also has to be sold. The authors' definition of inflows relies on the fact that investment funds often promise to maintain a fraction of their portfolio in equities (a retirement fund offered by Vanguard, say, might offer investors 80% exposure to stocks and 20% to bonds). A flow into stocks is defined as an investor using fresh cash, or the proceeds of selling bonds, to

buy funds that hold at least some equities. The higher the share devoted to equities, the larger the "flow". The amount of securities in existence does not change—for every buyer, there is a seller—but their price is forced up until the value of the market is sufficient to satisfy each fund's mandate to hold the target fraction of its portfolio in stocks.

Using statistical wizardry the authors isolate flows into stocks that appear unexplained (by, for example, GDP growth) over the period from 1993 to 2019. They find that markets respond in a manner contrary to that set out in the textbooks: they magnify, rather than dampen, the impact of flows. A dollar of inflows into equities increases the aggregate value of the market by \$3-8. Markets are not "elastic", as textbooks say they should be. Messrs Gabaix and Koijen therefore call their idea the "inelastic markets hypothesis".

Does inelastic mean inefficient? A trader who could see flows coming would get rich quickly. (It has long been known that the so-called "front-running" of big trades, which is usually banned, is profitable.) But flows are hard to predict, says Mr Koijen. A true believer in markets might argue that unforeseeable flows are the mechanism by which the right price is reached, and reflect new information coming to the fore.

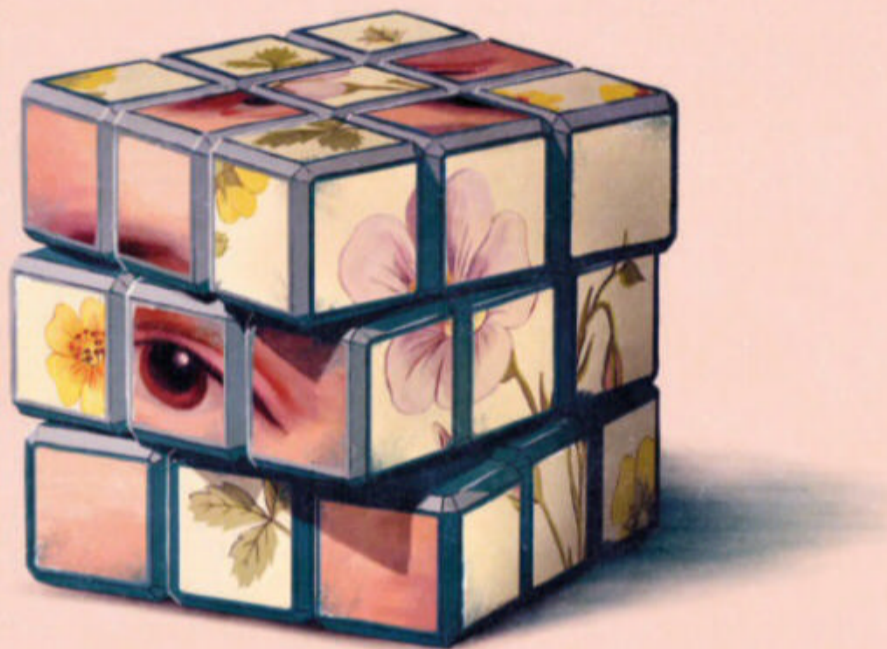
Even if flows are ill-informed, though, the opportunity to profit from them is small once they have already moved the price, says Mr Gabaix. And the arbitrageurs who are meant to keep the whole market anchored to fundamentals do not seem to exist. The authors note that at the onset of the global financial crisis hedge funds owned less than 4% of the stockmarket, and that their trades tended to amplify market movements, not dampen them. Funds are constrained by limits on leverage and by the fact that they must cope with the investments and redemptions of underlying investors. Different parts of the market do not trade much with each other, as would be necessary for markets to be elastic.

The paper will surprise the typical economist, who, according to the authors' surveys, believes that flows do not affect prices. It also threatens associated financial theories. One is the Modigliani-Miller theorem, which says that it does not matter whether a company finances itself with equity or with debt. In inelastic markets, by contrast, a firm that issues debt to buy back its stock will find that it drives up both its own share price and the broader market. The authors look only at stocks, but other research suggests that bond markets are inelastic (albeit to a lesser degree). As a result, central banks' quantitative-easing policies, under which they buy bonds, will affect bond yields—something that many traders take as given but that purists say should not happen.

Messrs Gabaix and Koijen hope to inspire research that explains market movements using the granular, observable choices of investors, rather than attributing gyrations in markets to unobservable changes in beliefs. And portfolio managers who typically try to forecast future business conditions might find it productive to try to predict flows into and out of investment funds instead.

Keynesian beauty

There may be an irony here. The authors do not study whether markets have become less elastic over time, but in recent decades funds that passively allocate fixed percentages to indices have grown in popularity, making their theory more plausible. The trend is a vote of confidence in markets' efficiency, which should make the returns to active stock-picking low. Yet passivity may breed inelasticity—and therefore create opportunities for a canny investor who is ahead of the crowd. ■



Making organs

Leaves, limbs and lights

It is not enough, in a multicellular creature, for labour to be divided between the cells. Those cells must also be organised

ALL LIFE is made of cells. But to build a complex, multicelled organism from those cells almost always requires them to come in more than one type. This means that as cells multiply in a growing organism they need to differentiate, which they do by expressing different subsets of genes from within the genome they all share. Different patterns of gene expression produce different types of cell.

These complex patterns of gene expression appear to be the preserve of eukaryotes—creatures built of cells that have their primary genomes wrapped up in a complex compartment called a nucleus. Sponges, descended from some of the earliest multicellular creatures, have a handful of cell types. Plants have dozens. Animals have hundreds.

The number of cell types is, broadly speaking, a function of the degree to which these creatures have bodies made up of organs—arrangements in which the activi-

ties of different types of cells are co-ordinated in order to perform a specific function or functions. Sponges do not have organs; they just have voids through which they pump water from which single-celled prey can be plucked. This does not require lots of different sorts of cells. Plants have some organs, but not that many: stems and roots; petals, stamens and pistils by means of which to reproduce; and a few more.

It is in complex animals that organs

→ In this series on the levels of life

- 1 **Biology's big molecules**
- 2 **Cells and how to power them**
- 3 **Making organs**
- 4 **The story of a life**
- 5 **What is a species, anyway?**
- 6 **Finding living planets**

come into their own as a plethora of sophisticated, functional entities. How large that plethora is in a given animal species lies, to some extent, in the eye of the biologist doing the beholding. As in many other areas of science, some are lumpers and some are splitters. A lumper may see a mammalian ear as an organ. A splitter may want to differentiate all sorts of components, such as the structure in the inner ear called “the organ of Corti”, after the anatomist who first described it. Lists of human organs thus vary in length, but 78 is a number that often pops up in medical texts.

What is more, animals tend to have a standard complement of each type of organ. A healthy oak tree may have 100,000 leaves or 300,000 leaves. There is no proper number of blossoms for a cherry. But a complex animal comes with a fixed number of almost all of its organs: one ear if it is a praying mantis, two wings if it is a bird, three hearts if it is an octopus, four stomachs if it is a cow, five arms if it is a starfish, six eyes if it is a recluse spider, 32 brains if it is a leech, and so on. These organs will be arranged according to a specific body plan. Oaks can grow branches and roots in whatever pattern seems best. Animals cannot.

This is because animals and plants have different relationships with time and space. These different ways of life require different sorts of flexibility. Animals move through space but, once adult, change shape comparatively little over time. Plants stay still in space but change shape a lot as they grow. Most animals seek the energy they need by hunting or foraging. Plants' energy-seeking behaviour is a matter of growing roots to take in water and minerals, and flat, green surfaces to absorb the sunshine and carbon dioxide that make up the preponderance of their food.

In most plants, those surfaces are embodied in one of the loveliest and most straightforward of organs: the leaf. In the heart of a leaf are chloroplast-rich mesophyll cells responsible for the bulk of the photosynthesis. On the leaf's sunnier side these cells are packed closely together, like a palisade. On the shadier side they are arranged like a sponge, so that air can circulate through, bringing with it the carbon dioxide which photosynthesis requires.

Photosynthesis also needs water. This is drawn up from the roots through tubes called xylem and evaporates within a leaf, moistening the air that the mesophyll cells make use of. Other tubes, called phloem, carry away the sugars created through photosynthesis. Air moves in and out through openings in the leaf's cuticle, called stomata. If water is plentiful the stomata dilate, allowing lots of carbon dioxide in. If water is in short supply they clamp down, reducing the rate of photosynthesis but stopping the plant from drying out.

▶ Stomata aside, plant behaviour is largely a matter of growth to permit greater access to water and minerals from below, and sunlight and carbon dioxide from above. Stuck as plants are, where they sprouted, that is best achieved through plasticity and building on the results of the last growing season. A preordained body plan—three branches at 120° to each other here, 42 leaves per twig there—would be ludicrous.

Animals' active lifestyles, by contrast, need nerves and muscles. These require far more energy to do their work than any plant tissue does. This also means a body plan optimised for the sorts of behaviours that the animal bases its life on. Muscles, nerves and bones need to grow to a pre-arranged design much more than branches, twigs and leaves do.

Most of these organs are physically coherent. The co-ordination of their cells is achieved by structural linkage between them. In some cases you can say where they begin and end well enough that it is possible to cut one out of one person and put it into another. Some, though, are distributed—most notably the immune system, which has outposts throughout the body and a range of single-celled components coursing through the blood. The activities of its different types of cells are still co-ordinated, but through passing interactions as much as lasting structures.

Some human organs, such as kidneys

and lungs, have back ups. Some can be lost with little consequence—the spleen, for example—and most can be sacrificed without making life impossible. One, the placenta, is temporary and may be regrown as required. They cover a wide range of sizes and complexity. A submandibular gland weighs about ten grams; the gut weighs a couple of kilograms. The simplest organ in the human body is probably the bladder, a distensible sac that has a handful of cell types. The most complicated is the brain, which has about 86bn nerve cells, or neurons (there are 133 types of these in its cortex alone), supported by a slightly smaller number of so-called glial cells.

The nervous system as a whole is more complex yet, finding its way into pretty much all of the other organs the body has to offer. It is the zenith of the twin processes of differentiation (many different types of cell) and integration (a highly functional structure) which is at the heart of what makes organs tick.

In the main, the various types of neuron have nuclei which are, together with their immediately surrounding cytoplasm, located in the brain or the spinal cord. But they also have protuberances called axons, which reach out from them, in some cases into the rest of the body, and so may stretch for a metre or more. These axons are wrapped in sheaths of a fatty material called myelin, secreted by specialised glial

cells. Loss of this myelin has bad effects, such as multiple sclerosis.

Most cells in all organs have ways of talking to their neighbours. But no others do so as much and as clearly as neurons do. Their axons, and the shorter protuberances called dendrites which come off both the axon and the main cell body, mean they have far more neighbours than any other sort of cell. A single neuron may easily be connected to 10,000 others. Some are connected to 100,000. And they have over 100 types of chemical neurotransmitter with which to send and/or receive messages at these points of connection.

Neurons also need a way to send signals rapidly between their distant parts. They do this via electrical impulses called action potentials that run along their cell membranes, assisted by the myelin sheaths. The result is a network with trillions of connections, which is in communication with all parts of the body, and which can also carry out, in ways not yet understood, the computational processes needed to analyse the inputs it receives, and act appropriately.

When organs go bad

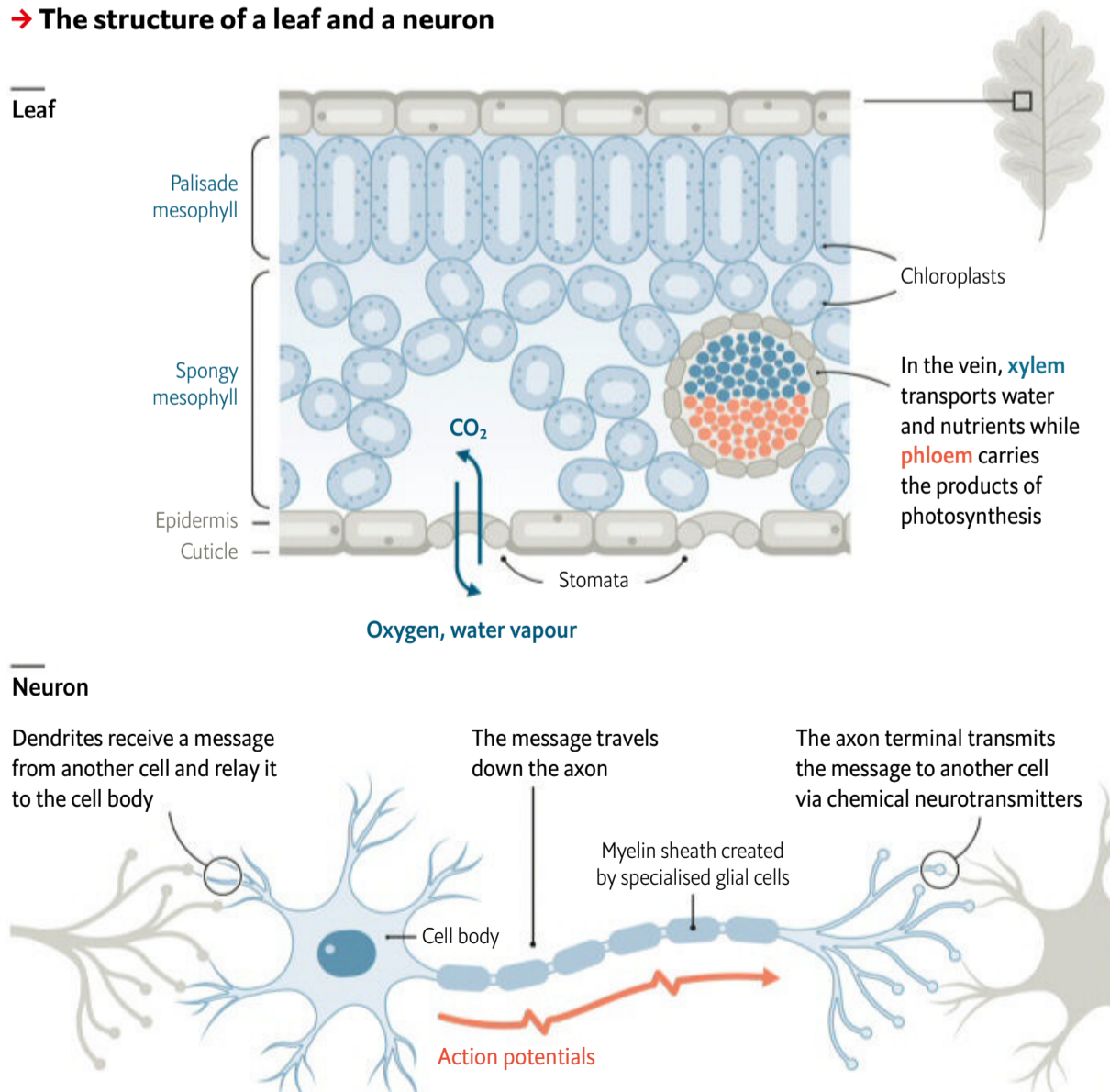
For organs to work, their cells need to be disciplined. They must know their place and must divide only when necessary. Unfortunately, but inevitably, this discipline is always at risk of breaking down.

When multicellular creatures evolved, so did various forms of cellular self-sacrifice. A fundamental aspect of cellular differentiation is that it requires the majority of cells to give up the strongest Darwinian imperative of the lot: their posterity. Evolution configured the nuclear operating system so that cells could be required to grow only within certain constraints, to stop reproducing when told to or even to die on command if the rest of the body required it. It is only through the application of such rules, programmed into the way in which the cells express their genes, that multicellular life is possible.

Mutations sometimes break down these controls, freeing cells to replicate. Some of these mutations pass down the generations, predisposing an individual's cells to the freebooting life. Some are picked up along the way. Once a cell begins to replicate unbidden, it and its descendants acquire further mutations. The immune system will try to stop such uncontrolled growth—but mutations which cause it to turn a blind eye often crop up too. This is how cancers arise and flourish.

Cancer can be life-threatening. And even if it doesn't get you, something else will. Individual bodies are merely expendable links in the great chain of being. They have their exits and their entrances, and one body in its time plays many parts. The nature of these individual lives is the topic of the next Biology brief. ■

→ The structure of a leaf and a neuron





Climate change

A new reality

The IPCC's latest report is starker, more certain—and underlines how climate change is already making its effects felt

AT A KEY moment in the film “Jaws”, police chief Martin Brody, having known that a shark attack was possible, witnesses one actually happen. The director, Steven Spielberg, underlines the transformative nature of Brody’s shock with a shot which makes inspired use of a camera technique called a “dolly zoom”. Nothing on screen actually moves. But Brody’s guilty face seems to rush towards the audience, taking up more and more of the frame. At the same time his surroundings, rather than being displaced, are revealed more fully.

The report released on August 9th by the Intergovernmental Panel on Climate Change, the first part of the IPCC’s sixth assessment report (AR6), presents the spectacle of the possible becoming real in a similarly unnerving way, mixing close-up alarm with wide-angle context. It is a starker and blunter document than its predecessor in AR5, which was published in 2013. The statements in the summary expressing “high confidence” handily outnumber

those that offer only “medium confidence”. Last time around the two categories were roughly level pegging.

Part of that higher confidence is down to better science, which is welcome. Another part is down to bitter experience, which is not. The report stresses that the world is living through climate change, not watching it draw near. Its 234 authors base their conclusions, in a phrase that acts as something of a refrain, on “multiple lines of evidence”. Some of that evidence comes from computer models, and some from improved physical understanding of various planetary processes. Crucially, an increasing proportion comes from direct observations of the way in which the world has changed so far.

Start with the predictions of what lies

→ **Also in this section**

62 Solar geoengineering

dead ahead. Over the past decade the Earth has been between 0.95°C and 1.2°C (1.7–2.2°F) hotter than it was in the second half of the 19th century; the best estimate is 1.1°C. That is more than 0.2°C higher than the change that AR5 found when it made the same comparison in the previous decade. Though some of the difference is now put down to AR5 having underestimated the then current temperatures, most is seen as being due to continued heating.

The total amount by which the planet will heat up depends pretty closely on cumulative greenhouse-gas emissions. That allows the “carbon budgets” associated with various levels of worldwide temperature rise to be calculated. For AR6 this exercise in climate accounting has been gone through all over again.

Worldwide greenhouse-gas emissions since 1850 are now put at 2,400bn tonnes of carbon dioxide, give or take 10%. Every subsequent 1,000bn tonnes is likely to cause between 0.27°C and 0.63°C more warming. If that seems quite imprecise, it is a much tighter estimate than was previously possible. Such calculations rely ultimately on how sensitive global temperatures are to rising carbon-dioxide levels. That crucial number is one of those things which is easier to estimate now that there is more experience to go on. The error range is notably smaller now than it was in AR5 (see chart 1 on next page).

▶ The budget associated with a 50% chance of keeping warming below 1.5°C—the more ambitious of the two goals laid out in the Paris agreement of 2015—allows just 500bn more tonnes to be emitted. That is about 15 years of industrial emissions at current rates. To avoid busting that budget would require the whole world, not just rich countries, to get net emissions of carbon dioxide down to zero before 2050. That is a tall order, to put it mildly. Even the most ambitious of the various emissions scenarios modelled by the IPCC's experts offers less than a 50% chance of staying below 1.5°C of heating.

The very-low-emission scenarios do offer a fighting chance of keeping warming below 2°C. But the emission cuts they require go far beyond what the nations of the world have currently promised. What is more, those scenarios mandate not just heroic emission cuts but also “negative emissions”—techniques that actively remove carbon dioxide from the atmosphere, thus paying back some of the carbon budget spent previously. It is just about conceivable that, if emissions fall very quickly and carbon-dioxide removal scales up really well, warming may exceed 1.5°C during the coming decades but fall back below that level by the end of the century.

Happily, the report confirms that removing carbon dioxide from the atmosphere might be a plausible way of reducing temperatures. Since such removals now offer the only way of reconciling the modest near-term cuts currently enshrined in national policies with the much more dramatic long-term ambitions those same countries proclaim, this is just as well. If the IPCC had found large-scale carbon-dioxide removal untenable that would have put the kibosh on the whole idea of reaching net-zero emissions.

But the report also notes that such removals could affect more than just temperatures. They could also have an impact on food production, biodiversity and water availability and quality, especially if they are carried out through the use of huge for-

estry plantations. And it has nothing to say about how those systems might operate or how much they would cost—that work is left to the reports on impacts and on mitigation, which are due out next year.

You're going to need a cleaner boat

Meanwhile, in wide-angle, the predicted consequences of a warming world are becoming clearer and more fine-grained. Again, this is partly the product of better scientific understanding, and partly the product of direct experience. In 2013 AR5 referred to just three studies linking extreme weather events to rising temperatures. The authors of the latest report were able to assess hundreds of such event-attribution papers. Those allow it to make the clear statement that climate change is

already affecting every inhabited region of the planet, with human influence contributing to many observed changes in weather and climate extremes.

The current trend towards more frequent and intense heavy rainfall will continue, but not monotonically; rain and snowfall will become more variable within seasons and, probably, from year to year. The authors are thus fairly certain that flooding will be more frequent and intense in most of Asia and Africa if the world warms by 1.5°C, and pretty sure the same changes will be seen in North America and Europe. Earlier melting of mountain snowpacks will add to the flood risk in some areas; in others, higher sea levels will raise the risk, as will the greater frequency of the most intense tropical cyclones. ▶▶

Solar geoengineering

It that cannot be named

Geoengineering is a hot topic—and was underplayed in the IPCC's report

KNOWING WHAT is going on in the climate requires observations taken from high orbit, the ocean depths and all sorts of places in between, as well as models which stretch the powers of the most super supercomputers. Knowing what is going on as scientists and government representatives fine-tune the bit of an IPCC report on which governments officially sign off—the “summary for policymakers” (SPM)—is more akin to reading tea leaves. Was the removal of “fossil fuels” from one of its chart captions a pernicious, if petty, piece of petrostate obfuscation? Or just a way to make the technical definition involved sufficiently broad? It is hard to say if you were not in the room.

And what to make of things that didn't make it to the summary in the first place—such as solar geoengineering, which the IPCC refers to as “solar-radiation modification”? In the SPM of the previous report, in 2013, this approach to climate change, which involves modifying the atmosphere to boost the amount of sunlight reflected back to space, was deemed to “have the potential to substantially offset a global temperature rise”. The body of the new report agrees, finding that research has consistently shown such methods “could offset some of the effects of increasing greenhouse gases on global and regional climate, including the carbon and water cycles”. But this time round there is no discussion in the SPM.

Asked why, the authors say, reasonably, that there is not room for everything: the draft report stretches to almost

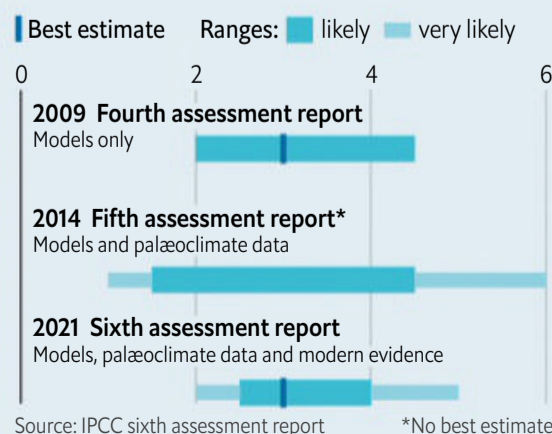
4,000 pages. What is more, the second and third parts of the assessment, which deal with impacts, adaptation and mitigation, will also look at the question when they are released next year. Only after they are published will it be possible to take a view in the round.

But it is also true that a lot of climate scientists and others believe that talk of solar geoengineering is a siren call that could lure policymakers away from the course of greenhouse-gas cuts while not, in the end, doing any good—and possibly dashing the whole planet on to the rocks. Whether achieved through particles in the stratosphere, brightened maritime clouds or some other means, solar geoengineering would not be a simple reversal of greenhouse warming; it is a form of deliberate climate change with its own potentially dangerous side-effects. Its impacts on atmospheric chemistry and circulation are not well understood. An approach which suited one country might be bad for another.

The decision to include it in the SPM in 2013 was controversial at the time and criticised afterwards. But Janos Pasztor, head of the Carnegie Climate Governance Initiative (C2G), regrets that it was not included this time, too. Neither he nor C2G advocate solar geoengineering. But he thinks that “when the world can go in many different ways, you need to prepare for that.” If the possibility is not discussed, it does not go away; it is just less scrutinised, and the world less well prepared. Uncomfortable as such difficult discussions may be, says Mr Pasztor, “We can't just keep our head in the sand.”

A sensitive subject

Expected warming per doubling of atmospheric carbon dioxide, °C



▶ Heatwaves will climb in number and severity. Extreme “wet-bulb” temperatures—a measure which includes the degree to which humidity makes it harder for the human body to shed heat—will become more common more quickly than unadjusted high temperatures do. Temperatures on the hottest days in some mid-latitude regions, including parts of Europe, will rise 1.5 to 2 times as fast as global warming more generally.

The oceans will heat up more slowly than the land. But as they do so they will expand and rise, a trend exacerbated by the melting of glaciers and ice caps. The warming will not be even. The Arctic will heat up more than other seas; in every one of the IPCC’s scenarios there will be sea-ice-free days in the Arctic by the middle of the century. There will be local aberrations, too. Marine heatwaves—short-lived bursts of hot water which have only recently become a topic of concern—are expected to continue to become more common, especially in the tropics and the Arctic.

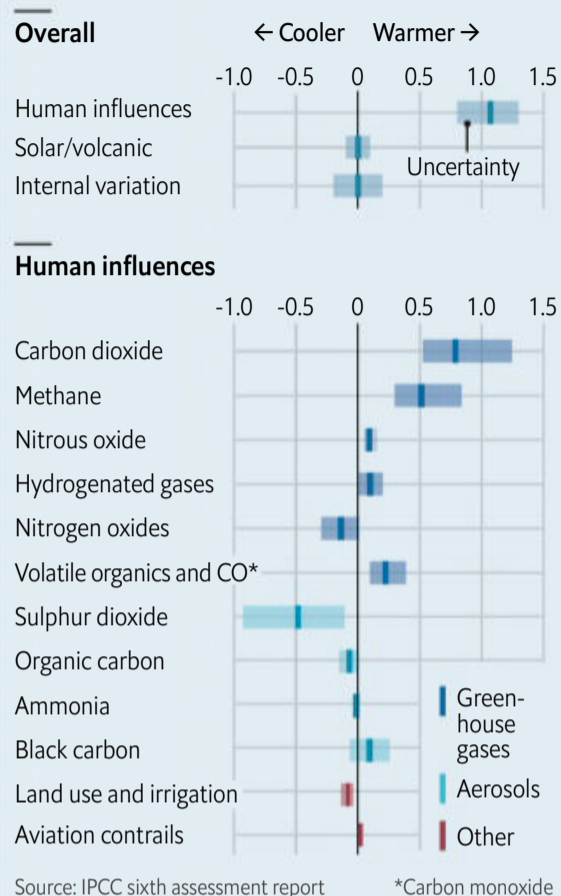
Ocean warming will also suppress the tendency of waters from different depths to mix. Both the heatwaves and the increased stratification will have ecological effects that may be profound, both in the Arctic and beyond.

Generally speaking, what is wet becomes wetter, what is dry, drier, and what is uncommon more common. The rarer the event, the higher the likelihood that it will become more frequent. Even at 1.5°C of heating the report warns there will be some events—heatwaves, droughts and such—that are more severe than any that have been observed before. This is true at a global level as well as a regional one. “Low-likelihood, high-impact” events are, by their nature, hard to be specific about. It is a good bet they become more likely with higher temperatures. But even at comparatively modest levels of warming such calamities as widespread forest dieback or a collapsing Antarctic ice sheet are hard to completely rule out.

Recommendations about what to do are not part of this report’s remit. But nevertheless it pushes hard for more and stronger action on methane. In terms of its contribution to warming so far, methane is second only to carbon dioxide (see chart 2). Atmospheric levels of the stuff, like those of carbon dioxide, are higher than at any other point in human history. But unlike carbon dioxide, atmospheric methane is transient—it has an atmospheric half-life of less than a decade. This means that cuts in methane emissions pay off much faster than cuts in carbon dioxide. If the world is really serious about trying to keep below 2°C of warming, let alone 1.5°C, doubling down on attempts to cut methane emissions, both from industry and agriculture, should be a high priority.

Bringing the heat

Contributions to 2010-19 warming relative to 1850-1900, °C



As the report points out, this is particularly important because of the effects of another pollutant. Sulphates are given off mostly by coal plants and the sorts of heavy fuel oils that power big ships. They have the opposite effect to methane and carbon dioxide: by reflecting sunlight back into space, they cool the planet. The IPCC reckons sulphate pollution keeps the world about 0.5°C cooler than it would otherwise be. Without it, the world would probably have already breached the Paris aspiration of limiting temperature rises to 1.5°C.

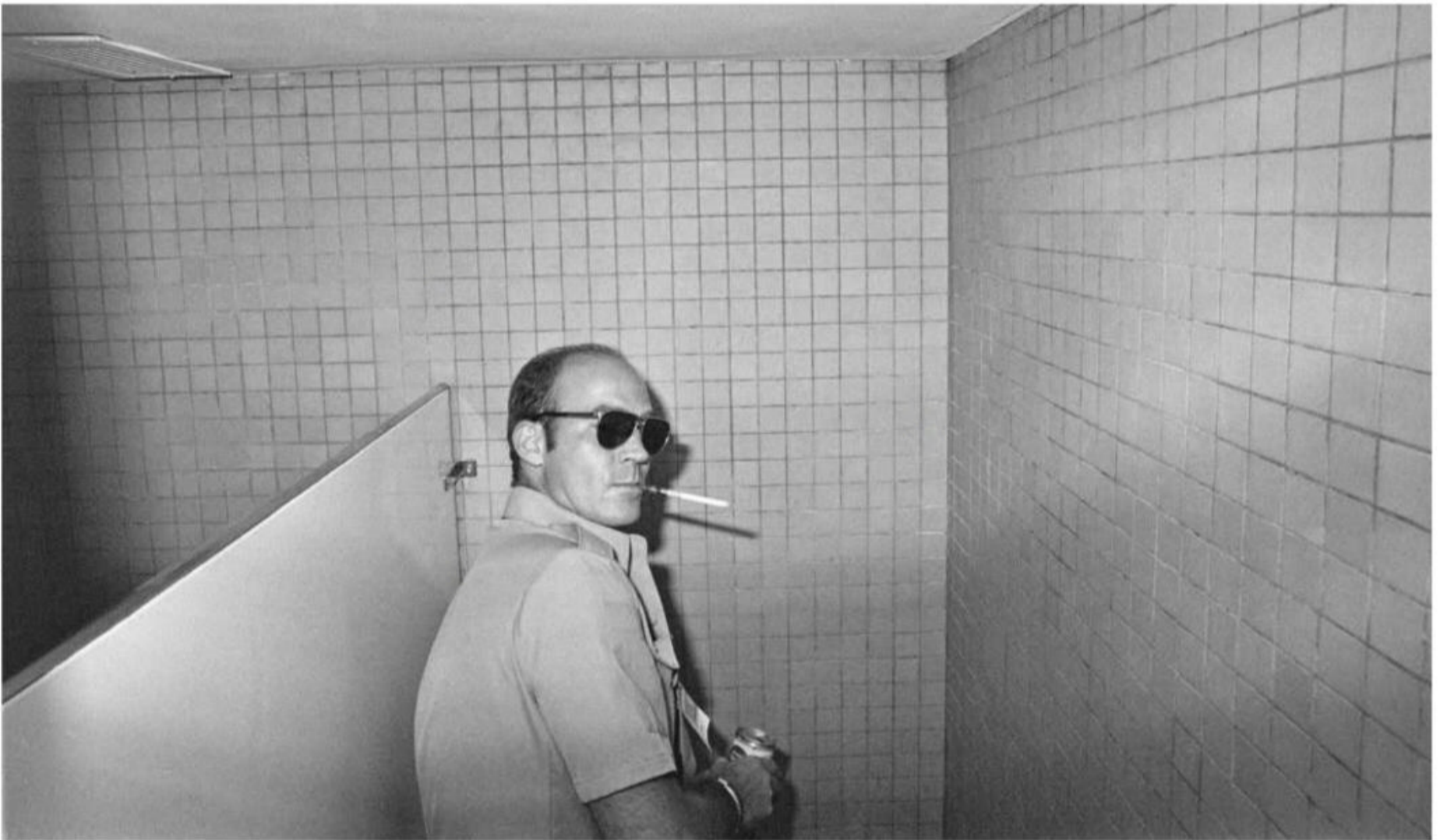
The problem is that sulphates are deadly. Over the past few decades they have contributed a great deal to the particulate air pollution that has killed tens of millions. Clean-air laws have seen them increasingly scrubbed out of fuels and smoke stacks. The IPCC report finds that continuing this good work on air pollution would contribute to global warming in all the emission scenarios it studied. That is another reason, it says, to promote quick and lasting cuts in methane emissions. Without increased ambition on methane, cleaner, clearer air will add to the challenge of rising temperatures.

Mr Spielberg’s *coup de cinema* in “Jaws” marks the moment when the police chief realises that the opportunity to avert calamity is gone; his inaction has led to a covert threat becoming a blood-in-the-water reality. As a result the chief is seized by a new fervour for action—one which brings him into direct conflict with the mayor, who prefers to minimise the risks so as not to scare off the tourists.

When it comes to climate change the realisation has hardly been instantaneous; it has been dawning for at least a decade or so. But coming as it does in a summer of shattered temperature records and terrifying fires and floods, an IPCC report in which predictions of future global warming are, more than ever before, backed up with observations should offer a similar punctuation. Deciding how much action to take on climate change is politically hard, because it means imposing high costs today for largely hidden benefits tomorrow. But when, in November, the world’s governments get together in Glasgow to discuss how they can improve on the insufficient action they have taken to date, they need to think like people who have seen the blood in the water. ■



Methane, and sulphates



"Fear and Loathing in Las Vegas"

Buy the ticket, take the ride

Fifty years ago Hunter S. Thompson turned a drug-fuelled bender into a cult novel

WHEN HUNTER S. THOMPSON left Los Angeles for Las Vegas in 1971, in the company of Oscar Acosta, a Mexican-American lawyer and Chicano activist, he did not mean to write a cult novel. Thompson was working on a piece about Ruben Salazar, a Mexican-American journalist killed the previous year by a tear-gas canister fired by police during a march against the Vietnam war. Acosta, his main source, was worried about being seen with a white writer—but agreed to go with Thompson to Las Vegas, where he was due to produce the captions for a series of photographs of the Mint 400 off-road desert race. The *roman à clef* that arose from the trip, published in two parts in *Rolling Stone* that autumn, was an elusive blend of fact and fiction, observation and exaggeration.

"Fear and Loathing in Las Vegas: A Savage Journey to the Heart of the American Dream" turns 50 this year. Its vitriol has lost none of its satirical bite. The story begins with Raoul Duke—the pseudonym that Thompson, who died in 2005, assigned himself as the deeply unreliable

narrator—and Dr Gonzo, his lawyer, hallucinating on the highway as they speed towards Las Vegas. Driving a rented Chevy convertible that they call the Great Red Shark, they are armed with "two bags of grass, 75 pellets of mescaline, five sheets of high-powered blotter acid, a salt shaker half full of cocaine and a whole galaxy of multicoloured uppers, downers, screamers, laughers"; also "a quart of tequila, a quart of rum, a case of Budweiser, a pint of raw ether and two dozen amyls".

On the surface, the novel is about the consumption of this arsenal of mind-altering substances and the visions and paranoia, vomiting and violence that ensue. The duo attend the Mint 400 but soon embark on a two-day bender amid the glitzy

decadence of Vegas casinos, destroying their hotel room and running up a huge bill they have no intention of paying. They flee the city before the damage is discovered, but return almost immediately to cover the National District Attorneys' Conference on Narcotics and Dangerous Drugs. Grasping that the many cops in attendance don't have a clue what they are talking about, they again abandon their assignment and spend a few days in the grip of "amphetamine psychosis", trawling late-night diners and taco stands in search of the American dream, "burning the locals, abusing the tourists, terrifying the help".

Reviews were mixed when the novel appeared as a single volume in 1972 ("more hype than book", sniffed the *New Republic*). But it subsequently achieved cult status, boosted by a film adaptation in 1998. Its appeal rests less on the depraved antics of the main characters than on their encounters with other people, and its bleakly humorous dissection of the American psyche.

Thompson uses Vegas, a city "so grossly atavistic that a really massive crime often slips by unrecognised", as a symbol of a country in the midst of political and ideological change. The counterculture of the 1960s is in its death throes; with Richard Nixon in the White House, America is sliding towards something darker and meaner. Most of the cameos are as repellent as the narrator—cruel, ignorant, greedy, prejudiced and occasionally violent. Illustrations by Ralph Steadman, a British artist, ▶▶

→ Also in this section

65 Art, mental illness and the Nazis

66 The ballad of Billie Jean King

66 Tricky fiction

depict them as twisted and deformed, more animal than human.

Half a century on, Thompson's themes of capitalism and greed, racial tension and the inadequacies of traditional journalism still resonate. Nixon is long gone but in the bumpy wake of Donald Trump's presidency—a period of government-led anti-immigrant and anti-media sentiment, Black Lives Matter protests triggered by police brutality, white-supremacist riots and the shadow of impeachment—Thompson's "gross, physical salute to the fantastic possibilities of life in this country" feels unsettlingly contemporary.

To protect the identity of Acosta (who was to disappear in Mexico in 1974), he is characterised as a 300-pound Samoan. But, at a time when Thompson was reporting on Mexican-American activism—and what he deemed an attempted cover-up of Salazar's murder—the narrator repeatedly draws attention to Dr Gonzo's race. "You Samoans are all the same...You have no faith in the essential decency of the white man's culture," he opines, before telling a terrified hitchhiker they pick up in the desert that "in spite of his race, this man is extremely valuable to me". At the narcotics conference, a disturbance in the crowd is presumed to be "a racial conflict of some kind, something that couldn't be helped".

Besides race, the novel's main preoccupation is the failure of journalism in an era when the president openly loathed the press. "Objective journalism is one of the main reasons American politics has been allowed to be so corrupt for so long. You can't be objective about Nixon," Thompson once told the *Atlantic*. In his most paranoid and introspective moments, the narrator of "Fear and Loathing" turns to news stories so grim that they render his own sins "pale and meaningless" in comparison. He reads about the police attacking anti-war demonstrators, torture by the armed forces, mass murder and drug deaths; he watches "Pentagon generals babbling insane lies" on television.

Every deprecation is reported without context, every suggestion of responsibility rebuffed by officials with a mantra of "No comment". Even the sensational is heart-sinkingly superficial. Towards the end, the narrator spells out his disillusionment. "Why bother with newspapers, if this is all they offer?" he rages. "Journalism is not a profession or a trade. It is a cheap catch-all for fuckoffs and misfits."

Thompson claimed that "gonzo" journalism—a personal, scabrous, avowedly subjective style which he pioneered—was inspired by William Faulkner's view that "the best fiction is far more true than any kind of journalism". Fifty years after its publication, and despite its many distortions, "Fear and Loathing" retains its own twisted kind of truth. ■

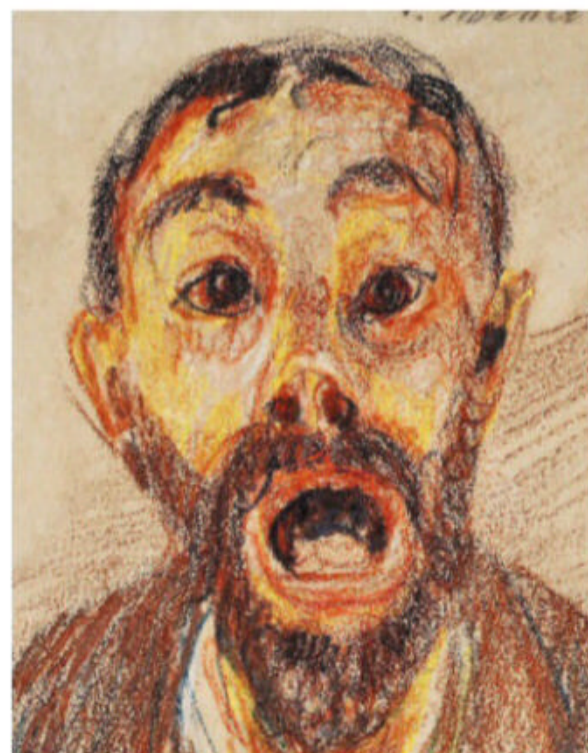
Art and the Nazis

The mind's eye

The Gallery of Miracles and Madness. By Charlie English. *Random House*; 336 pages; \$28. *William Collins*; £20

HOW TO APPRAISE art by people with severe mental illnesses has long exercised critics. For a tragic period in Germany in the middle of the 20th century, the opinion of a single arbiter—who decreed that such work could not count as art, and that those who made it should be exterminated—was the only one that mattered. Adolf Hitler's failure as a watercolourist did not undermine his belief that in essence he was an artist, and that his guiding principles were somehow artistic in character. "The Gallery of Miracles and Madness", Charlie English's engrossing new book, charts the catastrophic clash between Hitler's aesthetic views and the efforts of his contemporaries to expand the notion of what art might be.

The Prinzhorn collection at the University of Heidelberg's psychiatric clinic was established after the first world war by Hans Prinzhorn, a young doctor who also held a PhD in art history and was a professionally trained baritone; later he would translate D.H. Lawrence's fiction and become a champion of Navajo rights. He began to reconsider work by patients that had previously been used purely for clinical observation. The paintings, collages, poems, sculptures, music and embroidery were vividly original and often disturbing, full of torment and ecstasy and seeming to



Self-portrait in torment

offer fresh, unfiltered depictions of the human condition. The patients used whatever materials they could find, including menus, nursing rosters and toilet paper. Their subjects ranged from fantastical machines and erotic bicycles to royalty, murder and religion.

The work embodied psychotic realities and relayed messages from isolation, explains Mr English. Prinzhorn's achievement was to declare that it was art, and to liberate it "from the psychiatric clinics and nursing institutions where it had been made, and release it into the wider world". He was remarkably well-connected in cultural circles and his collection was enthusiastically received by a contemporary art scene itself traumatised by the recent war. Early supporters included the painter Paul Klee and the architect Walter Gropius. But it was the Surrealists who were most avid in their embrace, particularly Max Ernst and André Breton, and later Salvador Dalí who, preposterously then and offensively today, is said to have spent most of the 1920s trying to go insane so as to achieve the same primal insights.

The rise of Nazism made this renown, and the association with mental illness, fatally dangerous. Hitler's antipathy to modern art had long been fused with ideas of racial purity, "degeneracy" and judgments as to what—and who—deserved to exist. Some vulnerable artists escaped from Germany, but Prinzhorn's incarcerated patients were subjected to persecution that quickly escalated from forced sterilisation to systematic murder by gassing, in a pattern that would soon extend to millions of other victims.

Mr English is a fluent storyteller and patiently exhumes the lives of artists such as Franz Karl Bühler, a metal-worker who had represented Germany at the Chicago World's Fair in 1893, later producing paintings that were compared to the work of Matthias Grünewald and Albrecht Dürer (see picture). August Natterer was an electrical engineer and a favourite of the Surrealists; they admired his attempt at scrupulous accuracy in conveying the hallucinations that followed a breakdown brought on by sexual trauma. Wilhelm Werner drew cartoons of his own sterilisation. Altogether more than two dozen of Prinzhorn's artists were murdered by the Nazis; "The Gallery of Miracles and Madness" affords them a respectful appreciation.

In his last days in his bunker, Hitler retreated from the cataclysm around him into artistic delusions of remodelling his hometown of Linz into a great cultural centre. His creative ambitions once again came to nothing. Yet the work of these artists, much of which miraculously survived the war, lives on as testament to the variety of human experience, and of ways to communicate what it feels like to be alive. ■



Women in sport

Championship points

All In. By Billie Jean King. Knopf; 496 pages; \$30. To be published in Britain by Viking in September; £20

AT THE AGE of 15, Billie Jean King anticipated the trajectory of her life in a school essay. A tennis prodigy, she thought she would soon make it to Wimbledon but lose in the quarter-finals. On the flight to London she would meet a heart-throb and fall in love. In time she would be happily married, “sitting with my four wonderful children” and grateful to have an education and a husband, “instead of turning out to be a tennis bum”.

Luckily for fans at the All England club, Ms King proved better at slicing backhands than at prophesy. Between 1961 and 1979 she won six Wimbledon singles titles and 14 in doubles in one of the 20th century’s great sporting careers. She never had children, and defended abortion rights with the example of her own terminated pregnancy. She did marry a man, but later emerged as a figurehead for gay rights.

In “All In”, a perceptive autobiography written with Johnette Howard and Maryanne Vollers, Ms King notes that her youthful prediction reflected the stifling boundaries that hemmed in American girls in the 1950s. Few women had careers; professional women’s sports barely existed. When she began winning tennis trophies, first near home in California, then in Europe, she encountered shocking pay disparities. To her disgust, for instance, in 1970 the Italian Open offered \$3,500 to the men’s

champion and \$600 to the women’s.

Other indignities followed. Journalists focused on female athletes’ looks, not their achievements. Ms King refused to play to type and faced snide criticism. Her outspokenness was derided. Male stars offered no support, laughing off the notion that fans came for ladies’ matches.

She pursued equal pay relentlessly. A pragmatist, she arrived at a meeting with the US Open’s tournament director in 1972 with corporate funds in hand to bridge the prize gap. She vowed that most of the top women would not participate the following year if he refused. (He agreed.) She organised the Women’s Tennis Association in 1973 and became its first president. Later that summer she won Wimbledon in singles, doubles and mixed doubles. Today women compete for equal prize money in all four Grand Slam competitions. The world’s best-paid female athlete is routinely a tennis player.

Ms King’s highest-profile match was

Psychological fiction

The devil inside

Mrs March. By Virginia Feito. Liveright; 304 pages; \$26. Fourth Estate; £14.99

AT FIRST, AS the protagonist finalises preparations for a party, Virginia Feito’s debut novel seems set to become a retelling of Virginia Woolf’s “Mrs Dalloway”. When the author has conveyed Mrs March’s prim personality, stifled emotions and conservative lifestyle, the book starts to resemble “Mrs Bridge”, Evan S. Connell’s wry depiction of American suburbia. As the tension builds, though, it becomes clear that this is neither a homage to a modernist masterpiece nor a comedy of manners but an original, darkly funny psychological drama.

Mrs March lives in an “agreeable” apartment on the Upper East Side with her writer husband George and their eight-year-old son. Everyone in Manhattan is reading George’s latest novel, including the woman behind the counter of Mrs March’s favourite pastry shop, who one morning asks if this is the first time he has based a character on her. Mrs March is appalled: Johanna, the character in question, is a sex worker, “a weak, plain, detestable, pathetic, unloved, unlovable wretch”.

This seemingly innocuous question tips Mrs March into a feverish state of paranoia and self-doubt. She hears the name Johanna everywhere and feels she is being watched and gossiped about. She

also has a series of disturbing, distorted visions involving cockroaches, spiders, a dead pigeon and a blood-soaked neighbour. A long-suppressed memory of a childhood incident in Spain (where the author was born) wreaks more havoc in her warped mind: “The devil had gotten inside her that night in Cádiz, she decided with surprising aplomb, and somehow he was working his way into her home, like the cockroaches, through some imperceptible gap.”

Ms Feito is a teasing storyteller. Events unfold at an unspecified time in the past; the heroine’s first name is withheld until the book’s last line. Periodically the narrative becomes an elaborate guessing game, throwing out situations which may be real or figments of Mrs March’s imagination. Matters come to a head when she learns that a young woman has been found murdered in a small town in Maine—the same town her husband visited on a hunting trip. When she goes to investigate, the reader finds out if there is method in her madness.

Occasionally the story flags and the language is sometimes overwrought (snow falls “thoughtfully”; an apartment is “salivating and alert in its stillness”). But the atmosphere of queasy foreboding is compelling, as is the portrayal of a flawed, troubled and complex individual trying to keep it together while coming apart at the seams.

the “Battle of the Sexes” in 1973. Bobby Riggs, a loudmouth with hidebound views and a knack for publicity, challenged her to a friendly exhibition. She recognised the stakes and took care not to underestimate her opponent, studying his game and developing a plan to make the older man run. And run him she did, under the carnival lights of the Houston Astrodome, with 30,000 people cheering and 90m more tuning in at home. Countless admirers later told her what her win meant to them, she writes, including Barack Obama, who saw her practise in Hawaii in the 1970s.

True to its title, “All In” is bracingly candid. Alongside the sporting and political battles it tells of the eating disorder from which Ms King suffered, a sexual assault she experienced as a teenager and the whirlwind of being outed as a lesbian by a former lover in 1981. Ms King does nothing by half-measures—so much the better for readers, sport and the many women she encouraged and empowered. ■



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Tenders



FEDERAL REPUBLIC OF NIGERIA
MINISTRY OF AVIATION
in compliance with the
Infrastructure Concession Regulatory Commission (ICRC) Establishment Act 2005
REQUEST FOR QUALIFICATION (RFQ) FOR THE CONCESSION
OF AIRPORT TERMINALS IN NIGERIA

The Federal Government of Nigeria (FGN) through the Federal Ministry of Aviation is seeking to reposition Nigeria's aviation sector as part of efforts towards the diversification of the economy, enhanced competitiveness of the sector, improved productivity and enhance economic growth.

To this end, the FGN is soliciting responses from interested parties to the RFQ process for four airport terminals and related services towards the attainment of the full potential of the aviation sector in Nigeria.

The four airports are:

1. Murtala Mohammed International Airport, Lagos
2. Nnamdi Azikiwe International Airport, Abuja
3. Port Harcourt International Airport, Port Harcourt
4. Mallam Aminu Kano International Airport, Kano

Interested parties can download the RFQ and the Information Memorandum (IM) from the website <https://www.nacp.aviation.gov.ng>
Any addendum issued to the RFQ will be published on the same website. Clarifications and enquiries should be sent via email to enquiry@nacp.aviation.gov.ng
All responses to the RFQ must be received in hard copies not later than 15.00 hours Nigerian time on 20th September 2021.

Addressed to:

The Permanent Secretary
Federal Ministry of Aviation, Room 113 Annex 3
Federal Secretariat Complex,
Central Area, Abuja, Federal Capital Territory – Nigeria.
Attention: Director, Planning, Research & Statistics

Economic data

	Gross domestic product				Consumer prices			Unemployment rate		Current-account balance		Budget balance		Interest rates		Currency units	
	% change on year ago latest		quarter* 2021†		% change on year ago latest		2021†	%		% of GDP, 2021†		% of GDP, 2021†		10-yr gov't bonds latest,%	change on year ago, bp	per \$ Aug 11th	% change on year ago
United States	12.2	Q2	6.5	6.0	5.4	Jul	3.6	5.4	Jul	-2.7		-12.7	1.4	71.0	-		
China	7.9	Q2	5.3	8.5	1.0	Jul	1.3	5.0	Jun#§	2.8		-4.9	2.7	§§	-9.0	6.49	7.1
Japan	-1.6	Q1	-3.9	2.2	0.2	Jun	0.1	2.9	Jun	3.8		-9.0	nil	-8.0	110	-3.6	
Britain	-6.1	Q1	-6.2	5.8	2.5	Jun	2.9	4.8	Apr††	-4.5		-10.9	0.7	42.0	0.72	5.6	
Canada	0.3	Q1	5.6	5.4	3.1	Jun	2.6	7.5	Jul	-2.0		-8.8	1.3	68.0	1.25	6.4	
Euro area	13.7	Q2	8.3	4.4	2.2	Jul	1.8	7.7	Jun	3.3		-7.1	-0.5	2.0	0.85	nil	
Austria	-5.5	Q1	-12.6	3.5	2.7	Jul	2.7	6.4	Jun	3.4		-8.0	-0.2	7.0	0.85	nil	
Belgium	14.5	Q2	5.7	4.8	2.3	Jul	2.2	6.2	Jun	-0.7		-7.5	-0.1	8.0	0.85	nil	
France	18.7	Q2	3.8	5.5	1.2	Jul	1.6	7.3	Jun	-1.3		-8.7	-0.1	9.0	0.85	nil	
Germany	9.2	Q2	6.1	3.5	3.8	Jul	2.5	3.7	Jun	6.8		-5.4	-0.5	2.0	0.85	nil	
Greece	-1.4	Q1	18.9	5.4	1.4	Jul	0.1	15.1	Jun	-3.7		-5.7	0.6	-52.0	0.85	nil	
Italy	17.3	Q2	11.1	5.0	1.9	Jul	1.3	9.7	Jun	3.4		-11.8	0.6	-45.0	0.85	nil	
Netherlands	-2.4	Q1	-3.1	3.4	1.4	Jul	2.1	3.2	Jun	10.3		-1.7	-0.5	-1.0	0.85	nil	
Spain	19.8	Q2	11.5	6.1	2.9	Jul	2.0	15.1	Jun	0.9		-8.6	0.2	-3.0	0.85	nil	
Czech Republic	-2.6	Q1	2.4	3.5	3.4	Jul	2.7	2.9	Jun†	3.2		-8.5	1.8	97.0	21.6	2.8	
Denmark	-0.9	Q1	-3.9	2.8	1.6	Jul	1.4	3.8	Jun	7.8		-0.5	-0.1	22.0	6.34	-0.2	
Norway	-1.4	Q1	-2.5	2.6	3.0	Jul	2.9	4.9	May††	2.5		-1.0	1.4	76.0	8.87	1.4	
Poland	-1.3	Q1	4.5	4.5	5.0	Jul	4.1	5.8	Jul§	2.4		-6.9	1.8	48.0	3.90	-4.1	
Russia	-0.7	Q1	na	3.5	6.5	Jul	5.8	4.8	Jun§	4.4		-1.8	7.1	106	73.8	-1.1	
Sweden	9.3	Q2	3.6	3.9	1.3	Jun	1.9	10.3	Jun§	4.8		-2.2	0.1	19.0	8.69	0.8	
Switzerland	-0.5	Q1	-2.0	3.4	0.7	Jul	0.3	3.0	Jul	7.1		-3.8	-0.4	13.0	0.92	nil	
Turkey	7.0	Q1	na	5.6	19.0	Jul	16.6	10.4	Jun§	-2.7		-2.8	17.0	327	8.66	-16.3	
Australia	1.1	Q1	7.3	4.3	3.8	Q2	2.6	4.9	Jun	1.9		-6.1	1.2	31.0	1.36	2.9	
Hong Kong	7.5	Q2	-3.9	5.4	0.7	Jun	1.6	5.5	Jun††	2.0		-4.2	1.1	68.0	7.78	-0.4	
India	1.6	Q1	6.0	10.4	6.3	Jun	5.2	7.0	Jul	-0.9		-7.2	6.2	34.0	74.4	0.5	
Indonesia	7.1	Q2	na	3.9	1.5	Jul	2.4	6.3	Q1§	-0.1		-5.7	6.3	-41.0	14,383	2.0	
Malaysia	-0.5	Q1	na	4.4	3.4	Jun	2.4	4.8	Jun§	4.4		-5.8	3.3	66.0	4.24	-1.2	
Pakistan	4.7	2021**	na	3.8	8.4	Jul	9.2	5.8	2018	-1.8		-7.2	9.8	†††	41.0	164	2.7
Philippines	11.8	Q2	-5.1	5.1	4.0	Jul	4.2	8.7	Q2§	-1.1		-7.5	3.9	118	50.4	-2.9	
Singapore	14.7	Q2	-7.2	5.4	2.4	Jun	1.8	2.7	Q2	17.3		-4.4	1.5	61.0	1.36	0.7	
South Korea	5.9	Q2	2.7	3.8	2.6	Jul	2.0	3.2	Jul§	4.6		-3.2	1.9	58.0	1,156	2.5	
Taiwan	7.5	Q2	-7.9	5.9	2.0	Jul	1.7	4.8	Jun	15.6		-0.7	0.4	2.0	27.8	5.7	
Thailand	-2.6	Q1	0.7	2.8	0.5	Jul	1.5	1.5	Dec§	3.7		-6.5	1.4	27.0	33.4	-6.9	
Argentina	2.5	Q1	11.0	7.0	50.2	Jun	47.3	10.2	Q1§	1.6		-5.9	na	na	97.1	-24.8	
Brazil	1.0	Q1	4.9	5.5	9.0	Jul	7.2	14.6	May§††	nil		-5.9	9.6	301	5.22	3.6	
Chile	0.3	Q1	13.4	7.5	4.5	Jul	3.6	9.5	Jun§††	-0.4		-7.1	4.7	228	772	2.4	
Colombia	2.0	Q1	11.9	7.8	4.0	Jul	3.1	14.4	Jun§	-3.6		-8.9	7.1	197	3,955	-5.0	
Mexico	19.7	Q2	6.1	6.4	5.8	Jul	5.1	4.0	Jun	1.6		-2.8	7.0	128	19.9	12.2	
Peru	3.8	Q1	8.3	10.8	3.8	Jul	3.5	8.8	Jun§	-0.5		-5.7	6.4	303	4.09	-13.0	
Egypt	2.9	Q1	na	3.3	5.5	Jul	5.6	7.4	Q1§	-3.8		-8.0	na	na	15.7	1.8	
Israel	-1.0	Q1	-5.8	4.2	1.7	Jun	1.8	5.2	Jun	3.9		-7.6	1.0	37.0	3.23	5.6	
Saudi Arabia	-4.1	2020	na	2.2	6.2	Jun	3.2	6.5	Q1	4.3		-2.0	na	na	3.75	nil	
South Africa	-3.2	Q1	4.6	3.0	5.1	Jun	4.0	32.6	Q1§	1.2		-9.4	9.0	-31.0	14.7	19.4	

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 Aug 11th	% change on:	
		one week	Dec 31st 2020
United States S&P 500	4,447.7	1.0	18.4
United States NAScomp	14,765.1	-0.1	14.6
China Shanghai Comp	3,532.6	1.6	1.7
China Shenzhen Comp	2,487.0	0.9	6.8
Japan Nikkei 225	28,070.5	1.8	2.3
Japan Topix	1,954.1	1.7	8.3
Britain FTSE 100	7,220.1	1.4	11.8
Canada S&P TSX	20,554.0	1.1	17.9
Euro area EURO STOXX 50	4,206.3	1.5	18.4
France CAC 40	6,858.0	1.7	23.5
Germany DAX*	15,826.1	0.9	15.4
Italy FTSE/MIB	26,457.1	3.8	19.0
Netherlands AEX	775.8	1.3	24.2
Spain IBEX 35	8,975.8	2.1	11.2
Poland WIG	68,813.6	0.9	20.7
Russia RTS, \$ terms	1,656.2	1.0	19.4
Switzerland SMI	12,387.9	1.7	15.7
Turkey BIST	1,410.9	-0.2	-4.5
Australia All Ord.	7,854.6	1.0	14.7
Hong Kong Hang Seng	26,660.2	0.9	-2.1
India BSE	54,525.9	0.3	14.2
Indonesia IDX	6,088.4	-1.1	1.8
Malaysia KLSE	1,504.4	0.9	-7.5

	index Aug 11th	% change on:	
		one week	Dec 31st 2020
Pakistan KSE	47,377.4	-0.9	8.3
Singapore STI	3,180.0	-0.1	11.8
South Korea KOSPI	3,220.6	-1.8	12.1
Taiwan TWI	17,227.2	-2.3	16.9
Thailand SET	1,532.7	-0.9	5.8
Argentina MERV	69,475.2	6.7	35.6
Brazil BVSP	122,056.3	0.2	2.6
Mexico IPC	51,311.6	0.2	16.4
Egypt EGX 30	10,884.5	1.5	0.4
Israel TA-125	1,756.8	-0.1	12.0
Saudi Arabia Tadawul	11,325.1	1.5	30.3
South Africa JSE AS	69,617.2	1.0	17.2
World, dev'd MSCI	3,110.0	0.8	15.6
Emerging markets MSCI	1,297.6	-0.5	0.5

US corporate bonds, spread over Treasuries

	latest	Dec 31st 2020
Basis points		
Investment grade	117	136
High-yield	350	429

Sources: Refinitiv Datastream; Standard & Poor's Global Fixed Income Research. *Total return index.

Commodities

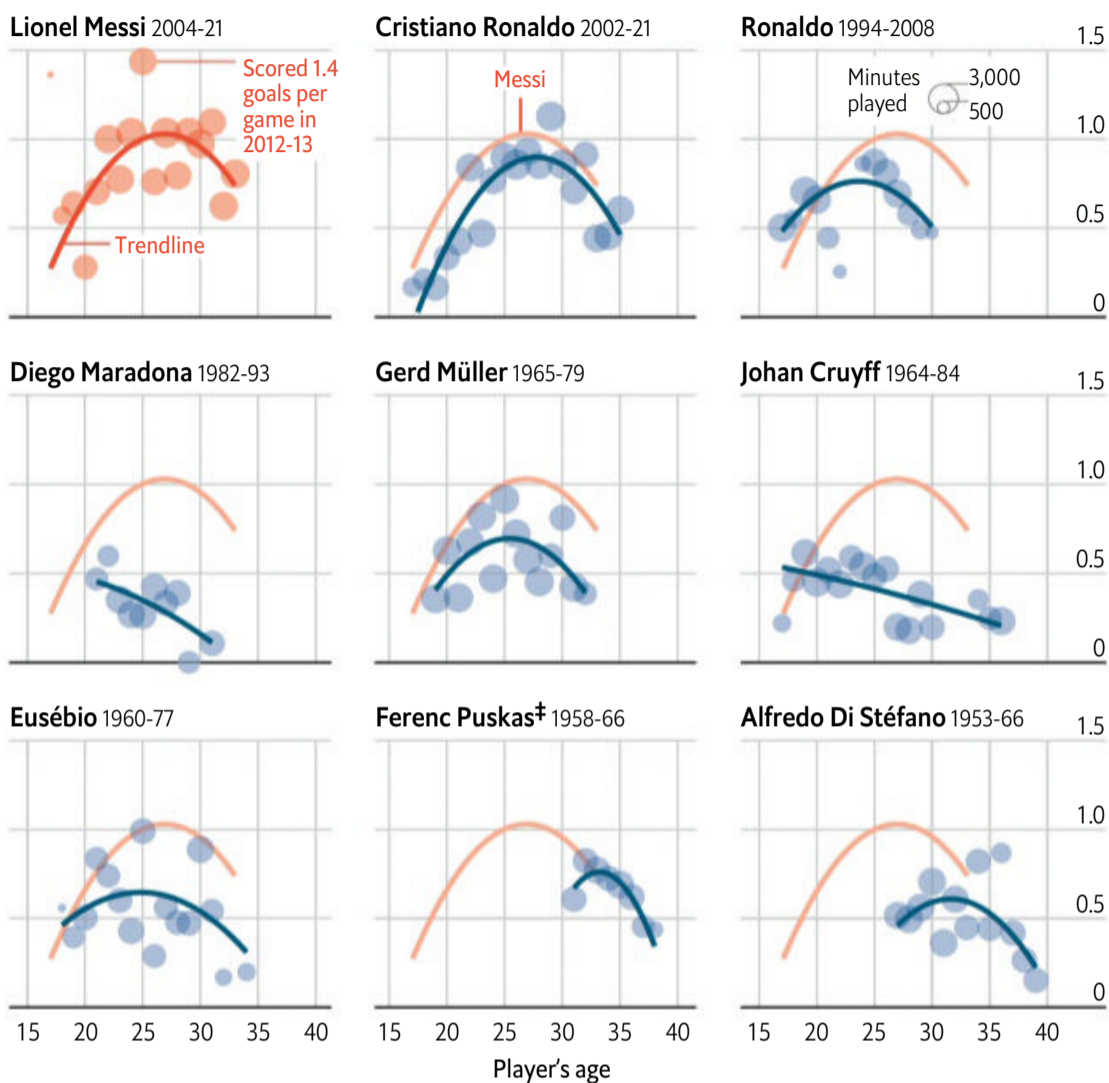
The Economist commodity-price index 2015=100	% change on			
	Aug 3rd	Aug 10th*	month	year
Dollar Index				
All Items	173.5	166.3	-9.8	37.3
Food	128.7	129.9	-0.7	41.0
Industrials				
All	215.3	200.2	-14.5	35.2
Non-food agriculturals	143.5	142.8	-2.7	39.8
Metals	236.6	217.2	-16.5	34.3
Sterling Index				
All items	190.6	183.2	-9.8	29.8
Euro Index				
All items	162.2	157.3	-9.0	37.9
Gold				
\$ per oz	1,808.9	1,727.6	-4.7	-11.4
Brent				
\$ per barrel	72.5	70.8	-7.6	58.5

Sources: Bloomberg; CME Group; Cotlook; Refinitiv Datastream; Fastmarkets; FT; ICCO; ICO; 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](https://www.economist.com/indicators)

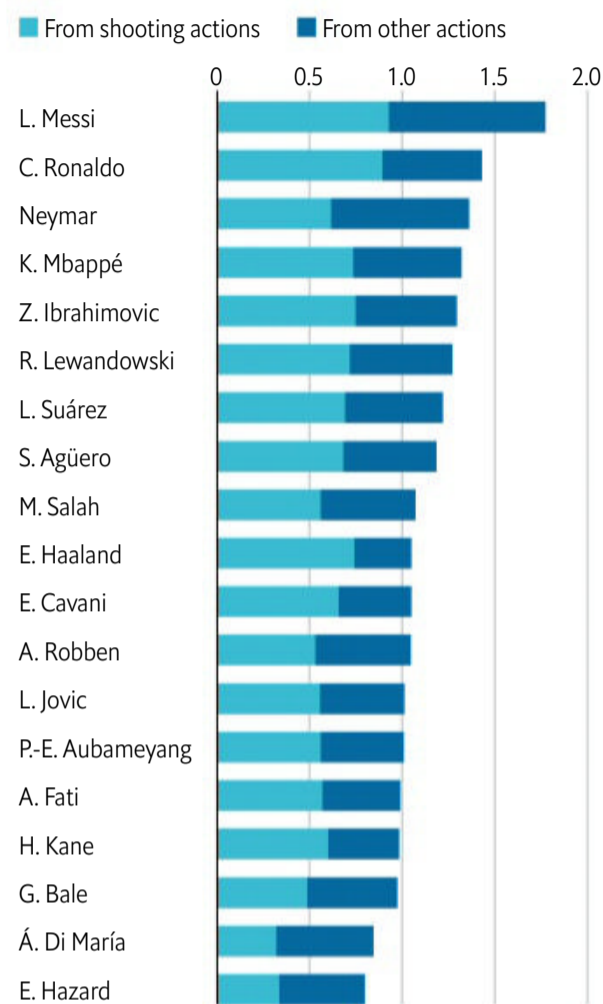
→ Lionel Messi's goals make up only half of his value. Yet they were still more impactful than those of other greats

MESSI-adjusted goals* per 90 minutes, selected players in major European leagues†



Goals added§ per 90 minutes, 2012-20

Selected players in European leagues, by change in probability of scoring for average team before and after each action



*Using the Modern-Equivalent Soccer Scoring Index (MESSI), an exchange rate for historic goals into the equivalent for La Liga 2004-21, excluding penalties †England, France, Germany, Italy, Netherlands, Portugal, Spain ‡Played in Hungary until he was 29 § According to the Valuing Actions by Estimating Probabilities system Sources: PlaymakerStats.com; ClubElo.com; KU Leuven; SciSports; The Economist

Simply the best

By the numbers, Lionel Messi is European football's greatest scorer ever

FOOTBALL'S MOST fruitful partnership has ended in tears. On August 8th a weeping Lionel Messi said he was leaving Barcelona, the club he joined when he was just 13. The Argentine forward has scored a record 474 goals in La Liga, Spain's top league. His teams have won ten La Liga titles and four Europe-wide Champions League trophies.

Mr Messi offered to slash his salary in order to stay. But Barcelona is deep in debt, and pays 95% of its revenue in wages. La Liga has set a ceiling of 70%, forcing the club to let him go. On August 10th he joined Paris Saint-Germain (PSG), a rich French team.

Now 34, Mr Messi may not even be PSG's top scorer next season. But the only question about his peak in 2009-19 is whether it was the greatest ever. Although historical comparisons are tricky in football, the best available data suggest that it was.

Mr Messi's standing relative to his contemporaries can be analysed reliably. To-

day, the location and result of every shot, dribble, pass and tackle are tracked. KU Leuven, a university, and SciSports, an analytics firm, have built a system to measure how each action affects a team's odds of scoring, by comparing where the ball was before and after a player touched it.

In 2012-20, their model reckons that Mr Messi would have boosted an average team's scoring margin by 1.77 goals per match. Cristiano Ronaldo, his old rival at Real Madrid, came a distant second at 1.43.

Comparing Mr Messi with past greats is harder. The only data available for all European leagues before 2000 are goals scored and match results. And not all goals are created equal: scoring rates fell sharply from 1950 to 1970, and goals are easier to come by in weaker leagues.

To level the playing field, we devised an exchange rate called the Modern-Equivalent Soccer Scoring Index (MESSI). For each season in each league, it uses the average number of goals per match and team strength—as measured by the Elo system, which rates clubs based on their results and the quality of their opponents—to estimate how many goals players would have scored under different conditions. For example, in the 1960s Eusébio played in a weak, high-scoring Portuguese league. His

goals are worth 37% less than those in La Liga in 2004-21. By contrast, Diego Maradona faced stout Italian defences, making his goals worth 5% more than the modern baseline. (We excluded penalties, which pad some strikers' stats more than others')

After these tweaks, the diminutive Mr Messi stands head and shoulders above the competition. At his best, he averaged one goal per 90 minutes. Mr Ronaldo reached 0.9; greats from earlier eras were below 0.8.

These rankings are far from perfect. They underrate players like Maradona and Johan Cruyff, who were as much creators as finishers. And they cannot capture the value of defenders like Franz Beckenbauer.

Even among strikers, important data are missing. Ferenc Puskas's latter years roughly match Mr Messi's recent seasons. Unfortunately, Elo ratings do not exist for the post-war Hungarian leagues that the young Puskas dominated. Nor are they available for Brazil or America, where Pelé, widely seen as the greatest player of the 20th century, played club football.

What is certain, based on modern analytics, is that only half of Mr Messi's value comes from shots at goal. He is also an extraordinary dribbler and passer. This suggests that even the prolific Puskas and Pelé may not have been his equal. ■



Puccini with lunch-trays

Sir Graham Vick, opera director, died on July 17th, aged 67

ON A WARM summer evening the Long Interval at Glyndebourne is an idyll of Englishness. Evening light turns gold across the lake and the brooding shoulder of Firle Beacon; and across the lawns stroll the opera-goers, in black tie or bright designer dresses, bound for the picnic tables they have set up under the trees. There follows a gentle universal popping of corks out of bottles. Almost everyone is of a certain age and a certain income bracket, for whom this is a pleasure well-earned.

Graham Vick was director of productions at Glyndebourne from 1994 to 2000. He was a scruffy figure, still with tones of his native Merseyside, who had come to the Sussex country house because he felt it was a good place to grow. His career there was certainly unpredictable. He gave them a terrifying version of Tchaikovsky's "Queen of Spades", full of skeletons and blood, but also a ravishingly austere "Eugene Onegin"; a "Pélleas et Mélisande" of appropriately haunting strangeness, but a "Don Giovanni" that featured sado-masochism and a pile of manure. Audiences went for their suppers then with rather less appetite than usual.

For him, it was a bit odd that he was there at all. As a firm socialist, he was sickened by the ever-widening gap between rich and poor. And he believed with a passion that opera, like all music, belonged to everyone. The stories it told had been humanity's for millennia—tales of love, hate, greed, courage, betrayal. In Mozart's day, errand-boys had whistled his tunes in the street. Operas then were performed with the house lights up and players close to the audience. He blamed Wagner for starting the rot, hiding the orchestra and audience in darkness at Bayreuth. The people were separated from their stories then, passive observers.

He worked hard in the grandest places. At the New York Met he directed "Il Trovatore", and at Covent Garden in 1990 his "Falstaff" opened the refurbished house. They were glamorous, fabulous, seductive, these "temples", as he called them. But they were also

black holes, institutions where opera became a largely commercial enterprise and the repertoire static and sedate. He wanted to be questioning, finding new things, tearing down barriers and bringing in the young, uneducated and ignored—like the teenagers he had seen once in Italy, listening entranced, when he threw the doors of an airless opera house open to the street.

Fortunately, he was good at finding antidotes to deadness. At Scottish Opera in the 1980s he founded Opera Go Round, which toured the Highlands and islands in a minibus with five singers and a piano. They went to schools and halls; in factory canteens, his ideal place, he gave burly men and women in headscarves Puccini with their lunch-trays. He hoped to share the wonder he had felt as a boy, when he watched Tito Gobbi on television turn into the villain Scarpia in "Tosca", or when Peter Pan at the Liverpool Empire flew through the window into a limitless new world.

His own new world was Birmingham. That was where he found himself and did his best work, in a city better known for manufacturing, tangled motorways and the nasal twang of the natives. By 2000, though, he had built a smaller touring troupe into the Birmingham Opera Company, and he put on a production there every year until covid-19 struck. The company was the city in miniature, old and young, every race and colour, and everyone could join in. (The same diversity-rule applied to the professional principals: he was the first director in Britain to cast a black tenor, Ronald Samm, as the lead in Verdi's "Otello".) Anyone could sing in the chorus, join in the dancing or work offstage; there were no auditions. Everything was sung in English, done in modern dress and performed in derelict or abandoned buildings. Ordinary people had to know that opera was about them. The characters' problems were theirs. Opera was no longer some red-and-gold sanctum they did not dare to enter. It was their world, and they were in it.

Many of the works he did were difficult and rarely staged, but the volunteers' enthusiasm knew no bounds. They were happy to take on Stockhausen's "Wednesday from Light", where a camel defecated planets and a string quartet relayed sounds to the stage from helicopters; or Shostakovich's "Lady Macbeth of Mtsensk", where they had to play rats, policemen and drunks; or Tippett's "The Ice Break", where they were rioting mobs. The music challenged them but, as Stockhausen said, it was only a matter of tuning in to find a truly spiritual experience.

To all this he brought the same care as to anything he did for the temples. He began (as Gobbi had advised) by poring over the words of a work and getting to the heart of its ideas. Only then would he turn to the music. On set and generally he was a bundle of anxiety, obsessed with detail, never satisfied even with his successes. "As ye sow, so shall ye reap," was the mantra that echoed in his ears: the moral of "Don Giovanni", in fact.

In the temples there were sizeable egos to contend with. At Birmingham, by contrast, it was always a two-way process. He took ideas from the volunteers as readily as he gave them. No one in the company, or in the audience, was more important than anyone else. He refused to have VIP receptions, and all the tickets were cheap—which made sense, as there were seldom seats in the cavernous spaces where players and spectators met each other.

Changing that audience, though, was harder. In 1990, when he had put on his pocket "Ring" (ten hours over two evenings, with 12 singers and 18 orchestral players) in a leisure centre in bleak Erdington, he had been sad to see the car park full of pricey German cars. The people of Erdington itself had not come. And indeed, three decades later, ordinary folk had still not exactly crowded into Glyndebourne. If anything, as he reviewed his years of campaigning, opera seemed to be getting more exclusive and more privatised. He had left Glyndebourne because it no longer offered him the feeling he could change the world. It could probably satisfy him only when he saw mass-breakdancing on the hallowed lawns and heard, on the Downs nearby, some shepherd on a quad bike whistling a snatch of Verdi. ■

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